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**The Impacts of Regular  
Upward Bound on  
Postsecondary Outcomes  
7-9 Years After Scheduled  
High School Graduation**

*Final Report*

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# CONTENTS

Chapter	Page
EXECUTIVE SUMMARY .....	xiii
I INTRODUCTION .....	1
A. CONTEXT AND PURPOSE OF UPWARD BOUND .....	1
B. CONTEXT FOR INTERPRETING PROGRAM EFFECTS .....	7
1. Value-added of Upward Bound .....	8
2. Upward Bound Applicants.....	11
3. Effects for Students Who Participated During the Mid-1990s .....	12
4. Variation in Exposure to Upward Bound.....	14
C. PREVIOUS FINDINGS .....	16
II RESEARCH DESIGN AND ANALYTIC ISSUES .....	19
A. RESEARCH DESIGN .....	19
1. Selection of Upward Bound Projects and Random Assignment.....	19
2. Outcome Measures.....	22
3. Data Sources .....	24
4. Construction of the Outcome Measures.....	26
B. ANALYTIC ISSUES .....	28
1. Estimation of Program Impacts.....	28
2. Subgroup Analysis .....	31
3. Use of Weights to Account for Sample Design and Survey Nonresponse ....	35
4. Potential Threats to the Study Design.....	37
III THE EFFECT OF UPWARD BOUND ON POSTSECONDARY OUTCOMES .....	39
A. THE EFFECT OF THE OPPORTUNITY TO PARTICIPATE IN UPWARD BOUND (ITT) .....	40
1. The Effect of Upward Bound on Postsecondary Enrollment and College Selectivity .....	43
2. The Effect of Upward Bound on Financial Aid Application and Pell Grant Receipt .....	43
3. The Effect of Upward Bound on Postsecondary Completion.....	44

<b>Chapter</b>	<b>Page</b>
III (continued)	
B. THE EFFECT OF PARTICIPATION IN UPWARD BOUND (CACE).....	44
C. SUMMARY OF SENSITIVITY ANALYSES .....	44
1. Sensitivity Analyses Pertaining to the Measurement of Outcomes .....	47
2. Sensitivity Analyses Pertaining to Sample Weighting .....	48
IV	
THE EFFECT OF UPWARD BOUND ON POSTSECONDARY OUTCOMES FOR SELECTED SUBGROUPS .....	55
A. THE EFFECT OF THE OPPORTUNITY TO PARTICIPATE IN UPWARD BOUND FOR SELECTED SUBGROUPS (ITT) .....	56
1. Grade at Application to Upward Bound .....	56
2. Applicants' Educational Expectations at the Time of Application to Upward Bound .....	57
3. Level of Ninth-Grade Mathematics Class.....	60
4. Grade Point Average in Ninth Grade.....	63
B. THE EFFECT OF PARTICIPATION IN UPWARD BOUND ON SELECTED SUBGROUPS (CACE).....	65
V	
THE EFFECT OF ADDITIONAL UPWARD BOUND PARTICIPATION ON POSTSECONDARY OUTCOMES .....	67
A. RESEARCH QUESTIONS .....	67
B. RESEARCH METHODS .....	68
C. THE EFFECT OF ADDITIONAL UPWARD BOUND PARTICIPATION.....	71
1. Postsecondary Enrollment .....	71
2. Financial Aid.....	73
3. Postsecondary Completion.....	74
D. INTERPRETATION OF THE FINDINGS .....	74
REFERENCES.....	77
APPENDIX A: SAMPLE DESIGN, UNIT NONRESPONSE, AND WEIGHTS....	A.1
APPENDIX B: DATA COLLECTION AND OUTCOME MEASURES .....	B.1

<b>Chapter</b>	<b>Page</b>
APPENDIX C: SENSITIVITY ANALYSES PERTAINING TO THE MEASUREMENT OF OUTCOMES .....	C.1
APPENDIX D: SAMPLE SIZES AND WEIGHTED STANDARD DEVIATIONS FOR ALL OUTCOME VARIABLES.....	D.1
APPENDIX E: ESTIMATION OF IMPACTS AND STANDARD ERRORS .....	E.1
APPENDIX F: METHODS USED TO ESTIMATE THE EFFECTS OF ADDITIONAL UPWARD BOUND PARTICIPATION.....	F.1
APPENDIX G: SENSITIVITY ANALYSES PERTAINING TO SAMPLE WEIGHTING.....	G.1
APPENDIX H: OTHER SUPPLEMENTAL SERVICE PROGRAMS.....	H.1
APPENDIX I: ADDITIONAL SUBGROUP TABLES .....	I.1





## TABLES

<b>Table</b>	<b>Page</b>
I.1 Receipt of Supplemental Services.....	9
I.2 Receipt of Upward Bound and Other Supplemental Services .....	10
I.3 Unweighted Rates of Participation in Upward Bound Among Treatment Group Members .....	15
II.1 Response Rates .....	25
II.2 Control Variables Included in the Regression Models .....	31
II.3 Sample Size in Applicant Characteristic Subgroups by Treatment Status .....	32
II.4 Sample Size in Project Characteristic Subgroups by Treatment Status .....	34
III.1 Impact of Upward Bound on Postsecondary Outcomes (ITT).....	41
III.2 Impact of Upward Bound on Postsecondary Outcomes (CACE) .....	45
III.3 Illustrative Impact Estimates from Sensitivity Analyses .....	52
IV.1 Impact of Upward Bound on Postsecondary Outcomes by Students’ Grade at Application (ITT) .....	58
IV.2 Impact of Upward Bound on Postsecondary Outcomes by Students’ Educational Expectations (ITT) .....	59
IV.3 Impact of Upward Bound on Postsecondary Outcomes by Students’ Ninth-Grade Math Class (ITT).....	62
IV.4 Impact of Upward Bound on Postsecondary Outcomes by Students’ Ninth-Grade GPA (ITT).....	64
V.1 Duration of Upward Bound Participation and Completion Rates, Excluding No-Shows .....	69
V.2 Quasi-Experimental Impact of an Additional Year of Upward Bound on Postsecondary Outcomes .....	72
V.3 Quasi-Experimental Impact of Upward Bound Completion on Postsecondary Outcomes .....	73



## FIGURES

<b>Figure</b>	<b>Page</b>
I.1 Conceptual Framework for the Evaluation .....	7



## EXECUTIVE SUMMARY

Policymakers have long been concerned about the disparities in college attendance between more and less advantaged groups of high school students. Data from the 1990s indicate that students from low-income families were less than half as likely to attend a four-year college or university as students from high-income families. This difference is not surprising given disparities in financial resources and college preparation between high- and low-income high school students. While the vast majority of high-income high school graduates are qualified to attend a four-year college—based on grades and test scores—only half of low-income students have adequate qualifications (U.S. Department of Education 1997), and low-income students face greater financial barriers to college attendance (Kane 1999).

Upward Bound is one of the largest and longest-running federal programs designed to help disadvantaged students prepare for, enter, and succeed in college.<sup>1</sup> Upward Bound is “designed to generate skills and motivation necessary for success in education beyond high school among young people from low-income backgrounds and inadequate secondary school preparation” (Public Law 90-222, December 23, 1967). Including the grants funded under the College Cost Reduction and Access Act of 2007, 971 grants were awarded for fiscal year 2007 to serve over 65,000 students in the regular Upward Bound program. The majority of Upward Bound projects are hosted by colleges and universities. According to the program’s regulations, at least two-thirds of each project’s participants must be both low-income and potential first-generation college students. Students typically enter Upward Bound while in ninth or tenth grade or the summer prior to those grades. Although students may participate in Upward Bound through the summer following twelfth grade (for three to four years total), participants typically remain in Upward Bound for about 20 months (Myers et al. 2004). Projects provide students with a variety of services, including instruction, tutoring, and counseling. In addition to regularly scheduled meetings throughout the school year, projects offer an intensive instructional program that meets daily for about six weeks during the summer.

In 1991, the Department of Education launched the National Evaluation of Upward Bound. Conducted by Mathematica Policy Research, Inc. (MPR), the evaluation has included an implementation study—to assess how the program is implemented—and a longitudinal impact study. The impact study was based on a random assignment design implemented in a nationally representative sample of 67 Upward Bound projects hosted by two- and four-year colleges and universities. From 1992 to 1994, eligible applicants to these projects were enrolled in the study. About 1,500 students were randomly assigned to the evaluation’s treatment group and allowed to participate in Upward Bound, and about 1,300 students were randomly assigned to the control group. Comparing the experiences of treatment group members with the experiences of control group members, the evaluation has assessed the effects of the opportunity to participate in regular Upward Bound on high school and postsecondary outcomes.

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<sup>1</sup> Upward Bound includes three programs: regular Upward Bound, Veterans Upward Bound, and Upward Bound Math-Science. The focus of this report is regular Upward Bound and we use the term “Upward Bound” to refer to that program.

From 1992 to 1994, a baseline survey collected information on students who applied to Upward Bound projects in the study. Follow-up surveys of all treatment and control group members were conducted in 1994–1995, 1996–1997, 1998–1999, 2001–2002, and 2003–2004, and high school and postsecondary transcripts were collected after each survey. Upward Bound project staff reported on the participation of students in the program. In addition to the survey, transcript, and participation data that were collected specifically for the evaluation, data from two administrative sources—the National Student Clearinghouse (NSC) and the federal Student Financial Aid (SFA) records—were used in the evaluation.

This report is the last in a series of study reports from the Upward Bound evaluation. It analyzes data from the final round of data collection as well as administrative records, and provides the national evaluation’s first estimates of the effects of Upward Bound on postsecondary completion. It also updates previous estimates of the program’s effects on other postsecondary outcomes. The survey data were collected between 2003 and 2004, approximately seven to nine years after sample members were scheduled to graduate from high school. Other sources of data from the evaluation—previous surveys, high school and postsecondary transcripts, and data on Upward Bound participation provided by program staff—have also informed the findings.

The research questions addressed in this report are:

- What effect does Upward Bound have on the likelihood of attending a postsecondary institution and on the highest level of postsecondary attendance?
- What is the effect of Upward Bound on the likelihood of attending a relatively selective four-year college or university?
- What is the effect of Upward Bound on the likelihood of receiving financial aid in college?
- What is the effect of Upward Bound on the likelihood of earning a postsecondary degree, certificate, or license?
- For which groups of eligible applicants are the effects of Upward Bound greatest?
- What is the effect of Upward Bound participation length and completion on postsecondary outcomes?

