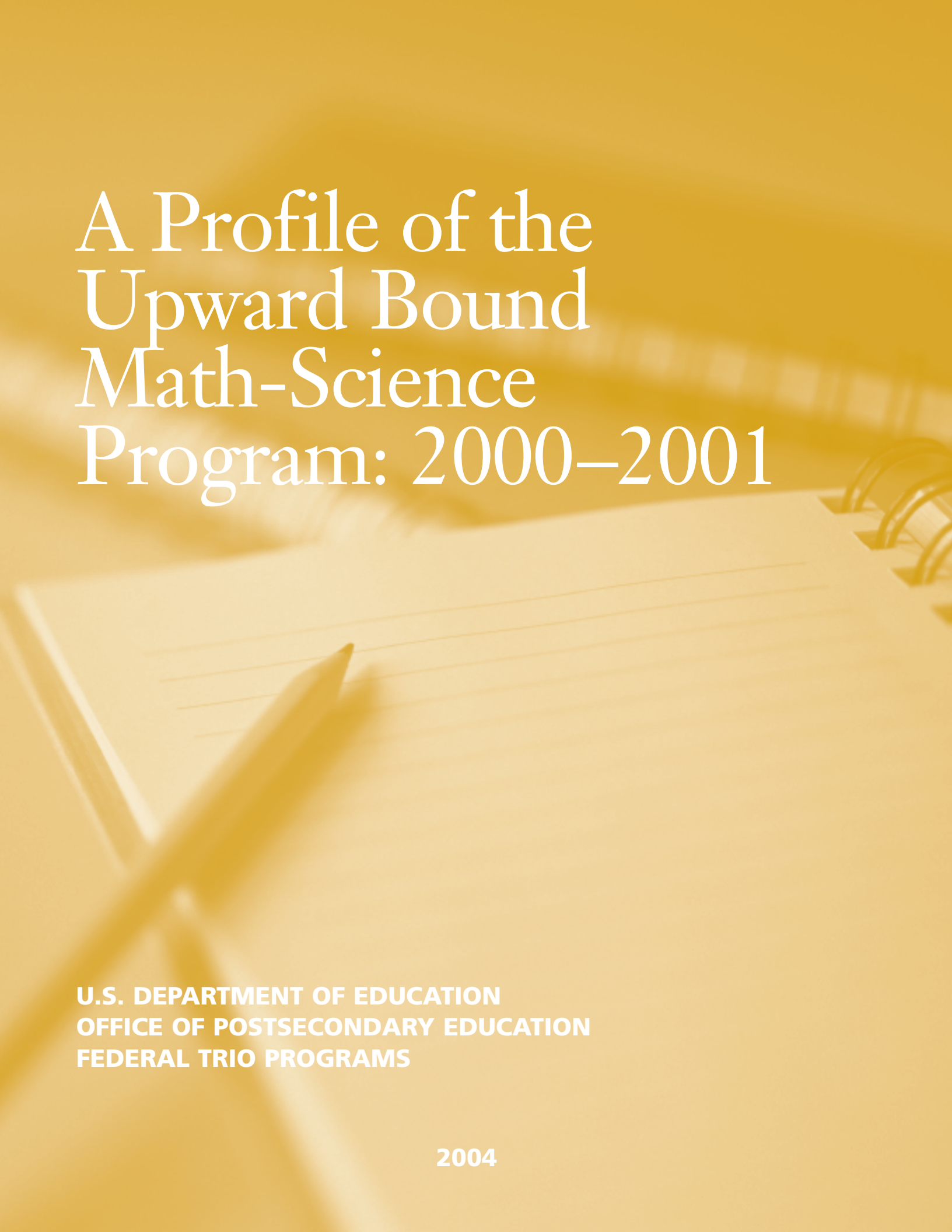


A Profile of the Upward Bound Math-Science Program: 2000–2001

U.S. DEPARTMENT OF EDUCATION
OFFICE OF POSTSECONDARY EDUCATION
FEDERAL TRIO PROGRAMS

2004

A Profile of the Upward Bound Math-Science Program: 2000–2001

Prepared for:
U.S. Department of Education
Office of Postsecondary Education
Federal TRIO Programs

By:
Research Triangle Institute
Thomas R. Curtin
Margaret W. Cahalan

This report was prepared for the U.S. Department of Education under Contract No. ED–01–CO–0052/0007. The views expressed herein are those of the contractor. No official endorsement by the U.S. Department of Education is intended or should be inferred.

U. S. Department of Education
Rod Paige
Secretary

Office of Postsecondary Education
Sally L. Stroup
Assistant Secretary

Federal TRIO Programs
Larry Oxendine
Director

December 2004

To obtain additional copies of this report:

write to: ED Pubs, Education Publications Center, U.S. Department of Education, P.O. Box 1398, Jessup, MD 20794–1398;

or **fax** your request to: (301) 470–1244;

or **e-mail** your request to: edpubs@inet.ed.gov,

or **call** in your request toll-free: 1–877–433–7827 (1–877–4–ED–PUBS). If 877 service is not yet available in your area, call 1–800–872–5327 (1–800–USA–LEARN). Those who use a telecommunications device for the deaf (TDD) or a teletypewriter (TTY), should call 1–877–576–7734.

or **order online** at: www.edpubs.org.

This report is also available on the Department's Web site at: www.ed.gov/programs/triomathsci/index.html.

On request, this publication is available in alternate formats, such as Braille, large print, audiotape, or computer diskette. For more information, please contact the Department's Alternate Format Center at (202) 260–9895 or (202) 205–8113.

CONTENTS

TABLES

FIGURES

FOREWORD

To help achieve our collective goal of "no child left behind," high-quality educational opportunities must be available to all students. In keeping with this goal, the Federal TRIO Programs provide outreach and support to help low-income and potentially first-generation college students who need academic support to progress through the academic pipeline from middle school to postbaccalaureate programs.

On behalf of the Federal TRIO Programs, I am pleased to present this report, *A Profile of the Upward Bound Math-Science Program: 2000–2001*. The goal of the Upward Bound Math-Science Program is to help students recognize and develop their potential to excel in the fields of math and science and to encourage them to pursue postsecondary degrees in math and science.

This report is the first in a series that presents a national profile of the Upward Bound Math-Science (UBMS) Program. We are also preparing similar national profile reports on the classic Upward Bound and Veterans Upward Bound programs. In addition, individual project reports, which will be provided under separate cover, summarize specific information submitted by each project and provide aggregate information on other UBMS projects in the same federal region, the same institutional sector, and the nation. The 2000–01 performance reports, submitted by the UBMS projects, were the primary data source for this national profile report and for each individual project report. The 2000–01 performance reports from "classic" Upward Bound projects were similarly the source of data about that program cited for purposes of comparison at various points in this report.

We are proud to formally begin a process for sharing national statistical information on the UBMS Program and related national data. It is our hope that the collection and dissemination of this information will foster communication aimed at assessing our mission and implementing measures of how well we are doing. We also hope that this profile report will serve as the catalyst for a dialogue on ways to provide program services to more students, improve the effectiveness of program services, and increase postsecondary enrollment and degree completion for low-income, first-generation college students.

I appreciate the collective effort of the Upward Bound community to help ensure that our children will have access to the opportunities afforded through a quality education.

Larry Oxendine
Director
Federal TRIO Programs

ACKNOWLEDGMENTS

Publishing this report was a team effort, and we appreciate the support of all who contributed. First we thank the project staff members of the Upward Bound Math-Science projects who reported the data upon which this profile report is based. We also want to thank Larry Oxendine, director of the Federal TRIO Programs, and Margarita Benítez, team leader for the Upward Bound Math-Science Program, for their contributions. Frances Bergeron, team leader, Program Management and Development, Federal TRIO Programs, coordinated the data collection and reporting processes, provided feedback as the report developed, and reviewed the report. Kathy Fuller, Mia Howerton, Teresita Kopka, Geraldine Smith, Gaby Watts, Crystal Wheeler, and Sheryl Wilson, also of TRIO, provided a careful review of the document in preparation for publication.

HIGHLIGHTS

This report provides a comprehensive profile of the Upward Bound Math-Science (UBMS) Program[1] using individual student-level information for UBMS participants served in 1999–2000 and 2000–01. Ninety-eight percent of the UBMS projects (118 out of 121 projects) provided student-level data for this report. The 118 projects provided information in the performance reports for 8,788 UBMS participants. After removing duplicates (e.g., students who were listed more than once in a project), some 8,684 UBMS project participants were identified. This included 6,880 new, continuing, and re-entry participants served during the 2000–01 project year (79 percent); 1,751 prior-year participants (20 percent)—those participants served in 1999–2000 but not in 2000–01; and 53 participants whose status was unknown (1 percent).

The highlights below provide information on the characteristics of Upward Bound Math-Science grantees and program participants, program participation levels, services, and secondary school academic measures; also provided are preliminary data on postsecondary enrollment. (For comparison, the highlights also include the findings for "classic" Upward Bound projects based on the 2000–01 performance reports for those projects.)

Grantees and target schools

- During the 2000–01 program year, a total of 121 regular Upward Bound Math-Science projects were funded.
- The largest percentage of UBMS grantees (81 percent) was four-year postsecondary institutions. Fourteen percent were two-year postsecondary institutions and 5 percent were community-based organizations. By comparison, 63 percent of classic Upward Bound (UB) grantees were four-year postsecondary institutions, 32 percent were two-year institutions, and 5 percent were community-based organizations.
- UBMS projects had high representation at minority institutions. While Historically Black Colleges and Universities constitute 3 percent of the nation's degree-granting institutions that serve undergraduates, they are grantees for 13 percent of UBMS projects. While Hispanic Serving Institutions represent 6 percent of degree-granting institutions, they house 10 percent of UBMS projects.
- A typical UBMS project served 18 target high schools and classic Upward Bound served an average of six target schools.
- Among UBMS and UB target schools, 34 percent of students were eligible for free lunch, while about 25 percent of the high school students attending schools that were neither UBMS nor UB target schools were eligible for free lunch.
- Almost half (47 percent) of the total enrollment in UBMS and UB target schools was minority; in high schools that were not Upward Bound target schools, 31 percent of enrollment was minority.

Participants

- Overall, 75 percent of UBMS participants were both low-income and potentially first-generation college students; 18 percent were first-generation only; and 7 percent were low-income only.

[1]There are three types of Upward Bound projects: regular, or classic, projects that prepare high school students for programs of postsecondary education; Math-Science Centers that prepare high school students for postsecondary programs that lead to careers in the fields of math and science; and Veterans projects that assist military veterans to prepare for entry into postsecondary education programs. The acronym UB refers to classic Upward Bound; UBMS refers to Upward Bound Math-Science, and VUB refers to Veterans Upward Bound.

- Fifty-three percent of UBMS participants served in 2000–01 were new (first-time) participants; 47 percent were continuing participants having also participated in the program in 1999–2000; and a very small percentage—less than one-half of one percent—were classified as re-entry participants. For classic UB participants, 38 percent were new and 61 percent were continuing.
- The largest percentage (41 percent) of UBMS participants in 2000–01 were black or African American followed by white (25 percent), Hispanic or Latino (20 percent), Asian (7 percent), American Indian or Alaska Native (4 percent), Native Hawaiian or other Pacific Islander (1 percent), and those of more than one race (2 percent). Among classic UB, 45 percent of participants in 2000–01 were black or African American, 25 percent were white, 19 percent were Hispanic or Latino, 5 percent were Asian, 4 percent were American Indian or Alaska Native, 2 percent were Native Hawaiian or Other Pacific Islander, and 1 percent reported more than one race.
- Just under two-thirds (62 percent) of UBMS participants in 2000–01 were female. In classic UB, 64 percent of participants were female.
- On average, UBMS projects served three students per target school, while UB served 12 students per target school.
- Interest in careers in math and science was the reason cited for needing the program for over half of UBMS participants (52 percent). The next most frequent reasons reported were being a member of a predominately low-income community (11 percent); lack of opportunity, support and/or guidance to take challenging college preparatory courses (9 percent); rural isolation (6 percent); lack of confidence and self-esteem (5 percent); and lack of career goals or information (5 percent). For classic UB participants, the most commonly cited reasons for need for services were those related to low grades, low achievement scores, and low aspirations (30 percent).
- The majority of UBMS participants (61 percent) entered the program as 10th-graders or above; 39 percent entered as ninth-graders or rising ninth-graders. For classic UB, approximately 57 percent entered as either ninth-graders or rising ninth-graders.
- The mean age of UBMS participants at entry into the project was 15.7 years. About 27 percent of UBMS participants entered the program at age 14 or under. In UB, about 44 percent of participants entered the program at age 14 or under.

Program participation levels, services, and academic measures

- About 54 percent of the UBMS participants were involved in the program during both the summer or summer bridge and the academic year. Another 27 percent participated in only the summer or summer bridge components and 17 percent in the academic-year component only. In classic UB, 61 percent of participants were involved in both academic year and summer components.
- The mean number of months between the participant's entry date and the date of last participation or the end of the reporting period for those served in 2000–01 was 14.2 months; the median was 12.0. (Average length of participation of Upward Bound Math-Science students cannot be accurately reported at this time because the data reported do not include a complete grade-level cohort.)
- Virtually all UBMS projects had participants receiving instruction in the required areas of math, science, foreign languages, and English.
- The overall mean SAT score for UBMS participants who took the test was 966. The mean score for those who were enrolled in postsecondary education at the end of the reporting period was 1010. In classic UB, the mean SAT scores were 899 and 917, respectively.
- The overall mean combined ACT scores for UBMS participants who took the test was 20.6. The mean for those enrolled in postsecondary education was 21.5. In classic UB, the mean ACT scores were 18.8 and 19.1, respectively.

Postsecondary enrollment

For this first UBMS profile report, participant-level data were only available for individuals served in 1999–2000 and 2000–01. Since about 75 percent of UBMS participants enter the program before the 11th grade, most of the participants included in the 2000–01 report had not completed high school. Thus, the data provided below on postsecondary enrollment rates do

not include a complete grade-level cohort of UBMS participants. The following information is reported for those 1999–2000 and/or 2000–01 UBMS participants enrolled in postsecondary education at the end of the report period (summer/fall 2001).

- Of the UBMS participants enrolled in postsecondary education, 86 percent were enrolled in public or private four-year institutions and 13 percent in two-year institutions. In classic UB, 74 percent were enrolled in four-year institutions and 25 percent in two-year institutions.
- There was a positive association between type of grantee institution and the type of postsecondary institution attended. For example, among UBMS participants from programs hosted by two-year institutions, 37 percent of those enrolled in postsecondary education attended public two-year institutions, while 13 percent of all enrolled participants attended public two-year schools. In classic Upward Bound, among participants from programs hosted by two-year institutions, over half (52 percent) attended public two-year institutions, while 24 percent of all enrolled participants attended such schools.
- Twenty-one percent of UBMS participants who enrolled in a postsecondary institution enrolled in the institution that hosted their UBMS project (i.e., the grantee institution). The percentage of the total enrolled that attended the grantee institution was highest among projects hosted by two-year institutions (29 percent; 46 percent in classic UB) and lowest among projects hosted by private four-year institutions (11 percent; 17 percent in classic UB).
- Over 90 percent of those enrolled were reported to be attending full time, with only 2 percent being reported as less than full time and 5 percent reported to have varied enrollment.
- The majority of those enrolled (56 percent) were reported to have "multiple federal and other sources of financial aid," with another 21 percent reported to have "multiple federal aid." About 4 percent had a Pell grant only.
- Among those for whom postsecondary status was reported, a small percentage (1 percent) was reported as not being in good standing.

CHAPTER 1
INTRODUCTION

The U.S. Department of Education's Strategic Plan 2002–2007 (2002) established an objective to "reduce the gaps in college access and completion among student populations differing by race/ethnicity, socioeconomic status, and disability while increasing the educational attainment of all." Upward Bound, which made its first awards in 1965, has always sought to increase the academic performance and motivation of low-income youths and potentially first-generation college students enrolled in high school, so that these students may complete secondary school and successfully pursue postsecondary education programs. In 1990, the Department created the Upward Bound Math-Science (UBMS) program with the specific goal to help low-income, first-generation college students recognize and develop their potential to excel in math and science and encourage them to pursue postsecondary degrees and careers in these fields. The UBMS Program thus addresses two important national goals: (1) to foster increased math and science educational participation to prepare a U.S. work force able to address the scientific and technological issues and problems of the 21st century, and (2) to increase the representation within the math and science fields of persons from low-income and minority backgrounds, and of persons who are in their families' first generation to obtain bachelor's degrees.

A Profile of the Upward Bound Math-Science Program: 2000–2001 is one component in a series of reports that present a national profile of the Upward Bound program. We are preparing similar national profile reports on the classic Upward Bound (UB) and Veterans Upward Bound (VUB) programs. Although the three types of Upward Bound programs have shared goals and similar performance reports, each program has a unique mission, with different participant characteristics and services. Each profile report follows the same outline and includes some overarching tables that provide findings across the three types of programs.[2] However, in-depth information in this report is presented only for the UBMS Program.

In this introductory chapter, we provide information on program background, the changing context of UBMS, and the purpose and development of the performance reports. We also outline the report structure.

A. The program's purpose, origins, and requirements

Classic UB was the first TRIO program and remains the largest of the programs in terms of annual funding allocations. TRIO began with the *Economic Opportunity Act of 1964*, which authorized 18 pilot Upward Bound programs in 1965. In the same year, the *Higher Education Act of 1965* authorized the Talent Search (TS) program designed to identify and assist youths with the potential for success in higher education. In 1966, Upward Bound was expanded from the 18 pilot programs to 220. It was not until 1968 that the term TRIO was coined to encompass the three initial programs—UB, TS, and the newly authorized Student Support Services (SSS) program, which provides support services to undergraduates to assist them in completing programs of postsecondary education. At the same time (in 1968), all three programs were placed under Title IV of the *Higher Education Act*, as amended. In 1972, during the Vietnam War, VUB was initiated to assist veterans in their transition from military service to postsecondary education. Also in 1972, the Educational Opportunity Centers (EOC) Program to serve adults was authorized. Fourteen years later, in 1986, the Ronald E. McNair Postbaccalaureate

[2]Throughout this report, unless otherwise noted or implied, the acronym UBMS refers to Upward Bound Math-Science. We refer to classic Upward Bound as UB and Veterans Upward Bound as VUB.

Achievement (McNair) Program was authorized to prepare undergraduates from groups underrepresented in graduate education for graduate study and the attainment of Ph.D. degrees. In 1990, the Department created the UBMS Program to address the need for specific instruction in the fields of math and science. The Training Program for Federal TRIO Programs, authorized in 1976, supports training programs to enhance the skills and expertise of project directors and staff employed in the Federal TRIO Programs. The newest program, the TRIO Dissemination Partnership, authorized in 1998, encourages the replication of successful practices of TRIO programs at institutions and agencies that do not have a federally funded TRIO project.

The purpose of Upward Bound has always been to foster, among low-income youths and potentially first-generation college students enrolled in high school, the skills and motivation necessary for enrollment and success in education beyond high school. UBMS shares this goal, but adds a special focus on math and science. UBMS began in the early 1990s as an initiative to help address national concerns about attracting and retaining more students within science and mathematics in the light of predicted shortfalls in the number of individuals entering science and mathematics fields. It was recognized that the United States could meet future potential shortfalls of scientists and engineers only by reaching out and bringing members of underrepresented minorities into science and engineering (Task Force on Women, Minorities, and the Handicapped in Science and Technology 1988). Data from the National Science Foundation (2003) indicated that, in 1990, underrepresented minorities (blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives) represented 19 percent of the total labor force but only 8 percent of the science and engineering labor force.

As originally conceived in 1990, UBMS was to operate exclusively through regional centers that would serve participants drawn from regular Upward Bound projects. The program has evolved so that most of the participants in UBMS are no longer recruited from UB projects, and it no longer operates exclusively as regional centers. Indeed, the majority of UBMS projects active in the 2000–01 reporting period operated within a locality or a state; of the 121 UBMS projects, only 49, or 41 percent, were regional. The regions served by projects varied in size from two to eight states. Of the nonregional projects, some operated within localities that could be as compact as one city, county, or school district. Others drew students from large portions of a state; one grant's intrastate service area included 51 counties.

To participate in UBMS, students must be between the ages of 13 and 19 (except for veterans), have completed eight years of elementary education, plan to go to college, have an interest in math and or science, and need UBMS services to fulfill their goals. Students are generally recruited for participation in UBMS through the high schools they attend. Selection of the participants is based upon recommendations from their counselors, teachers, and social services agencies. Two-thirds of project participants must be low-income (defined as an individual whose family's taxable income did not exceed 150 percent of the poverty level; e.g., the income level for a family of four was approximately $26,475 in 2001) *and* potentially first-generation college students. "Potentially first-generation college student" means that neither of the student's parents has completed a bachelor's degree. The remaining one-third of participants must be *either* low-income or potentially first-generation college students.

In applying for UBMS grants, projects identify specific local, state, or regional geographic areas (i.e., target areas) that the project plans to serve. Math-Science projects generally serve larger target areas than do UB projects, and they also serve fewer participants, on average. The program regulations state that UBMS projects annually serve between 50 and 75 participants, while UB projects serve between 50 and 150 participants and VUB projects serve a minimum of 120 veterans. In program year 2000-01, on average UBMS projects were funded to serve 50 participants while UB projects were funded to serve about 71 participants.

UBMS projects must provide an intensive summer residential or nonresidential program (at least six weeks in length) designed to simulate the college-going experience. All Upward Bound projects must provide instruction in its core curriculum (mathematics through pre-calculus, laboratory science, foreign language, composition, and literature). In addition, all Upward Bound projects may provide instruction in areas other than the core subjects and other services such as personal counseling, academic advising, tutori-

al services, exposure to cultural events, career preparation, and mentoring. Moreover, UBMS projects must provide other services that relate to its unique mission. These include:

1. Intensive instruction in mathematics and science, including hands-on experience in laboratories, in computer facilities, and at field sites;
2. Activities that will provide participants with opportunities to learn from mathematicians and scientists who are engaged in research and teaching at the grantee institution, or who are engaged in research or applied science at hospitals, government laboratories, or other public and private agencies;
3. Activities that will involve pairing participants with graduate and undergraduate science and mathematics majors who may serve as tutors and counselors for participants; and
4. Content in the summer instructional component that includes daily coursework and other activities specified in sections 645.11 and 645.13 of the program's regulations.

UBMS projects may also include a summer bridge component, consisting of math- and science-related coursework for those participants who have completed high school and intend to enroll in an institution of higher education in the following fall term. Grantees also offer academic-year services that vary in intensity from project to project, usually influenced by the geographic dispersion of the students served. In general, UBMS projects' academic-year offerings are less structured than those provided by classic UB projects. In some cases, to reach participants across a broad geographic area during the academic-year, UBMS grantees use cost-effective measures such as distance learning.

UBMS stipends may be provided to all participants who participate on a full-time basis as evidenced by regular attendance and performance up to the standards established by the project. The stipend for the summer months must not exceed $60 per month; for the academic-year component, it must not exceed $40 per month.

UBMS grants are generally four years in length, with the top-scoring proposals receiving five-year awards. Demonstrating the need for the project is a major factor in the Upward Bound grant award process. Upward Bound general needs criteria, as listed in the program regulations, include factors such as low income and educational level of families in the target area; higher-than-average dropout rates and lower college-going rates for the target high schools; high student-counselor ratios in the target high schools; and unaddressed academic, social, and economic needs in areas that pose problems for low-income and first-generation college students.

For UBMS projects, the criteria for need, as stated in the regulations, are more specific to the math and science focus. They include factors such as student performance on standardized achievement and assessment tests in mathematics and science in the target area that is lower than state or national norms; the lack of resources and coursework that would help prepare persons for entry into postsecondary programs in mathematics, science, or engineering; the need within the target area for additional educational opportunities available to low-income, first-generation students; and the interest and capacity of eligible students in the target area to pursue academic programs and careers in mathematics and science.

Prior experience points may be earned by grantees that have conducted a UBMS project during the three years prior to the year in which the new application is submitted. During a program competition, these points are added to field readers' scores to arrive at a total score for the grantee. UBMS grantees may earn up to 15 prior experience points based on the following five regulatory criteria reflecting the goals of Upward Bound; each criterion is worth three points:

1. Whether the project serves the agreed-upon number of participants under the approved application;
2. The extent to which participants have demonstrated improvement in academic skills and competencies as measured by standardized achievement tests and grade-point averages;
3. The extent to which participants continue to participate in the Upward Bound program until they complete their secondary program;
4. The extent to which participants who complete the project, or were scheduled to complete the project, undertake programs of postsecondary education; and
5. The extent to which participants who complete the project, or were scheduled to complete the project, succeed in education beyond high school, including the extent to which they graduate from postsecondary education programs.

B. Program funding history

With an annual appropriation of $802.5 million in Fiscal Year 2002 (FY 2002), the Federal TRIO Programs are the largest set of discretionary grant programs in the U.S. Department of Education. Table 1 gives a summary of TRIO funding information and participant numbers for FY 2002 (2002–03 academic year). Table 2 gives historical information on funding for TRIO programs from 1967 to 2002 in current and constant 2002 dollars. During the 1990s, the annual appropriation for the Federal TRIO Programs increased substantially in current dollars and in constant dollars, after a flat period for much of the 1980s. In 2002, 2,600 grants were awarded with the intent of serving approximately 800,000 students. The number of students actually served by the TRIO Programs was greater: approximately 873,000. Upward Bound has historically had—and continues to have—the largest total funding allocation of any of the TRIO programs ($264 million in 2002 for UB and $32 million for UBMS) and the second largest funding per student served ($4,648 for UB and $5,215 for UBMS in 2002). In 2002, UBMS served just over 6,000 students and UB programs served nearly 57,000 students. Figure 1 displays TRIO funding in constant 2002 dollars across the periods in which the programs were operating.

Table 1. TRIO funding, number of grants, number of participants, average award, average number served, and amount per person served: 2002–03

Program	Grant amount (millions)	Number of grants	Number of participants[1]	Average award	Average served per project	Amount per participant
Upward Bound[2]	$264.2	770	56,841	$343,103	74	$4,648
Upward Bound Math-Science[2]	31.8	123	6,093	258,312	50	5,215
Talent Search	143.5	475	389,454	302,117	820	368
Educational Opportunity Centers	48.0	139	217,836	345,405	1,567	220
Student Support Services	262.7	937	198,551	280,375	212	1,323
McNair	38.4	156	3,774	245,880	24	10,164
Dissemination	3.4	17	—	200,740	—	—
Training	6.8	29	4,164	233,181	144	1,642

— Not applicable.

[1] Participants in the Federal TRIO Training Program are project directors and other staff employed in TRIO Programs. The participants in all other programs are students.

[2] Veterans Upward Bound projects are included with the totals for classic Upward Bound (43 Veterans Upward Bound projects in 2002) and Upward Bound Math-Science (2 Veterans Upward Bound projects in 2002).