## **STUDY RESULTS**

By comparing the study’s treatment group to its control group, this evaluation estimates the value-added effect of the opportunity to participate in Upward Bound—an unusually intensive precollege program—for the students who seek that opportunity and are eligible to participate in the program. The main findings are:

- *Upward Bound had no detectable effect on the rate of overall postsecondary enrollment or the type or selectivity of postsecondary institution attended for the*

***average eligible applicant.*** About four-fifths of both treatment group members and control group members attended some type of postsecondary institution, including four-year institutions, two-year colleges, and vocational schools, and the estimated impact is an increase of less than 2 percentage points in the rate of enrollment (effect size = 4 percent). For enrollment at four-year colleges and universities, the estimated impact is 1 percentage point (effect size = 3 percent). These effects are not statistically significant.

- ***Upward Bound had no detectable effect on the likelihood of applying for financial aid or the likelihood of receiving a Pell Grant.*** The 1 and 2 percentage point increases in the rates of financial aid application and Pell Grant receipt (effect sizes = 3 and 5 percent) are not statistically significant.
- ***Upward Bound increased the likelihood of earning a postsecondary certificate or license from a vocational school. It had no detectable effect on the likelihood of earning a bachelor's degree or the likelihood of earning an associate's degree.*** While about 4 percent of control group members received a vocational certificate or license, nearly 9 percent of treatment group members did, implying an impact of 5 percentage points (effect size = 23 percent). The impacts on receiving any postsecondary credential and receiving a bachelor's degree are 2 and 0 percentage points (effect size = 5 and 0 percent), respectively, and are not statistically significant.
- ***Upward Bound increased postsecondary enrollment or completion rates for some subgroups of students.*** For the subgroup of students with lower educational expectations at baseline—that is, the students who did not expect to complete a bachelor's degree—Upward Bound increased the rate of postsecondary enrollment and the likelihood of receiving a degree, license, or certificate by 6 and 12 percentage points, respectively, raising the overall postsecondary completion rate to about the level observed for students with higher expectations. Because targeting on the basis of lower educational expectations might be challenging if it creates an incentive for applicants to understate their expectations, further analyses were conducted to examine the effects of Upward Bound on subgroups that might be more readily targeted. According to these exploratory analyses, Upward Bound increased postsecondary enrollment rates for students who were in tenth grade or above at the time of application, students who took a mathematics course below algebra in ninth grade, and students with a ninth grade GPA above 2.5. The estimated impacts were 3, 7, and 3 percentage points, respectively. Additional analyses suggest that Upward Bound also had positive impacts on postsecondary outcomes for some other subgroups defined by student- and project-level characteristics.
- ***Longer participation in Upward Bound was associated with higher rates of postsecondary enrollment and completion.*** An additional year of Upward Bound participation was associated with a nine percentage point increase in the rate of enrollment at four-year institutions and a five percentage point increase in the likelihood of receiving a bachelor's degree. Completing the Upward Bound program was associated with increases of 27 and 21 percentage points, respectively. These findings are based on nonexperimental methods, and the validity of causal inferences based on these estimates depends on the validity of strong assumptions.

In the context of a complex, longitudinal study like the national Upward Bound evaluation, many difficult evaluation design and implementation issues arise and need to be considered when interpreting the study findings. Comprehensive sensitivity analyses were conducted to ensure a thorough assessment of the implications of the design and implementation issues and whether the impact estimates are robust under alternative methods and assumptions. Three key issues in particular are important in the Upward Bound evaluation—survey nonresponse, a highly stratified sample design, and no-shows and cross-overs.

### **Response Rates to the Upward Bound Surveys Were High But Declined Over the Period of the Study**

One important design choice pertained to the length of the follow-up period for the evaluation. Considering the objective of Upward Bound to prepare students for entry into and success in postsecondary education, the Department of Education specified a long follow-up period that allowed sample members to be observed for many years beyond expected high school graduation. Although response rates to the evaluation’s follow-up surveys remained high, administrative data from the NSC and federal SFA files were obtained to assess and address the potential effects of survey nonresponse.

One set of sensitivity analyses examined alternative ways of combining data from the available sources—surveys, NSC, and SFA—to measure postsecondary enrollment and completion. While nonresponse is one potential limitation of survey data, measurement and coverage error are concerns with administrative data. Measuring postsecondary outcomes in different ways can shed light on how the relative strengths and weaknesses of the data sources affect the findings of the evaluation. For that reason, the sensitivity analyses examined 27 different measures of postsecondary enrollment. Estimates of Upward Bound’s impact on postsecondary enrollment across these 27 measures ranged from a negative 2.4 percentage points to a positive 2.8 percentage points, none of which were statistically significant.

### **The Upward Bound Sample Design Was Highly Stratified with Highly Variable Selection Probabilities**

In designing the requirements for the Upward Bound evaluation sample, the Department of Education specified that the evaluation sample had to be nationally representative. It also required that the sample have substantial overrepresentation of some less common, but key types of projects, including, for example, projects serving predominantly Native American students. Alternative sampling schemes were considered, and a design was chosen to balance the competing needs of the evaluation. The chosen design had much higher selection probabilities for the relatively rare projects than for more common types of projects, leading to substantial undersampling and underrepresentation of the latter. This led to very unequal weighting of projects in the evaluation sample.

One implication of the sample design was that some of the most common types of Upward Bound projects had low selection probabilities and were substantially undersampled. This is true of one set of projects in particular—projects that were medium-sized, located in an urban setting, hosted by a four-year public institution, and not serving a group of students that is predominantly



Asian, Native American, or Latino. This stratum of projects ends up accounting for about 26 percent of all eligible Upward Bound applicants nationwide. The final sample selected for the impact evaluation included only one project out of 56 projects in this stratum. The analysis weights the sample accordingly, and the sample members from this one project account for approximately 26 percent of the total weight.

Because one project and its students comprise such a large proportion of the weighted sample, two additional types of analyses were conducted. The first examined whether this one sampled project—labeled Project 69—is an outlier or unusual in any way. Data from a grantee survey sample on project-level characteristics found that Project 69 was similar to other projects in this stratum on a broad range of characteristics. Similarly, data from student surveys and NSC and SFA records indicated that the students from Project 69 did not have unusual characteristics.

The second type of analysis reduced the relative weight given to Project 69—in some cases by dropping the project entirely—when estimating impacts. The impact estimates were sensitive to substantial changes in weighting. Because Project 69 had below average impacts, reducing its weight relative to other projects resulted in larger overall impacts for most outcomes compared with the findings from the main impact analysis, which weighted all sample members according to their actual selection probabilities. Reducing the weight of Project 69 also underestimates the standard errors associated with the impact estimates. With larger impact estimates and reduced standard errors, many impact estimates become statistically significant when the sample weight for Project 69 is substantially reduced. When the standard errors more accurately reflect the precision of the sample design, many of these impact estimates are not statistically significant. Furthermore, impact estimates become smaller and fewer are significant when other projects with relatively large weights are dropped from the analysis along with Project 69. This illustrates an important consideration—the potential for influencing the findings through post hoc adjustments that deviate from the chosen design.

Another important consideration in interpreting results from analyses that omit Project 69 or otherwise change the weights of projects in any substantial way is that the resulting sample no longer represents the actual universe of Upward Bound projects. In particular, the sample does not appropriately represent the most common stratum of Upward Bound projects. Thus, such analyses do not answer the evaluation’s research questions about the impacts of the national Upward Bound program. Moreover, the estimates from such analyses do not generalize to urban projects, large projects, or any other well-defined subset of projects for which the findings might have policy implications.

In contrast, the findings from the main impact analyses, which include all projects weighted based on their selection probabilities, are intended to generalize to the national Upward Bound program. In assessing the implications of those findings, however, a statistical consideration is that as a consequence of selecting a single project from a large stratum—the stratum represented by Project 69—the estimates and inferences for that stratum and, therefore, the universe of projects will generally not be as robust as the estimates and inferences that would be obtained with an alternative design with much less variable project selection probabilities and with several projects selected from the large stratum. The lower robustness of the chosen sample design and the results from the extensive sensitivity analyses can be taken into account in determining the implications of the main findings.

## **Some Control Group Members Received Upward Bound or Upward Bound Math-Science Services and Some Treatment Group Members Did Not**

After random assignment, project directors at some projects allowed a few control group members to receive regular Upward Bound. In addition, some control group members reported participating in the Upward Bound Math-Science program, which was not part of the random assignment evaluation. In total, 13.5 percent of the control group participated in either regular Upward Bound or Upward Bound Math-Science. In contrast, about 15 percent of students assigned to the treatment group did not participate in either program.

To account for this cross-over and no-show issue, the impact analysis estimated models of the effects of actual Upward Bound participation (as opposed to the opportunity to participate) on student outcomes, where Upward Bound participation is defined as receiving either regular Upward Bound or Upward Bound Math-Science. The impacts of actually participating are generally larger than the impacts of having the opportunity to participate. Most impact estimates are not statistically significant.

## **DISCUSSION**

The national evaluation of Upward Bound began in 1991. Study enrollment occurred from 1992 to 1994 and follow-up surveys and administrative records tracked student progress through high school and 7 to 9 years after expected high school graduation. Several previous reports document the operations of Upward Bound projects (Moore 1997), the short-term impacts on high school experiences (Myers and Schirm 1999), and final impacts on high school outcomes and short-term impacts on postsecondary experiences (Myers et al. 2004). These previous reports, together with this final impact report on postsecondary outcomes, highlight several important considerations for understanding the evaluation study results.

### **Upward Bound Attracts Mostly Students Who Are Sufficiently Able and Motivated to Pursue Postsecondary Education**

Nationwide, among all students in eighth grade in 1988, approximately 76 percent reported enrollment in postsecondary education within about eight years after high school (Ingels et al. 2002). Among disadvantaged students, the reported national postsecondary enrollment rate was much lower—less than 60 percent for students who were in the lowest quartile of socioeconomic status or whose parents did not attend college. In comparison, survey data from this evaluation reveal that 81 percent of Upward Bound applicants assigned to the control group enrolled in postsecondary education within seven to nine years after high school. Thus, even without the opportunity to participate in Upward Bound, Upward Bound applicants—who are disadvantaged students—reported attending postsecondary institutions at a rate higher than the national average, and at a much higher rate than the average disadvantaged student. These results suggest a limited opportunity for Upward Bound to dramatically increase enrollment rates.

## **Participants in Upward Bound Receive an Intensive Set of Precollege Services and Have Positive Educational Outcomes**

Offering Upward Bound increases both the percentage of youth receiving services and the intensity of services received. More than 80 percent of the treatment group members received Upward Bound services; almost 90 percent of treatment group members received a high school diploma; and roughly 80 percent enrolled in some type of postsecondary program, with over half attending a four-year college or university.

## **Upward Bound Operates in an Environment Where Other Precollege Services Are Also Available to Students**

Many Upward Bound programs operate in environments in which the type of students who are eligible and apply for Upward Bound may also participate in other college programs. Survey data indicate that nearly half of control group members reported participating in some kind of supplemental services in high school. In particular, 11 percent of control group members reported participating in an Upward Bound Math-Science program (not part of the random assignment evaluation) and nine percent reported participating in Talent Search, a less intensive precollege program for disadvantaged high school students. The availability of other precollege services might limit the effects of Upward Bound if such services affect educational outcomes.

## **LOOKING AHEAD**

National statistics continue to show substantial disparities in the postsecondary enrollment and completion rates between more and less advantaged groups. Longitudinal data from the 8th grade cohort from the National Education Longitudinal Study show that only 52 percent of students in the lowest socioeconomic status (SES) quartile reported some postsecondary attendance by eight years after expected high school education, compared with 76 percent for the cohort as a whole (Ingels et al. 2002). The percentage obtaining a BA degree eight years after scheduled high school graduation was 7 percent for the lowest SES quartile, compared with 26 percent for the cohort.

The national Upward Bound evaluation highlights the challenges faced by programs aiming to reduce these disparities in postsecondary enrollment and completion between more and less advantaged groups of high school students. Disadvantaged students who seek out intensive programs like Upward Bound represent a strongly motivated segment of the target population. As a result, they are able to access needed services, graduate from high school, enroll in postsecondary institutions, and complete postsecondary education at rates consistent with the youth population as a whole. To address the long standing inequality in postsecondary enrollment and completion rates may therefore require program strategies that reach and impact those less motivated students who have not accessed the Upward Bound or other precollege services available in their communities.



## **I. INTRODUCTION**

### **A. CONTEXT AND PURPOSE OF UPWARD BOUND**

Enrolling in college and completing a degree are significant milestones for many young adults. Moreover, the importance of completing a college degree for success in the labor market is well-documented. For full-time workers ages 25 to 34, median earnings are 64 percent higher for men with bachelor's degrees than for men with high school diplomas, and 68 percent higher for women with bachelor's degrees than for women with high school diplomas (U.S. Department of Education 2007). These differences increase with age, as earnings rise more rapidly with work experience among college-educated workers than among workers without a college degree. In addition to the economic benefits of a college education, individuals who complete college tend to have a greater civic orientation and are more likely to vote and assume leadership roles in their communities (Astin 1993; Bowen and Bok 1998).

Although completion of a college education is important from the perspective of both the individual and society, many potential college students lack the skills or resources needed to enter college or complete a college degree. Often, those who face the greatest barriers to pursuing a college education are young adults from low-income families and families in which neither parent completed college; many of these students are members of racial and ethnic minorities (U.S. Department of Education 2001). These students may also face barriers to enrolling in college and completing a degree due to limited high school academic preparation, which is frequently linked to family socioeconomic status, race, and ethnicity (see, for example, Coleman et al. 1966; Jencks et al. 1972; Mosteller and Moynihan 1972; Congressional Budget Office 1987; Jacobson et al. 2001; St. John et al. 2002; Avery and Kane 2004).

Low-income students are less likely than middle- and upper-income students to earn high school diplomas and attend and complete college. In 2004, only 50 percent of high school completers who came from families in the bottom 20 percent of family incomes enrolled in college immediately after completing high school. In contrast, 64 percent of students from middle-income families and 80 percent of students from families in the top 20 percent of family incomes enrolled immediately after high school (U.S. Department of Education 2006). These differential outcomes are attributable to several factors present in low-income families and their communities.

Low-income students are concentrated in communities with high-poverty high schools. Studies have shown that schools with a high percentage of low-income children have lower quality teachers, which is associated with lower achievement on state assessment tests and tests of college readiness, controlling for high school course-taking (Peske and Haycock 2006). Despite progress in closing the gap in achievement test scores between disadvantaged and more advantaged students, large differences remain. For example, on achievement tests reported by the National Assessment of Educational Progress, about 37 percent of white eighth-grade students were classified as proficient in mathematics in 2005, as compared with 8 percent of African American eighth-graders (U.S. Department of Education 2005a, Table A-9). A similar gap is seen in reading, with about 37 percent of white eighth-graders and 11 percent of African American eighth-graders classified as proficient (U.S. Department of Education 2005b, Table A-9). Furthermore, data from the National Education Longitudinal Study (1988–1994) suggest that only half of low-income high school graduates are academically prepared to attend four-year colleges or universities (U.S. Department of Education 1997, Table 15).

Students at high-poverty high schools also experience higher dropout rates than similar students at middle- and upper-income high schools, reducing the likelihood of high school

completion and postsecondary enrollment. Attending a high-poverty high school is particularly deleterious for high school completion among African Americans (Swanson 2004; Balfanz and Legters 2004).

Most low-income students do not have a parent who has a college degree, which presents an informational barrier for students in terms of taking the courses in high school that would prepare them for college, accessing financial aid, and navigating the college admissions process. The importance of parents as models and information sources is suggested by the finding that 82 percent of students whose parents had a bachelor's degree enrolled in college immediately after high school, compared with 54 percent of students whose parents had only a high school diploma (U.S. Department of Education 2001). Other studies have shown that while low-income students may aspire to higher education, they find the college admissions process (test-taking, financial aid application, and college application) difficult to navigate, and they are more likely to report that a lack of resources and someone to advise them are barriers to enrolling in college (St. John et al. 2002; Avery and Kane 2004).

Finally, low-income students do not take full advantage of financial aid programs. While differences in high school curricula, parents' education, and test scores partly explain the gap in enrollment rates, differences in financial resources available to students continue to play an important role (Kane 1999). A study by the American Council on Education showed that 20 to 30 percent of college-going students with a family income below \$40,000 (thus likely to be eligible for federal financial aid) did not apply in 2000 (King 2004).

Since the War on Poverty started in the 1960s, many federal, state, community, and private initiatives have been undertaken to alleviate some of the barriers to attending college and completing a degree faced by low-income, first-generation college students and minority students (see, for example, Adelman 2000; Swail and Perna 2000; James, Jurich, and Estes

2001). Programs range from Equity 2000, Advancement Via Individual Determination (AVID), and Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)—which are integrated with the regular high school or middle school experiences—to programs that more often supplement school experiences, such as Upward Bound, Talent Search, and I Have a Dream. In the years after this evaluation’s sample attended Upward Bound, additional programs began providing supplemental services, including College Opportunity and Career Help (COACH), Roads to Success, and the College Advising Corps. Because few of these programs have been subjected to rigorous evaluation, the effectiveness of these approaches is generally unknown; however, evaluations of postsecondary transition programs such as Talent Search and COACH indicate that providing low-income students with information and inspiration at the right time can significantly increase college enrollment rates (Constantine et al. 2006; Avery and Kane 2004).

Upward Bound is one of the largest and longest-running federal precollege programs for economically disadvantaged students. Within Upward Bound, three programs operate: regular Upward Bound, Veterans Upward Bound, and Upward Bound Math-Science. In 2006, 761 regular Upward Bound projects served 56,430 students, 39 Veterans Upward Bound projects served 4,909 participants, and 125 Upward Bound Math-Science projects served 6,707 students. This report pertains to the regular Upward Bound program.

Upward Bound is designed to “generate skills and motivation necessary for success in education beyond high school among young people from low-income backgrounds and inadequate secondary school preparation” (Public Law 90-222, Dec. 23, 1967). Federal policy requires that two-thirds of students in each Upward Bound project must be both low-income (family income under 150 percent of the poverty line) and potential first-generation college students (from families in which neither parent holds a bachelor’s degree). The remaining one-



third of students must qualify either as low-income or potential first-generation college students. In FY 2006, with federal funds of more than \$267 million, the average cost per student for the regular Upward Bound program totaled about \$4,725 per year and covered a variety of services. This may be equivalent to about half of the amount of money spent by an average school district on a student per year, based on national per pupil expenditures of \$8,468 in 2002-2003 (U.S. Department of Education 2006, Table 166).

Upward Bound is an intensive program: during the academic year, participants engage in activities on a regular basis, often weekly; during the summer, participants attend a full-day academic program that generally lasts for about six weeks. Students typically enter Upward Bound early in high school and are encouraged to participate through the summer following graduation. In the evaluation sample, 15 percent applied for Upward Bound before ninth grade, 39 percent applied during ninth grade or the summer before tenth grade, 35 percent applied during tenth grade or the summer before eleventh grade, and the remaining 11 percent applied later. Most Upward Bound projects emphasize the academic preparation needed for attending and completing college. They offer:

- ***Academic courses and activities.*** A major focus of program activities is to help students acquire academic proficiency in challenging college preparatory courses. Projects often require students to take Upward Bound courses during both the summer and the school year. In addition, almost all projects provide students with tutoring for high school course work and help participants prepare for college entrance examinations.
- ***Nonacademic services.*** Projects complement their academic offerings with a wide range of activities, including attending plays, visiting museums, touring college campuses, and learning about and applying for financial aid.

In December 1991, the U.S. Department of Education (ED) initiated a rigorous, longitudinal evaluation conducted by Mathematica Policy Research, Inc. (MPR), and its subcontractors, Educational Testing Service, Westat, Decision Information Resources, and Branch Associates, to

determine whether Upward Bound enables students to perform better in high school and subsequently to enter and complete college at higher rates than without the program. This report presents findings about the effect of the regular Upward Bound program on eligible applicants' postsecondary experiences approximately seven to nine years after the applicants' scheduled high school graduation.