SOURCE: U.S. Department of Education, Federal TRIO Program (administrative and financial records from program files).

Table 2. TRIO funding, by program in current and constant 2002 dollars: 1967–2002 (amounts in millions of dollars)

Year	Classic Upward Bound*	Talent Search	Student Support Services	Educational Opportunity Centers	McNair	Upward Bound Math-Science*
Current dollars						
1967	$27.0	$2.5	†	†	†	†
1970	29.6	5.0	$10.0	†	†	†
1975	38.3	6.0	23.0	$3.0	†	†
1980	62.5	15.3	60.0	7.7	†	†
1985	73.1	20.7	70.2	9.2	†	†
1990	102.6	27.0	90.9	11.9	$3.0	$3.4
1992	144.1	65.7	127.1	20.5	9.6	14.6
1995	171.6	78.8	143.5	24.6	19.1	19.0
1999	220.5	98.5	178.9	29.8	32.1	29.3
2000	249.7	100.6	183.3	30.5	34.9	31.3
2002	264.2	143.5	262.7	48.0	38.4	31.8
Constant 2002 dollars						
1967	$123.3	$11.4	†	†	†	†
1970	118.9	20.1	$40.2	†	†	†
1975	113.0	17.7	67.8	$8.8	†	†
1980	129.1	31.6	124.0	15.9	†	†
1985	116.6	33.0	112.0	14.7	†	†
1990	136.8	36.0	121.2	15.9	$4.0	$4.5
1992	181.0	82.5	159.7	25.8	12.1	18.3
1995	201.2	92.4	168.2	28.8	22.4	22.3
1999	237.9	106.3	193.0	32.1	34.6	31.6
2000	260.6	105.0	191.3	31.8	36.4	32.7
2002	264.2	143.5	262.7	48.0	38.4	31.8

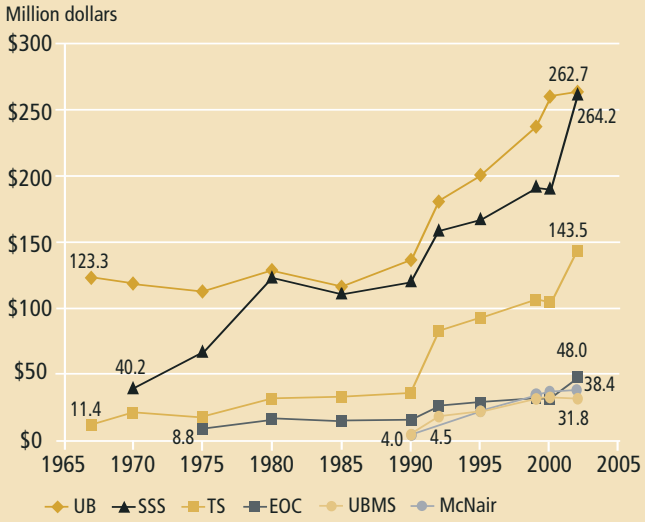
* Veterans Upward Bound projects are included with the totals for classic Upward Bound and Upward Bound Math-Science, as applicable.

† Not applicable, time period prior to program initiation.

NOTE: Amounts of TRIO funding presented in millions of dollars.

SOURCE: U.S. Department of Education, Federal TRIO Program (administrative and financial records from program files); U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index: 1967–2000.

Figure 1. TRIO funding in constant 2002 dollars, by program: 1967–2002



NOTE: UB=classic Upward Bound; TS =Talent Search; SSS= Student Support Services; EOC= Educational Opportunity Centers; McNair = Ronald McNair Postbaccalaureate Achievement Program; UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Program (administrative and financial records from program files); U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index: 1967–2000.

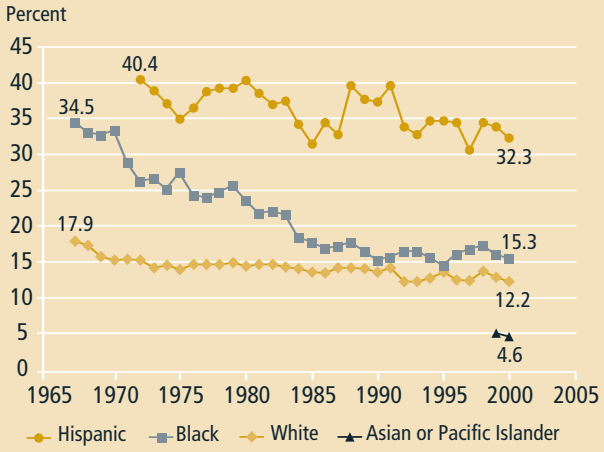
C. The changing national context

Since 1965, when Congress authorized the first TRIO programs, significant advances in the educational achievement and attainment of low-income, first-generation, and minority students have taken place within the United States. To provide context for the program profile for 2000–01, we review national data on changes in high school dropout rates and postsecondary enrollment over the period since TRIO began.

When Upward Bound and Talent Search began in the late 1960s, there was considerable emphasis on increasing high school graduation rates as the first step towards increasing college enrollment. Indeed, since that time secondary school dropout rates have declined, especially among black or African American[3] youths. For example, dropout rates in 2000 were less than half of what they were at the time of TRIO program implementation in the late 1960s. However, as the Census data indicate, the percentage of high school students who have dropped out of high school remains high among all groups in the United States, but especially so for Hispanic youth, who may be children of non-English-speaking parents (figure 2).

Figure 3 presents the postsecondary education enrollment rates from 1967 to 2000 for 18- to 24- year-old individuals, by racial/ethnic group. Overall rates increased from 26 percent in 1967 to 36 percent in 2000. Black or African American youths had the largest increase—more than doubling, from 13 to 30 percent. The rate of college attendance among Hispanic youth was 20 percent in 1975; it declined to 16–17 percent in the 1980s, and was 22 percent in 2000 (figure 3).

Figure 2. Percentage of the population 18–24 years old who have dropped out of high school (status dropout rate), by race/ethnicity: 1967–2000

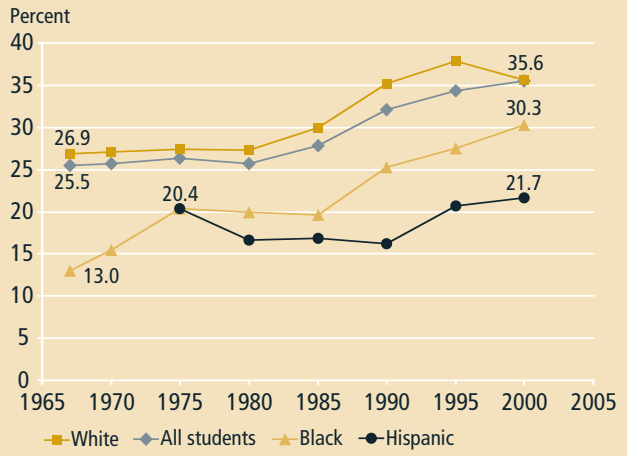


NOTE: The term "status dropout rate" in this figure is based on the self reports of 18–24-year-old respondents to the Current Population Survey (CPS) question on high school graduation status. This figure reflects cumulative data on dropouts among 18–24-year-olds and is considerably higher than that reported by Census for the annual dropout rate of 15–17-year-olds, which is the proportion of students who left school in the year reported. For example, for 15–17-year-olds the annual rate was 4.5 percent for the national rate and 6.8 for Hispanics in 2000 (as reported in Census Table A–4. Annual High School Dropout Rates by Sex, Race, Grade, and Hispanic Origin October 1967 to 2000).

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Surveys, 1967–2000 (Table A-5. The Population 14 to 24 Years Old, by High School Graduate Status, College Enrollment, Attainment, Sex, Race, and Hispanic Origin: October 1967 to 2000) (www.census.gov/population/www/socdemo/school.html).

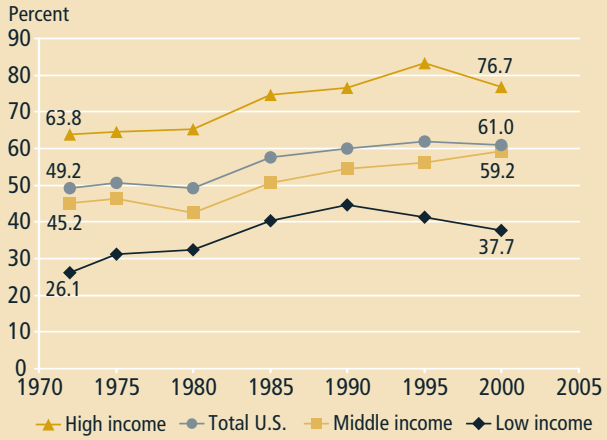
[3]Consistent with the U.S. Census, tables and figures reporting U.S. Census information use only the term "black."

Figure 3. Percentage of 18–24-year-olds enrolled in postsecondary institutions, by race/ethnicity: 1967–2000



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1967–2000 (www.census.gov/population/www/socdemo/school.html).

Figure 4. Percentage of high school graduates enrolled in college the October following graduation, by family income: 1972–2000



NOTE: Low income from 1972–95 was the lowest 20 percent of family incomes; high income was the top 20 percent; and middle income was the 60 percent in between. Percentages reported for low income for 1990 and 1995 represent three-year averages due to small yearly sample sizes. In 2000, the percentage groupings changed somewhat: low income included the bottom 19 percent, and high income was the upper 33 percent. Middle income was the 48 percent between the two other groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1972–2000 (www.census.gov/population/www/socdemo/school.html).

Figure 4 displays Census figures on the percentage of high school graduates enrolling in postsecondary education immediately after high school graduation (i.e., by the following October). Overall, postsecondary enrollment among high school graduates went from 49 percent in 1972 to 61 percent in 2000. Among youths from low-income families, the Census Bureau estimates were 26 percent and 38 percent, respectively, in 1972 and 2000 (figure 4).

Although it is important not to minimize these gains, there remain unacceptably large gaps in postsecondary educational attainment among student populations differing by race/ethnicity and socioeconomic status. For example, in 2000, the potential for a college degree by age 24 was estimated to be about 8 percent for those in the lowest economic quartile, as compared with 52 percent for those in the highest quartile (Mortenson 2001). For these reasons, the U.S. Department of Education's Strategic Plan for 2002–2007 stated an objective to reduce these gaps by half over the five-year period (U.S. Department of Education 2002).

Of special concern for the UBMS Program was the extent to which members of minority groups were entering postsecondary institutions and graduating with degrees in mathematics, science, and engineering.

Data at the start and end of the last decade (1990 and 1998/99) on bachelor's, master's, and doctoral degrees awarded by race/ethnicity are presented in tables 3 and 4. Overall, about one-third of bachelor's, 20 percent of master's, and almost two-thirds of doctoral degrees were in science, mathematics, or engineering in both periods (table 3). In 1998, about 96 percent of bachelor's and 75 percent of master's degrees in science and engineering awarded by postsecondary institutions in the United States were awarded to U.S. citizens or permanent residents; the comparable figure for 1999 for doctoral degrees was 67 percent. It is significant that one-third of doctorates in science and engineering (including mathematics) were awarded to graduate students in U.S. schools who were neither citizens nor permanent residents of the United States.

Table 4 gives the distribution of bachelor's, master's, and doctoral degrees among those awarded to U.S. citizens and permanent residents by race/ethnicity in 1990 and 1998/99 for all degrees and among science, mathematics, and engineering degrees.

Among the science and engineering degrees awarded to U.S. citizens and permanent residents, the proportion of science and engineering degrees awarded to all minority groups increased substantially in the decade of the 1990s (table 4). For example, the percentage of doctorates in science and engineering awarded to minorities went from 14 to 22 percent between 1990 and 1999. Among minority groups, the largest proportion of degrees in science and engineering continue to be awarded to Asians. For example, Asians went from 6 to 9 percent of bachelor's degrees in science and engineering between 1990 and 1998, and from 7 to 11 percent of doctoral degrees between 1990 and 1999. Substantial gains, however, were made by other minority groups as well. For example, the percentage of science and engineering doctorate degrees awarded to black or African Americans almost doubled, from 2 percent in 1990 to 4 percent in 1999. Similarly, the percentage of bachelor's degrees in science and engineering awarded to black or African American students went from 6 to 8 percent between 1990 and 1998. American Indians and Alaska Natives went from 0.3 percent of doctorates in science and engineering to 0.7 percent in 1999, more than doubling. Degrees in science and engineering awarded to Hispanic students went from 4 to 7 percent for bache-

Table 3. Total number of bachelor's, master's, and doctoral degrees awarded and number awarded to U.S. citizens and permanent residents: 1990 and 1998–1999

	Bachelor's degree		Master's degree		Doctorate	
Degree category	**1990**	**1998**	**1990**	**1998**	**1990**	**1999**
Total degrees awarded						
All fields	1,062,151	1,199,579	324,947	431,871	36,067	41,140
Science and engineering fields*	345,793	411,286	72,228	87,144	22,868	25,953
Percentage of total degrees in science and engineering fields	32.6%	34.3%	22.2%	20.2%	63.4%	63.1%
Degrees awarded to U.S. citizens and permanent residents						
All fields	1,035,598	1,160,692	290,345	379,666	26,603	29,922
Science and engineering fields*	333,475	396,558	55,890	65,748	15,364	17,428
Percentage of degrees in all fields awarded to U.S. citizens and permanent residents	97.5%	96.8%	89.4%	87.9%	73.8%	72.7%
Percentage of science and engineering degrees* awarded to U.S. citizens and permanent residents	96.4%	96.4%	77.4%	75.4%	67.2%	67.2%

*These fields include life sciences, physical and earth sciences, mathematical science, computer science, social sciences, and engineering fields.

SOURCE: Tabulations by National Science Foundation, Division of Science Resources Statistics; data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, various years. National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, various years.

Table 4. Percentage distribution of bachelor's, master's, and doctoral degrees awarded and total awarded to U.S. citizens and permanent residents, by race/ethnicity: 1990 and 1998–99

Degrees awarded	Bachelor's		Master's		Doctorate	
	1990	1998	1990	1998	1990	1999
Number of degrees awarded to U.S. citizens and permanent residents						
All fields awarded	1,035,598	1,160,692	290,345	379,666	26,603	29,922
Science and engineering degrees*	333,475	396,558	55,890	65,748	15,364	17,428
Percentage of degrees awarded to U.S. citizens and permanent residents, by race/ethnicity						
White non-Hispanic						
Percentage of all fields	82.7%	75.6%	81.6%	76.9%	86.0%	79.3%
Percentage of science and engineering*	81.0	73.2	79.5	4.6	85.7	78.4
Asian or Pacific Islander						
Percentage of all fields	3.7	6.0	3.4	5.3	4.9	8.4
Percentage of science and engineering*	5.8	8.7	7.3	9.4	6.6	11.2
Black or African American non-Hispanic						
Percentage of all fields	5.7	8.3	5.0	7.5	3.9	5.8
Percentage of science and engineering*	5.5	7.9	3.3	5.7	2.4	4.1
Hispanic						
Percentage of all fields	4.2	6.7	2.9	4.6	3.1	4.2
Percentage of science and engineering*	4.2	6.7	2.8	4.7	3.0	3.9
American Indian or Alaska Native						
Percentage of all fields	0.4	0.7	0.4	0.5	0.4	0.7
Percentage of science and engineering*	0.4	0.6	0.3	0.5	0.3	0.7
Unknown race/ethnicity						
Percentage of all fields	3.2	2.7	6.7	5.2	—	—
Percentage of science and engineering*	3.1	2.8	6.7	5.1	—	—

*Includes life sciences, physical and earth sciences, mathematical science, computer science, social sciences, and engineering fields.

— Not applicable.

NOTE: Percentage distributions in this table are based on only those degrees awarded to U.S. citizens and permanent residents. Degrees awarded to noncitizens and nonresidents are excluded.

SOURCE: Tabulations by National Science Foundation, Division of Science Resources Statistics; data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, various years. National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, various years.

lor's degrees, 3 to 5 percent for master's degrees, and 3 to 4 percent for doctorates.

D. Purpose and development of the UBMS performance report

The requirements for performance reports in each of the Federal TRIO programs were revised in recent years in response to the *Government Performance and Results Act of 1993* (GPRA) and the U.S. Department of Education's strategic plan. In addition to providing statistical information on the TRIO programs, the new performance reports are designed to provide tools for measuring program outcomes and progress towards meeting program goals. To date, national profile reports have been published for the SSS, McNair, TS, and EOC programs using recent performance report data and other relevant data sources. This report is the first national profile report on the UBMS Program using data from the new performance reports.

The Upward Bound programs were the last of the TRIO programs to implement a revised performance reporting form following GPRA. The report was carefully developed after several working groups considered draft forms and after substantial comment by Upward Bound projects. The new form includes individual participant records and incorporates measures of the extent and type of services received by program participants. Projects are expected to track eligible participants (those that participated for a calendar year for UB and a summer for UBMS) for four years following completion of high school.

For the 2000–01 data collection (the first using the new report requirements), all Upward Bound Math-Science projects were asked to include all individuals that were served in program years 1999–2000 and 2000–01. Since cohort data on project participants are not available for the years before 1999–2000, some program outcomes (e.g., postsecondary enrollment and completion rates) cannot be reported until additional trend information is collected. The UBMS performance report was designed to provide a rich source of information concerning participant selection, entering characteristics, services/participation, and outcomes. The fact that participant characteristics and outcomes are reported on individual students can potentially allow for analyses of the relationship between these factors. The potential also exists to use the information with other sources of national data such as the Federal Aid Files maintained by the Office of Postsecondary Education, U.S. Department of Education.

E. Report structure

This descriptive report endeavors to provide a summary of the results of the first year's performance reporting for UBMS, for which 98 percent of funded projects submitted individual participant-based performance reports (see appendix A, table A–1). In organizing this report, we largely follow the performance report structure itself. We begin by presenting demographic profiles of the grantees, participants, and target schools. We then focus on program participation and services in high school. Finally, we look at the information reported on postsecondary outcomes, although the 2000–01 performance reports include only a two-year span of information, thus limiting the scope of the postsecondary outcome measures.

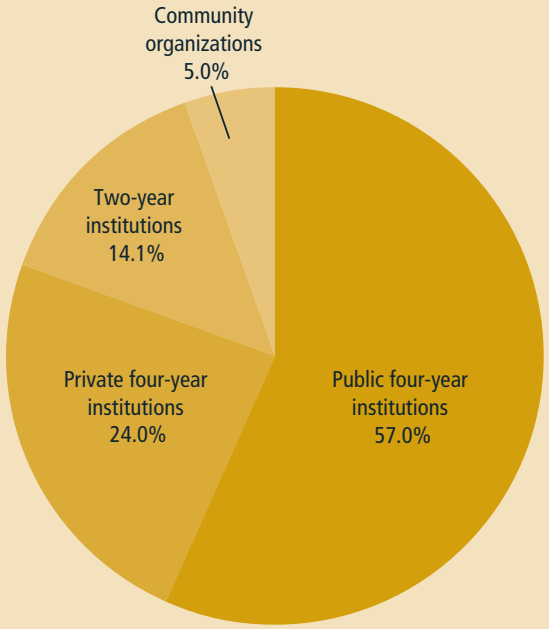
Specifically, the report is presented in six chapters and two appendices. Chapter 2 focuses on the characteristics of UBMS grantees and is informed by matching the information from the UBMS performance reports with the Integrated Postsecondary Education Data System (IPEDS) for the 2000–01 academic year (U.S. Department of Education, National Center for Education Statistics [NCES] 2001b). IPEDS is a core postsecondary education data collection program for NCES and includes all institutions and educational organizations with the primary mission of providing postsecondary education. Chapter 3 includes information on participant characteristics, providing a demographic profile of participants. Chapter 4 covers the characteristics of the target schools associated with the UBMS projects gained from matching the performance report information with the Common Core of Data (CCD) for the 2000–01 academic year (U.S. Department of Education, National Center for Education Statistics 2003). Collected annually by NCES, the CCD is a universe of all schools in the United States and outlying areas that provide free public elementary and secondary education. Chapter 5 focuses on project participation, number served, length of participation in the program, and services provided. It also includes high school academic measures such as grades and credits earned. Chapter 6 focuses on postsecondary outcomes. Appendix A includes methodological information and summary information on performance report response rates and data quality. It also describes plans for future reports. Appendix B includes a glossary of important terms used in the report.

Throughout the report, we look at selected data by the sector of the host or sponsoring institution. These sectors include: (1) public four-year postsecondary institutions, (2) private four-year postsecondary institutions, (3) two-year postsecondary institutions, and (4) secondary schools, nonprofit agencies, and other community organizations.

CHAPTER 2
CHARACTERISTICS OF GRANTEES

Upward Bound Math-Science projects may be hosted by postsecondary institutions and public/private agencies or combinations of such entities. In exceptional cases, secondary schools may sponsor Upward Bound programs. Eighty-one percent of UBMS grantees were four-year institutions (57 percent were public four-year and 24 percent were private four-year institutions). Fourteen percent were two-year institutions and 5 percent were community organizations (figure 5). Table 5 gives the distribution of all three Upward Bound programs and participants by sector of the host grantee organization.[4] UBMS grantees were less likely to be two-year institutions and more likely to be public four-year institutions than were UB grantees. VUB grantees were less likely to be private four-year institutions than the other two types of Upward Bound project grantees. The distribution of participants by sector of the grantee largely mirrors the distribution of projects by sector (table 5).

Figure 5. Percentage distribution of UBMS projects, by sector of host grantee: 2000–01



NOTE: UBMS = Upward Bound Math-Science. Detail may not sum to total because of rounding.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

[4]The participant numbers represent an unduplicated count of individuals within projects. Overall, duplicate records for 104 UBMS, 808 UB, and 213 VUB participants were removed.

Table 5. Projects and unduplicated counts of current and prior-year UBMS, UB, and VUB participants included in the project reports, by type of project and grantee sector: 2000–01

	Number and percentage distribution of projects						Current and prior-year participants included in 2000–01 in the individual project reports*					
Sector	UBMS		UB		VUB		UBMS		UB		VUB	
All	121	100%	727	100%	47	100%	8,684	100%	68,628	100%	8,299	100%
Public four-year institutions	69	57.0	302	41.5	26	55.3	5,019	57.8	30,856	45.0	4,287	51.7
Private four-year institutions	29	24.0	155	21.3	3	6.4	2,173	25.0	15,828	23.1	749	9.0
Two-year institutions	17	14.1	231	31.8	13	27.7	1,146	13.2	18,832	27.4	2,348	28.3
Community organizations	6	5.0	39	5.4	5	10.6	346	4.0	3,112	4.5	915	11.0

* The count of current and prior-year participants excludes the duplicate records of Upward Bound participants with valid Social Security numbers within projects. Overall, duplicate records for 104 UBMS, 808 UB, and 213 VUB participants were removed. For this first reporting cycle, projects were instructed to include each individual only once. Projects were instructed to include in the individual record file anyone served in either 1999–2000 or 2000–01. Service information was reported only for those who were served in 2000–01.

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; VUB = Veterans Upward Bound. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

A. Federal region

Among the 10 federal regions listed in table 6, the regions with the least number of UBMS projects were Region X with 2, Region I with 4, and Region VIII with 6. The regions with the largest number of UBMS projects were Region IV with 21 and Region IX with 20, and Regions V and VI, each with 18 projects. These were also the regions with the largest number of UB projects.

B. IPEDS comparison

To understand the distribution of Upward Bound grantees relative to the entire group of postsecondary undergraduate degree-granting institutions in the United States, we merged the TRIO data with the institutional characteristics file for IPEDS.[5] Overall, roughly 25 percent of the two- and four-year degree-granting Title IV-eligible institutions[6] serving undergraduates have Upward Bound grants of some type and 3 percent have UBMS grants (table 7). UBMS is more prevalent among four-year public institutions than among private four-year institutions or among all two-year institutions. For example, 11 percent of public four-year degree-granting institutions had UBMS grants, while 2 percent of four-year private and 1 percent of two-year institutions had UBMS grants.

[5]The IPEDS Institutional Characteristics file for 2000–01 contains 9,905 institutions (U.S. Department of Education, National Center for Education Statistics 2001b). For our analyses, we used postsecondary institutions awarding at least two-year degrees and excluded private for-profit institutions, institutions not serving undergraduates, and non-Title IV participants (about 6,700 postsecondary schools were Title IV-participating). The resulting comparison file had 3,455 IPEDS institutions.

[6]Title IV-eligible institutions are those determined eligible to participate in federal aid to postsecondary education including the Federal Pell Grants, the Federal Supplemental Educational Opportunity Grants (FSEOG), the Federal Work-Study Program (FWS), the Federal Stafford Loans (subsidized and unsubsidized), the Federal PLUS Loan Program (Parent Loan for Undergraduate Students), the Federal Perkins Loan Program, and the William D. Ford Direct Loan Program.

Table 6. Number and percentage of Upward Bound projects, by federal region: 2000–01

Federal region (states/outlying areas in region)	UBMS		UB		VUB	
All	121	100%	727	100%	47	100%
Region I (CT, ME, MA, NH, RI, VT)	4	3.3	32	4.4	1	2.1
Region II (NJ, PR, VI, NY)	9	7.4	53	7.3	2	4.3
Region III (DE, DC, MD, PA, VA, WV)	11	9.1	67	9.2	6	12.8
Region IV (AL, FL, GA, KY, MS, NC, SC, TN)	21	17.4	153	21.1	9	19.2
Region V (IL, IN, MI, MN, OH, WI)	18	14.9	117	16.1	8	17.0
Region VI (AR, LA, NM, OK, TX)	18	14.9	112	15.4	8	17.0
Region VII (IA, KS, MO, NE)	12	9.9	45	6.2	2	4.3
Region VIII (CO, MT, ND, SD, UT, WY)	6	5.0	31	4.3	5	10.6
Region IX (AZ, CA, HI, NV, AS, GU, PM)	20	16.5	94	12.9	6	12.8
Region X (AK, ID, OR, WA)	2	1.7	23	3.2	0	0

NOTE: UBMS = Upward Bound Math-Science; UB = classic UB; and VUB = Veterans Upward Bound. This table includes projects that did not respond to the Upward Bound individual performance reports (3 UBMS, 19 classic UB, and two VUB projects). Detail may not sum to totals because of rounding. State abbreviation key is included in appendix B).