Earlier reports from the evaluation have documented the operations of Upward Bound projects (Moore 1997), the characteristics of students served by Upward Bound projects (Myers and Schirm 1997), the program's short-term effects on eligible applicants' high school experiences (Myers and Schirm 1999), and the program's ultimate effects on eligible applicants' high school experiences and short-term effects on applicants' postsecondary experiences (Myers et al. 2004). Myers et al. (2004) used data collected approximately three years after most individuals in the evaluation were scheduled to graduate from high school. The present report updates those findings on Upward Bound's effects on postsecondary enrollment by using data collected approximately seven to nine years after most individuals in the study were scheduled to graduate from high school. This report also presents the first estimates of Upward Bound's effects on postsecondary completion.

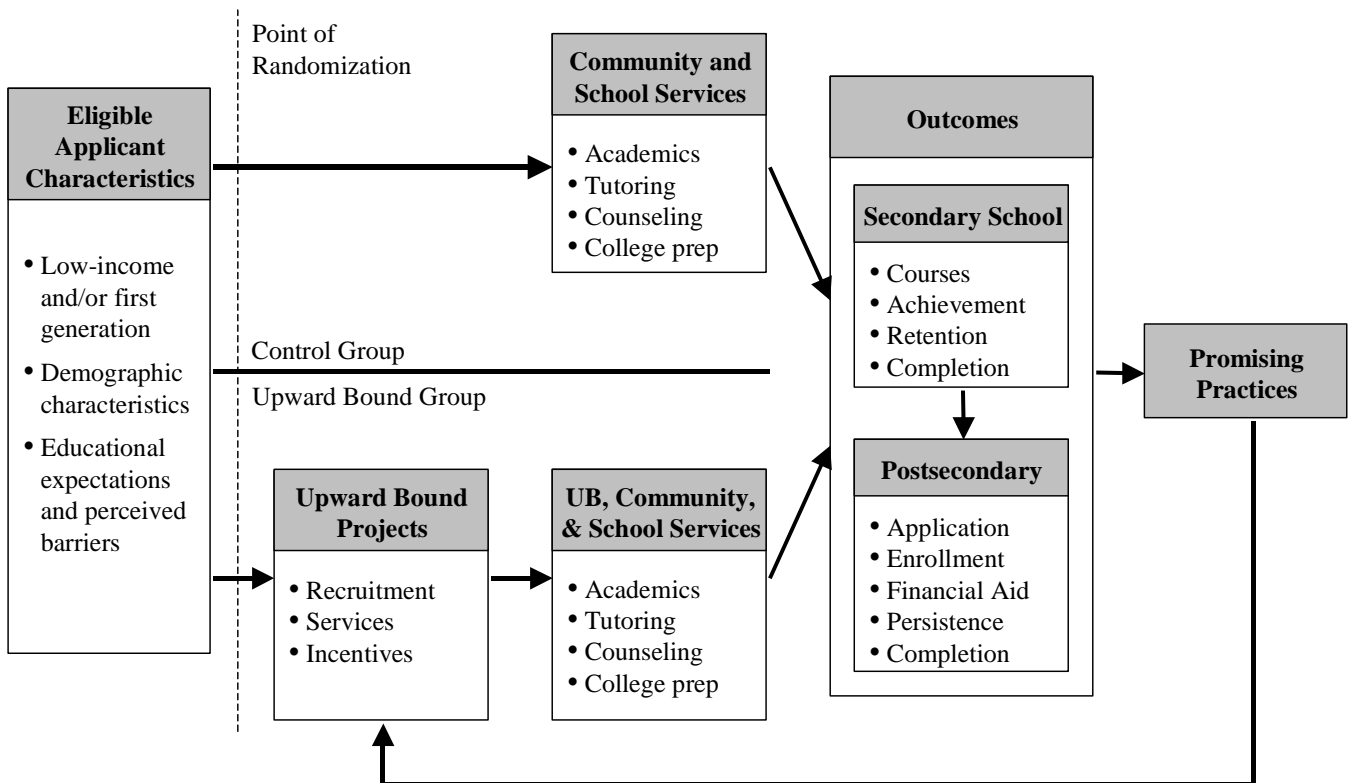
The remainder of this chapter summarizes the context for interpreting program effects and the previous findings from the evaluation, and is followed by a description of the evaluation design in Chapter II. Chapter III presents estimates of Upward Bound's effects on postsecondary enrollment and completion for the average eligible applicant, followed by estimates for certain subgroups in Chapter IV. Chapter V presents estimates indicating how the effects of Upward Bound vary with the amount of participation in the program. Finally, several appendices present details concerning the evaluation and the data analyses.

## B. CONTEXT FOR INTERPRETING PROGRAM EFFECTS

Figure I.1 outlines a conceptual framework that indicates how Upward Bound projects structure recruitment and services based upon participant characteristics and policy requirements, which contribute to effects on intermediate and long-term student outcomes. The population under study (furthest-left box in Figure I.1) are high school students who are low-income (family income under 150 percent of poverty) or potential first-generation college students (neither parent with a bachelor’s degree) and therefore eligible for Upward Bound. Within this population, students were randomly assigned to a treatment group or a control group; all students were allowed to utilize other supplemental services available in their schools and communities.

Figure I.1

Conceptual Framework for the Evaluation



Upward Bound is designed to help disadvantaged students complete high school and to enter and succeed in postsecondary education. Outcomes related to both of these goals are presented in Figure I.1. Previous reports have examined student outcomes through high school and focused on measures associated with progress on the path toward college completion. Both Upward Bound and intermediate high school outcomes affect the long-term outcomes related to college, such as high school completion, postsecondary application, enrollment, persistence, and completion; postsecondary enrollment and completion are the focus of this report.

To interpret the estimated effects of Upward Bound presented in this report, it is important to understand that these effects (1) are indicative of the “value-added” of Upward Bound relative to other programs in which students participate, (2) are based on students who chose to apply to Upward Bound, (3) are based on students who participated in Upward Bound in the mid-1990s, and (4) are based on students who chose to participate in Upward Bound for various lengths of time.

## **1. Value-added of Upward Bound**

This report provides estimates of the value-added of regular Upward Bound above and beyond other available precollege programs and services. Because eligible applicants were randomly assigned to the treatment and control groups, and because—with very few exceptions—only treatment group members were offered the opportunity to participate in regular Upward Bound, the differences between the two groups provide valid estimates of the value of that opportunity relative to the opportunities for participation in other programs.

Many Upward Bound projects operate in service-rich environments, and the kinds of students who are eligible for Upward Bound may also participate in other precollege programs (see Appendix H for other precollege supplemental service programs attended by sample members during the same time period, as reported in our surveys). Many of the treatment and

control group members participated in precollege services other than regular Upward Bound. In fact, it is critical to the scientific validity of the study that treatment and control group members had the same opportunity to pursue other services as the typical eligible applicant to regular Upward Bound.

After applying to Upward Bound, nearly half of the control group members reported participating in some kind of supplemental services in high school (Table I.1). The most common type of supplemental service received by control group members was instructional and tutoring sessions (33 percent), followed closely by programs with a math or science emphasis (31 percent). We also found that 11 percent of control group members reported participating in an Upward Bound Math-Science program and nine percent reported participating in Talent Search. Control group members were more likely to participate in supplemental services during the academic year than the summer (46 percent versus 20 percent).

Table I.1  
Receipt of Supplemental Services

	Treatment Group	Control Group	Difference
<b>Supplemental Services - All (%)</b>			
Participated in Talent Search	7	9	-2
Participated in Upward Bound Math-Science	11	11	0
Participated in other program that emphasized math or science	20	31	-10 ***
Attended instructional or tutoring sessions outside of Upward Bound	25	33	-8 ***
Participated in any supplemental services	39	48	-10 ***
<b>Supplemental Services - Summer (%)</b>			
Participated in Talent Search	1	3	-2 **
Participated in Upward Bound Math-Science	7	5	2
Participated in other program that emphasized math or science	9	11	-2
Attended instructional or tutoring sessions outside of Upward Bound	8	11	-3
Participated in any supplemental services	16	20	-3
<b>Supplemental Services - Academic Year (%)</b>			
Participated in Talent Search	7	8	-1
Participated in Upward Bound Math-Science	10	9	0
Participated in other program that emphasized math or science	18	27	-9 ***
Attended instructional or tutoring sessions outside of Upward Bound	23	30	-7 **
Participated in any supplemental services	38	46	-8 **

\*/\*\*/\*\* Difference between treatment and control is statistically significant at the 0.10 / 0.05 / 0.01 level.

Like students in the control group, some treatment group members received supplemental services beyond those offered by Upward Bound. According to the treatment group members themselves, 25 percent attended instructional and tutoring sessions outside of Upward Bound; 20 percent participated in a program with a math or science emphasis; 11 percent participated in Upward Bound Math-Science; and seven percent participated in Talent Search. Due to participation in Upward Bound, treatment group members received substantially more precollege services than did control group members. More than four out of five treatment group members received services from regular Upward Bound, while less than half of control group members received precollege services from other programs (Table I.2).

While about half of treatment group members would have received precollege services if they had not been given the opportunity to participate in regular Upward Bound (based on the rate for control group members), most would not have participated in programs that are as intensive as regular Upward Bound. For example, while Upward Bound spends more than \$4,700 per participant annually, Talent Search and GEAR-UP, two other large Department of Education precollege programs aimed at low-income and disadvantaged youth, spend about \$400 and \$300 per participant annually.

With much higher spending, Upward Bound is able to offer many academic and nonacademic activities during both the academic year and the summer. Specifically, we found

Table I.2  
Receipt of Upward Bound and Other Supplemental Services (%)

Participation status	Treatment Group	Control Group
Upward Bound only	50	0
Upward Bound and other supplemental service program	32	1
Other supplemental service programs only	6	47
Participated in any supplementary service program	88	48

Note: Supplemental service receipt rates in Tables I.1 and I.2 differ slightly due to rounding.

that on average, Upward Bound participants attended about 265 academic sessions over their entire Upward Bound career (see Myers et. al. 2004, Table II.2); 174 of the sessions occurred during the summer program and 91 sessions occurred during the academic year. Sessions in English, math, and science courses constituted the bulk of participants' Upward Bound academic course work. In addition to the academic course work completed through the Upward Bound program, participants engaged in a variety of nonacademic activities. The most common activities attended, as reported by Upward Bound projects, focused on counseling, followed by skills development and college preparation courses. On average, participants attended 212 activity sessions while in Upward Bound, with nonacademic activities split nearly equally between the summer and the academic year. Not only are the treatment group members more likely to receive services, it appears that these services are generally much more intensive (with the exception of control group members who participated in programs such as Upward Bound Math-Science).