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 7. Number and percentage of two- and four-year degree-granting institutions serving undergraduates that have Upward Bound grants, by type of postsecondary institution: 2000–01

	Number					Percentage of IPEDS degree-granting institutions with Upward Bound grants			
Type	IPEDS	UBMS	UB	VUB	All UB	UBMS	UB	VUB	All UB
All	3,455	115	688	42	845	3.3%	19.9%	1.2%	24.5%
All four-year	1,955	98	457	29	584	5.0	23.4	1.5	29.9
Public four-year	614	69	302	26	397	11.2	49.2	4.2	64.7
Private four-year	1,341	29	155	3	187	2.2	11.6	0.2	13.9
All two-year	1,500	17	231	13	261	1.1	15.4	0.9	17.4

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; and VUB = Veterans Upward Bound. Upward Bound grantees that were secondary schools and nonprofit agencies (6 UBMS, 39 UB, and five VUB projects) are not included in the total number of projects listed in the table in row one; because they are not postsecondary institutions, they are not included in the analysis of the percentages in the Integrated Postsecondary Education Data System (IPEDS). IPEDS for 2000–01 contains a total of 9,905 postsecondary institutions. Of these, 3,455 were two- or four-year public or private not-for-profit degree-granting Title IV-eligible institutions that served undergraduates.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01, and U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System Institutional Characteristics (IPEDS-IC), 2000–01

The Carnegie Classification System is a systematic classification of institutions of higher education in the United States according to variables such as degrees offered, size, and commitment to research. Table 8 compares the distribution of the total Carnegie classified institutions with that of the UBMS grantees. The largest number of UBMS projects was located at doctoral-granting/research institutions (43 of the 118 projects that returned Upward Bound performance reports). As shown in the table, while doctoral-granting/research institutions constituted 7 percent of the total U.S. institutions classified by Carnegie, they represented 36 percent of the UBMS grantees. Master's degree-granting institutions were also more represented among UBMS grantees than in the total Carnegie master's group (24 percent of the UBMS grantees were master's degree institutions in contrast to 17 percent of institutions overall). Conversely, associate's degree-granting institutions were less numerous as a proportion of the total UBMS grantees (14 percent) than they were in the total Carnegie (45 percent).

Table 8. Comparison of the distribution of Carnegie classified postsecondary institutions and UBMS grantees, by type of degree awarded: 2000–01

Carnegie classification	Postsecondary institutions with Carnegie classification		UBMS projects	
All	3,608*	100%	118	100%
Doctoral/Research	255	7.1	43	36.4
Master's	610	16.9	28	23.7
Baccalaureate	603	16.7	19	16.1
Associate	1,636	45.3	16	13.6
Other	504	14.0	1	0.9
UBMS postsecondary not assigned Carnegie categories	—	—	5	4.2
UBMS Community organizations	—	—	6	5.1

* Number reflects the total number of institutions on Integrated Postsecondary Educational Data System (IPEDS) file that had a Carnegie classification assigned.

— Not applicable.

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01, and U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System Institutional Characteristics (IPEDS-IC), 2000–01.

Table 9 gives the number and percentages of Historically Black Colleges and Universities (HBCU), Hispanic Serving Institutions (HSI), and Tribal Colleges and Universities (TCU) among degree-granting institutions found in IPEDS. Among the total degree-granting institutions serving undergraduates, about 3 percent (99 institutions) were at HBCU, 6 percent were at HSI (215 institutions), and 1 percent were at Tribal Institutions (29 institutions). Representation of UBMS projects at minority institutions exceeded the institutions' representation within IPEDS. Among UBMS projects, 13 percent of the projects (16 institutions) were at HBCUs and 10 percent (12 institutions) were at HSIs. While there were no UBMS projects located at TCUs, six UB projects and one VUB project were so located.

Table 9. Postsecondary institutions serving undergraduates and institutions with Upward Bound projects, by type of institution: 2000–01

Institution type	Degree-granting institutions serving undergraduates[1]		Institutions with Upward Bound projects					
			UBMS		UB		VUB	
All	3,455	100%	121	100%	727	100%	47	100%
Historically Black Colleges and Universities[2] (HBCU)	99	2.9	16	13.2	75	10.3	4	8.5
Hispanic Serving Institutions[2] (HSI)	215	6.2	12	9.9	87	12.0	2	4.3
Tribal Colleges and Universities[2] (TCU)	29	0.8	0	0	6	0.8	1	2.1
Other postsecondary institutions	3,114	90.1	87	71.9	520	71.5	35	74.5
Community organizations	—	—	6	5.0	39	5.4	5	10.6

— Not applicable.

[1] The Integrated Postsecondary Education Data System institutional characteristics file (IPEDS-IC) for 2000–01 contains 9,905 postsecondary institutions. Of these institutions, 3,455 were two- or four-year public or private not-for-profit, degree-granting institutions that served undergraduates. HBCU and Tribal Institutions are identified on IPEDS.

[2] HBCU are historically black postsecondary institutions established before 1964 to educate black Americans. HSI are defined as institutions of higher education with 25 percent or more Hispanic undergraduate enrollment. TCU are postsecondary schools created to address the higher education needs of American Indians in isolated areas with little access to postsecondary education. Appendix B includes additional information about these schools.

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; VUB = Veterans Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01, and U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System Institutional Characteristics (IPEDS-IC), 2000–01.

CHAPTER 3
UPWARD BOUND MATH-SCIENCE PARTICIPANTS

This chapter presents information on the demographic characteristics of UBMS participants, including information on eligibility status, race/ethnicity, gender, need for the program services, and age and grade at entry into the program. To provide context for the demographic statistics on UBMS participants, we also include related information from Census Bureau statistics and National Center for Education Statistics (NCES) studies.

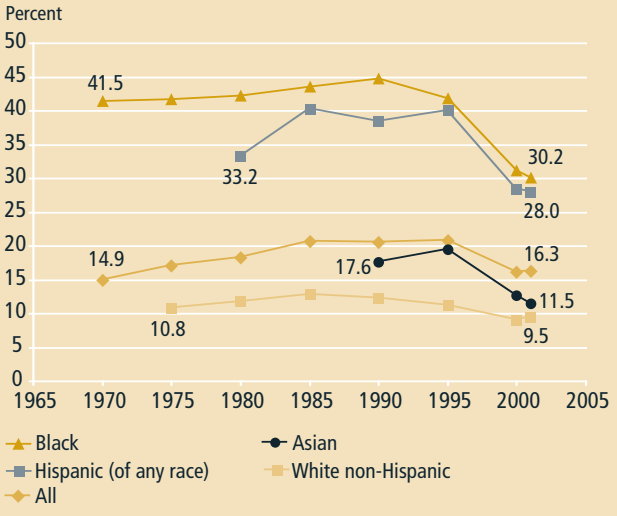
A. Participant distribution, by eligibility

1. Context: National data on poverty and parent education

Upward Bound was first initiated as part of the "War on Poverty" in the 1960s, manifesting the concept that higher education was a cornerstone for helping to reduce poverty within the U.S. population. Since 1981, Upward Bound eligibility requirements have stipulated that two-thirds of participants must be low-income and potentially first-generation college students.[7] The other one-third must be either low-income or potentially first-generation college students. "Low income" is defined as having a family taxable income that does not exceed 150 percent of the poverty level at the time of entry into the project. The U.S. Department of Commerce, Bureau of the Census, sets guidelines to determine the definition of the poverty level. To provide context related to these eligibility criteria, Census Bureau statistics on poverty rates and parent education are provided below. We also include NCES data on the percentage of high school students who were potentially first-generation college students at four points in time: 1972, 1980, 1990 and 2002. These statistics are useful in understanding the proportion of United States students who have been eligible for the Upward Bound program historically and in the more recent period.

In 2001, out of a total U.S. population of 281 million, about 33 million persons lived in poverty, and 59 million lived at less than 150 percent of the poverty level (U.S. Department of Commerce, Bureau of the Census 2001a). Poverty rates in the United States for all persons under 18 years have fluctuated between a low of 15 percent in 1970 and highs of 21 percent in the 1980s up to 1990 (figure 6). By 2001, the poverty rate among persons under 18 had declined again to 16 percent, but remained higher than in 1970.

Figure 6. Percentage of people under 18 years who were below the poverty level, by race/ethnicity: 1970–2001



NOTE: Data for 1970 and for Hispanic children in 1975 are for related children in families under 18 years old; all other data are for all persons under 18 years old.

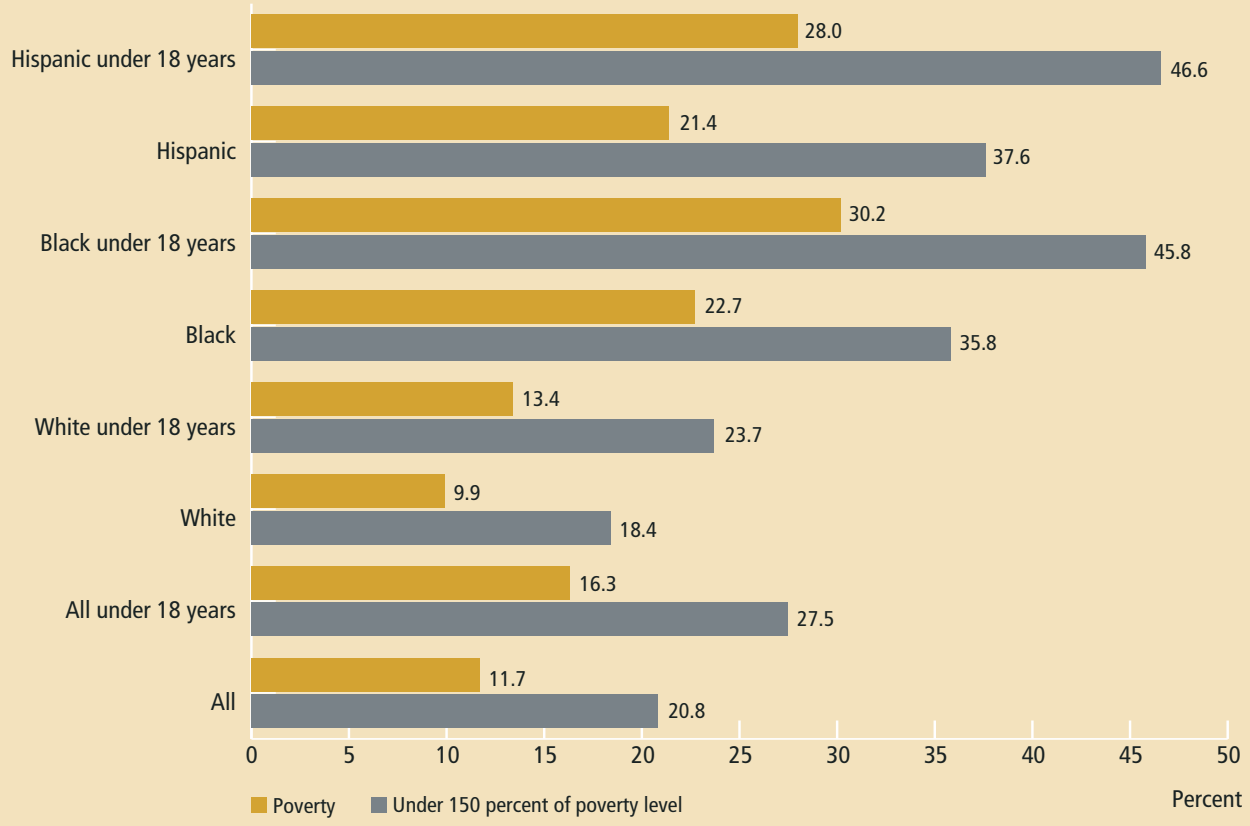
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Surveys, Historical Poverty Tables, Table 3. Poverty Status of People, by Age, Race, and Hispanic Origin: 1959-2002 (www.census.gov/hhes/poverty/histpov/hstpov3.html).

[7]Requirements prior to 1981 were that participants be "disadvantaged" and have need of services; however, the TRIO legislation did not define a specific income or parent educational level until 1981.

Figure 7 gives the percentage of those under 18 years in families in poverty and under 150 percent of the poverty level (the eligibility requirement used in Upward Bound) in 2001. In that year, 28 percent of U.S. children under 18 met the Upward Bound 150 percent of poverty level criterion. This percentage was just under half among Hispanic and black or African American children: in 2001, 47 percent of Hispanic children and 46 percent of black or African American children were in families under 150 percent of the poverty level (figure 7).

The second UB eligibility requirement relates to potentially first-generation college status, defined as not having a parent or guardian who has received a bachelor's degree. At the time of TRIO initiation, substantial proportions of students were potentially first-generation high school graduates in addition to being potentially first-generation four-year college graduates. In the 1970s, during the first decade of TRIO, over a quarter of white mothers and fathers and well over half of black or African American and Hispanic parents of school-age children had not completed high school. Census figures discussed in the *Condition of Education 2001* (U.S. Department of Education, National Center for Education Statistics 2001a, see supplemental table 4–1) document changes in educational attainment since the 1970s to more recent years. For example, between 1974 and 1999, the percentage of children of black or African American mothers who had less than a high school diploma went from 58 percent in 1974 to 20 percent in 1999, and the percentage of children of black or African American fathers without a high school diploma went from 61 percent to 15 percent in the same period. Among Hispanic parents, change was less pronounced. For example, the percentage of children of

Figure 7. Percentage of U.S. population and of persons under 18 in families in poverty and under 150 percent of poverty level, by race/ethnicity: 2001



NOTE: Figures for "White under 18" and "White" in this figure are for all whites and include those of Hispanic origin. Hence they differ from those in figure 6 in which the category is "White, not Hispanic." Note poverty rate for "white, not Hispanic" was 9.5 for all persons under 18 in 2001.

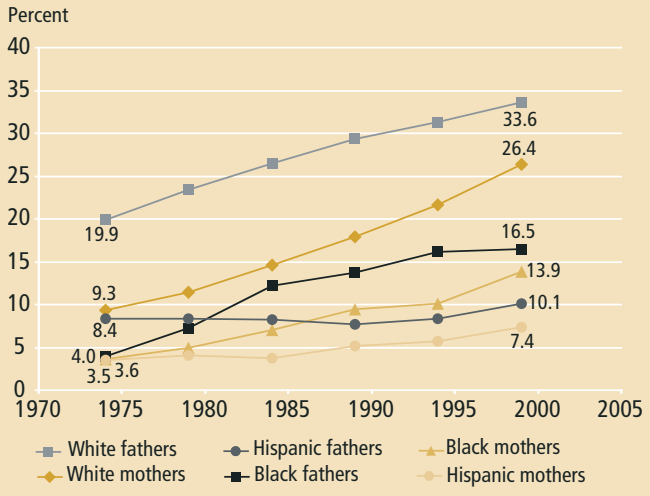
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Surveys, Families as of March of following year. Table 2. Age, Sex, Household Relationship, Race, and Hispanic Origin by Ratio of Income to Poverty Level: 2001 (http://ferret.bls.census.gov/macro/032002/pov/new02_000.htm).

Hispanic mothers without a high school diploma went from 62 percent to 49 percent between 1974 and 1999. Among Hispanic fathers the percentage without a high school diploma was 58 percent in 1974 and 49 percent in 1999 (U.S. Department of Education, National Center for Education Statistics 2001a).

In a parallel development, since 1974—the first date for which national data are available—the percentage of parents who had a bachelor's degree has increased substantially. For example, the percentage of black or African American children whose mothers and fathers had bachelor's degrees increased fourfold, from 4 percent each to 14 percent for mothers and 17 percent for fathers from 1974 to 1999 (figure 8). In the same period, the percentage of Hispanic mothers with a bachelor's degree went from 4 percent to 7 percent, and the percentage of Hispanic fathers with a bachelor's degree increased slightly from 8 to 10 percent.

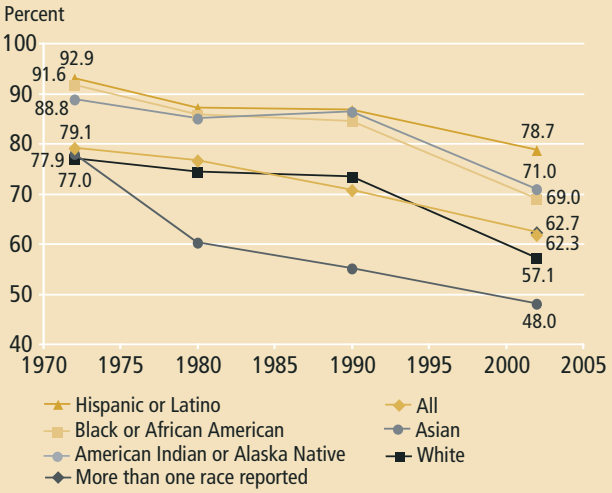
It should be noted that, while figure 8 shows trends in parents' educational attainment, the figure does not precisely reflect the UB program's criterion for a student's "first-generation" status. Figure 8 provides separate data on children who had mothers and fathers with a bachelor's degree; the UB program requires that neither parent have a bachelor's degree if a student is to be considered "potentially first-generation." Figure 9, on the other hand, accurately reflects the program's "first-generation" criterion. Using data from four NCES nationally representative longitudinal studies of high school students: NLS-72 HS&B, NELS:88, and ELS:2002 (U.S. Department of Education, National Center for Education Statistics 1994, 1995, 2002, n.d.),[8] figure 9 displays the percentage of potentially first-generation four-year college graduates among high school students in 1972, 1980, 1990, and 2002 by race/ethnicity. Overall the percentage of potentially first-generation college students was 79 percent in 1972 and 62 percent in 2002. Among black or African American

Figure 8. Percentage of children 6–18 years of age having a mother with a bachelor's degree and percentage having a father with a bachelor's degree, by race/ethnicity: 1974–1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, Condition of Education (Table 4–1), 2001.

Figure 9. Percentage of high school students who were potentially first-generation four-year college graduates, by race/ethnicity: 1972, 1980, 1990, and 2002



NOTE: "High school students who were potentially first-generation four-year college graduates" are defined as having neither mother nor father, nor guardian with a bachelor's degree. Information is from high school sophomores in 1980, 1990, and 2002. NSL-72 began with high school seniors; information is thus from seniors. "More than one race reported" was a possible response only in ELS:2002.

SOURCE: Special tabulations using U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, (NLS–72/73), High School and Beyond (HS&B, 1980) sophomore cohort base year survey, National Education Longitudinal Study of 1988 first follow-up study (NELS:88/90) and Education Longitudinal Study of 2002 base year student survey (ELS:2002).

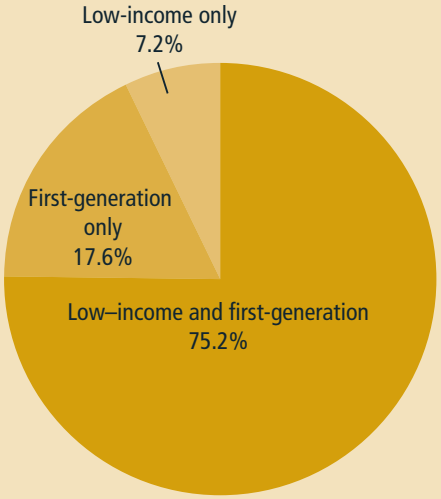
[8]The full names of the studies were the National Longitudinal Study of the High School Class of 1972 (NLS-72); High School and Beyond (HS&B 1980) sophomore cohort base year survey; National Education Longitudinal Study of 1988 first follow-up study (NELS:88/90); and Education Longitudinal Study of 2002 base year student survey (ELS:2002).

and Hispanic students, the percentages of potentially first-generation college students were 92 and 93 percent, respectively, in 1972. By 2002, these percentages had declined to 69 and 79 percent, respectively.

2. Distribution of UBMS participants, by eligibility status

Figure 10 gives the distribution by eligibility status for UBMS 2000–01 participants and table 10 presents this information by host sector. Overall 75 percent of UBMS participants were both low income and first generation; 18 percent were first generation only, and 7 percent were low income only. Projects hosted by private four-year institutions had the largest proportion of participants meeting both low-income and first-generation college requirements (table 10).

Figure 10. Percentage distribution of UBMS participants, by eligibility status: 2000–01



NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

B. Participant distribution, by race/ethnicity

1. Context

The UBMS Program is not targeted to specific racial and ethnic groups. Rather, its mission is to serve low-income and potentially first-generation college students with an interest in math and science. However, Upward Bound and the other TRIO programs have historically played an important role in serving minority groups underrepresented in postsecondary education. Since the initiation of the TRIO programs, shifts have occurred in the distribution of the U.S. population by race/ethnicity. Table 11 gives Census data on the distribution of the U.S. population from 1970 to 2001. These data document the growth in minority populations, especially the Hispanic and Asian or Pacific Islander populations, over the period. In addition, the 2000 Office of Management and Budget (OMB) requirement that government surveys allow for the choice of more than one race is also reflected in table 11.

2. Distribution of UBMS participants, by race/ethnicity

The largest percentage of UBMS participants in 2000–01 (41 percent) were black or African American (see figure 11), followed by whites (25 percent), Hispanics or Latinos (20 percent), Asians (7 percent), American Indians or Alaska Natives (4 percent), Native Hawaiians or Other Pacific Islanders (1 percent), and those of more than one race (2 percent). UBMS projects hosted by community organizations and private four-year institutions had the largest proportion of black or African American participants (figure 12).

Table 10. Percentage distribution of UBMS participants, by eligibility status and by sector of grantee: 2000–01

Eligibility status	Public four-year	Private four-year	Two-year	Community organizations	All projects
Low-income and first-generation	74.6%	77.6%	74.6%	72.8%	75.2%
Low-income only	6.9	9.0	4.1	11.1	7.2
First-generation only	18.6	13.3	21.3	16.1	17.6

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 11. Percentage distribution of U.S. population, by race/ethnicity: 1970–2001

Race/Ethnicity	Year			
	1970	1980	1990	2001
U.S. population (x 1,000)	200,679	241,154	271,171	284,797
American Indian or Alaska Native	†	0.6%	0.8%	1.0%
Asian or Pacific Islander[1]	†	1.6	3.0	3.9
Native Hawaiian or Other Pacific Islander	†	†	†	0.2
Black	11.3%	11.8	12.3	12.7
Hispanic origin (may be any race)	†	6.4	9.0	13.0
White[2]	88.7	85.9	83.9	†
White non-Hispanic[2]	†	†	†	68.9
Two or more races	†	†	†	0.2

† Not available.

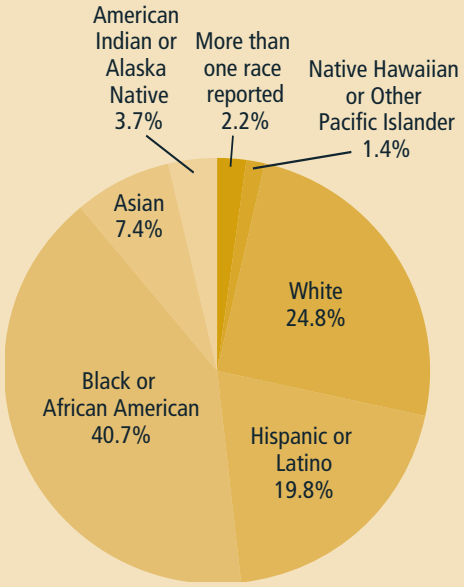
[1] Guidance on collecting race/ethnicity information in government surveys changed in 2000 to allow respondents to report multiple races. At that time, the Asian/Pacific Islander category was split into two race/ethnic groups: Asian and Native Hawaiian/Other Pacific Islander.

[2] Prior to 2000, whites included white Hispanics and other races not separately categorized. In 2000, the category became "White non-Hispanic." Applying the pre-2000 definition to this estimate, the percentage of whites of any ethnicity would be 80.9 percent.

NOTE: Percents do not sum to 100 percent due to rounding and because, prior to 2000, persons of Hispanic origin were counted first in the black or white category, then counted again in the "Hispanic origin" category.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of United States, 2002, Table 10 Resident Population—Selected Characteristics, 1950 to 1990, and Projections, 2005–2050; and Table 14, Resident Population by Race, Hispanic Origin, and Single Years of Age: 2001.

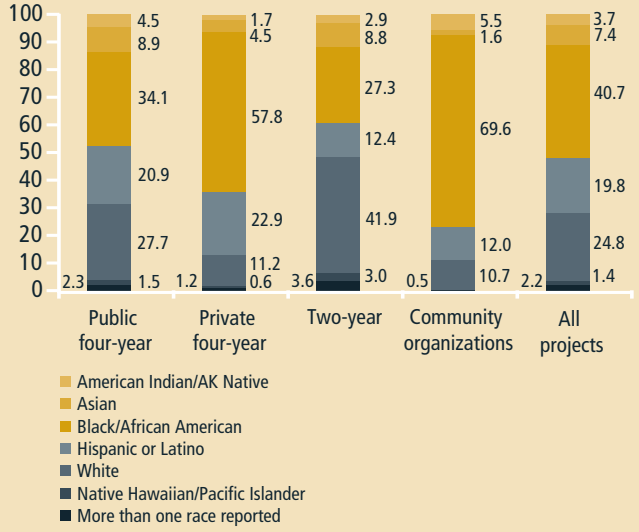
Figure 11. Percentage distribution of UBMS participants, by race/ethnicity: 2000–01



NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Figure 12. Percentage distribution of UBMS participants, by race/ethnicity and by host grantee sector: 2000–01



NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

UBMS and UB participants differed little in distribution by race/ethnicity; however, Asians were a higher proportion of UBMS participants than they were of UB participants (figure 13). VUB participants were much more likely to be white and somewhat more likely to be American Indian or Alaska Natives than were participants from UBMS or UB; and they were somewhat less likely to be Hispanic or Latino, or Asian than UBMS or UB participants.