## **2. Upward Bound Applicants**

A comparison of overall postsecondary enrollment rates of Upward Bound applicants with national enrollment rates indicates that Upward Bound attracts students who are much more likely to enroll in postsecondary education than are similarly disadvantaged students; in fact, Upward Bound applicants are just as likely to enroll in postsecondary education as the average eighth grader in the United States, regardless of socioeconomic status. Data from the National Education Longitudinal Study's 1988 sample (NELS:88) reveal that of all students in eighth grade in 1988, 76 percent had attended at least one postsecondary institution by 2000, that is, by about eight years after scheduled graduation from high school (Ingels et al. 2002). Of students in the lowest quartile of socioeconomic status, 52 percent had enrolled in some postsecondary education; of students whose parents did not attend college, 56 percent had enrolled in some

postsecondary education. These national rates of postsecondary enrollment for disadvantaged students are approximately 25 percentage points lower than the 81 percent of control group members in the Upward Bound evaluation who attended a postsecondary institution within approximately seven to nine years after scheduled high school graduation (based on fifth follow-up survey responses).

### **3. Effects for Students Who Participated During the Mid-1990s**

Recognizing that the treatment and control group members applied to participate in regular Upward Bound during the mid-1990s, this report characterizes the effects of Upward Bound as it operated at that time. To the extent that the types of services provided by regular Upward Bound and other precollege programs and the types of students served by these programs have not changed much since the mid-1990's, this report may provide a reasonable assessment of the effects of Upward Bound as it operates today. However, there have been changes in the universe of Upward Bound grantees over the past 15 years, both in terms of new grantees and grantees that no longer operate Upward Bound programs. There have also been changes in student targeting. These program changes suggest that findings based on students who participated in the mid-1990s may not be directly applicable to current participants.

Considering positive subgroup impacts in previous reports, the Department of Education set aside \$18 million for a Participant Expansion Initiative as a way to encourage Upward Bound projects to serve more higher-risk students. The 2003 initiative allowed grantees to apply for additional funds if they served at least one target school where at least 50 percent of the students were eligible for a free lunch and wanted to increase the number of participants from such schools who had the "greatest need" for project services. Three indicators of "greatest need" could be used: a participant's (1) not meeting state standards for eighth-grade proficiency in reading/language arts, (2) not meeting state standards for eighth-grade proficiency in math, or



(3) having a GPA of 2.5 or lower in the most recent academic year. Projects could receive \$100,000 for serving 20 additional qualified students, \$75,000 for 15 students, and \$50,000 for 10 students. Priority was given to the approximately 180 projects that had received funds under a prior expansion initiative which began in 2000, but many more projects received the expansion funds as a result of this initiative—219 in 2003, 259 in 2004, and 256 in 2005.

In another effort to improve overall program effectiveness, the Office of Postsecondary Education issued rules in 2006 that could substantially modify the composition of new students admitted to Upward Bound. In making the grant awards, priority would be given to applicants that agreed to select all new participants from otherwise eligible students who are in or about to enter ninth grade, and reserve at least 30 percent of these first-time participant slots for students at “high risk of academic failure.” Students would qualify as high risk if they (1) do not meet the proficient level on state assessments for eighth-grade reading/language arts, (2) do not meet the proficient level on state assessments for eighth-grade math, or (3) have a GPA of 2.5 or lower in the most recent academic year.

Although the evaluation findings indicated that Upward Bound may have the greatest impact on students with lower educational expectations, it was decided that expectations would be difficult to assess accurately for determining eligibility among entering ninth-grade students and that low grades and performance on state assessments may serve as a proxy for lower educational expectations. Requiring students to begin during or before ninth grade is intended to make it possible for all newly admitted students to participate for four full years. Previous findings from a nonexperimental analysis conducted as part of this evaluation suggested that the longer students stay in the program, the larger are some impacts. Along with the revised targeting initiatives, a new evaluation to examine the effects of these initiatives was started in 2007, though the evaluation was terminated in 2008.

#### **4. Variation in Exposure to Upward Bound**

In considering the effects of Upward Bound, it is important to recognize that students' Upward Bound experiences vary in the length of participation and, as a result, in the amount of services received. The experience of treatment group members can be summarized from previous evaluation reports (see Myers et. al. 2004); no additional data have been collected on the Upward Bound experiences of treatment group members since the previous report because that report was based on data collected after sample members would have finished high school. Approximately 84 percent of treatment group members (unweighted) received some Upward Bound services and can be classified as "participants" (Table I.3). The participation rate was similar across most subgroups, with two exceptions: the subgroups defined by Upward Bound eligibility (low-income and/or first-generation) and the subgroups defined by ninth-grade grade point average. The lack of a statistical difference between the subgroups defined by likelihood of being selected to participate in Upward Bound suggests that expanding the applicant pool for the evaluation did not cause the no-show rate to be artificially higher.

Conditional on any participation, the median length of time participants remained in Upward Bound was 20 months, with 64 percent participating for at least one year, 35 percent participating for at least two years, and 14 percent participating for at least three years. About 39 percent completed the program, which we defined as still being in the program in the spring of their senior year in high school. The services participants received in Upward Bound included academic and nonacademic sessions during both the school year and the summer. Although Upward Bound participants typically attended a substantial number of academic sessions, there was variability in the number of sessions attended, just as there was in the duration of participation. For example, while one-quarter of participants attended 104 or fewer Upward

Table I.3  
Unweighted Rates of Participation in Upward Bound Among Treatment Group Members

Subgroup	Participation Rate
All Treatment Group Members	84
Grade at Application to Upward Bound	
Grade 8	87
Grade 9	84
Grade 10	83
Grade 11	85
Educational Expectations at the Time of Application to Upward Bound	
Higher educational expectations	85
Lower educational expectations	83
Level of Ninth-Grade Mathematics Class	
Took algebra or above in ninth grade	86
Took a course below algebra in ninth grade	83
Grade Point Average in Ninth Grade	
Ninth-grade GPA above 2.5	88 ***
Ninth-grade GPA below 2.5	81 ***
Gender	
Male	84
Female	84
Race and Ethnicity	
African American	83
White	86
Hispanic	86
Academic Performance Index	
Higher academic performance	86
Lower academic performance	82
Upward Bound Eligibility Criteria	
Eligible because low-income and potential first-generation college student	83 **
Eligible because first-generation only	86
Eligible because low-income only	96 ***
Likelihood of Being Selected to Participate in Upward Bound	
Rating - high	85
Rating - medium or low	83

\*/\*\*/\*\* Participation rate differs from that of all other students at the 0.10/0.05/0.01 level

Bound sessions, another quarter attended 405 or more sessions. Like the academic sessions, we found variability in the number of nonacademic activities attended by Upward Bound participants: about 25 percent of the participants attended 74 or fewer sessions and about 25 percent attended 293 or more sessions. As might be expected, the amount of services received

by students is directly related to the duration of participation. The average student who completed the program participated for about 50 percent longer than the average participant and received about 50 percent more services. Chapter V of this report provides estimates of the effects of longer participation and program completion.

### C. PREVIOUS FINDINGS

Earlier evaluation reports have presented findings based on data collected through the first three rounds of surveys and transcript collection. Those reports reveal how Upward Bound affected eligible applicants while still in high school—in terms of both precollege services received and academic achievement—and how Upward Bound affected their postsecondary experiences approximately three years after completing high school, including whether they had enrolled in a postsecondary institution, their highest level of postsecondary attendance (four-year, two-year, or vocational), and the number of postsecondary credits earned. The key findings were as follows:

- ***For the average eligible applicant, Upward Bound had little effect on most key high school outcomes, including credits, grades, and graduation.*** Myers et al. (2004) found Upward Bound had no effect on total credits and a small effect on credits earned in high school math. The program increased the number of math credits earned by 0.2 credits; that is, about one in five students completed an additional high school math course because of their exposure to Upward Bound. Upward Bound had no effect on credits earned in science, English, social studies, or foreign language courses. Also, the program had no effect on honors and Advanced Placement credits, grades earned in high school, or high school graduation.
- ***For the average eligible applicant, Upward Bound had few short-run effects on postsecondary outcomes, but may have increased enrollment at four-year colleges and universities.*** Upward Bound had little effect on enrollment and credits earned at two-year or vocational postsecondary institutions and on the receipt of college financial aid. Myers et al. (2004) found some inconclusive evidence that Upward Bound may have increased the percentage of treatment group members attending a four-year college or university. When all postsecondary enrollment information reported by sample members was included, the estimated effect was six percentage points and was statistically significant; however, when unverified enrollment

information was excluded (as described in Appendix H of the report), the effect fell to five percentage points and was not statistically significant.

- ***Upward Bound had positive effects for eligible applicants with lower educational expectations.*** For eligible applicants with lower educational expectations—those who did not expect to earn a bachelor’s degree when they applied to Upward Bound—Upward Bound increased Advanced Placement or honors credits as well as credits earned in core academic subjects in high school. It also had short-term effects on some postsecondary outcomes for this group, such as the likelihood of enrolling in a four-year college or university, total postsecondary credits, and credits earned at four-year colleges and universities. For eligible applicants who expected to obtain a bachelor’s degree or more, Upward Bound had little short-term effect on any of these outcomes.



## **II. RESEARCH DESIGN AND ANALYTIC ISSUES**

### **A. RESEARCH DESIGN**

#### **1. Selection of Upward Bound Projects and Random Assignment**

At its inception, the national evaluation of Upward Bound was unusual within education evaluation studies because of two important design elements: (1) a nationally representative sample of Upward Bound projects and (2) random assignment of eligible applicants to Upward Bound and a control group. These two design elements provide for both external validity and internal validity—that is, the ability to generalize the results to the population of regular Upward Bound projects and to make inferences about the causal effects of Upward Bound on eligible applicants' outcomes. Although the use of random assignment has become more common in recent years, it is still rare for evaluations to include a nationally representation sample of program sites.