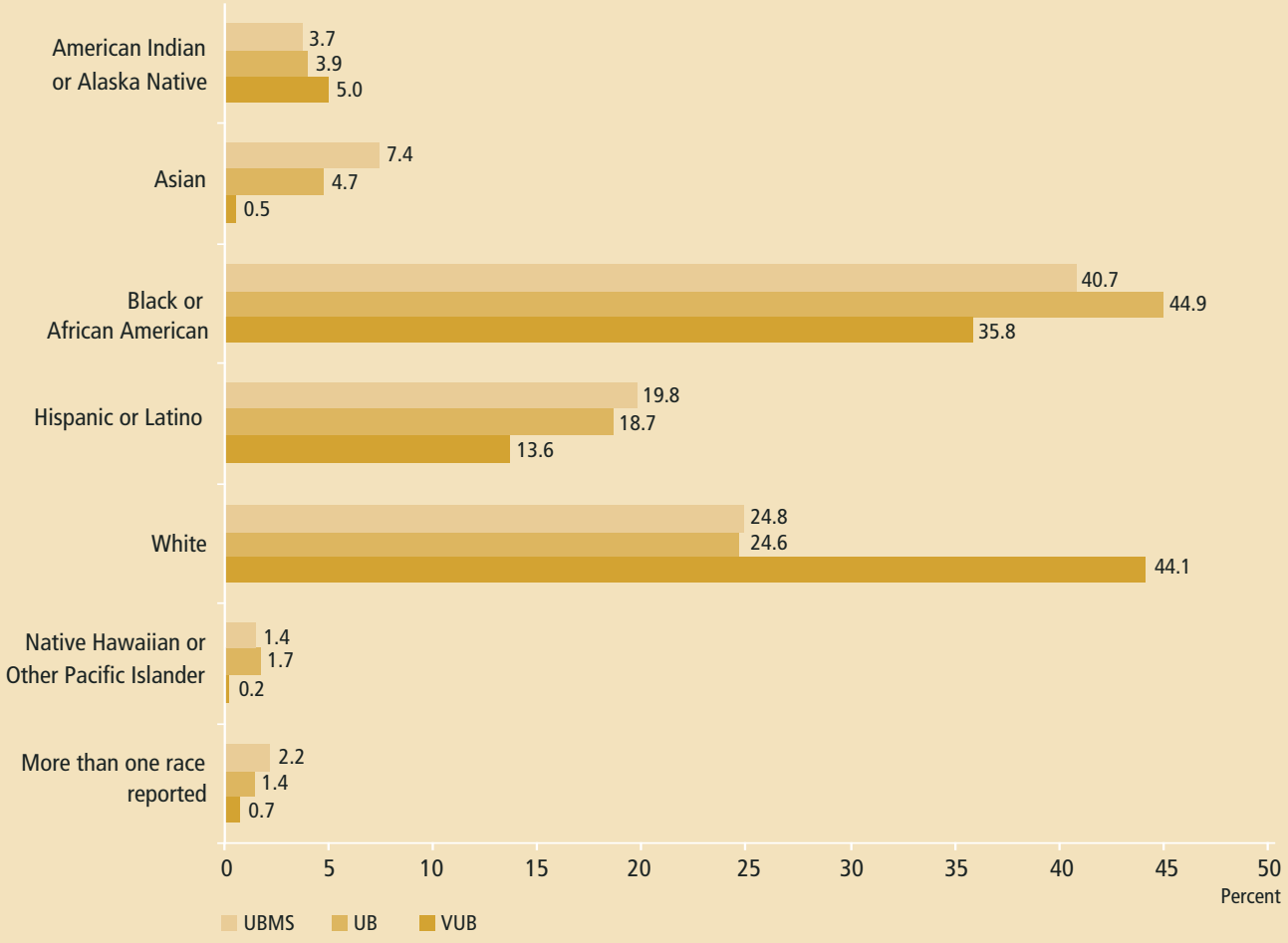
C. Participant distribution, by gender

1. Context

In the United States, recent years have witnessed a higher rate of participation in education at most levels for females than for males. Higher rates of participation in extracurricular and supplemental services have also been noted among females. This pattern is demonstrated in the Census data on dropout rates and college attendance between 1967 and 2000. Figure 14 gives Census data on the percentage of 18–24-year-olds who dropped out of high school, by gender, and figure 15 gives the percentage of high school graduates ages 14–24 who enrolled in or completed some college between 1967 and 2000, by gender.

As these data indicate, males increasingly have higher high school dropout rates than females, and there is a growing gap between the college participation rates of males and females. Female and male 18–24-year-olds had about the same percentage of

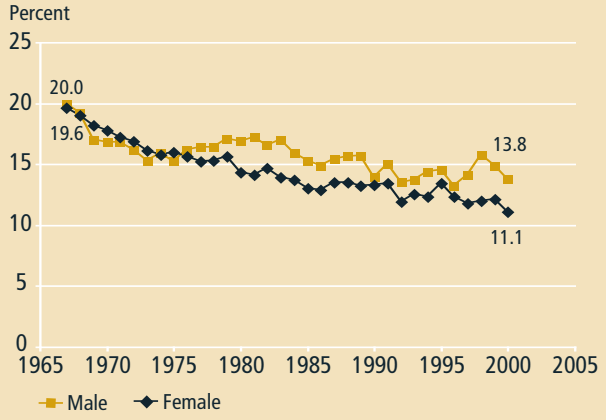
Figure 13. Percentage distribution of participants, by race/ethnicity and by type of Upward Bound program: 2000–01



NOTE: UB = classic Upward Bound; UBMS = Upward Bound Math-Science; VUB = Veterans Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

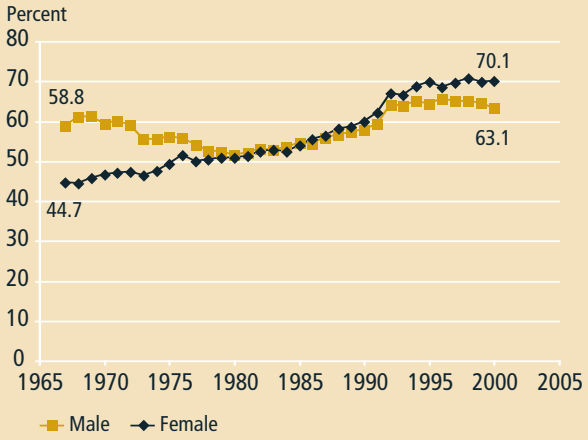
Figure 14. Percentage of 18–24-year-olds who dropped out of high school (status dropout rate), by gender: 1967–2000



NOTE: The term "status dropout rate" in this figure is based on the self reports of 18–24-year-old respondents to the Current Population Survey (CPS) question on high school graduation status. This figure reflects cumulative data on dropouts among 18–24-year-olds and is considerably higher than that reported by Census for the annual dropout rate of 15–17-year-olds, which is the proportion of students who left school in the year reported. For example, for 15–17-year-olds the annual rate was 4.5 percent in 2000 (as reported in Census Table A-4. Annual High School Dropout Rates by Sex, Race, Grade, and Hispanic Origin October 1967 to 2000).

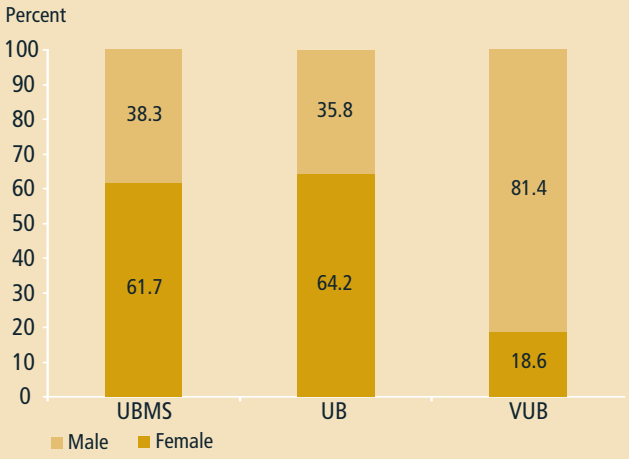
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Census, 1967–2000 (Table A5. The Population of 14 to 24-Year- Olds by High School Graduate Status, College Enrollment, Attainment, Sex, Race, and Hispanic Origin: October 1967 to 2000) (www.census.gov/population/www/socdemo/school.html).

Figure 15. Percentage of high school graduates aged 14–24 who were enrolled in or completed some college, by gender: 1967–2000



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Surveys, various years, October.

Figure 16. Percentage distribution of participants, by gender and by type of Upward Bound project: 2000–01



NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; VUB = Veterans Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

dropouts in 1967 (approximately 20 percent). By 2000, dropout rates had decreased for both groups, but somewhat more for females—the rate being 11 percent for females and 14 percent for males (figure 14). More strikingly, female rates of having completed some college went from 45 percent in 1967 to 70 percent in 2000, while males went from 59 to 63 in the same period (figure 15).

2. UBMS distribution, by gender

Just under two-thirds (62 percent) of UBMS participants were female in 2000–01 (figure 16). There were almost no differences by grantee sector in the distribution by gender (data not shown). Historically, males have majored in several math- and science-related disciplines at higher rates than females; however, there was little difference in the percentage of males between UB and UBMS projects. UB was 36 percent male and UBMS was 38 percent male. However, reflecting the distribution of military service, VUB had a much higher proportion of males (81 percent) than females.

D. Participant need for services

In addition to the low-income and potentially first-generation college-going eligibility requirements, there is a requirement that students need the services offered by the project. Participants are selected based upon recommendations from their counselors, teachers, and social services agencies. The UBMS performance report form includes an item on the need for services and lists a series of possible reasons. Projects were asked to select the one code that best describes why the participant needs UBMS services (table 12). Among UBMS center participants, interest in careers in math and science was the reason cited for over half of participants (52 percent). The next most frequent reasons reported were being a member of a predominately low-income community (11 percent); lack of opportunity, support and/or guidance to take challenging college preparatory courses (9 percent); rural isolation (6 percent); lack of confidence and self-esteem (5 percent); and lack of career goals or information (5 percent). Projects hosted by private four-year institutions were more likely than grantees in other sectors to report interest in careers in math and science as the reason for service (66 percent). In classic UB projects, the need for services categories having to do with academic need (such as low grades, low achievement test scores, and low educational aspirations) encompassed about 30 percent of the responses, followed by lack of opportunity, support, or guidance to take challenging college preparatory courses (20 percent) and being a member of a predominately low-income community (18 percent).

The performance report form also asks for the type of test used to assess academic skills and for information on two common aptitude tests (table 13). Many projects (46 percent) reported using a test other than those listed. Among those listed, the test used most frequently to ascertain need was the Stanford Achievement Test.

Table 12. Percentage distribution of reported reason for needing UBMS services, by sector: 2000–01

Reason needing services	All	Public four-year	Private four-year	Two-year	Community organizations
Low high school grade point average	1.8%	1.7%	1.8%	1.3%	4.9%
Low achievement test scores	3.2	1.4	3.8	10.6	2.0
Low educational aspirations	1.5	1.4	1.4	1.4	4.1
Low high school grade-point average and low aspirations	1.9	2.0	1.1	0.9	8.0
Low high school grade point and low-achievement test scores	1.5	1.6	2.0	0.1	2.2
Low achievement test scores and low aspirations	0.9	0.9	0.3	2.0	1.0
Lack of opportunity, support and/or guidance to take challenging college preparatory courses	9.3	9.5	6.9	8.6	21.7
Lack of career goals and/or need for information on career goals	4.8	5.5	4.4	3.4	1.2
Limited proficiency in English	1.0	1.3	0.6	1.1	0.2
Lack of confidence, self-esteem, and social skills	4.8	5.6	2.5	5.4	4.9
Predominately low-income community	10.7	11.9	3.9	17.3	13.6
Rural isolation	6.3	7.3	4.3	7.5	1.2
Interest in careers in math and science	51.6	49.6	66.3	39.9	34.3
Other	0.6	0.5	0.8	0.6	0.7

NOTE: UBMS = Upward Bound Math-Science. 202 cases (2.3 percent overall) that were coded as not applicable, missing, or no responses were excluded from the analyses.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 13. Percentage distribution of types of tests used to assess academic need and mean PLAN-ACT and PSAT test scores for UBMS projects: 2000–01

Type of test	All	Sector			
		Public four-year	Private four-year	Two-year	Community organization
Assessment test					
Comprehensive Test of Basic Skills (CTBS)	7.8%	6.8%	10.5%	10.2%	0%
Stanford Achievement Test	21.4	25.0	11.8	22.6	19.2
California Achievement Test (CAT)	11.3	12.4	0.4	10.9	53.6
Texas Assessment of Academic Skills (TAAS)	0.8	1.1	0	0.8	0
Nelson Denny	3.3	5.7	0	0	0
ARIO Assessment Tools	0.1	0.1	0	0	0
Other	45.8	41.5	67.4	41.9	6.
Unknown	2.8	3.3	0.1	4.6	4.6
Aptitude tests					
PLAN-ACT					
Participants reporting	600	391	149	37	23
Percentage reporting	8.6%	9.7%	9.2%	4.0%	5.9%
Mean score	17.7	18.3	15.7	19.8	17.9
PSAT					
Number reporting	651	418	134	67	32
Percentage reporting	9.3%	10.4%	8.2%	7.2%	8.3%
Mean score	46.3	47.4	43.8	46.8	39.9

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

With regard to the aptitude tests, about 9 percent of projects reported using the PLAN-ACT test, with a mean score of 17.7. About 9 percent of the projects reported using the Preliminary SAT (PSAT), with a mean score of 46.3.[9] There was little notable difference in host grantee sector or between UBMS and UB. UBMS projects reported scores for about the same percentage of participants for each of the two tests as UB, with scores about one point higher. (Among UB projects, 9 percent had scores reported for PLAN-ACT, with a mean score of 16.4; and 10 percent had PSAT scores reported, with a mean score of 45.7—data not shown in table.)

E. Participant distribution, by grade and age at entry into the program

1. Grade at entry into UBMS

Eligibility requirements specify that UB and UBMS participants should have completed the eighth grade of elementary/middle school education and be 13 to 19 years of age at entry into the program. The majority of UBMS participants entered the program as 10th-graders or above. The category of "rising ninth-grader" refers to students who will be entering the ninth grade in the next school term (i.e., the student may first participate in UBMS during the summer prior to entering the ninth grade). About 7 percent entered as rising ninth-graders and about one-third (32 percent) as ninth-graders. Just over one-third (36 percent) entered as 10th-graders; 20 percent as 11th-graders; and 5 percent as rising 12th-graders (table 14 and figure 17). UB

[9]PLAN-ACT is a pre-ACT instrument that measures English (usage, mechanics, rhetorical skills), math (algebra and geometry), reading, and science reasoning. PLAN composite scores range from one to 32. The preliminary SAT (PSAT) measures verbal reasoning, reading, math problem-solving, and writing, and is scored on a 20- to 80-point scale.

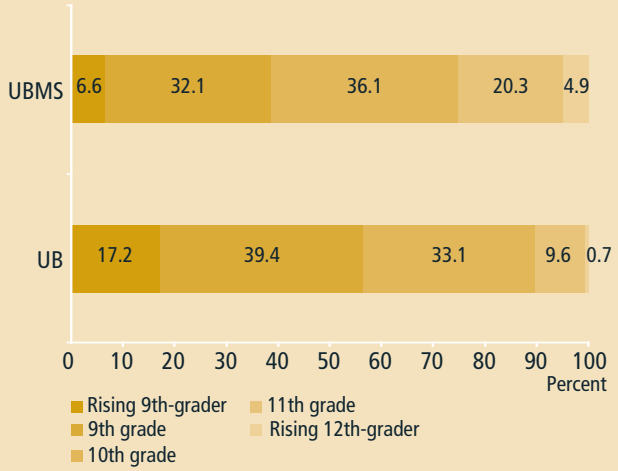
Table 14. Percentage distribution of UBMS participants, by grade at entry into program: 2000–01

Sector	Rising 9th-grader	9th-grader	10th-grader	11th-grader	Rising 12th-grader
All	6.6%	32.1%	36.1%	20.3%	4.9%
Public four-year	7.3	31.8	35.4	20.2	5.3
Private four-year	5.6	23.5	42.2	23.9	4.8
Two-year	4.4	44.9	30.4	17.3	2.9
Community organizations	8.8	40.7	32.1	13.2	5.2

NOTE: UBMS = Upward Bound Math-Science. The categories of "Rising ninth-grader" and "Rising 12th-grader" refer to students who will be entering the ninth or 12th grade in the next school term to start. For example, the student may first participate in Upward Bound the summer prior to entering the ninth grade.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Figure 17. Percentage distribution of participants, by grade at entry into program and by type of Upward Bound program: 2000–01



NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

participants tended to enter the program earlier, with only 10 percent entering as 11th-graders (compared to UBMS, 20 percent) and about 1 percent as rising 12th-graders (compared to UBMS, 5 percent).

2. Age at entry into UBMS

The mean age of UBMS participants at entry into the project was 15.7 years (table 15). About 27 percent of UBMS participants entered the program at age 14 or under, while in classic UB about 44 percent of participants entered the program at age 14 or under. Thirty-seven percent were 15 and 25 percent were 16. About 11 percent were 17 or older. On average UBMS participants were five months older than UB participants, who averaged 15.2 years. This is consistent with the larger proportion that was in 11th grade at time of entry into the program.

Table 15. Percentage distribution and mean age at program entry for new, current, and re-entry participants in UBMS projects, by sector of host institution: 1999–2000

Sector	Program entry age in years					Mean entry age
	14 or less	15	16	17	18 or more	
All	26.9%	37.1%	25.0%	9.8%	1.2%	15.7
Public four-year	25.1	37.1	26.2	10.6	1.1	15.7
Private four-year	25.5	36.4	26.7	10.1	1.4	15.7
Two-year	34.0	37.2	20.3	7.2	1.3	15.5
Community organizations	34.6	39.3	17.7	7.4	1.1	15.5

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

CHAPTER 4
UPWARD BOUND MATH-SCIENCE TARGET SCHOOLS

In applying for federal grants, UBMS projects identify discrete local or regional geographic areas that the project plans to serve. Within these target areas, projects also identify target schools to be a focus of project services. Projects typically establish relationships with school personnel and recruit participants from the school.

This chapter provides information on UBMS target schools, including the number of schools and estimates of the percentage of eligible students served. It also compares data on UBMS and UB target schools with state and national averages for percentage of students eligible for free lunch and percentage of minority populations.

The UB/UBMS performance report instructions asked projects to provide the U.S. Department of Education Common Core of Data (CCD) school identification number for the target school for each participant. CCD is a data collection program of the U.S. Department of Education's National Center for Education Statistics (NCES), and it provides a comprehensive, annual, national statistical database of information concerning all public elementary and secondary schools and school districts in the United States—approximately 95,000 schools and 17,000 districts during the 2000–01 school year (U.S. Department of Education, National Center for Education Statistics 2003).

To obtain estimates of the number and characteristics of schools attended by participants, we merged the school identification numbers reported in the Upward Bound performance reports for each participant with the CCD file. The performance reports included valid CCD target school identification numbers for 7,174 UBMS participants and for 56,041 UB participants (82 percent of UBMS participants and 81 percent of UB participants).[10] To provide an additional context for comparison, several tables in this chapter also include target school information for Talent Search (TS), another TRIO program that provides services to secondary school students. This information initially appeared in the aggregate 1998–99 performance reports for the Talent Search program, as published in the report *A Profile of the Talent Search Program: 1998–99* (Chou, Cahalan, Humphrey, Overton 2002).

A. Number of target schools

By matching performance report data with the CCD public school information, we found that 5,380 schools were served by UB, UBMS, or both (table 16). Of these, 986 schools were served by UBMS only; 3,268 were served by UB only; and 1,126 were served by both UB and UBMS. The total served by UBMS was thus 2,112 (i.e., 986 + 1,126), while the total served by UB was 4,394 (i.e., 3,268 + 1,126).

Among the projects that submitted performance reports, UBMS projects served an average of 18 target schools and UB projects served six target schools (figure 18). For comparison, we note that TS served an average of 15 middle and high schools per project.[11] On average, UBMS projects served three students per target school while UB projects served approximately 12 students per target school.

As displayed in table 16, the total number of public schools attended by UB and UBMS participants represents about 21 percent of the total public schools serving any student in grades 9–12. Target schools served by UBMS projects represent about 8 percent of high schools

[10]The UB Performance Reports actually included school identification numbers for 8,788 UBMS and 69,436 UB participants. Of these, 1,614 UBMS and 13,395 UB participants (18 and 19 percent, respectively, of the participants with codes reported) did not "match" the schools in the CCD dataset. See appendix A for more information.

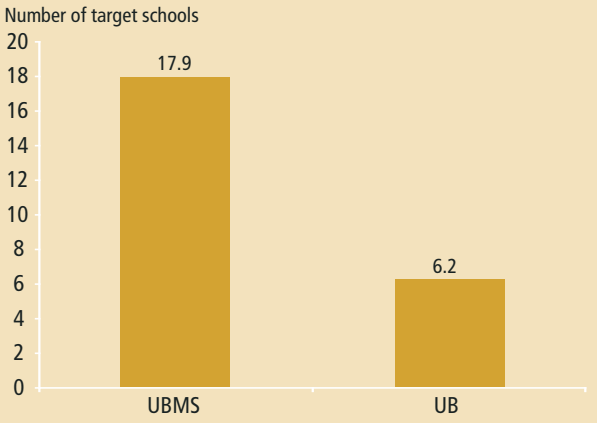
[11]A total of 349 Talent Search (TS) projects completed the 1998–99 TS performance report, and 341 submitted a list of target schools. These projects combined served a total of 5,105 middle and high schools (p. 12 of *A Profile of the Talent Search Program: 1998–99*).

Table 16. Number of UBMS and UB projects, number of target schools, and target schools as a percentage of total public schools serving grades 9–12, by state: 2000–01

State	Upward Bound projects serving target schools[1]		Number of target schools[2]			Target schools as percent of total schools serving grades 9–12		
	UBMS	UB	UBMS	UB	All[3]	UBMS	UB	All[3]
All	118	708	2,112	4,394	5,380	8.4%	17.4%	21.3%
Alabama	5	36	56	220	228	9.3	36.4	37.7
Alaska	1	2	29	45	60	9.4	14.6	19.4
Arizona	2	6	50	61	89	9.1	11.1	16.2
Arkansas	3	13	80	140	190	18.8	32.9	44.7
California	14	69	210	315	395	9.9	14.8	18.6
Colorado	3	11	21	46	54	5.1	11.2	13.2
Connecticut	0	6	2	25	25	0.5	6.4	6.4
Delaware	3	5	25	30	31	62.5	75.0	77.5
District of Columbia	1	7	6	27	28	12.2	55.1	57.1
Florida	2	20	34	136	148	3.0	12.1	13.2
Georgia	4	17	34	94	106	9.2	25.4	28.6
Hawaii	2	4	32	28	38	61.5	53.8	73.1
Idaho	1	4	23	31	48	9.4	12.7	19.6
Illinois	4	27	44	157	166	4.7	16.6	17.5
Indiana	1	8	22	74	79	5.1	17.1	18.2
Iowa	1	14	64	97	144	15.3	23.2	34.4
Kansas	3	12	45	60	86	11.8	15.7	22.5
Kentucky	3	15	58	95	119	12.3	20.2	25.3
Louisiana	2	16	77	130	157	17.3	29.2	35.3
Maine	1	5	11	30	34	7.1	19.2	21.8
Maryland	3	9	61	71	97	22.7	26.4	36.1
Massachusetts	2	14	12	53	54	3.1	13.9	14.1
Michigan	4	21	61	99	131	6.6	10.7	14.2
Minnesota	2	14	64	76	113	7.6	9.1	13.5
Mississippi	1	10	33	47	68	8.2	11.7	17.0
Missouri	5	14	91	105	158	13.0	15.0	22.6
Montana	1	6	28	40	62	15.0	21.4	33.2
Nebraska	3	5	28	31	47	7.6	8.4	12.7
Nevada	1	4	30	39	42	26.1	33.9	36.5
New Hampshire	0	2	1	17	18	1.2	20.5	21.7
New Jersey	1	9	13	50	57	3.2	12.4	14.1
New Mexico	0	7	39	41	66	20.6	21.7	34.9
New York	4	25	24	229	232	2.3	22.4	22.7
North Carolina	2	19	23	108	118	5.2	24.3	26.5
North Dakota	0	2	0	14	14	0	7.0	7.0
Ohio	3	25	44	120	154	4.5	12.2	15.7
Oklahoma	5	21	88	186	220	15.7	33.3	39.4
Oregon	0	7	25	27	36	8.5	9.2	12.2
Pennsylvania	2	19	56	164	197	7.8	22.8	27.4
Rhode Island	0	1	0	6	6	0	10.7	10.7
South Carolina	2	15	61	88	115	22.3	32.1	42.0
South Dakota	1	3	9	26	29	4.2	12.0	13.4
Tennessee	2	16	50	80	119	12.4	19.8	29.5
Texas	8	53	139	285	344	6.1	12.5	15.1
Utah	0	7	1	51	51	0.4	20.2	20.2
Vermont	1	4	23	34	48	21.9	32.4	45.7
Virginia	1	17	9	125	132	2.4	33.2	35.0
Washington	0	10	38	68	86	5.5	9.9	12.5
West Virginia	1	9	25	62	72	12.0	29.8	34.6
Wisconsin	3	19	32	102	109	5.5	17.7	18.9
Wyoming	1	2	23	15	31	21.5	14.0	29.0
Puerto Rico/Outlying areas	3	22	58	94	129	9.0	14.6	20.0

[1]19 UB and 3 UBMS projects did not submit performance reports, and their target schools are not reflected in this analysis.
[2]Secondary schools may be associated with Upward Bound projects located in another state.
[3]This total represents an unduplicated count of schools associated with UBMS and UB projects within each state.
NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound.
SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01; U.S. Department of Education, National Center For Education Statistics, Common Core of Data Public Elementary/Secondary School Universe Survey, 2000–01.

Figure 18. Average number of target schools, by type of Upward Bound project: 2000–01



NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. The number of target schools served by each UB project shown in this figure is based on an unduplicated count of schools. Since some Upward Bound projects may serve the same target schools, the duplicated count of target schools per UB project would be eight.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

in the United States and outlying areas. UB serves about 17 percent of high schools in these same areas.

B. Estimates of the percentage of potentially eligible students served

One can get a sense of the extent to which UBMS and the UB projects reach potentially eligible students by comparing the number of students the program serves with the number of students eligible for free lunch in the same schools, because such eligibility is a reasonable proxy for low-income status. Free-lunch eligibility is slightly different from Upward Bound eligibility,[12] but it does give an indication of the proportion of economically disadvantaged students who were served. Table 17 presents the number of participants served by UBMS and UB projects for each state, and the number eligible for free lunch in UBMS and UB schools and all other high schools within the state. We also include the percentage of those eligible for free lunch who are served by Upward Bound within the target schools and the percentage of the total counts of those eligible for free lunch within the nation and state. UBMS and UB taken together serve about 62,000 participants, roughly 3 percent of those eligible for free lunch within their target schools.[13] Generalizing the number of UB participants served during the 2000–01 program year to all schools in the United States serving grades 9–12, the percentage of students served by UB and UBMS was about 2 percent of those eligible for free school lunch in grades 9–12 in the nation.

To provide an additional context for understanding the Upward Bound target schools, table 17 also includes similar statistics by state for Talent Search projects during the 1998–1999 program year (Chou, Cahalan, Humphrey, Overton 2002). Note the numbers served and enrollment figures for Talent Search include students in both middle and high school. Talent Search serves a much larger number of students per year and reaches an estimated 20 percent of those eligible for free lunch within its target schools.

C. Comparison of percentage eligible for free lunch and percentage minority

One indicator that Upward Bound projects are serving suitable target schools is the percentage of students in those schools who are eligible for free lunch. Nationwide about 27 percent of students in schools enrolling grades 9–12 were eligible for free lunch in 2000–01 (table 18). Among UB and UBMS schools, 34 percent of students were eligible for free lunch, and among non-UB schools, about 25 percent were eligible—a difference of 9 percentage points. There is considerable variation by state. Generally, states with higher numbers of free-lunch eligible students and the less populated states have less difference between UB and UBMS schools and the state average.

Almost half (47 percent) of the total enrollment in UB and UBMS target schools was minority students, compared to a national rate for minorities of 35 percent (table 19). As with free lunch eligibility, the states with relatively smaller proportions of minority enrollment overall had the smallest differences between UB and UBMS schools and the other schools in the states.