##### **a. Selection of Upward Bound Projects**

For the evaluation, we randomly selected 70 Upward Bound projects representative of all 395 regular Upward Bound projects operating in the 50 states and the District of Columbia that were hosted by a postsecondary institution, had operated for at least three years as of October 1992, and were not dedicated to serving only students with physical disabilities. Many different designs for selecting the sample of projects were considered. Several designs had relatively modest stratification and modest variability in sampling rates for different types of projects defined by potentially policy-relevant characteristics, including project size and type of host institution. Such a design would have supported precise estimates for many key subgroups while sacrificing very little precision in the estimates for the full sample. Other designs that were considered were much more highly stratified and had highly variable sampling rates to

yield substantial overrepresentation—relative to the full universe of projects—of some types of projects with less common characteristics (e.g., serving predominately Native American students) and substantial underrepresentation of some types of projects with more common characteristics. Objectives of such a design included assuring the Upward Bound community that some relatively rare types of projects were adequately represented and, if policy interest later emerged, allowing more precise estimates of Upward Bound’s effects on particular applicant and project subgroups, even though estimates for other subgroups and the full sample would be less precise as a result of variability in project selection probabilities and, therefore, sample weights. The design that was chosen sought to balance the competing needs of the evaluation. Under the chosen design, project selection probabilities varied substantially across strata that were defined by location (urban or rural), type and control of the host institution (two- or four-year, public or private), size, and racial/ethnic composition.

Of the 70 projects originally selected, 11 could not participate or had to be excluded for various reasons. For example, some did not plan to recruit new students for the 1992–1993 school year, some had too few applicants to accommodate random assignment, and some did not have their Upward Bound grants renewed. We replaced eight of these 11 projects with similar, randomly-selected projects, arriving at a total sample of 67 projects. See Appendix A for a detailed description of the sample selection and weighting procedures.

**b. Random Assignment of Eligible Applicants to Upward Bound and a Control Group**

During the 1992–1993 and 1993–1994 school years, we randomly assigned eligible applicants from each project to either a treatment group, which was invited to participate in Upward Bound, or a control group, which was not invited to participate. Eligible applicants were defined as students whom the projects had recruited and who met both the federal eligibility criteria (low-income or potential first-generation college student status) and any



project-specific criteria for participation. All of the projects received more applications than they had openings, and all served the same number of students they would have normally served under their usual selection procedures.

We implemented random assignment over 14 months so that projects could use their standard recruiting procedures and enroll students in accordance with their usual enrollment schedules. Nationwide, the random assignment process resulted in a treatment group of about 1,500 students and a control group of about 1,300 students for subsequent impact analyses. Myers et al. (1993) presented a detailed description of the random assignment procedures.

To accommodate project wishes concerning the composition of the participants served by the program, such as sex, racial, or ethnic group balance, we used stratified random sampling to select the treatment and control groups (and weighted sample members appropriately to account for different random assignment probabilities). Nonetheless, random assignment may have led some Upward Bound projects to serve students they would not normally have served. Before random assignment, we asked project directors to rate each applicant as either most likely, somewhat likely, or least likely to have been selected under normal selection procedures; in this report, we assessed whether the effects of Upward Bound vary across these three groups. Appendix I provides little evidence that the effects on postsecondary enrollment and completion varied across groups; however, there is evidence of significant positive effects on attendance and completion at vocational schools for the somewhat likely to be selected group.

With random assignment, the only systematic difference between the treatment and control groups in the present evaluation is that treatment group members were offered the opportunity to participate in Upward Bound; otherwise, the two groups are statistically equivalent (Myers and Schirm 1997). On important demographic variables such as gender, race/ethnicity, and Upward Bound eligibility status, differences between treatment and control proportions are small.

Statistically significant differences between the two groups exist within two categories of background variables: a student's own educational expectations and the educational expectations held by his or her mother. Even in a randomized experiment, there will generally be a few differences between the groups purely due to chance; using a ten percent level for statistical significance, we would expect to find significant differences for ten percent of the comparisons. To adjust for the small differences between the treatment and control groups, we computed regression-adjusted estimates of program effects in which we statistically controlled for these and other background characteristics. We describe our estimation methods in more detail below.

## **2. Outcome Measures**

The outcomes for which impact estimates are presented in this report can be grouped into three areas: postsecondary enrollment, financial aid application and receipt, and postsecondary completion.

**Postsecondary Enrollment.** We estimate the impacts of Upward Bound on enrollment at any type of postsecondary educational institution, along with the highest level of postsecondary institution attended, and the selectivity of four-year colleges and universities attended. Highest level of enrollment was defined as *four-year* for sample members who attended a public or private, nonprofit, four-year college or university; *two-year* for sample members who attended a public or private, nonprofit, two-year college, but not a four-year college or university; and *vocational* for sample members who attended a for-profit institution, but no two- or four-year institution.

Selectivity of four-year colleges and universities attended was measured by using school ratings from *Barron's Profiles of American Colleges* (2003). If a school was rated as "most competitive," "highly competitive," or "very competitive," we classified the school as *more*

*selective*. If a school was rated as “competitive,” “less competitive,” “noncompetitive,” “special,” or unrated, or was excluded from *Barron’s*, we classified the school as *less selective*. According to the classification system, *more selective* colleges and universities generally accept less than 75 percent of applicants, and students at *more selective* institutions were generally in the top half of their high school class. *Less selective* postsecondary institutions generally admit more than 75 percent of their applicants. The values of the four-year college or university selectivity outcome variables are set to zero for sample members who did not attend a four-year college or university, that is, such sample members are classified the same as sample members who attended less selective four-year institutions.

**Financial Aid Application and Receipt.** We also estimate the impacts of Upward Bound on the likelihood of a sample member applying for and receiving any financial aid, as well as on the likelihood of receiving a Pell grant.

**Postsecondary Completion.** We estimate the impacts of Upward Bound on completion of any postsecondary credential, as well as on the highest postsecondary credential (degree, certificate, or license) earned. Highest credential was defined as a *four-year degree* for sample members who earned a bachelor’s degree or higher; a *two-year degree* for sample members who earned an associate’s degree, but not a bachelor’s degree; and a *certificate or license* for sample members who earned a postsecondary certificate or license, but no higher degree.

To measure these postsecondary outcomes, we use data from the fifth follow-up survey, as well as from administrative records. We describe these different data sources below, along with their strengths and weaknesses in providing valid information for measuring these outcomes of interest.

### 3. Data Sources

The analyses described in this report are based on information provided by treatment and control group members during the follow-up interviews and by the postsecondary institutions that they reported attending, as well as by two administrative data sources.

**Surveys and Transcripts.** Almost all sample members completed a baseline questionnaire when they applied to Upward Bound (see Table II.1). We then conducted follow-up surveys in 1994–1995, 1996–1997, 1998–1999, 2001–2002, and 2003–2004 and achieved high response rates for all surveys.<sup>2</sup> The estimates in this report rely substantially on data from the fifth follow-up survey, conducted in 2003–2004, which yielded a 74 percent response rate; if sample members are weighted to account for unequal selection probabilities (see Appendix A), the response rate is 72 percent. This survey focused on obtaining information from sample members about their postsecondary educational attainment.

The response rate for the treatment group was four percentage points higher than for the control group. Given this small difference in response rates, the differences between marginal treatment respondents—treatment group members who would not have responded if they had been assigned to the control group—and other treatment respondents would have to be very large to have any perceptible effect on the impact estimates. Furthermore, we use the extensive baseline data available to incorporate an adjustment for nonresponse into the sample weights.

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<sup>2</sup> These rates compare favorably to other studies with similar populations and long follow-up periods. For the Quantum Opportunity Program Demonstration Evaluation’s third telephone survey about nine to ten years after the demonstration started, the response rate was 76 percent overall, and the treatment group response rate exceeded the control group response rate by three percentage points (Schirm, Stuart, and McKie 2006). For the National Job Corps Evaluation Study, the 48-month follow-up survey had an 80 percent overall response rate, and the treatment group response rate exceeded the control group response rate by about four percentage points (Schochet, Burghardt, and Glazerman 2001). In the study of Impacts of Four Title V Section 510 Abstinence Education Programs, the third follow-up survey conducted about four to six years after random assignment had an overall response rate of 82 percent, and the treatment group response rate exceeded the control group response rate by one percentage point (Trenholm et. al. 2007).

Table II.1  
Response Rates

Survey	Percentage Responding			Sample Size		
	Control	Treatment	Full Sample	Control	Treatment	Full Sample
Full Sample				1,320	1,524	2,844
Baseline (1992 - 1993)	99	99	99	1,311	1,509	2,820
First Follow-up (1994 - 1995)	96	97	97	1,265	1,481	2,746
Second Follow-up (1996 - 1997)	83	88	86	1,098	1,337	2,435
Third Follow-up (1998 - 1999)	78	83	81	1,027	1,265	2,292
Fourth Follow-up (2001 - 2002)	72	78	75	954	1,190	2,144
Fifth Follow-up (2003-2004)	72	76	74	940	1,145	2,085

After each follow-up survey, we also collected transcripts from high schools and postsecondary educational institutions attended by sample members. Following the fifth follow-up survey, we requested postsecondary transcripts for 2,079 sample members and received transcripts for 1,772 of them (85 percent); Appendix B describes the data collection procedures.

**Administrative Data.** Survey respondents may differ from nonrespondents in ways that may affect outcomes (see Appendix Table A.3). While we attempt to account for these differences in observables in our estimation methods and weights, there may be differences in unobservables that remain. Therefore, we collected data from other sources that allow us to help mitigate any differences due to survey nonresponse.<sup>3</sup> These two administrative data sources, the National Student Clearinghouse (NSC) and the federal Student Financial Aid (SFA) records, use completely different reporting systems. The NSC collects enrollment and degree information from the majority of colleges and universities in the United States, enabling it to provide

<sup>3</sup> Looking at outcomes from the SFA data suggests that survey nonresponse bias may be small. For the treatment group, 73.0 percent of survey respondents and 75.0 percent of survey nonrespondents applied for financial aid, while 70.6 and 68.5 percent of survey respondents and nonrespondents, respectively, applied for aid from the control group. Similarly, the rates of Pell grant receipt were close for survey respondents and nonrespondents in both groups: 58.8 and 58.3 percent for the treatment group; 55.6 and 52.7 percent for the control group.

verification of these activities by institution and semester. The SFA records are based on the Free Application for Federal Student Aid (FAFSA) filled out by most college aspirants, and include information on aid application and Pell receipt. Refer to Appendix B for full descriptions of these administrative data sources.

#### **4. Construction of the Outcome Measures**

The data available from the follow-up surveys, the NSC, and the SFA records are used to construct various outcome measures in three different ways: using only the fifth follow-up survey, using only administrative records, and blending data from the surveys and the administrative sources in different combinations. As data from the NSC were available for a period of time after the fifth follow-up survey was completed, we construct two versions of an outcome when data from the NSC records are used: one using all the information available from the NSC records (NSC Full), and the other using information available from the NSC by the end of calendar year 2004, when the fifth follow-up survey was complete (NSC Truncated). A more detailed discussion about the construction of various outcome measures using these different data sources is provided in Appendix B. In the main body of this report, we focus on one measure of enrollment (5B) and one measure of completion (7B); these measures use the fifth follow-up survey, full NSC data, and SFA records in combination and, when the data are not definitive, treat a sample member as a nonenrollee or noncompleter only if there is also no application for financial aid. In the appendices, we present estimates for many measures to assess the robustness of our findings.

We use the different data sources because they have different relative strengths and weaknesses. In conducting the impact analysis for this report, our basic principle has been to utilize the maximum amount of information that is available on the sample members. While the follow-up surveys provide data on a broad range of outcomes, we face the problem of not having

data for survey nonrespondents, and the nonrespondents might be systematically different from respondents, potentially leading to nonresponse bias in our estimates. The NSC and the SFA data are two convenient resources to mitigate this problem, as we can get information on both survey respondents and nonrespondents from these administrative records.

However, these administrative sources have their own limitations. The NSC does not cover the entire universe of postsecondary schools, and does not cover all member schools for the entire relevant time period. Nationally, current rates of coverage are 87 percent for students attending a two-year institution and 90 percent for students attending a four-year institution. The coverage rates were lower in earlier years (the NSC data go back to 1993-1994); in terms of total U.S. college enrollment, coverage by the NSC data rose from 57 percent in 1997 to 88 percent in 2002, with small increases in subsequent years. Thus, the NSC might be missing data for a sample member who attended and potentially completed his or her education at a postsecondary institution because the institution was not covered by the NSC during the relevant years.<sup>4</sup> SFA records provide data on all sample members; however, they do not have information on postsecondary completion, and they provide information on enrollment for only some students (those who receive a Pell grant).

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<sup>4</sup> Of the 1,656 institutions reported by sample members in the survey, 1,465 could be matched to the Integrated Postsecondary Education Data System (IPEDS), and 925 of those (63 percent) appear in the NSC's list of participating institutions. The vast majority of the remaining schools were vocational institutions, along with some two-year schools. A higher proportion (just under 80 percent) of students reported attending a school that was also in the NSC list, with the difference in these rates likely due to attendance at multiple institutions. Based on the differences in coverage by sector, sample members were less likely to be confirmed as enrollees by the NSC data if they attended only vocational institutions.

## **B. ANALYTIC ISSUES**

### **1. Estimation of Program Impacts**

Some policymakers and program operators may be most interested in learning about the effects of offering Upward Bound services to eligible applicants. Others may be more interested in learning about the effects of actually participating in Upward Bound. The evaluation literature refers to the first impact as the “intended to treat effect” (ITT) and the second impact as the “complier average causal effect” (CACE) (see Angrist, Imbens, and Rubin 1996). Our estimates of the ITT are based on a comparison of students randomly assigned to the treatment group with students randomly assigned to the control group. Our estimates of the CACE are based on a comparison of Upward Bound participants to nonparticipants, using the outcome of random assignment, treatment or control status, as an instrumental variable to predict program participation.

Both sets of effects are estimated from the same analysis sample. The difference between the CACE and ITT effects can be illustrated by thinking about two hypothetical programs that are equally effective for participants, but are not equally effective in their ability to induce students to participate. Suppose two programs (A and B) provide the same set of program services for participants. Program A is very effective at inducing participation and has a 100 percent participation rate, whereas only 50 percent of students participate in Program B. The CACE for these two programs would be the same, but the ITT effect for Program A would be twice as large as that for Program B, reflecting the fact that it has a larger effect on the average applicant, because it encourages more of them to actually participate in program services.

#### **a. Estimating the Impacts of the Opportunity to Participate in Upward Bound**

The ITT effect addresses the policy question, “What is the effect of the program on its intended beneficiaries—in this case, eligible applicants to the Upward Bound program?” The



ITT effect is the more comprehensive measure of the program’s effect because it captures both the effect of the offer of program services and the effect of the services on those who receive them. Because eligible applicants were randomly chosen to be given the opportunity to participate in Upward Bound, we can obtain an unbiased estimate of this effect by computing the difference between the average outcome for the treatment group (those offered the opportunity to participate in Upward Bound) and the average outcome for the control group (those not offered the opportunity). In practice, we computed program effects by estimating a regression model with the outcome of interest as the dependent variable. Further details on our estimation procedures are presented later in this section.

**b. Estimating the Impacts of Upward Bound Participation**

The CACE answers a slightly different policy question: “What is the effect of the program on those most likely to be affected—that is, eligible applicants who actually participated in the program?” Because individuals who choose to participate in Upward Bound are self-selected from those who are given the opportunity and may have different characteristics from those who are given the opportunity and choose not to participate, estimating the CACE requires assumptions about the relationships between student characteristics, participation, and outcomes. Appendix E presents more details on those assumptions and estimation of the CACE. The estimates of the CACE, which capture the effects of actual participation in the program, account for both treatment group no-shows and control group crossovers.<sup>5</sup>

ITT estimates are more interesting in evaluations of existing programs, while CACE estimates are more interesting in the context of demonstrations designed to test the effectiveness

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<sup>5</sup> For the CACE analysis presented in this report, we regard participation in regular Upward Bound or Upward Bound Math Science by control group members as forms of crossover.

of a particular bundle of services. We present both types of estimates in the text to facilitate easy comparison. Overall, the two sets of estimates tell similar stories, with nearly identical patterns of significant effects. Because the participation rate of the treatment group in Upward Bound or Upward Bound Math Science was 85 percent, and about 14 percent of the control group members received services from either program, the CACE estimates are approximately 41 percent higher than the ITT estimates.<sup>6</sup>

### **c. Regression-adjusted Estimates**

To compute the effects of Upward Bound, we use a regression-adjusted approach in which we estimate a statistical model that predicts the outcome of interest as a function of treatment status and a number of baseline characteristics. We identify a core set of baseline characteristics as control variables based on the criteria that they have predictive power in regression models for key outcomes. The same set of variables is used to estimate impacts for all outcome measures. Inclusion of the baseline characteristics as control variables in the regression model allows us to (1) increase the precision with which we estimated the effects and (2) adjust for chance differences between the treatment and control groups on these characteristics. Appendix E provides more details about our estimation procedures.

Table II.2 lists the control variables that are included in the regression specifications, along with the reference groups.<sup>7</sup> In addition to the variables listed in the table, our regression model included an intercept and a binary variable indicating whether the sample member was in the treatment group. Because all of the outcome measures presented in this report are binary

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<sup>6</sup> A CACE estimate is roughly  $1 / (0.85 - 0.14) = 1.408$  times the ITT estimate.

<sup>7</sup> Table II.2 refers to “Project 69.” As discussed below, sample members from this project comprise a large proportion of the weighted evaluation sample. Our regression models include an indicator variable and interaction variables for Project 69 to capture effects of the other control variables that are specific to this project.

Table II.2  
Control Variables Included in the Regression Models

Characteristics	Variables included in the specification	Reference category
<b>Gender</b>	Female	Male
<b>Race/ethnicity</b>	White, Hispanic, other	African American
<b>Educational expectations</b>	Expects to complete 20 years, 18 years, 14 years, 13 years, and 12 years of education; expectations missing	Expects to complete 16 years of education
<b>Grade at application</b>	Grade 8, grade 10, and grade 11	Grade 9
<b>UB eligibility</b>	Low-income only, first-generation only	Low income and first generation
<b>Project 69</b>	Indicator for application to Project 69, and interactions between Project 69 indicator and all variables listed	Application to any other project

variables, we estimated logistic regression models. Our method for estimating the standard errors of impact estimates takes into account the stratification of projects and the clustering of students within projects.

## 2. Subgroup Analysis

To assess whether Upward Bound is more effective for some eligible applicants than for others, we estimated impacts for subgroups based on a set of applicant characteristics.<sup>8</sup> These subgroups are listed in Table II.3.<sup>9</sup>

Chapter IV devotes special attention to characteristics of eligible applicants that may be of particular interest in identifying students likely to benefit from Upward Bound because the characteristics are indicative of students' risk of poor academic outcomes. In the main text, we discuss the effects on the subgroups defined by the first four characteristics in Table II.3; the

<sup>8</sup> For the subgroups based on the academic performance index, the bottom 20 percent of ninth-grade academic achievement was labeled in previous reports (Myers and Schirm 1999, Myers et al. 2004) as "higher academic risk," and the top 80 percent of ninth-grade academic achievement was "lower academic risk." We instead use the terms "lower performing" and "higher performing," respectively, to make the labels more intuitive, simplify discussion, and facilitate comparison with the lower and higher expectations groups. Construction of the index is described in Myers et al. (2004).

<sup>9</sup> Due to item nonresponse, some subgroups are not defined for all sample members, resulting in a grand total that is smaller than the full sample size of 2,844.

Table II.3  
Sample Size in Applicant Characteristic Subgroups by Treatment Status

Subgroup	Treatment	Control	Total	Grand Total
Grade at Application to Upward Bound				
9th grade or below	804	727	1,531	
10th grade or above	720	593	1,313	2,844
Educational Expectations at Application to UB				
Higher educational expectations	296	203	499	
Lower educational expectations	1,097	1,002	2,099	2,598
Level of Ninth-Grade Mathematics Class				
Took algebra or above in ninth grade	901	788	1,689	
Took a course below algebra in ninth grade	544	454	998	2,687
Grade Point Average in Ninth Grade				
Ninth-grade GPA above 2.5	709	606	1,315	
Ninth-grade GPA below 2.5	797	705	1,502	2,817
Academic Performance Index				
Higher academic performance	1,127	987	2,114	
Lower academic performance	293	235	528	2,642
Upward Bound Eligibility Criteria				
Eligible because low-income and potential first-generation	1,234	1,028	2,262	
Eligible because first-generation only	210	215	425	
Eligible because low-income only	80	77	157	2,844
Gender				
Male	509	414	923	
Female	1,015	906	1,921	2,844
Race and Ethnicity				
African American	633	569	1,202	
White	418	357	775	
Hispanic	282	240	522	2,499

results for the remaining subgroups are presented in Appendix I. In general, subgroups are based on characteristics of applicants at the time they applied for Upward Bound. However, three subgroup characteristics are defined based on ninth-grade transcripts: level of ninth-grade mathematics class, ninth-grade GPA, and the academic performance index. For students who applied to Upward Bound in eighth and ninth grades, our measures of these characteristics could be affected by Upward Bound participation if Upward Bound has an immediate effect on high school course taking and grades.