[12]To be eligible for *free* lunches through the U.S. Department of Agriculture's National School Lunch Program, family income must not exceed 130 percent of the poverty level as defined by the Bureau of Census, U.S. Department of Commerce. *The Code of Federal Regulations* for Upward Bound (34 CFR 645.6) defines a low-income individual as one whose family taxable income did not exceed 150 percent of the poverty level amount for the calendar year preceding the year of the individual's initial participation.

[13]Percentages were calculated by dividing the total number of Upward Bound participants in a given state by the total number of students eligible for the free lunch program in the target schools in the state. Although all UB and UBMS participants may not be eligible for free lunch, the calculation includes all Upward Bound participants.

Table 17. Number of participants served by Upward Bound and Talent Search projects and estimated percentage of students eligible for free lunch served by the programs, by state: 2000–01

State	Talent Search [1]			UBMS and UB				
	Participants	Number eligible for free lunch in target schools	Percent of eligible served in target schools	Participants	Number eligible for free lunch in target schools	Percent of eligible served in target schools	Number eligible for free lunch in grade 9-12 nontarget schools	Percent of all eligible for free lunch[2]
All	241,282	1,197,860	20.1%	62,074	1,888,136	3.3%	1,705,541	1.7%
Alabama	19,621	66,518	29.5	3,252	68,115	4.8	39,042	3.0
Alaska	853	825	103.4[3]	320	†	†	†	†
Arizona	†	†	†	535	†	†	†	†
Arkansas	7,503	18,936	39.6	927	29,444	3.1	26,072	1.7
California	24,878	212,130	11.7	6,171	361,484	1.7	219,342	1.1
Colorado	4,479	13,505	33.2	931	15,935	5.8	16,327	2.9
Connecticut	1,583	10,122	15.6	454	†	†	†	†
Delaware	1,350	7,825	17.3	481	11,143	4.3	1,045	3.9
District of Columbia	†	†	†	547	9,665	5.7	1,305	5.0
Florida	5,855	47,683	12.2	1,674	94,915	1.8	103,886	0.8
Georgia	9,497	71,002	13.4	1,781	53,557	3.3	57,022	1.6
Hawaii	1,900	10,815	17.6	404	24,748	1.6	1,711	1.5
Idaho	2,698	8,601	31.4	401	5,531	7.3	14,395	2.0
Illinois	†	†	†	2,352	†	†	†	†
Indiana	5,110	18,463	27.7	606	22,601	2.7	25,150	1.3
Iowa	6,854	15,045	45.5	1,230	17,106	7.2	9,793	4.6
Kansas	4,781	20,257	23.6	852	21,199	4.0	12,278	2.5
Kentucky	6,647	33,269	20.0	1,373	38,689	3.5	23,586	2.2
Louisiana	10,706	71,088	15.1	1,595	73,745	2.2	43,204	1.4
Maine	830	2,221	37.4	431	4,672	9.2	6,093	4.0
Maryland	3,048	16,190	18.8	973	37,437	2.6	10,396	2.0
Massachusetts	†	†	†	1,217	27,329	4.5	29,454	2.1
Michigan	4,273	25,554	16.7	1,801	51,851	3.5	55,809	1.7
Minnesota	†	†	†	1,157	29,345	3.9	30,373	1.9
Mississippi	5,389	29,281	18.4	1,076	39,829	2.7	61,976	1.1
Missouri	2,387	8,266	28.9	1,341	24,339	5.5	32,938	2.3
Montana	2,092	3,951	52.9	545	5,657	9.6	2,969	6.3
Nebraska	1,613	9,200	17.5	506	12,474	4.1	9,877	2.3
Nevada	1,381	3,378	70.9	337	4,123	8.2	1,492	6.0
New Hampshire	1,222	1,178	103.7[3]	161	1,330	12.1	2,944	3.8
New Jersey	6,340	28,351	22.4	697	32,313	2.2	28,354	1.1
New Mexico	†	†	†	740	22,947	3.2	10,084	2.2
New York	15,183	71,574	21.2	2,602	133,202	2.0	127,622	1.0
North Carolina	8,645	45,924	18.8	1,713	31,270	5.5	34,336	2.6
North Dakota	2,384	2,749	86.7	108	1,633	6.6	6,540	1.3
Ohio	8,903	35,979	24.7	1,983	38,144	5.2	58,482	2.1
Oklahoma	7,063	34,995	20.2	1,749	34,131	5.1	24,818	3.0
Oregon	2,060	8,683	23.7	492	12,955	3.8	21,805	1.4
Pennsylvania	†	†	†	1,672	80,622	2.1	45,750	1.3
Rhode Island	865	6,770	12.8	151	4,174	3.6	4,010	1.8
South Carolina	7,114	31,897	22.3	1,326	45,091	2.9	23,400	1.9
South Dakota	1,035	3,303	31.3	292	1,801	16.2	4,071	5.0
Tennessee	†	†	†	1,318	†	†	†	†
Texas	1,563	97,352	15.0	4,111	187,807	2.2	206,253	1.0
Utah	5,069	6,985	72.6	703	9,878	7.1	19,281	2.4
Vermont	1,300	2,247	57.9	279	5,191	5.4	1,000	4.5
Virginia	7,135	21,862	32.6	1,373	29,817	4.6	21,778	2.7
Washington	†	†	†	802	†	†	†	†
West Virginia	3,459	17,263	20.0	771	19,161	4.0	14,999	2.3
Wisconsin	2,392	17,854	13.4	1,436	39,585	3.6	26,508	2.2
Wyoming	625	1,105	56.6	259	3,961	6.5	4,103	3.2
Outlying areas	10,636	37,664	28.2	2,066	68,160	3.0	186,868	0.8

†Data not available.

[1]The data on Talent Search originally appeared in *A Profile of the Talent Search Program: 1988–99* (Chou, Cahalan, Humphrey, Overton 2002).

[2]Percentage calculated by summing total number eligible for free lunch in UB and UBMS target schools (1,888,136) and the number eligible in all nontarget schools serving grades 9–12 (1,705,541) and dividing by the number of UB and UBMS participants in the target schools (62,074).

[3]Income and eligibility guidelines for participation in the Talent Search program and the free lunch program under the *National School Lunch Act* differ slightly. This difference explains how more than 100 percent of the eligible students can be served.

NOTE: Interpret the state-level data on free lunch eligibility with caution. More than 20 percent of the secondary schools in the CCD Public School Universe Survey were missing information on the number of students eligible for free lunch. These schools were excluded from these analyses. This may account for some of the states in which it appears that UB target schools have lower rates of students eligible for free lunch than does the state. UBMS = Upward Bound Math-Science; UB = classic UB. Analyses exclude duplicate records within projects for participants with valid 9-byte Social Security numbers.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01; U.S. Department of Education, National Center For Education Statistics, Common Core of Data Public Elementary/Secondary School Universe Survey, 2000–01.

Table 18. Percentage of students in grades 9–12 eligible for the federal free lunch program in Upward Bound target schools and other secondary schools, by state: 2000–01

State	Percentage of students eligible, by school type			
	UBMS and UB target schools	Other secondary schools*	Difference	All secondary schools
All	33.7%	24.6%	9.1%	27.0%
Alabama	39.7	35.1	4.6	37.5
Alaska	†	†	†	†
Arizona	†	†	†	†
Arkansas	33.8	32.8	1.0	33.3
California	34.7	21.9	12.8	24.9
Colorado	29.8	14.5	15.3	17.1
Connecticut	†	†	†	†
Delaware	18.6	48.3	–29.7	22.8
District of Columbia	53.4	42.4	11.0	51.0
Florida	25.8	29.2	–3.4	28.6
Georgia	39.4	24.7	14.7	29.4
Hawaii	32.8	39.3	–6.5	34.0
Idaho	24.7	25.0	–0.3	24.9
Illinois	†	†	†	†
Indiana	20.8	13.2	7.6	15.1
Iowa	15.1	13.1	2.0	13.9
Kansas	23.6	17.0	6.6	18.7
Kentucky	36.9	19.2	17.7	26.1
Louisiana	47.3	40.6	6.7	43.5
Maine	25.3	19.7	5.6	21.5
Maryland	22.0	17.3	4.7	19.7
Massachusetts	34.3	17.0	17.3	19.9
Michigan	35.3	17.2	18.1	20.5
Minnesota	22.6	22.5	0.1	22.5
Mississippi	71.7	52.7	19.0	58.3
Missouri	22.6	21.1	1.5	21.6
Montana	24.9	20.8	4.1	22.2
Nebraska	24.3	16.8	7.5	18.0
Nevada	11.3	18.0	–6.7	14.9
New Hampshire	8.5	7.7	0.8	7.8
New Jersey	44.7	10.5	34.2	15.7
New Mexico	40.0	33.8	6.2	36.4
New York	41.3	22.3	19.0	26.9
North Carolina	27.2	22.7	4.5	24.2
North Dakota	43.9	26.2	17.7	27.4
Ohio	27.4	15.7	11.7	17.8
Oklahoma	40.4	30.8	9.6	35.1
Oregon	21.8	21.7	0.1	21.7
Pennsylvania	29.4	13.6	15.8	18.3
Rhode Island	55.4	16.4	39.0	21.3
South Carolina	36.1	32.7	3.4	34.7
South Dakota	35.3	19.0	16.3	21.2
Tennessee	†	†	†	†
Texas	37.6	31.1	6.5	32.3
Utah	24.3	21.9	2.4	22.5
Vermont	15.4	13.6	1.8	14.9
Virginia	30.5	15.1	15.4	21.8
Washington	†	†	†	†
West Virginia	35.3	32.9	2.4	34.1
Wisconsin	29.2	16.9	12.3	19.8
Wyoming	18.7	28.1	–9.4	24.8
Puerto Rico/Outlying areas	67.7	79.2	–11.5	76.4

†Data not available.

*Other schools include operational schools with any grade 9–12 that were not associated with Upward Bound projects during the 2000–01 academic year.

NOTE: Interpret the state-level data on free lunch eligibility with caution. More than 20 percent of the secondary schools in the CCD Public School Universe Survey were missing information on the number of students eligible for free lunch. These cases were excluded from these analyses. This may account for some of the states in which it appears that UB target schools have lower rates of students eligible for free lunch than the state average. UBMS = Upward Bound Math-Science; UB = classic Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01; U.S. Department of Education, National Center For Education Statistics, Common Core of Data Public Elementary/Secondary School Universe Survey, 2000–01.

Table 19. Percentage of minority students in grades 9–12 in Upward Bound schools and other secondary schools, by state: 2000–01

State	Percent minority students, by school type			
	UBMS and UB schools	Other secondary schools*	Difference	All secondary schools
All	47.4%	30.6%	16.8%	34.9%
Alabama	50.1	32.4	17.7	41.5
Alaska	73.5	63.8	9.7	66.0
Arizona	53.9	44.2	9.7	46.3
Arkansas	30.1	20.3	9.8	25.1
California	69.3	51.2	18.1	55.4
Colorado	48.9	22.8	26.1	27.1
Connecticut	58.8	29.3	29.5	32.9
Delaware	34.0	49.4	–15.4	36.1
District of Columbia	96.3	99.9	–3.6	97.0
Florida	56.6	45.2	11.4	47.0
Georgia	69.4	35.6	33.8	46.5
Hawaii	80.9	76.0	4.9	79.9
Idaho	16.1	12.8	3.3	13.5
Illinois	60.1	22.3	37.8	30.0
Indiana	22.3	8.7	13.6	11.8
Iowa	7.0	3.9	3.1	5.1
Kansas	24.8	8.4	16.4	12.6
Kentucky	6.9	14.5	–7.6	11.6
Louisiana	60.0	43.6	16.4	50.7
Maine	3.7	2.9	0.8	3.1
Maryland	60.6	35.4	25.2	47.5
Massachusetts	58.8	23.5	35.3	29.3
Michigan	58.1	18.8	39.3	25.9
Minnesota	20.8	17.7	3.1	18.2
Mississippi	79.6	42.7	36.9	53.5
Missouri	15.5	13.4	2.1	14.0
Montana	28.2	8.0	20.2	15.1
Nebraska	26.0	6.2	19.8	9.3
Nevada	40.3	35.1	5.2	37.7
New Hampshire	3.2	3.0	0.2	3.1
New Jersey	86.6	29.6	57.0	38.4
New Mexico	70.6	62.8	7.8	65.9
New York	60.2	26.5	33.7	34.6
North Carolina	47.8	35.0	12.8	38.8
North Dakota	49.1	10.1	39.0	12.9
Ohio	40.7	14.4	26.3	18.8
Oklahoma	39.4	26.5	12.9	32.3
Oregon	25.6	13.4	12.2	15.5
Pennsylvania	36.5	11.6	24.9	19.0
Rhode Island	69.1	20.0	49.1	26.1
South Carolina	51.5	43.2	8.3	48.1
South Dakota	51.0	10.1	40.9	16.8
Tennessee	†	†	†	†
Texas	66.7	47.3	19.4	50.8
Utah	17.6	14.1	3.5	14.8
Vermont	3.4	2.6	0.8	3.2
Virginia	37.2	33.6	3.6	34.9
Washington	42.9	22.0	20.9	25.0
West Virginia	6.0	5.8	0.2	5.9
Wisconsin	30.0	15.6	14.4	18.8
Wyoming	12.4	10.6	1.8	11.2
Puerto Rico/Outlying areas	99.4	93.3	6.1	94.7

†Data not available.

*Other schools include operational schools with any grade 9–12 that were not associated with Upward Bound projects during the 2000–01 academic year.

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01; U.S. Department of Education, National Center For Education Statistics, Common Core of Data Public Elementary/Secondary School Universe Survey, 2000–01.

CHAPTER 5
HIGH SCHOOL PROGRAM PARTICIPATION, SERVICES, AND ACADEMIC MEASURES

This chapter focuses on project participation in UBMS during high school and discusses the following: the number of participants served in 2000–01; the level and length of participation; the services offered; and the percentage of participants receiving each service. In addition, some limited information on high school academic measures (e.g., high school grades, college entrance test scores, and high school and postsecondary credits earned from program participation) are presented. In subsequent reports, as data become available on a complete cohort of participants that entered the UBMS Program in 1999–2000, we plan to include information on grade progression and high school graduation.

A. Participation level and number served

1. Participation level

Since its creation in 1990, the UBMS Program has emphasized the summer instructional component that is at least six weeks in length and includes daily coursework and other activities in math and science. As with classic UB projects, all UBMS projects are expected to offer participants academic-year services that complement the more intensive summer programs. However, because some UBMS projects are regional centers that serve many students considerably removed from the grantee institution, the UBMS academic-year component is generally less structured than that of classic UB. While UB projects are required to provide services to participants throughout the academic year on a weekly (or in some situations bi-weekly) basis, UBMS projects are permitted to design cost-effective academic-year services that take into account the distances involved in reaching participants. UBMS projects sometimes use distance learning or arrange for a teacher or counselor at the target school to assist UBMS participants during the academic year.

About 54 percent of UBMS participants were involved in the program during both the summer and academic year (table 20 and figure 19). An additional 27 percent participated in only the summer or summer bridge components, 17 percent participated in the academic year only, and 2 percent were reported as "prior-year participants" who received limited or no follow-up services or those whose level of participation was not reported. As might be expected, given the regional aspect of UBMS and its different focus and requirements, UBMS had a larger percentage of students who participated only in the summer program than did classic UB (27 percent compared to 8 percent) and also had a smaller percentage of students who participated only in the academic year (17 percent for UBMS compared to 28 percent for UB) (figure 19).

2. Number served and number funded to serve

As in other TRIO programs, UBMS grants are made with an explicit expectation that the project will serve a specified number of participants throughout the project year (academic year plus summer and, where relevant, summer bridge). During the 2000–01 program year, UBMS projects were funded to serve an average of 50 participants each. Among UBMS projects submitting performance reports for 2000–01, the number of students served exceeded the number funded to serve by approximately 1,027 participants (18 percent) (see figure 20 on page 36). The number actually served may be overstated in two respects, however. First, not all students attended on a full-time basis (i.e., not all students participated in both the summer and academic-year components). Projects frequently recruited additional students to take the place of those who participated in only one component, or of those who relocated or otherwise dropped out of the UBMS project. A project may thus report the participation of two students, one who

Table 20. Number and percentage distribution of Upward Bound Math-Science participants, by grantee sector and type of participation in reporting year: 2000–01

Sector	Academic year and summer	Academic year and summer bridge	Academic year only	Summer only	Summer bridge only	Unknown or limited service to prior participants*
			Number of participants			
All	3,457	237	1,159	1,835	47	145
Public four-year	2,216	93	642	954	32	74
Private four-year	658	63	256	573	15	57
Two-year	478	71	147	223	0	8
Community organizations	105	7	114	85	0	6
			Percentage of participants			
All	50.3%	3.4%	16.9%	26.7%	0.7%	2.1%
Public four-year	55.2	2.4	16.0	23.8	0.8	1.8
Private four-year	40.6	3.9	15.8	35.3	0.9	3.5
Two-year	51.6	7.7	15.9	24.1	0	0.9
Community organizations	33.1	2.2	36.0	26.8	0	1.9

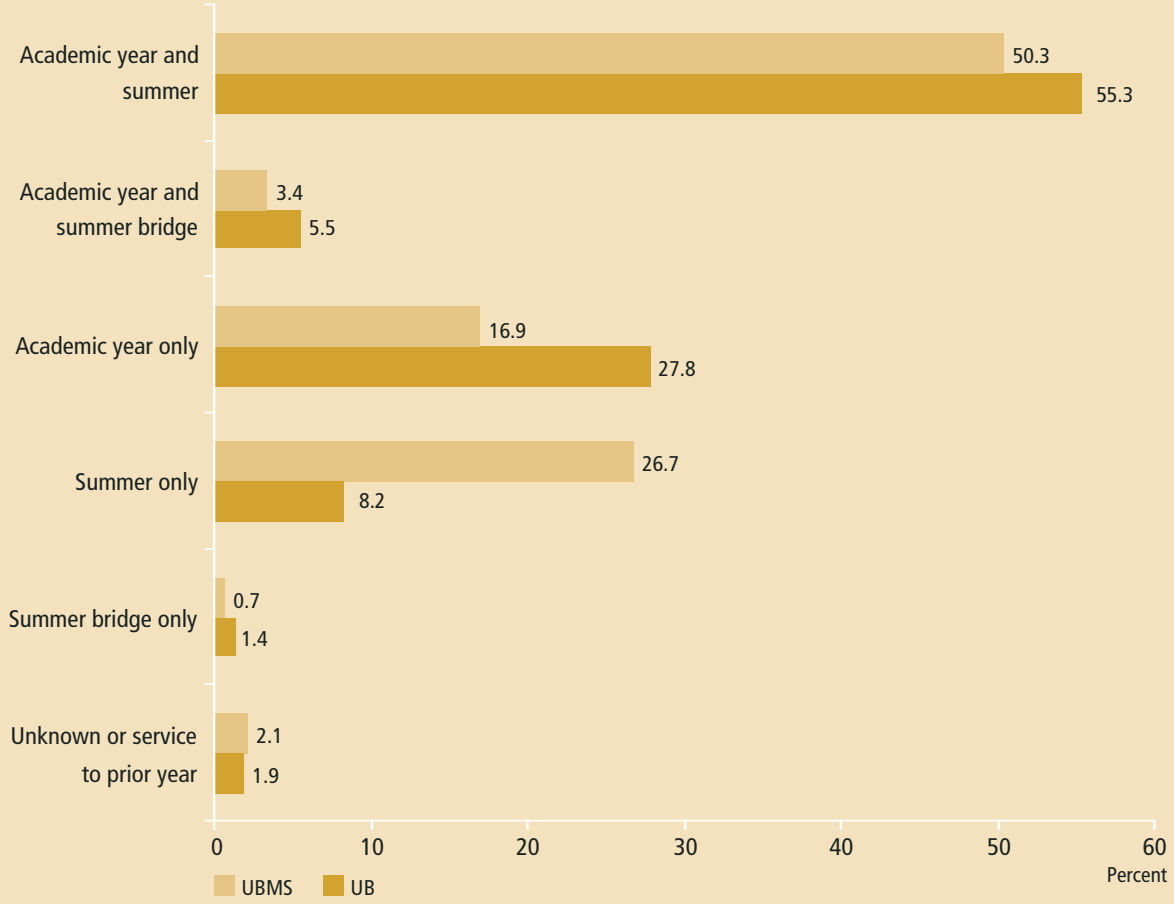
*Column includes a small number of participants whose participation level was either unknown or who were reported as *current* participants for the 2000–01 project year but were coded by their projects for this item as prior-year participants who were receiving limited or no services.

NOTE: Because of rounding, detail may not sum to totals. Analyses are restricted to new, current, and re-entry participants for the 2000–01 project year. The estimates are based on unduplicated counts of participants within projects.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

attended the program in the summer only and another who participated exclusively during the school year, when in fact neither alone represented a complete "funded to serve" participant. The second and more important point concerns students' participation in the summer component which, as has been stated earlier in this profile, is the heart of the UBMS Program. The importance of the summer component is reflected in the percentage of UBMS students who participated in the summer—81 percent, as shown in figure 19. While this percentage is high, the number served in the summer is slightly less than the number funded to serve in 2000-01. Stated in percentages, the 5,576 summer participants represented approximately 95 percent of the number of UBMS students funded to serve—5,853 (figure 20).

Figure 19. Percentage of UBMS and UB participants involved at various levels during the reporting year: 2000–01



NOTE: UB = classic Upward Bound; UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

B. Participant status and length of participation

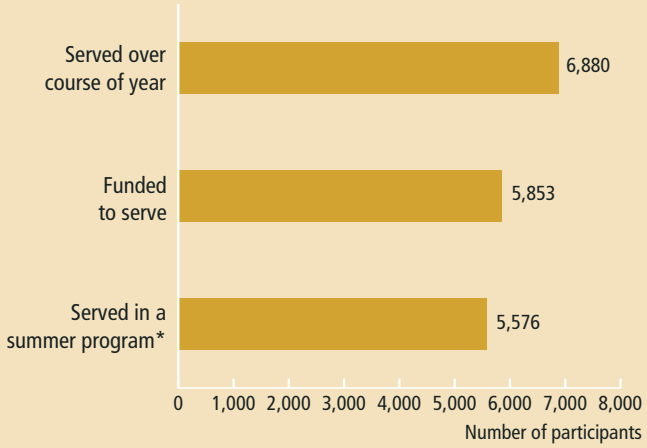
Figure 21 gives the distribution over the grantee sector for new, continuing, and re-entry participants for the 2000–01 service year. A new participant is an individual who participated in the project for the first time in the program year (in this case 2000–01). A continuing participant is an individual who participated in the project in both the current reporting period (program year 2000–01) and the preceding project period (program year 1999–2000). A re-entry participant is a former project participant who participated in the project during the current reporting period (program year 2000–01) but *not* during the preceding project period (program year 1999–2000).[14] Among UBMS projects, 53 percent of the students served in 2000–01 were new participants, 47 percent were continuing, and a very small percentage (0.4 percent) were classified as re-entry participants (figure 21). As indicated in table 21, UBMS had proportionally more new participants than UB. VUB had the largest percentage of new participants, reflecting the program's short-term service orientation.

1. Participation length

The data provided in this first UBMS profile have a number of limitations, one of which is significant in considering length of program participation. For the 2000–01 report, grantees were required to provide data on participants beginning with those served in 1999–2000. Some of these participants would have first enrolled in UBMS in earlier years (e.g., 1998 or 1997). But some of their fellow participants who also enrolled in those years would have left the program before 1999–2000. Their length of participation would often have been shorter than that of many of the participants included in the 2000–01 report. For this reason, average length of participation for participants as calculated from the 2000–01 data is doubtless somewhat distorted; had data been available for all participants in the earlier cohorts, we suspect that length of participation would have been less than that reported below.

[14]The tabulations in this section do not include prior-year participants in the performance file. A prior-year participant is a former project participant who did not participate in the project during the current reporting period.

Figure 20. Number served over course of the reporting year, number funded to serve, and number served in a summer component, among UBMS projects submitting performance reports: 2000–01

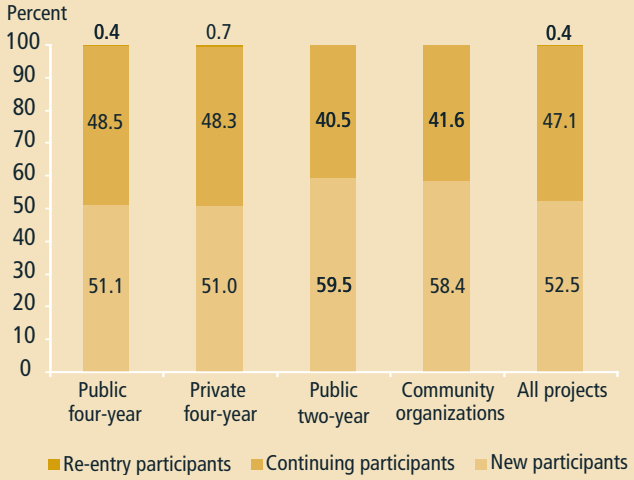


* This number includes those served in the summer only, summer and academic year, summer bridge only, and summer bridge and academic year; and excludes those served only in the academic year.

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Figure 21. Percentage distribution of UBMS current (re-entry, continuing, and new) participants, by grantee sector: 2000–01



NOTE: UB = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 21. Percentage distribution of participants, by participant status (new, continuing, and re-entry) and by type of Upward Bound project: 2000–01

Participant status	UBMS	UB	VUB
New participants	52.5%	38.3%	75.6%
Continuing participants	47.1	61.4	21.0
Re-entry participants	0.4	0.4	3.3

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; VUB = Veterans Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Having acknowledged this limitation, we believe that the data below do provide some indication of average duration of participation. The mean number of months between the entry date and the date of last participation (or the end of the reporting period for UBMS) was 14.2 months, and the median was 12.0 months (table 22). Comparable statistics for UB reflect the fact that UB participants often enter when they are in an earlier grade in high school and that a smaller proportion of UB participants participate only in the summer. The mean number of months between entry date and the date of last participation or the end of the reporting period for UB participants was 21.7 and the median was 21.0 (data for UB not shown in table).

Table 22. Percentage distribution, mean, and median number of months between entry date and date of last participation (or end of reporting period) for UBMS participants, by participant status: 2000–01

		Participant status			
Distribution of months	All	New	Continuing	Re-entry[1]	Prior year[2]
3 months or less	24.5	53.9	3.8	100	17.8
4–11 months	24.9	36.5	19.4	0	20.1
12–17 months	18.4	7.8	28.5	0	18.0
18–23 months	9.9	1.1	17.0	0	10.9
24–35 months	14.8	0.6	20.6	0	21.9
36+ months	7.6	0	10.8	0	11.3
	Months	Months	Months	Months	Months
Mean	14.2	4.3	19.8	1.0	17.6
Median	12.0	2.0	17.0	1.0	13.0

[1] Re-entry participants with valid re-entry dates are included in this category, with their re-entry date considered their entry date.

[2] The tabulations in this table are based on an incomplete cohort of UBMS prior participants because this was the first year of reporting and only those served in 1999–2000 and 2000–01 were included on file. High school students starting the program but dropping out before 1999–2000 would have been excluded. We anticipate that this resulted in a higher distribution of months of participation for prior participants than might otherwise have been obtained.

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 23 includes information on length of participation only for those individuals identified as prior participants in the 2000–01 performance report. As noted above, data in this table are based on an incomplete cohort of prior participants; we anticipate that this resulted in a greater distribution of months of participation than might otherwise have been obtained. As it stands, table 23 shows 17.4 months of participation as the mean and 13.0 months as the median. There were few differences in these statistics by grantee sector, except that projects sponsored by private four-year grantees had lower mean months of participation among prior participants and projects sponsored by two-year institutions had higher mean months (15 and 21 months, respectively, compared with 17 months for the total).

2. Reason for leaving the program

Regarding students for whom projects had reported a date of last service, grantees were asked to indicate why the student had left the program. (Table 24 presents the list of these reasons developed in conjunction with the UB performance report working group.) The most common reason selected was "graduated from high school" (61 percent). This was followed by "other reasons," with 12 percent, and "no longer interested," with 10 percent. About 5 percent of participants were reported to have left the program to participate in another pre-college program. Each of the following reasons—need or desire for employment, moved out of area, other extracurricular activities, and family responsibilities—were listed for between 3 to 4 percent of the participants.

Based on responses to this item, one might estimate that about 40 percent of those UBMS participants who received services and then exited the program left prior to graduating from high school. The reasons reported for leaving the UBMS Program were varied and related to other interests and commitments.

Table 23. Percentage distribution, mean, and median number of months between entry date and exit date (or end date of reporting period) for prior-year participants in UBMS projects, by project sector: 2000–01

		Project sector			
Duration of months	All	Public four-year	Private four-year	Two-year	Community organization
3 months or less	18.2%	16.7%	22.9%	12.4%	24.1%
4–11 months	20.5	17.2	28.9	10.3	44.8
12–17 months	18.4	20.9	12.7	23.7	0
18–23 months	10.8	12.3	11.9	3.1	0
24–35 months	20.9	22.0	15.5	31.4	6.9
36+ months	11.3	10.8	8.1	19.1	24.1
	Months	Months	Months	Months	Months
Mean	17.4	17.8	15.3	20.8	16.1
Median	13.0	14.0	11.0	24.5	10.0

NOTE: UBMS = Upward Bound Math-Science. The tabulations in this table are based on an incomplete cohort of UBMS prior participants. This was the first year of reporting and only those participants served in 1999–2000 and 2000–01 were included on file. High school students starting the program, but dropping out before 1999–2000, would have been excluded. We anticipate that this resulted in a higher distribution of months of participation than might otherwise have been obtained.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 24. Percentage distribution of reported reasons for leaving the program of UBMS participants with a reported date of last service: 2000–01

Reason for leaving	All	Public four-year	Private four-year	Two-year	Community organization
Need or desire for employment	3.5%	4.3%	2.5%	2.3%	4.2%
Moved out of target area	2.6	2.2	1.8	5.2	5.3
Dropped out of high school	0.2	0.3	0	0.3	0
Other extracurricular activities	3.5	3.8	2.4	4.9	1.1
Participating in another program	4.5	3.6	7.7	1.8	3.2
No longer interested	10.0	9.4	10.5	9.3	17.9
Family responsibilities	3.0	3.3	2.8	1.8	5.3
Graduated from high school	60.5	60.3	60.5	60.9	62.1
Other	12.2	12.9	11.8	13.5	1.1

NOTE: UBMS = Upward Bound Math-Science. Dates of last service before June 1, 1999, and after November 30, 2001, were excluded from the analyses.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

3. Overlap among UB and UBMS participation

To examine the extent to which students may have participated in both a UBMS and a UB project, we matched participant records using students' Social Security numbers to calculate the number and percentage of projects that had any overlapping participants and the percentage of participants that were served by the two programs (table 25). Overall, 65 percent of UBMS projects had at least one participant who was also included among the UB participants, and about 44 percent of UB projects had at least one participant who was also a UBMS participant.

However, the actual number of participants involved was small—about 10 percent of UBMS participants and about 1 percent of UB participants.

C. Services offered and received

UBMS regulations specify academic areas for which projects are required to provide instruction, in the form of either courses or tutoring. The regulations also identify other services that may be offered by projects. These academic areas and services are reflected in the performance reports and are listed later in tables 26 and 27. The glossary in appendix B provides definitions of these services as defined in the instructions to the Upward Bound performance report. The two major statistics reported below are the percentage of projects having at least one participant receiving the service for 2000–01 (used as indicator of offering/providing the service) and the percentage of participants who are reported to have received the service in the reporting year. For example, if none of the participants whose

Table 25. Number of UBMS and UB projects with overlapping current and prior-year participants, by grantee sector: 2000–01

	Number and percentage of projects with overlapping UB and UBMS participants				Number and percentage of overlapping participants in the projects			
Sector	UBMS		UB		UBMS		UB	
All	78	64.5%	321	44.2%	855	9.7%	837	1.2%
Public four-year institutions	45	45.2	145	48.0	572	11.3	430	1.4
Private four-year institutions	21	38.2	55	34.5	159	7.3	80	0.5
Two-year institutions	9	52.9	103	44.6	107	9.3	284	1.5
Community organizations	3	50.0	18	46.2	17	4.1	43	1.4

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. Because of rounding, detail may not sum to totals. This table excludes projects that did not respond to the Upward Bound individual performance reports (19 UB and 3 UBMS). The overlapping participants reflect individual records with valid, 9-byte Social Security numbers, after duplicates within each Upward Bound project were removed.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

records were submitted by the project were reported to have received "Japanese foreign language" instruction, then the project would be classified as not offering the service. If the project had at least one participant receive instruction in the area, then it would be classified as offering the service. We then calculated the percentage of total UBMS participants who received the service.

1. Percentage of projects offering service

Projects' statistics on services provided to participants indicate that virtually all projects have some participants receiving instruction in the required core curriculum, either in the summer or academic year.[15] In the summer program, approximately 96 percent of projects offered instruction in mathematics, science, and English; 84 percent provided courses or tutoring in foreign languages. In the academic year, approximately 60 percent offered instruction in math, English, and science; 48 percent offered foreign language instruction (table 26).

2. Percentage of participants receiving instruction in the subject area

About 73 percent of participants received instruction in some form of math, science, and English during the summer program, and over one-half had instruction in a foreign language. During the academic year, roughly 40 percent received mathematics, science, and English instruction, and approximately one-quarter received foreign language instruction (table 26). Algebra II, integrated math, geometry, and precalculus were the math courses most commonly reported for summer program participants. About 10 percent of summer participants received instruction in precalculus and 5 percent in calculus. Thirteen percent received integrated math instruction.

The most frequent science subject was integrated science, with 18 percent of participants receiving this instruction during the summer. Fourteen percent received instruction in chemistry, and the same percentage received physics instruction. Twelve percent received biology and 13 percent some other science in the summer program.

[15]As specified in the TRIO program regulations (34 CFR 645.11), an Upward Bound project that receives funds for at least two years "shall include as part of its core curriculum, instruction in—(1) Mathematics through pre-calculus; (2) Laboratory science; (3) Foreign language; (4) Composition; and (5) Literature."

Table 26. Percent of UBMS projects having at least one participant receiving service in academic areas, and percent of current participants receiving the service: 2000–2001

Academic area	Academic year		Summer	
	Projects offering courses/tutorial	Participants receiving service*	Projects offering courses/tutorial	Participants receiving service*
Mathematics				
Pre-algebra	11.1%	0.4%	6.8%	0.8%
Algebra I	33.1	6.0	40.7	5.0
Algebra II	43.2	8.7	60.2	14.3
Geometry	40.7	8.7	50.0	10.1
Trigonometry	25.4	3.6	38.1	7.0
Pre-calculus	28.0	3.9	46.6	10.3
Calculus	17.0	1.0	35.6	5.0
Integrated math	19.5	6.7	25.4	13.0
Other	20.3	4.1	25.4	7.8
Any mathematics	59.3	43.1	96.6	73.3
Science				
Introductory/earth science	23.7	1.8	17.0	2.3
Biology	41.5	9.2	49.2	12.3
Chemistry	42.4	10.9	53.4	13.9
Physics	32.2	4.4	50.9	13.8
Integrated science	26.3	9.6	34.8	17.7
Other	29.7	6.2	36.4	12.8
Any science	63.6	42.1	94.9	72.8
Any mathematics or science	66.1	46.7	96.6	76.2
Foreign Language				
Spanish	39.0	16.3	43.2	20.1
French	22.9	2.8	17.0	4.7
German	9.3	0.6	3.4	1.2
Italian	2.5	0.2	1.7	0.3
Russian	0.9	0.7	4.2	1.4
Japanese	3.4	0.1	9.3	1.9
Other	22.9	2.9	41.5	22.5
Any foreign language	48.3	23.6	83.9	52.1
English				
Composition	34.8	12.5	43.2	22.3
Literature	15.3	1.2	17.0	4.4
Composition and literature	46.6	25.4	75.4	46.7
Any English course	59.3	39.1	95.8	73.4

*Percentages are of the total new, continuing, and re-entry participants in the service year.

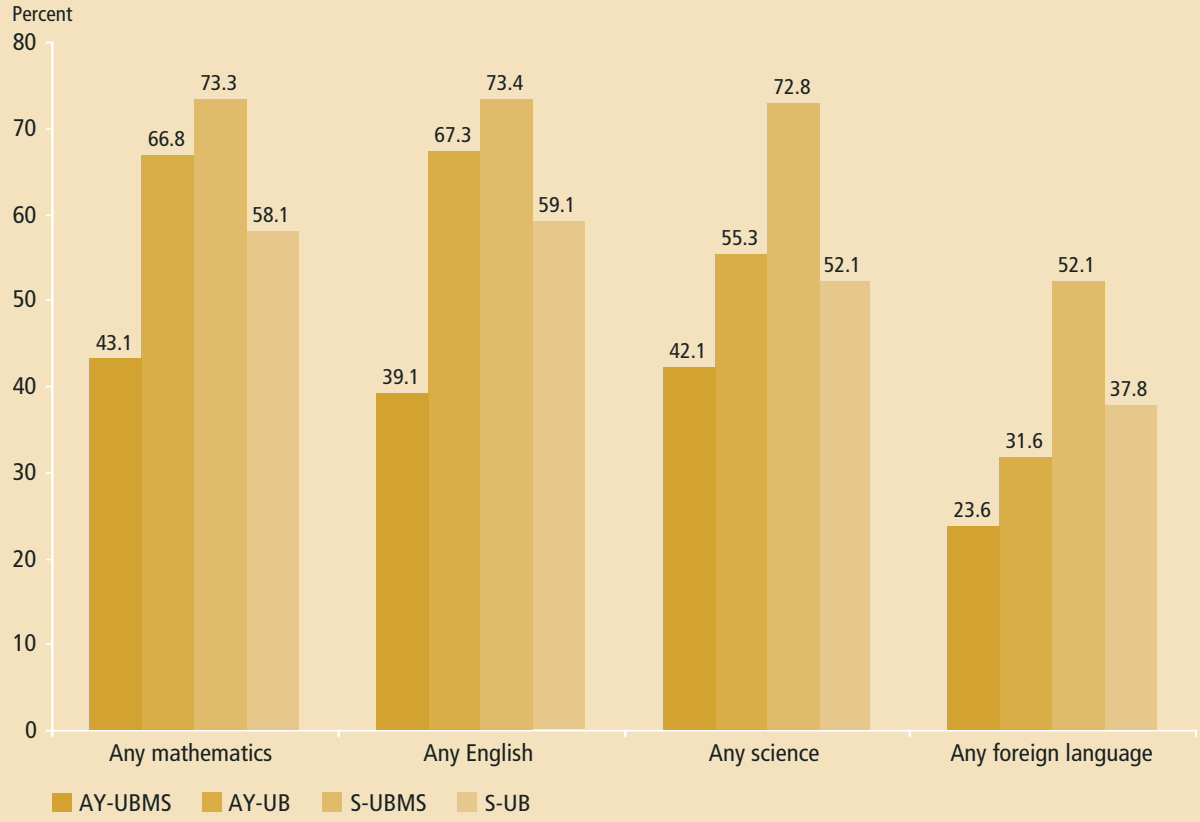
NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound Performance Reports, 2000–2001.

Figures 22 and 23 provide a comparison between UBMS and classic UB for the percentage of participants receiving instruction in broad academic areas and selected mathematics subjects. During the academic year, UB delivered instruction in major academic areas (i.e., mathematics, English, science, and foreign languages) to a higher percentage of participants than did UBMS, presumably because of the greater intensity of UB services during the school year and because higher percentages of UB students participate during the academic year (figure 22).

During the summer the situation was reversed, with higher percentages of UBMS participants receiving instruction in these subject areas. Within the field of mathematics, additional distinctions emerge. In the academic year, there was little difference between UB and UBMS in their percentages of participants who received instruction in integrated math, calculus, and pre-calculus, despite overall lower levels of students' participation in UBMS during the school year. In the summer, percentages of UBMS students who took calculus and pre-calculus exceeded percentages of UB students who took those subjects (figure 23). These differing levels of participation in higher levels of mathematics reflect the emphasis in UBMS on math and science and the differences in academic levels of the students. On average, UBMS students were more likely to enter the program at a later grade and to have slightly higher grade-point averages at program entry.

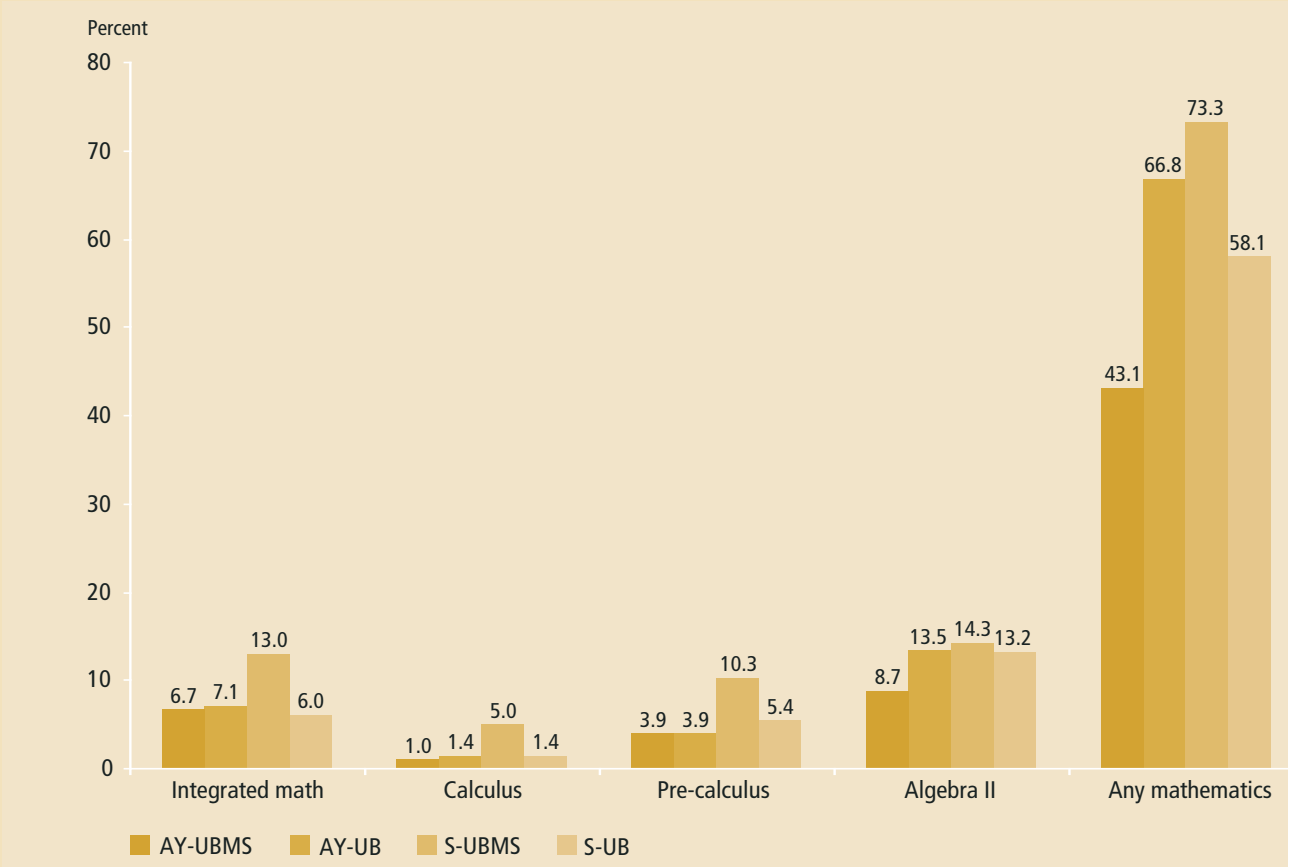
Figure 22. Percentage of participants who received instructional services in each of the academic areas in UBMS and UB during the academic year and the summer program: 2000–01



NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound; AY = academic year; S = Summer. Percentages are of the total new, continuing, and re-entry participants in the service year.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Figure 23. Percentage of participants who received instructional services in selected mathematics subject areas in UBMS and UB during the academic year and the summer program: 2000–01



NOTE: UB= classic Upward Bound; UBMS = Upward Bound Math-Science; AY = academic year; S = Summer. Percentages are of the total new, continuing, and re-entry participants in the service year.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

3. Other services for UBMS in 2000–01

The UBMS performance reports also ask for information on other services, as listed in table 27. These include some of the special services listed in the regulations for UBMS projects. About 80–83 percent of UBMS students participated in these activities and services, which included activities with math-science professionals (participated in by 81 percent), activities with math-science majors (83 percent), and research-related activities (79 percent).

Other activities in which three-fourths or more of the students participated (at some time during the service year) were academic advising (90 percent), cultural activities (84 percent), career awareness (82 percent), study skills (79 percent), tutoring (78 percent), and campus visitation (75 percent). Almost 70 percent had computer-science-related instruction, either in the academic year, in the summer, or in both. Peer counseling/mentoring was received by 66 percent and professional mentoring by 63 percent. Fewer participants

Table 27. Percentage distribution of UBMS projects providing academic year and/or summer service, and percentage of current participants receiving the service: 2000–01

Type of activity/service	Percentage of projects with service			Percentage of new, continuing, and re-entry participants receiving service in 2000–01*			
	Academic year	Summer	Both	Academic year	Summer	Both	Any time in period
Reading instruction/ tutorials	29.7%	45.8%	33.1%	9.0%	20.8%	12.5%	42.3%
Computer science	33.9	81.4	46.6	8.0	44.2	17.1	69.3
Tutoring	40.7	72.0	58.5	9.4	43.8	24.7	77.9
Supplemental instruction	28.8	59.3	44.1	6.7	33.4	16.4	56.5
College entrance exam prep	48.3	58.5	57.6	13.3	28.7	26.4	68.4
Personal counseling	48.3	63.6	65.3	11.5	27.2	32.8	71.5
Academic advising	54.2	61.0	78.8	16.0	28.5	45.5	90.0
Peer counseling/mentoring	31.4	71.2	42.4	5.9	42.6	17.9	66.4
Professional mentoring	31.4	64.4	43.2	7.9	34.2	20.6	62.7
Study skills	51.7	68.6	67.8	11.9	34.7	32.7	79.3
Cultural activities	50.8	75.4	67.8	10.0	38.7	35.5	84.2
Career awareness	50.0	75.4	70.3	11.0	35.4	36.0	82.4
Campus visitation	48.3	72.0	61.9	11.1	37.5	25.9	74.5
College admissions assistance	50.0	53.4	62.7	12.1	17.4	26.0	55.5
Financial aid assistance	47.5	46.6	59.3	12.7	20.1	23.3	56.1
Family activities	50.8	65.3	64.4	13.1	28.4	31.9	73.4
Target school advocacy	50.0	19.5	33.1	24.3	4.5	12.2	41.0
Work-study position	3.4	14.4	9.3	0.9	1.0	1.0	2.9
Employment	20.3	20.3	22.0	2.6	1.2	3.4	7.2
Activities with professionals	39.0	79.7	46.6	8.2	50.5	22.1	80.8
Activities with math/science majors	38.1	84.7	48.3	7.5	55.6	20.1	83.2
Research activities	34.7	86.4	42.4	6.3	57.0	15.4	78.7

*Percentages are of the total new, continuing, and re-entry participants in the service year.

NOTE: UBMS = Upward Bound Math-Science. Percentages are of the total new, continuing, and re-entry participants in the service year. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

received work-study or employment-related services (3 and 7 percent, respectively). The types of activities and services received by UBMS participants are similar to those for UB and in similar proportions; however, UB had fewer participating in computer science, cultural activities, and professional mentoring, and slightly more in reading instruction/tutorials, family activities, and personal counseling (data not shown in table).

D. High school grades

Grade point average (GPA) data can be used both to assess a participant's need for UBMS services and also to examine the improvements in academic achievement. There is considerable interest in examining whether participation in UBMS has a positive impact on the high school grades of project participants and, for this reason, the performance reports collect three grade measures:

- High school cumulative GPA at entry into the program (for those who had a high school GPA when they entered the program);
- High school GPA at the start of the reporting period; and
- High school GPA at the end of the reporting period.

In this first performance report, we present preliminary descriptive information on average GPAs. We also report on the percentages of students that were reported to have had a higher GPA, the same GPA, and a lower GPA than when they entered the program. In subsequent reports, as more years of data become available, we hope to present a more detailed analysis of participant grades by length of time participating in the program and services received. In addition, we will report on the result of analyses of the factors such as participant background, type of services received, and length of time in the program that may be related to entry GPA and to reported GPA change.

Some cautions are in order in interpreting these data. These are listed below:

- Although over 80 percent of UB and UBMS participants had grades reported that were usable (on a 4- or 5-point scale), in a number of cases the GPAs reported were the same for the start and end of the reporting period. We do not know if this reflects that the GPA remained unchanged or that data were not updated to reflect GPA at the end of the reporting period/school year.
- Without information on the high school courses taken, it is difficult to evaluate the significance of change or lack of change in GPA. For example, a student may be encouraged to take more challenging college preparatory courses by the program and consequently may have a decline in overall GPA, while at the same time becoming better prepared for college.
- GPAs differ by school grade, and participants have different grades of entrance into the UB program. For example, GPAs calculated for UBMS participants who join the program after leaving the eighth grade in a middle school are likely to differ from GPAs calculated for students who join the program from a high school's ninth grade; hence the need to look at the data by grade.

1. GPA at the start and end, by grade

In table 28, the three GPAs collected (standardized to a 4-point scale) are broken down by the grade level the participant would be entering at the end of the period. For new participants, the GPA at entry to the program and at the start of the reporting period would be the same in most cases. One of the first things to notice about the data in the table is that, while there is little variation, student GPA increases slightly as students progress through high school. As might be expected, GPA is lower for those who drop out of high school and higher for those who have enrolled in postsecondary education by the end of the reporting period.

The mean GPA among all UBMS participants at entry into the program was 3.2; among all classic UB participants at entry, the mean GPA was slightly lower (2.8—see table 29). For reference, the College Board reports that the mean GPA for all college-bound seniors taking the SAT was 3.3 (3.2 for males and 3.3 for females) in 2001. Among UBMS participants, when the average GPA at the start of the reporting period was compared to the average GPA at the end of the period for all participants, regardless of grade, there was an increase from 3.1 to 3.2 (table 29).

Table 28. Mean high school GPA on 4-point scale for new, continuing, and re-entry UBMS participants, by grade entering at end of reporting period: 2000–01

		Grade level reported for end of the reporting period								
GPA period	All	9th	10th	11th	12th	Not enrolled	Enrollment unknown	Drop-out	Accepted in PS	Enrolled in PS
At entry to UBMS	3.2	3.0	3.1	3.2	3.2	3.1	3.3	1.6	3.2	3.3
At start of period	3.1	3.0	3.1	3.2	3.2	3.1	3.1	1.5	3.2	3.2
At end of period	3.2	3.0	3.1	3.1	3.2	3.1	3.2	—	3.2	3.3

NOTE: UBMS = Upward Bound Math-Science. PS = postsecondary. Projects reporting grade-point average (GPA) on a 5-point scale were converted to a 4-point scale by multiplying reported grade by 0.8. Projects using other scales were excluded from tabulation. Among participants, 87 percent had grades reported on a 4-point scale, 3 percent on a 5-point scale, 6 percent on some other scale, and 4 percent on an unknown scale.

SOURCE: SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 29. Mean GPA at entrance into program, start of reporting period, and end of reporting period, by GPA change status for participants served by UBMS and UB: 2000–01

		GPA for period		
GPA change status*	Percent in group	Entrance into program	Reporting period start	Reporting period end
UBMS				
All	100%	3.2	3.1	3.2
Higher GPA	35	3.0	3.0	3.2
Unchanged GPA	37	3.3	3.3	3.3
Lower GPA	28	3.2	3.2	3.0
UB				
All	100	2.8	2.8	2.9
Higher GPA	43	2.7	2.7	2.9
Unchanged GPA	27	2.9	2.9	2.9
Lower GPA	29	2.9	3.0	2.7

*The grade-point average (GPA) change status is the comparison of GPA at the start of the reporting period to that at the end of reporting period.

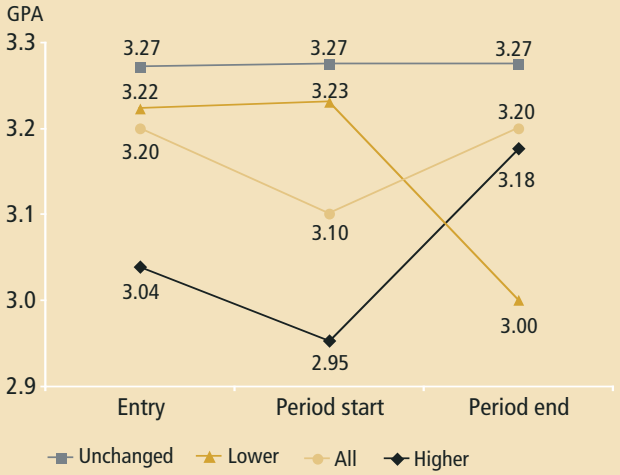
NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. GPAs are averaged for total new, continuing, and re-entry participants in the service year on a 4-point scale. GPAs reported on a 5-point scale were converted to a 4-point scale.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

2. GPA change status

The evaluations of Upward Bound in the 1970s and 1990s found more evidence of positive high school and postsecondary relative impacts among those who started the program with lower GPA averages (Burkheimer, Riccobono, Wisenbaker 1979; Myers and Schirm 1996, 1999). The preliminary data from the first year of performance reporting seem to support this finding for both UBMS and UB with regard to high school GPA. Table 29 provides the distribution of total participants reported served in 2000–01 by GPA change status (whether the GPA at the start of the period was higher, unchanged, or lower than GPA at the end of the reporting period). Some caution is needed in interpreting these data due to reporting issues in this first year of reporting; however, these data suggest that those who had increases in GPA over the reporting period entered the program with slightly lower GPAs than average (figure 24). Overall, 35 percent of UBMS participants had higher GPAs at the end of the reporting period than at the start, 37 percent were unchanged, and 28 percent were lower (table 29). Those participants who had some increase in GPA averaged 3.0 at the start of the period, and those that experienced some decline averaged 3.2 at the start. The same pattern holds for UB—those having an increase averaged 2.7 at the start, and those who had a decline averaged 2.9. Additional analyses controlling for differences in grade level are needed as more years of data become available.

Figure 24. GPA of UBMS participants served in reporting period at program entry, start of reporting period, and end of period, by GPA change status: 2000–01



NOTE: UB = Upward Bound Math-Science. Grade point averages (GPAs) are averages for the total new, continuing, and re-entry participants in the service year on 4-point scale. GPAs reported on a 5-point scale were converted to a 4-point scale. GPAs reported on other scales were excluded from tabulation.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

E. College entrance exams

1. Context

Nationally, about 1.7 million high school seniors take the American College Testing (ACT) exam and about 1.1 million take the Scholastic Aptitude Test (SAT) each year. Census figures estimated the number of students enrolled in 12th grade as 3.7 million in 2000 (U.S. Department of Commerce, Bureau of the Census 2001c). Thus, an estimated 29 percent of seniors took the SAT, and 46 percent took the ACT. The national average scores in 2001 for the SAT-Verbal and SAT-Math were 506 and 514, respectively. The national mean ACT composite score was 21.0. Table 30 gives average national scores by income and parent education for the SAT, and by income for the ACT. It illustrates the strong association between parent education and income and college entrance test results.

Table 30. Average national scores for SAT and ACT, by selected socioeconomic categories: 2001

		Average score		
		SAT-Verbal	SAT-Math	ACT-Combined
National average		**506**	**514**	**21.0**
Socioeconomic category				
Family income				
SAT category	**ACT category**			
< $10,000	< $18,000	421	443	18.1
$10–20,000	$18–24,000	442	456	18.9
$20–30,000	$24–30,000	468	474	19.6
$30–40,000	$30–36,000	487	489	20.2
$40–50,000	$36–42,000	501	503	20.6
$50–60,000	$42–50,000	509	512	21.0
$60–70,000	$50–60,000	516	519	21.5
$70–80,000	$60–80,000	522	527	22.0
$80–90,000	$80–100,000	534	540	22.5
> $90,000	> $100,000	557	569	23.4
Highest level of parent education				
No high school diploma		411	438	—
High school diploma		472	476	—
Associate's degree		489	491	—
Bachelor's degree		525	533	—
Graduate degree		559	567	—

— Not reported for this category.

NOTE: SAT = Scholastic Aptitude Test; ACT = American College Testing exam.

SOURCE: 2001 ACT National and State Scores (www.act.org/news/data/01/t4.html) and The College Board, Profile of 2001 College-Bound Seniors, SAT Summary Reporting Service (SRS).

2. UBMS college entrance exam results

UBMS projects were asked to report college entrance exam results for those participants who had taken the test and for whom they had information. Table 31 includes the percentage of participants reported as having taken the test, and the scores reported for the SAT for Mathematics, Verbal, and Combined, and ACT Combined. Because it is most meaningful to look at the data by grade level, table 31 gives the percentage of applicable students taking the test and the mean scores of the "end grade" for the period—for example, this means that, assuming normal progression, those with an end grade of 12th grade would have been in the 11th grade for the reporting year.

Combined SAT scores for UBMS ranged from 850, for those participants whose end of grade level was high school graduate or GED and who were not enrolled in postsecondary education, to 1010, for individuals whose ending grade level was enrolled in postsecondary education (table 31). The mean SAT-Math score was 495, and the mean SAT-Verbal was 469 (966 for combined) for all participants with scores on the performance reports. Combined ACT scores ranged from 18.8, for those who were high school graduates or GED recipients and who were not enrolled in postsecondary education, to 21.5, for those enrolled in postsecondary education, with an overall mean of 20.6. These scores were similar to the national average scores for students from middle incomes reported for these tests. UBMS mean scores were higher than UB scores (451 for SAT-Math and 440 for SAT-Verbal, and 18.5 for ACT-Combined—not shown in table).

Table 31. Percentage of UBMS participants in performance reports with test information and mean score for college entrance exams, by end grade level: 2000–01

Entrance examination	End grade level									
	12th grade		HS graduate/GED not enrolled in postsecondary		Accepted in postsecondary		Enrolled in postsecondary		All	
	Percent*	Mean	Percent*	Mean	Percent*	Mean	Percent*	Mean	Percent*	Mean
Scholastic Aptitude Test (SAT)										
Mathematics (SAT-M)	25.5%	500	28.8%	444	47.0%	483	39.7%	519	14.7%	495
Verbal (SAT-V)	25.1	476	28.8	381	47.0	466	39.7	488	14.3	469
Combined	28.0	975	36.4	850	49.2	958	43.5	1010	17.4	966
American College Testing Program (ACT)										
Combined (ACT-C)	26.4	20.6	63.4	18.8	41.5	19.9	49.4	21.5	16.2	20.6

* Indicates the percentage of UBMS participants in the category for which a score was reported for the examination.

NOTE: UBMS = Upward Bound Math-Science; HS grad/GED = high school graduate or general equivalency diploma. The average ACT-C score for 2001 was 21.0. The average SAT scores were 506 for the SAT-V and 514 for SAT-M.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

F. Credits earned

Some UB and UBMS projects have arrangements with target schools or colleges to allow participants to earn either high school or college credit for courses taken as part of a summer or academic program. The UBMS reporting form includes items for reporting target high school and postsecondary host institution credits earned for UBMS participation. For postsecondary credits, the form has separate recording elements for non-summer bridge postsecondary credit hours, and summer bridge credit and noncredit hours. Projects were asked to use standardized Carnegie credits for high school (e.g., one credit for one academic year of a subject and 0.5 credit for a half year).

Data reported for UBMS and UB indicate that most of the Upward Bound participants do not earn high school and college credit for completing Upward Bound activities. For UBMS, about 16 percent of participants were reported as earning high school credit, and 4 percent of participants were reported as earning postsecondary credit (table 32). About 4 percent also reported credits associated with summer bridge programs. Although projects were asked to use a Carnegie credit system for reporting standard high school credits—that is, one credit for a full year of work in a single subject—we are unsure if this measure was used consistently. Among those reporting more than 0 credits and under 30 credits, the median credits earned for these high school programs were three Carnegie credits. The median was two credits for postsecondary programs.

Table 32. Percentage of UBMS participants earning credits and credits earned, by type of credit earned: 2000–01

Credit type	Percent earning credits[1]	Credits earned[2]		
		Median	Maximum	Minimum
High school	15.8%	3.0[3]	28.0	0.3
Postsecondary education	4.0	2.0	29.5	0.4
Summer bridge with credit	4.2	6.0	12.0	0.3
Summer bridge without credit	0.7	—	—	—

[1] The analyses for this table were restricted to new, continuing, and re-entry participants.

[2] Records without any reported credits were excluded from analyses. Records with more than 30 high school, postsecondary, and summer bridge credits were also excluded because it was assumed that such records were out of range.

[3] Projects were instructed to use Carnegie credits (1 credit for a full year's work in one subject) to report high school credits. The mean number of credits among those reporting greater than 0 credits was 5.9. This high number may reflect that other forms of credit reporting were used. For this reason, we report the median rather than the mean.

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

CHAPTER 6
POSTSECONDARY ENROLLMENT

A. Overview

Information on postsecondary outcomes (enrollment and degree completion) for Upward Bound participants represents the primary performance indicator for the program. With this in mind, the performance report includes a number of items on postsecondary education enrollment status:

- Source of enrollment information;
- Postsecondary institution first attended and enrolled in at end of reporting period;
- Date of first postsecondary enrollment;[16]
- Postsecondary enrollment status (e.g., full- or part-time enrollment);
- Financial aid sources;
- Postsecondary grade level;
- Postsecondary standing; and
- Degree or certificate awarded.

Projects were instructed to report postsecondary status for all current and prior-year project participants who had completed high school or a high school equivalency program. The report instructions stated that UBMS projects should include all prior-year participants who had completed a summer program and that UB participants should include those that completed a calendar year.

The instructions also specified that applicable prior-year participants should be followed through college graduation or for four years after completing high school. Since follow-up data on a full cohort of participants are not yet available, we are able to include only limited information on the key statistic of interest—the percentage of those served by UBMS who enter and persist in postsecondary education. In this report, we summarize information reported from the first year of data, with a focus on issues of reporting and interpreting the data, while stopping short of giving an estimate of the percentage of participants who have enrolled in postsecondary education. In the next section, we first present contextual information from the Current Population Survey (CPS) data on secondary and postsecondary enrollment. We then summarize information from the performance reports.

[16]Since the 2000–01 Upward Bound performance reports included postsecondary education information for a relatively small subset of UBMS participants, analyses presented in this first UBMS profile report do not consider postsecondary enrollment dates. These results will be included as more years of data become available.

B. Context: National data on enrollment

As discussed in chapter 1, the years since Upward Bound began have shown substantial increases in the percentage of postsecondary enrollment over time, whereas differences in enrollment rates by income have persisted. Reporting postsecondary enrollment status is complex for national statistics as well as for Upward Bound performance reports. Rates of enrollment depend upon who is included (especially whether the rate is based on all individuals in an age cohort or only on high school graduates) and the time frame involved—whether it reflects enrollment at a single point in time (e.g., October of the year following high school graduation) or it is based on the percentage ever enrolled.

1. Enrollment status of dependent family members 18- to 24-years-of-age

Table 33 and figure 25 display the enrollment status of age 18–24-year-old dependent family members by income level categories for the year 2000. These numbers are based on the Current Population Survey (CPS) (U.S. Department of Commerce, Bureau of the Census 2001b) and are subject to sampling error, espe-

Table 33. Percentage distribution of enrollment status of dependent primary family members 18- to 24-years-old, by family income level: 2000

Enrollment status at time of survey	Percentage distribution of enrollment status, by family income level					
	All Incomes	Less than $30,000	$30,000–$49,999	$50,000–$74,999	$75,000 or more	Not reported
Number in thousands	14,731	3,363	2,598	2,685	3,953	2,132
All	100%	100%	100%	100%	100%	100%
Not enrolled in college						
Not high school graduate	10.2	21.9	12.0	3.8	2.8	11.1
High school graduate, no college	24.4	30.0	28.6	24.8	16.9	24.0
Less than a bachelor's degree	9.0	5.9	7.7	10.3	10.4	11.0
Bachelor's degree or more	3.0	0.5	2.5	3.5	5.4	2.2
Enrolled below college[1]	9.1	14.2	9.2	6.7	5.3	11.0
Enrolled in college						
Enrolled full time						
Two-year college	9.6	8.4	9.4	11.4	10.4	8.3
Four-year college	28.7	14.2	24.8	31.9	41.5	28.5
Enrolled part time						
Two-year college	3.1	2.6	2.6	4.6	3.4	2.0
Four-year college	2.8	1.8	3.0	2.9	3.9	1.9
Enrolled in two- or four-year college or received bachelor's degree[2]	47.2	27.4	42.2	54.4	64.6	42.8

[1] The "Enrolled below college" group included 18–24-year-old individuals who were currently enrolled in high school.

[2] Represents the sum of percentage enrolled in college or having a bachelor's degree or more.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (Table 14 Enrollment Status of Dependent Primary Family Members 18 to 24 Years Old, by Family Income, Level of Enrollment, Type of School, Attendance Status, Sex, Race, and Hispanic Origin: October 2000) Internet release date June 1, 2001 (http://www.census.gov/population/socdemo/school/ppl-148/tab14.txt).

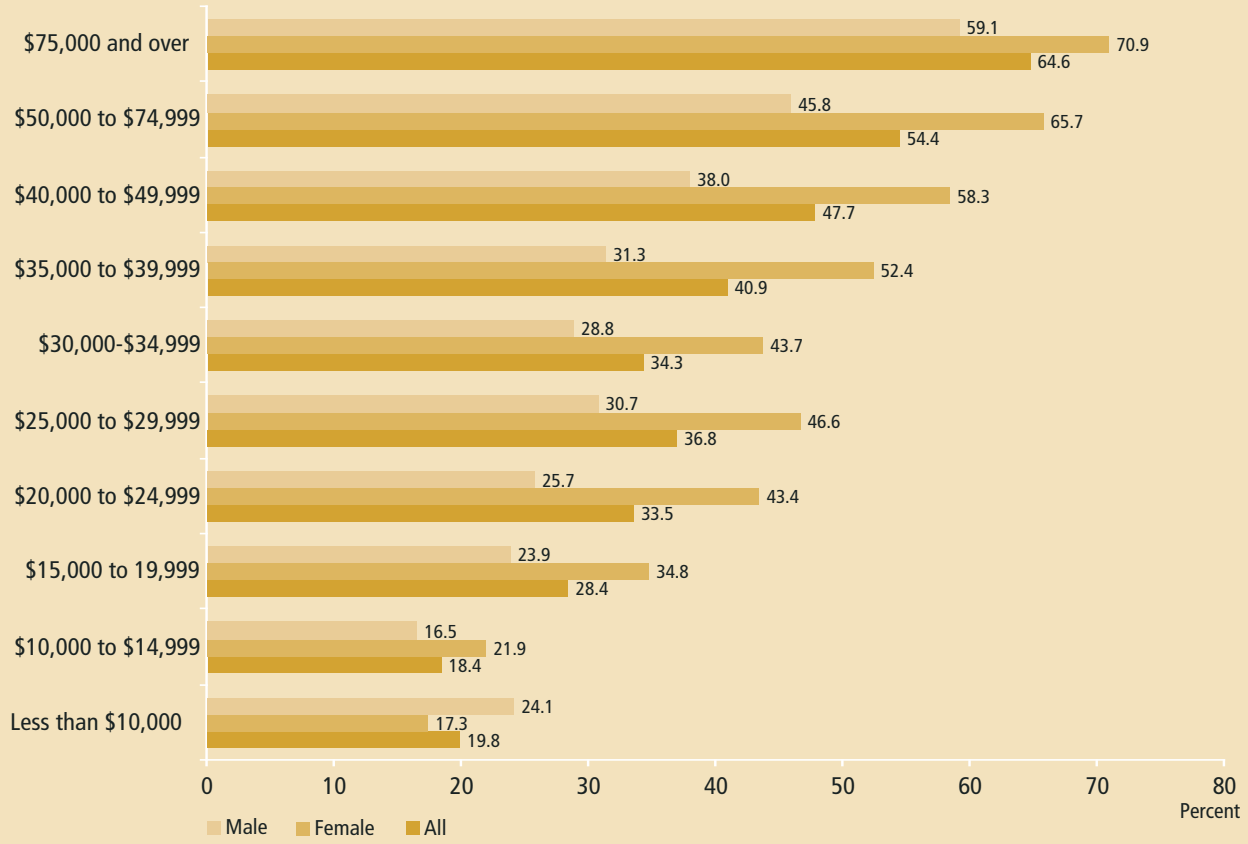
cially for small population subsets such as those included for the lowest income levels in figure 25. It should be noted that table 33 and figure 25 are based on "dependent primary family members" and exclude those 18- to 24-year-olds who were not reported as dependents of a family at the time of the survey.

As the table and figure illustrate, there is a strong relationship between income and high school statuses, such as high school graduation, and post-high school statuses, such as obtaining a bachelor's degree, college enrollment, and enrollment in a four-year college. For example, among those in families with incomes of $29,999 or less, about 22 percent were not high school graduates and were not enrolled in high school, compared with 3 percent for those with incomes of $75,000 or more (table 33). In another example, among families with incomes of $29,999 or less, about 14 percent of dependent 18- to 24-year-olds were enrolled full time in a four-year college, compared with 42 percent in the highest income level.

Overall, 47 percent of the dependent 18–24 year olds were enrolled in college or held a bachelor's degree (3 percent held a bachelor's degree or higher) in October of 2000. This measure of college participation ranged from 27 percent for those in families with incomes of $29,999 or less[17] to 65 percent for those in families with incomes of $75,000 and over. As figure 25 illustrates, there was a substantial difference in rates by gender overall.

[17]The TRIO level of 150 percent of poverty for a family of four in 2002 was $27,150.

Figure 25. Percentage of dependent primary family members 18–24-years-old enrolled full and part time in two-year and four-year postsecondary institutions or having a bachelor's degree, by family income level and by gender: October 2000



NOTE: Percentage of 18–24-year-old dependent primary family members with bachelor's degrees was 3 percent for the total and ranged from 1 percent for the lowest income category to 5 percent for the highest income category.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (Table 14 Enrollment Status of Dependent Primary Family Members 18 to 24 Years Old, by Family Income, Level of Enrollment, Type of School, Attendance Status, Sex, Race, and Hispanic Origin: October 2000) Internet release date June 1, 2001 (http://www.census.gov/population/socdemo/school/ppl-148/tab14.txt).

2. College enrollment for high school graduates the October following graduation

Table 34, also from the CPS, gives postsecondary enrollment rates for high school graduates the October following graduation by gender and income. The overall enrollment rate for high school graduates in 2000 was 62 percent (55 percent for males and 69 percent for females). As with figure 25 discussed above, due to small sample sizes, the fine breakouts among the lowest income categories were somewhat unstable; however, the pattern is clear. There were large differences by income, and females had higher rates than males, with the differences by gender being somewhat larger in the middle and upper income levels than among the lowest income categories. Combining the five income categories most likely to reflect incomes of TRIO families ($29,999 or less), we find that the rates were similar for males and females (41 percent). This compares with 86 percent for females and 68 percent for males in the highest income level grouping of $75,000 and over.

C. UBMS performance report data on postsecondary enrollment

1. Source of information on postsecondary enrollment

The first item in the section of the UBMS performance report form on postsecondary outcomes asks projects to report on the source of the follow-up information included in the performance report. As shown in table 35, among the total group of UBMS participants reported as having completed secondary school by the end of the reporting period, projects indicated they had some form of institutional enrollment data for about 15 percent (2.6 percent from official transcripts, 10 percent from other institutional data, and 2.5 percent from self-reported information with transcripts), while they had "self reports only" for another 28 percent. Forty-one percent were listed as not enrolled and another 16 percent as unknown.

Table 34. Estimated number of persons in family income categories and percentage of high school graduates enrolled in college the October following high school graduation, by gender and family income: October 2000

	Estimated number in family income category (in thousands)			Percent enrolled October following high school graduation		
Family income category	Male	Female	All	Male	Female	All
All incomes	1,133	1,227	2, 360	54.7%	68.8%	62.0%
Less than $10,000	47	47	94	40.4	19.1	29.8
$10,000 to $14,999	40	41	81	27.5	17.1	22.2
$15,000 to $19,999	31	61	92	54.8	39.3	44.6
$20,000 to $24,999	62	51	113	32.3	70.6	49.6
$25,000 to $29,999	76	60	136	51.3	50.0	50.7
$30,000 to $34,999	56	65	121	48.2	63.1	56.2
$35,000 to $39,999	66	65	131	37.9	66.2	51.9
$40,000 to $49,999	60	95	155	38.3	50.5	45.8
$50,000 to $74,999	219	235	454	57.1	80.4	69.2
$75,000 and above	347	332	679	67.7	86.1	76.7
Income not reported	129	175	304	61.2	74.9	69.1
Incomes $29,999 or less	256	260	516	41.4	40.8	41.1

SOURCE: Adapted from U.S. Bureau of the Census, Population Survey (Table 8. People 15 to 24 Years Old Enrolled in Secondary School in Previous Year by Current Enrollment Status, Sex, Race, Hispanic Origin, and Family Income (for Dependent Family Members): October 2000). Internet Release date: June 1, 2001 (http://www.census.gov/population/socdemo/school/ppl-148/tab08.xls).

The data in table 35 imply that, of all students reported as having completed secondary school, about 43–44 percent (both UBMS and UB) were reported as known to be enrolled in postsecondary education. If we look only at the prior participants included in the database (those served in 1999–2000 and not in 2000–01 who had completed secondary school), we see that the percentage of individuals for whom there was enrollment information increases to 68 percent for UBMS and 73 percent for UB. These estimates, however, represent incomplete cohorts of the first year of reporting. Because grantees did not always have full data on the extent to which students had finished high school or were enrolled, the first estimate—that 43 percent of UBMS students who had finished high school had enrolled in postsecondary education—may understate the extent of enrollment. On the other hand, the figures for enrollment of prior participants (68 percent in UBMS, 73 percent in UB) are almost certainly overstated, given that the 2000–01 data collection used in this report excluded from the cohort of prior participants all those who left the program prior to 1999–2000. The estimates in table 35 should, therefore, be used with caution.

2. Type of postsecondary enrollment

Projects were instructed to report the U.S. Department of Education Student Financial Aid code for the first postsecondary institution in which the participant enrolled after completing high school or obtaining a GED and to also report the institution in which the student was enrolled at the end of the reporting period. We merged these codes with IPEDS to obtain information on the types of institutions attended. One question of interest is whether the type of

Table 35. Percentage distribution of source of information on postsecondary activities for UBMS and UB prior participants, by gender: 2000–01

	UBMS			UB		
Source of postsecondary information	All	Male	Female	All	Male	Female
All who completed high school by end of reporting period[1]						
Reported from official transcript	2.6%	2.3%	2.7%	4.5%	4.4%	4.5%
Institutional data but not official	10.0	10.3	9.9	15.9	15.8	16.0
Self reported by participant	28.1	29.0	27.5	20.0	20.1	20.0
Self reported and transcript	2.5	1.8	3.0	3.0	2.8	3.0
Not enrolled	40.8	40.2	41.2	35.7	36.4	35.3
Unknown	15.9	16.3	15.6	20.9	20.5	21.2
Percent reported to have completed high school and with postsecondary enrollment information	43.3	43.5	43.2	43.4	43.0	43.6
Prior participants only[2]						
Reported from official transcript	4.1%	3.6%	4.4%	7.8%	7.4%	8.0%
Institutional data but not official	15.8	18.2	14.4	25.5	24.8	25.9
Self reported by participant	42.7	46.2	40.6	33.6	33.1	33.8
Self reported and transcript	5.5	4.0	6.5	5.6	5.4	5.8
Not enrolled	10.5	9.1	11.4	13.7	15.8	12.5
Unknown	21.3	18.9	22.8	13.8	13.5	14.0
Percent reported to have completed high school and with some postsecondary enrollment information	68.2	72.0	65.8	72.5	70.7	73.5

[1] A total of 3,846 UBMS and 32,971 UB individuals in the database indicated that they had completed secondary school by the end of the reporting period.

[2] Prior participants were individuals who were served in 1999–2000 but not in 2000–01. A total of 1,245 UBMS and 9,619 UB were reported as prior participants who had also completed high school.

NOTE: These analyses are based on the 2000–01 performance reports that include an incomplete cohort of UBMS participants who graduated from high school and enrolled in postsecondary education. Therefore, estimates in this table should be used with caution. UBMS = Upward Bound Math-Science; UB = classic Upward Bound.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

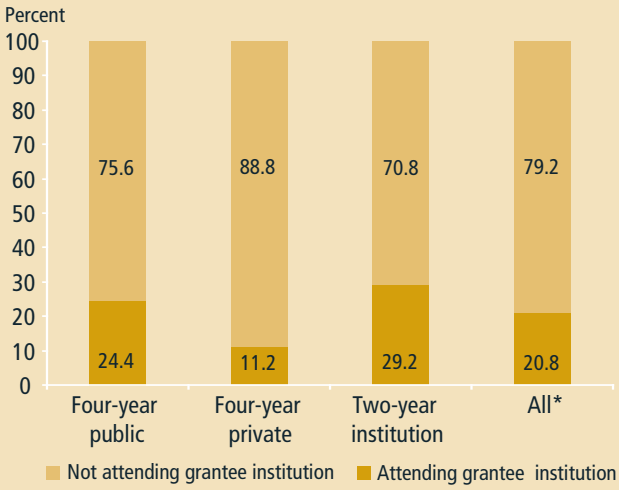
UBMS host institution is related to the type of institution attended. Another question is the percentage of enrolled Upward Bound students that attend the grantee program institution.

Of the total records for UBMS participants, a total of 1,320 participants matched successfully with postsecondary institutions on the IPEDS file. These data indicate that about 86 percent of UBMS participants on the 2000–01 reporting file who had a postsecondary code associated with them were listed as enrolled in a four-year institution (65 percent in four-year public and 21 percent in four-year private) (table 36). For classic UB, 74 percent were enrolled in a four-year institution.

Overall, about 21 percent of participants who enrolled in postsecondary education attended the grantee host institution (figure 26). This percentage was highest among projects hosted by two-year institutions (29 percent) and least among projects hosted by four-year private institutions (11 percent). These estimates may over-represent the degree to which participants who were enrolled in postsecondary education were attending the host institution. We would expect that projects would be somewhat more likely to know the participant's institution for those enrolled in their own—rather than another—institution. Among UBMS participants, the percentage attending the grantee institution was less than among UB participants: 35 percent of UB participants attending postsecondary institutions attended the host institution, with the percentage highest among projects hosted by two-year institutions (46 percent) (data not shown in table).

In general, there was an association between the sector of the host institution and the type of institution attended by the participants (table 36). For example, overall 13 percent of UBMS participants who enrolled attended a two-year public institution; however, among participants coming from projects hosted by two-year institutions, 37 percent attended a two-year institution.

Figure 26. Percentage of UBMS participants enrolled (or accepted for enrollment) in postsecondary education, who first attended the grantee institution, by grantee sector: 2000–01



* This comparison is not applicable for participants from projects hosted by community organizations.

NOTE: UBMS = Upward Bound Math-Science.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01, and National Center for Education Statistics (IPEDS-IC), 2000–01.

Table 36. Percentage distribution of the types of postsecondary institutions first attended by UBMS participants, by sector of grantee institution: 2000–01

	Type of first postsecondary institution attended				
	Four-year		Two-year		
Sector of UBMS grantee institution	Public	Private	Public	Private	Other postsecondary
All	65.1%	21.1%	13.4%	#	#
Four-year public	71.6	18.5	9.4	#	#
Four-year private	59.5	29.3	11.0	#	#
Two-year	46.6	15.7	37.1	#	#
Community organization	70.2	23.4	6.4	#	#

Too few cases for a reliable estimate.

NOTE: UBMS = Upward Bound Math-Science. Detail may not sum to 100 percent due to rounding.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01, and National Center for Education Statistics (IPEDS-IC), 2000–01.

3. Postsecondary enrollment status, financial aid sources, and standing

For UBMS, 94 percent of those enrolled were reported to be attending full time, with only 2 percent being reported as less than full time (table 37). Five percent of these participants were reported as having "varied" enrollment during the reporting period—in other words, their status changed or was both full time and part time during the postsecondary terms included in the Upward Bound reporting period. The majority of those enrolled (56 percent) were reported to have "multiple federal and other sources of aid," with another 21 percent reported to have "multiple federal aid." About 4 percent had a Pell grant only. The other choices listed were selected by less than 1 percent to 5 percent of participants (table 38). Overall, 2 percent were reported not to have had aid awarded and less than 1 percent did not need aid. There were few differences by gender or between UBMS and UB on these items. UBMS had a slightly higher percentage with multiple federal and other aid reported and less reported with only a Pell grant (table 38).

Table 37. Percentage distribution of postsecondary enrollment status among those reported as enrolled, by gender: 2000–01

	UBMS			UB		
Enrollment status	All	Male	Female	All	Male	Female
Full time	93.5%	92.2%	94.2%	92.3%	91.2%	92.9%
Less than full time	1.5	2.3	1.0	4.6	5.4	4.2
Varied enrollment	5.0	5.5	4.7	3.0	3.4	2.9

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. A total of 1,559 UBMS and of 12,629 UB individuals had enrollment status.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 38. Percentage distribution of type of financial aid among those having financial aid status reported, by gender: 2000–01

	UBMS			UB		
Type of financial aid	All	Male	Female	All	Male	Female
Pell grant only	3.9%	3.0%	4.4%	9.9%	9.6%	10.0%
FFEL Loan	0.5	0.4	0.5	0.6	0.7	0.6
Direct Loan only	1.5	2.0	1.3	1.5	1.6	1.5
College work study only	0.6	0.2	0.9	0.2	0.4	0.1
Institutional aid only	5.1	3.6	6.0	3.2	3.3	3.2
State grant only	0.5	< 0.1	0.9	0.9	0.8	0.9
Pell grant and FFEL	2.4	3.0	2.0	1.4	1.3	1.5
Pell grant and Direct Loan	3.2	4.4	2.4	3.5	3.4	3.5
Multiple federal aid	21.4	22.5	20.7	20.0	19.8	20.1
Multiple federal and other aid	55.9	57.4	55.0	52.7	52.2	52.9
Nonfederal, noninstitution	2.6	1.8	3.1	1.8	1.9	1.8
No aid awarded	1.9	1.8	2.0	2.7	3.0	2.6
No aid needed	0.5	< 0.1	0.8	1.5	2.1	1.2

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. A total of 1,295 UBMS and 11,831 UB individuals had financial aid status reported.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Overall, among those enrolled or accepted, a small proportion was reported as not being in good standing.[18] This percentage was slightly larger among UB participants (4 percent) than among UBMS participants (1 percent) (table 39).

4. Postsecondary grade level and degree and certificate completion status

The distributions of grade level and degree and certificate status for individuals reported as having completed secondary school by the end of the reporting period are displayed in tables 40 and 41. The majority of grade levels were those for the first year, with almost half reported as not enrolled. As was the case with the data reported in table 35, because grantees did not always have full information on high school and postsecondary status, the percentages reported as accepted or enrolled in postsecondary may be understated. As might be expected, in the degree and certificate distribution (given in table 41), less than 1 percent had attained degrees or certificates and virtually all of those enrolled had not yet completed a postsecondary program.

Table 39. Percentage distribution of postsecondary enrollment standing among those reported as enrolled in or accepted at postsecondary institutions, by gender: 2000–01

	UBMS			UB		
Postsecondary standing	All	Male	Female	All	Male	Female
Good standing	94.7%	93.6%	95.3%	87.5%	85.6%	88.4%
Not in good standing	1.2	1.7	0.8	3.6	4.7	3.0
Not enrolled yet	4.2	4.7	3.8	8.9	9.7	8.5

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. A total of 12,561 UB and 1,389 UBMS individuals had enrollment status reported.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

Table 40. Percentage distribution of postsecondary grade level among those reported to have completed secondary education, by gender: 2000–01

	UBMS			UB		
Postsecondary grade level	All	Male	Female	All	Male	Female
Accepted into postsecondary	3.5%	4.0%	3.1%	5.7%	6.1%	5.5%
1st year, never attended postsecondary	24.3	22.5	25.5	19.7	19.0	20.0
1st year, attended before	3.2	3.5	3.0	5.9	5.9	5.9
2nd year/sophomore	11.7	12.4	11.3	9.9	9.4	10.1
3rd year/junior	—	—	—	—	—	—
4th year/senior	—	—	—	—	—	—
5th year/other	—	—	—	—	—	—
Graduated	—	—	—	—	—	—
Enrolled in graduate school	—	—	—	—	—	—
Not enrolled	48.5	49.1	48.1	44.2	45.2	43.6
Unknown	8.7	8.4	9.0	14.7	14.4	14.9

— Not applicable.

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. A total of 3,752 UBMS and 32,270 UB individuals on the database indicated that they had completed secondary education by the end of the reporting period. Of these, six UBMS cases and 560 UB cases were removed from the analyses due to inapplicable data.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

[18]Guidance for the Upward Bound performance reports instructed staff to employ the definition of "good academic standing" used by the institution where the participant was enrolled. Definitions may vary considerably.

Table 41. Percentage distribution of postsecondary degree completion status among those reported to have completed secondary education, by gender: 2000–01

	UBMS			UB		
Postsecondary grade status	**All**	**Male**	**Female**	**All**	**Male**	**Female**
Certificate/diploma for occupational educational program < 2 years	0.1%	< 0.1%	< 0.1%	0.2%	0.2%	0.2%
Certificate/diploma for occupational educational program at least 2 years	< 0.1	< 0.1	< 0.1	0.1	0.1	< 0.1
Associate's degree (2-year)	0.1	0.2	< 0.1	0.3	0.4	0.2
First bachelor's degree	—	—	—	—	—	—
Second bachelor's degree	—	—	—	—	—	—
Teaching credential	—	—	—	—	—	—
Graduate or first professional	—	—	—	—	—	—
Did not yet complete program	43.6	42.5	44.4	38.6	37.6	39.3
Not enrolled	46.2	47.5	45.3	45.9	47.5	45.1
Unknown	10.1	9.8	10.3	15.0	14.3	15.4

— Not applicable.

NOTE: UBMS = Upward Bound Math-Science; UB = classic Upward Bound. A total of 3,590 UBMS and 32,287 UB individuals on the database indicated that they had completed secondary education by the end of the reporting period. Of these, 34 UBMS and 299 UB records were removed from the analyses due to inapplicable data. Detail may not sum to 100 percent due to rounding.

SOURCE: U.S. Department of Education, Federal TRIO Programs, Upward Bound performance reports, 2000–01.

REFERENCES

Burkheimer, G., Riccobono, J., and Wisenbaker, J. (1979) *Evaluation Study of the Upward Bound Program—A Second Follow-Up, Final Report.* Research Triangle Park, N.C.: Research Triangle Institute.

Chou, J.Y., Cahalan, M.W., Humphrey, J.G., and Overton, A.T. (2002) *A Profile of the Talent Search Program: 1998–1999.* Washington, D.C.: U.S. Department of Education, Office of Federal TRIO Programs.

Mortenson, T.G. (ed). (2001, October) *Postsecondary Education Opportunity.* Oskaloosa, Iowa: Postsecondary Education Opportunity.

Myers, D.E., and Schirm, A. (1999) *The Impacts of Upward Bound: Final Report for Phase I of the National Evaluation.* Washington, D.C.: U.S. Department of Education, Office of the Under Secretary.

Myers, D.E., and Schirm, A. (1996) *The Short-Term Impacts of Upward Bound: An Interim Report.* Washington, D.C.: U.S. Department of Education, Office of the Under Secretary.

National Science Foundation, Division of Science Resources Statistics. (2003) *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2002* (NSF 03–312). Arlington, Va.: National Science Foundation.

Task Force on Women, Minorities, and the Handicapped in Science and Technology. (1988) *Changing America: The New Face of Science and Engineering: Report of the Task Force.* Washington, D.C.: Task Force on Women, Minorities, and the Handicapped in Science and Technology.

U.S. Department of Commerce, Bureau of the Census. (2001a) *Current Population Survey: Age, Sex, Household Relationship, Race and Hispanic Origin by Ratio of Income to Poverty Level: 2001.* Washington, D.C.: U.S. Department of Commerce. (http://ferret.bls.census.gov/macro/032002/pov/new02_001.htm)

U.S. Department of Commerce, Bureau of the Census. (2001b) *Current Population Survey: Enrollment Status of Dependent Primary Family Members 18 to 24 Years Old, by Family Income, Level of Enrollment, Type of School, Attendance Status, Sex, Race, and Hispanic Origin: October 2000.* Washington, D.C.: U.S. Department of Commerce. (www.census.gov/population/socdemo/school/ppl-148/tab14.txt)

U.S. Department of Commerce, Bureau of the Census. (2001c) *Current Population Survey: People 15 to 24 Years Old Enrolled in Secondary School in Previous Year by Current Enrollment Status, Age, Sex, Race, and Hispanic Origin: October 2000.* Washington, D.C.: U.S. Department of Commerce. (www.census.gov/population/socdemo/school/ppl-148/tab07.xls)

U.S. Department of Education. (2002) *Strategic Plan 2002–2007,* Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (1994) *CD-ROM: National Longitudinal Study of the High School Class of 1972* (NCES 94–487). Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (2000) *CD-ROM: High School & Beyond: 1992 (Restricted) Data File* (NCES 95–361). Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (2001a) *The Condition of Education 2001* (NCES 2001–072). Washington, D.C.: U.S. Government Printing Office. (http://nces.ed.gov/pubs2001/2001072.pdf)

U.S. Department of Education, National Center for Education Statistics. (2001b) *Integrated Postsecondary Education Data System (IPEDS): Institutional Characteristics File for 2000–01*. Washington, D.C.: U.S. Department of Education. (available electronically only at http://nces.ed.gov/ipeds/data.asp)

U.S. Department of Education, National Center for Education Statistics. (2002) *CD-ROM: NELS:88/2000 Public Use Data Files and Electronic Codebook—Base Year through Fourth Follow-up* (NCES 2002–322). Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (2003) *CD-ROM: Common Core of Data (CCD) School Years 1996-97 through 2000-01* (NCES 2003–410). Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (n.d.) Unpublished tabulations: *Education Longitudinal Study of 2002 (ELS:2002), Base Year*. Washington, D.C.: U.S. Department of Education.

APPENDIX A
UPWARD BOUND MATH-SCIENCE PERFORMANCE REPORTING: METHODS AND DATA QUALITY FOR THE FIRST YEAR

During the 2000–01 program year, a total of 121 Upward Bound Math-Science (UBMS) projects were funded through Upward Bound grants (table A–1). Computer Business Methods, Inc. (CBMI) processed the files of each of the projects submitting reports and performed a variety of data quality and error checks. CBMI then combined the submissions of each project into the national database. Of these funded UBMS grantees, 118 projects (98 percent of the total) submitted performance reports containing individual participant records for 8,788 UBMS participants. Analyses of individual records using Social Security number (SSN) and other information identified 104 UBMS participants with duplicate records within UBMS projects. These duplicate records were removed from the counts of numbers served presented in the Profile Report.

The unique records represented 6,880 new, current, and re-entry participants (79 percent of the total of UBMS participants) and 1,751 individuals identified as prior-year participants (20 percent). (The participation level of 53 individuals, or 1 percent of the overall number of participants, was not available.) In the first reporting period, projects were instructed to include in the data file individual participant data for all students served in 1999–2000 and 2000–01. Further, projects were instructed to provide only one record for each participant and to provide or update the information for each participant to reflect each student's participation and academic status for 2000–01. Service information was to be provided for 2000–01 participants only.

This report covers the first year of reporting using participant-level data for UBMS. The wealth of data contained in this report testifies to the strong effort that projects have made to carefully report the data requested for each UBMS participant. UBMS projects are to be commended on the quality of the data provided for the first year's reports. Although the percentage of missing data is not large overall, items such as test scores and especially postsecondary enrollment information had the highest percentage of unknown data reported. The percentage of records with data reported or legitimately inapplicable ranged from 65 percent for items such as SAT mathematics and verbal scores to 100 percent for items such as the type of Upward Bound program and participant's last name. Most items have over 95 percent reported, and the average for 80 data elements in the file was 92 percent reported or inapplicable. However, the extent of missing data is masked somewhat by the fact that some items are only applicable to portions of the individuals

Table A–1. Number of Upward Bound projects funded and number and percentage that submitted performance reports, by program type: 2000–01

Program type	Total funded	Reporting		Not reporting	
All	895	871	97.3%	24	2.7%
Upward Bound Math-Science (UBMS)	121	118	97.5	3	2.5
Upward Bound (UB)	727	708	97.4	19	2.6
Veterans Upward Bound (VUB)	47	45	95.7	2	4.3
UB Veterans	45	43	95.6	2	4.4
UBMS Veterans	2	2	100	0	0

SOURCE: U.S. Department of Education, Federal TRIO Programs, 2001–2002, Upward Bound performance reports 2000–01.

in the file and that the inapplicable code may be a legitimate response.

Although the reports maintained a high level of internal consistency for most items, responses to some items indicated that a portion of projects may not have understood how to report the item or that selected response codes were used inappropriately in this the first year of reporting. We note some of these problem areas below.

- ***Duplicate records.*** In the first year of reporting, as noted above, about 1 percent of participant records were duplicates within projects. The reporting structure allows for only one record per participant per reporting period.
- ***Date reporting in the format specified.*** This was a problem for some projects. Accurate reporting of dates in the form specified is very important as it is the means by which several key statistics, such as length of time in the project, are calculated.
- ***Including valid SSNs only in the field for SSNs.*** In a small number of projects, if the SSN was missing, some other form of ID was included. Mixing other ID schemes with SSN leads to difficulty in processing. SSN is very important as it allows the U.S. Department of Education to match with the federal student aid files for purposes of tracking participant postsecondary outcomes.
- ***Target school reporting using The National Center for Education Statistics (NCES) school ID (NCESSchID).*** For the first year of reporting, about 19 percent of the NCES school identification numbers reported for the UB participants did not match to the Common Core of Data (CCD).
- ***Office of Postsecondary Education codes for postsecondary institutions*** first attended and at the end of the reporting period were also missing for a portion of applicable cases. Because no names are collected, the codes are the only way to identify the institutions.
- ***Grade progression.*** One of the performance measures for UBMS is progression from grade to grade. The Upward Bound report form asks for the grade of new participants at time of entry into the project and the grade of participants at the end of the reporting period A larger number of new participants had the same grade reported for entering and end grade than might have been expected given normal progression, indicating that some projects may have misunderstood how to report this information.
- ***Grade point average (GPA) reporting.*** There are three measures of GPA on the form, representing GPA at entry, at the start of reporting period, and at the end of reporting period. Some participants had the same GPA reported in each of these fields. To be able to measure changes in participant GPAs, it is important that accurate information be provided.
- ***Carnegie credits (1 credit subject for entire year) for high school credits (HSCred).*** A substantial portion of high school credits earned through the program was reported using scales other than Carnegie (which is one credit for a subject for an entire academic year).
- ***Postsecondary enrollment items.*** In the postsecondary enrollment section, there appears to have been some confusion about how to designate that the item is inapplicable because the participant has not yet completed secondary education.
- ***Unknown information.*** For many items the extent of unknown data was low; however, for some key items, such as postsecondary enrollment status, if one considers only the applicable cases (i.e., those students who completed high school), the percentage of unknown information increases considerably. For example, about 30 percent of students who had completed high school were reported as having an unknown postsecondary enrollment status.

As the report displays, for the most part, UBMS projects provided complete and accurate information on participants for the period reported. However, with each reporting year, we anticipate that the level of unknown statuses will increase as it may become more difficult to track the postsecondary progress of prior-year participants several years after leaving the program. We also anticipate that there will be a higher proportion of participants with unknown postsecondary enrollment status for those who leave the program prior to their senior year and high school graduation. For this reason, we are working with the Department of Education to match Upward Bound participant records annually with the Federal Financial Aid Application and Recipient files to gain additional information on postsecondary enrollment and persistence of financial aid recipients who participated in

UBMS. We plan to include the results of this matching in future reports. In order for these data matches to be successful, SSNs must be correctly reported. Also, as additional years of data become available, we look forward to examining the interrelationships among participant characteristics, length of project participation, types of services received, and the educational progress of participants.

APPENDIX B GLOSSARY

This glossary contains a listing of terms used in the report. Some of them are specific to the TRIO program and do not necessarily apply to other U.S. Department of Education programs or grants.

Academic-year component refers to Upward Bound services that occur during the regular academic year as defined by the participant's secondary school. The Upward Bound Math-Science regulations indicate that the academic-year component should be designed by the applicant to enhance achievement of project objectives in the most cost-effective way taking into account the distance involved in reaching participants in the project's target area.

The classic Upward Bound regulations indicate that projects should provide program participants with one or more of the core services (described in section 645.11) on a weekly basis throughout the academic year, and to the extent possible should not prevent participants from fully participating in academic and nonacademic activities at the participants' secondary schools.

Carnegie Classification System is a systematic classification of institutions of higher education in the United States according to such variables as degrees offered, size, and commitment to research. The Carnegie Foundation for the Advancement of Teaching in Menlo Park, Calif., offers a free online version of *A Classification of Institutions of Higher Education* (2000) (www.carnegiefoundation.org/Classification/). The Carnegie Classification was originally published in 1973, and subsequently updated in 1976, 1987, 1994, and 2000.

The Common Core of Data (CCD), sponsored by the U.S. Department of Education's National Center for Education Statistics, is a comprehensive, annual, national statistical database of information on all public elementary and secondary schools and school districts in the U.S and outlying areas—approximately 95,000 schools and 17,000 school districts. The outlying areas include American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands (1,672 schools). Also included in the CCD are schools operated directly by the U.S. Government through the Bureau of Indian Affairs, U.S. Department of the Interior (185 schools in 23 states) and the U.S. Department of Defense (154 overseas schools in 11 countries and 70 schools in the U.S., Puerto Rico, and Guam). (For additional information, see http://nces.ed.gov/ccd/.)

Core Curriculum for Upward Bound includes the following: instruction in mathematics through precalculus, laboratory science, foreign language, composition, and literature.

Federal regions are defined as follows:

Region I:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Region II:	New Jersey, Puerto Rico, U.S. Virgin Islands, New York
Region III:	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
Region IV:	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
Region V:	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Region VI:	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
Region VII:	Iowa, Kansas, Missouri, Nebraska
Region VIII:	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region IX:	Arizona, California, Hawaii, Nevada, American Samoa, Guam, Northern Mariana Islands
Region X:	Alaska, Idaho, Oregon, Washington.

Hispanic-Serving Institutions (HSI) are institutions of higher education that have a full-time equivalent undergraduate enrollment that is at least 25 percent Hispanic and where not less than one-half of the institution's Hispanic students are low-income individuals as defined by 150 percent of the poverty level (*Higher Education Act of 1965*, 20 USC Section 1101a).

Historically Black Colleges and Universities (HBCU) are defined by the *Higher Education Act of 1965*, as amended, as "any historically black college or university that was established prior to 1964, whose principal mission was, and is, the education of black Americans." These 105 postsecondary institutions provide instruction to approximately 16 percent of all African-American higher education students in the U.S.

The **Integrated Postsecondary Education Data System (IPEDS)** was established as the core postsecondary education data collection program for the National Center for Education Statistics and is a system of surveys designed to collect data from all primary providers of postsecondary education, as defined by Title IV of the *Higher Education Act of 1965*, as amended. IPEDS is a single, comprehensive system designed to encompass all institutions and educational organizations whose primary purpose is to provide postsecondary education. The IPEDS system is built around a series of interrelated surveys to collect institution-level data in such areas as enrollments, program completions, faculty, staff, and finances. The IPEDS data collection for 2000–01 contains a total of 9,905 postsecondary institutions (U.S. Department of Education, National Center for Education Statistics 2001b). Of these, 3,455 were two- or four-year public or private not-for-profit degree-granting Title IV-eligible institutions that served undergraduates. (For additional information about IPEDS, see http://nces.ed.gov/ipeds/.)

Low-income individual is defined in the Upward Bound regulations as a person whose family taxable income did not exceed 150 percent of the poverty level amount in the calendar year preceding the year in which the individual initially participated in the project. The U.S. Department of Commerce, Bureau of the Census, sets guidelines to determine the definition of the poverty level.

Participant status for performance can be one of the following: new, continuing, re-entry, or prior participants.

- A new participant is an individual who participated in the Upward Bound project for the first time in the reporting period.
- A continuing participant is an individual who participated in the project in both the current reporting period and the immediately preceding project period.
- A re-entry participant is a former project participant who participated in the project during the current reporting period but not during the preceding project period.
- A prior-year participant is a former project participant who did not participate in the project during the current reporting period.

Potentially first-generation college status is defined in the Upward Bound regulations as the following:

1. an individual neither of whose natural or adoptive parents received a baccalaureate degree; or
2. a student who, prior to the age of 18, regularly resided with and received support from only one natural or adoptive parent and whose supporting parent did not receive a baccalaureate degree.

Rising grade is used to refer to a student's status in the summer prior to the school year cited. Thus, "rising ninth-grader" and "rising 12th-grader" refer to students who will be entering the ninth or 12th grade in the next school term. Note: Students may first participate in Upward Bound in the summer prior to entering the ninth grade.

Services. Definitions applicable to "services" include the following:

- *Academic advising* means assisting students in making educational plans, selecting appropriate courses, developing career plans, meeting academic requirements, and planning for graduation and further education.
- *Assistance with college admissions* means workshops or individualized assistance to help participants complete college entrance applications.
- *Campus visitations* means project-sponsored trips to postsecondary institutions for the purpose of acquainting students with institutions that the project participants may wish to attend.
- *Career awareness* means project-sponsored activities, such as field trips, special lectures, and workshops, to increase students' knowledge of the various career opportunities available.
- *College entrance exam preparation* means workshops, tutoring, or individualized assistance specifically designed to help students meet scoring requirements on national or state standardized tests given

to students for admission into a postsecondary educational institution.

- *Computer science* means instruction, workshops, academic support, or tutoring to increase a participant's knowledge and skills in using computer technology, including knowledge of the various computer languages, software applications, computer hardware, and World Wide Web applications.
- *Cultural activities* means any project-sponsored activities, such as field trips, special lectures, and symposiums, that have as their purpose the improvement of the project participants' academic progress and personal development.
- *Employment* means jobs of at least 10 hours per week arranged either by the project or by the Upward Bound participant that are separate from the Upward Bound program. In contrast to the "work study" positions, these jobs are primarily meant to allow participants to earn some income while participating in the program.
- *Family activities* means events, workshops, and meetings that parents and other family members attend, including program orientation meetings, year-end award/recognition ceremonies, and activities designed to provide families with information on postsecondary educational opportunities and financial aid available.
- *Financial aid assistance* means workshops or individualized assistance to help participants complete various financial aid applications, including scholarship applications, U.S. Department of Education federal student financial aid applications, and state applications for financial aid.
- *Instruction/tutorials* mean a formal, structured method for transmitting facts, information, understanding of the concept, and skills to students. Instruction usually includes lesson plans and assignments designed to help students achieve learning objectives.
- *Integrated math and science* means learning in the context of real-world applications. It synthesizes practical application with theoretical knowledge to help students learn better from hands-on, applications-oriented instruction. It emphasizes applications of theory, problem solving, and critical thinking to provide students with the skills in literacy, numeracy, computing, scientific methodology, and technology that postsecondary institutions recognize as a necessary foundation for further study in most fields.
- *Personal counseling* means crisis intervention and assistance with personal problems and decisions.
- *Peer counseling/mentoring* means a variety of personal or academic support provided by other high school or college students designed to help project participants adjust.
- *Professional mentoring* means professionals, other than project staff, working with project students to expose them to career and other opportunities available to them.
- *Reading* means instruction, tutorials, or individualized assistance to improve a student's phonetic ability and reading comprehension skills.
- *Study skills* mean workshops, tutoring, or individualized assistance specifically designed to help students develop the skills necessary to succeed in academic programs.
- *Supplemental instruction* means organized tutoring sessions for specific courses that are tied directly to the instruction in the courses.
- *Tutoring* means individual or small group informal academic assistance provided by professional staff or students who are either part-time paid, volunteer, or internship-for-credit students.
- *Target school advocacy* means project staff intervening with target school officials on behalf of a participant (i.e., individual meetings, academic advising, participating in parent-teacher conferences) to assist students in their academic efforts.
- *Work-study positions* (as the term is used in the *Higher Education Act of 1965*, as amended in 1998, section 402C(b)(10)) mean internships and/or employment provided or arranged for by the project for the purpose of exposing participants to careers requiring a postsecondary degree. Upward Bound students participating in one of these work-study positions may be paid a stipend of $300 per month during June, July, and August.
- *Activities with math-science professionals* are those that will provide participants with opportunities to learn from mathematicians and scientists who are engaged in research and teaching at the applicant institution, or who are engaged in research or applied science at hospitals, governmental laboratories, or other public and private agencies.

- *Activities with math-science majors* are those that involve participants with graduate and undergraduate science and mathematics majors who may serve as tutors and counselors for participants.
- *Math-science research activities* include hands-on experience in laboratories, in computer facilities, and at field sites.

Summer component is designed to simulate a college-going experience for participants. It is typically six weeks in length and provides participants with Upward Bound services at least five days a week as described in section 645.11 of the regulations.

Summer bridge component provides participants with services and activities, including college courses, aiding in the transition from secondary education to postsecondary education. This service is typically provided to Upward Bound participants who have graduated from secondary school and intend to enroll in postsecondary education in the fall term.

Target area is defined as a discrete local or regional geographic area designated by the applicant as the area to be served by an Upward Bound project.

Target school is defined as a school designated by the applicant as the focus of project activities.

Tribal College and Universities (TCU) were created to address the higher education needs of American Indians, who often reside in geographically isolated populations with little access to postsecondary education. These tribally controlled postsecondary institutions are funded in part by the *Tribally Controlled Community College Act of 1978* (P.L. 95-471), which built upon earlier federal legislations (e.g., the *1968 Navajo Community College Act*). In 2002–03, 32 TCUs served about 30,000 students, 85 percent of whom lived at or below the poverty level.

U.S. DEPARTMENT OF EDUCATION
OFFICE OF POSTSECONDARY EDUCATION
FEDERAL TRIO PROGRAMS