The grade at which a student applies to participate in Upward Bound may give us some insight into the motivation and attitudes of a student; those who give consideration to the

program and apply earlier may be more motivated to pursue higher education. Similarly, to measure educational expectations directly, our baseline survey before random assignment asked students to indicate the highest level of education they expected to achieve. For the evaluation, we classified sample members as having *lower educational expectations* if they did not expect to obtain at least a bachelor's degree. Previous reports have found relatively large effects of Upward Bound for eligible applicants with *lower educational expectations* as defined by this measure (Myers and Schirm 1999; Myers et al. 2004). However, when recruiting for Upward Bound, projects may find it difficult to target students based on this measure of educational expectations. If applicants are aware that their likelihood of admission to Upward Bound is influenced by their response to a question asking about educational expectations, some applicants may modify their responses to increase their chances of acceptance.

We therefore also consider measures of educational performance which are less likely to be affected by such influences. The first of these is the level of mathematics class taken in ninth grade, and in particular whether the sample member took a course *below algebra* or *algebra or above*. Approximately two-thirds of sample members took algebra or above and one-third took a course below algebra. This measure may be interpreted as a more readily available assessment of educational expectations, as students who do not take algebra or above in ninth grade would generally not be “on track” to attend a four-year college or university. The level of mathematics class taken in ninth grade reflects, however, not only expectations, but also prior academic performance. Among control group members, 60 percent of those who took algebra or above in ninth grade attended a four-year college or university within four to six years after high school graduation, compared with just 30 percent of those who took a course below algebra. Our second measure of academic performance early in high school is grade point average (GPA) in ninth grade, separating sample members into *higher GPA* (greater than 2.5) and *lower GPA* (less

than 2.5) groups, with approximately half of the sample members in each group. We sought measures that would be highly correlated with educational expectations, and therefore potentially useful for targeting; that said, several of the variables were, *a priori*, potentially interesting for purposes of targeting even if they are not highly correlated with expectations.

In addition to the subgroups based on characteristics of Upward Bound applicants, we also analyze program effects by subgroups based on project-level characteristics. They are listed in Table II.4. Data on several of the project level characteristics are derived from the Survey of Upward Bound Grantees, conducted in 1993-94 as part of this evaluation (for details, see

Table II.4  
Sample Size in Project Characteristic Subgroups by Treatment Status

Subgroup	Treatment	Control	Total	Grand Total
Type of host institution				
Four-year college or university	1,064	894	1,958	
Two-year college	460	426	886	2,844
Project Location				
Urban	931	849	1,780	
Rural	593	471	1,064	2,844
Project size measured by the number of students served				
Small (60 or fewer students)	115	115	230	
Medium (61-99 students)	961	837	1,798	
Large (100 or more students)	448	368	816	2,844
Number of courses offered during the 1992-1993 academic year				
No courses	335	307	642	
1-15 courses	822	684	1,506	
16 or more courses	367	329	696	2,844
Number of courses offered during the 1993 summer session				
0-12 courses	386	316	702	
13-19 courses	775	688	1,463	
20 or more courses	363	316	679	2,844
Project age in terms of years of operation				
Young (3-5 years)	253	219	472	
Middle-aged (6-20 years)	568	508	1,076	
Mature (20 or more years)	703	593	1,296	2,844
Project type based on academic course requirements				
Strong math-science	304	285	589	
Foundational	499	386	885	
Structured	388	360	748	
Unstructured	333	289	622	2,844

Fasciano and Jacobson, 1997). We present the estimated effects for the subgroups defined above in Appendix I.

### **3. Use of Weights to Account for Sample Design and Survey Nonresponse**

The sample members included in our analyses were weighted using standard weighting procedures to ensure that they represent all eligible applicants to Upward Bound nationwide. The weights account for three probabilities: (1) the probability that the sample member's Upward Bound project was selected for the study, (2) the probability that the sample member was selected to be given the opportunity to participate in Upward Bound, and (3) the probability that the sample member responded to the fifth follow-up survey. Appendix A describes the weighting procedures in more detail.<sup>10</sup>

Use of the weights is necessary for four reasons. First, without the weights, the projects selected for the evaluation will not be representative of the universe of Upward Bound projects that existed during the 1992-93 academic year. Due to the highly variable selection probabilities, the unweighted sample of projects does not resemble the full population of projects from which the sample was selected; therefore, unweighted estimates do not measure the impacts of the national Upward Bound program and, more generally, have no readily apparent interpretation.<sup>11</sup> Second, the weights are needed for generalizing the findings to the national population of

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<sup>10</sup> For outcomes that were measured using data from sources in addition to the fifth follow-up survey, the weights reflected the probability of having the data needed to measure the outcomes, which is not just the survey response probability.

<sup>11</sup> To ensure inclusion in the sample of substantial numbers of some of the less common types of projects, as discussed earlier in this chapter, the sample included only one of the 56 projects that were medium-sized, urban, hosted by four-year public universities, and not serving a group of students that was predominantly Asian, Native American, or Latino (the most common type of project). Because this one project's probability of selection was much lower than the average selection probability, the students in this one project represent 26 percent of the eligible applicants nationwide and are weighted accordingly. This was a consequence of the study's requirement to over-sample relatively uncommon types of projects. The weights that are used in our main analyses account for the study design. Chapter III presents a summary of the sensitivity analyses pertaining to sample weighting, with full details in Appendix G.

students targeted by the Upward Bound program. Third, due to unequal selection probabilities of projects, we need to use the weights to appropriately account for the imprecision in impact estimates that results from the sampling design. Without the weights, we would obtain not only biased point estimates of impacts but also underestimated standard errors. Fourth, the use of weights reduces the possibility of missing data bias in the estimated impacts.

Given that the evaluation is based on a sample of eligible Upward Bound applicants, the estimated program effects presented in this report contain sampling error. To determine whether the estimated program effects can be attributed to the true effects of Upward Bound rather than to statistical chance, we tested whether the estimates are statistically significant—significantly different from zero—at three levels commonly used in conducting such tests. More specifically, we conducted two-tailed tests of the null hypothesis that “Upward Bound had no effect” against the alternative that “Upward Bound had an effect” at the 0.10 level, the 0.05 level, and the 0.01 level. Throughout the report, the term “significant” is used to denote statistical significance, not substantive significance. In the chapters that follow, we note that Upward Bound had an effect on a particular outcome only if the estimated effect on the outcome measure is statistically significant. If the estimated effect of Upward Bound on an outcome variable is not statistically significant, the true effect of Upward Bound cannot necessarily be assumed to be zero.

The power analysis conducted for this evaluation in Myers et. al. (1993) suggests that for any binary outcome measure, the study sample design allows for the detection of an impact of 0.10 to 0.15 standard deviations, depending on the effective sample size available for the analysis. This means that the sample design allows for the detection of an impact of four to six percentage points for postsecondary enrollment (assuming a 75 percent enrollment rate) and five to seven percentage points for completion of a postsecondary credential (assuming a 30 percent completion rate). Under the assumptions of these power calculations, the study would identify



an impact that is significant at the five percent level 80 percent of the time; however, we may find smaller impacts that are significant, as well as larger impacts that are not. The education evaluation literature (see, for example, Cohen 1988; Lipsey and Wilson, 1993) suggests that impacts of these sizes can be considered small, and the Department of Education's What Works Clearinghouse requires an effect size larger than 0.25 for an impact to be regarded as substantively important. Therefore, even if different from zero, the true effect is likely to be small if the estimated effect is not statistically significant, because the sample was designed to detect program effects of a small size.

#### **4. Potential Threats to the Study Design**

Evaluations based on random assignment face potential threats that can bias the resulting effect estimates. For this study, the bias is likely to be small, as the random assignment protocol was implemented correctly (see Myers et. al. 1993). Analysis of baseline data for the treatment and control groups found small differences in some baseline characteristics between the two groups that arose by chance (see Myers and Schirm 1997).

A potential threat to the validity of the study is crossover or control group contamination. After randomly assigning students to the treatment and control groups, we discovered that project directors at some of the 67 projects conducting random assignment had allowed 29 control group members (2.2 percent) to participate in regular Upward Bound. In the follow-up student surveys, an alternative source of information on Upward Bound participation, 14 additional control group members (1.1 percent) reported that they had participated in Upward Bound projects, including projects not in the evaluation and thus not conducting random assignment. Upward Bound Math-Science participation was reported by 148 control group members, including 11 who had previously reported that they had participated in regular Upward Bound, and 137 (10.4 percent) who did not; see Appendix E for details on how we identify

participation in Upward Bound and Upward Bound Math-Science programs. All told, 43 control group members (3.3 percent) participated in regular Upward Bound, and 180 (13.6 percent) participated in either Upward Bound or Upward Bound Math Science. In our ITT analysis, we maintained each control group member’s original status in order to preserve the comparability between the two groups due to random assignment; in our CACE analysis, all 180 were treated as noncompliers.<sup>12</sup>

The control group may have been affected by their experience of applying for Upward Bound and being turned away in a way that is different under the evaluation than under normal circumstances. Control group members could have been demoralized by not receiving the opportunity to enroll in the program; on the other hand, they may have been referred to other programs when they were notified that they would not be able to participate in Upward Bound. In either case, the “intervention”—a demoralizing rejection or a helpful referral—is likely to be much less intense than the Upward Bound program itself.<sup>13</sup> Therefore, any potential bias in the effect estimates is likely to be small relative to the potential effects of the program.

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<sup>12</sup> The counts and percentages in this paragraph are unweighted.

<sup>13</sup> See Appendix H for a list of other supplemental service programs attended by sample members.

### III. THE EFFECT OF UPWARD BOUND ON POSTSECONDARY OUTCOMES

The ultimate question for this study is whether the national Upward Bound program helps disadvantaged high school students attend and graduate from institutions of higher education. To address that question, we used information from the fifth follow-up survey, along with data from previous surveys, the National Student Clearinghouse (NSC), and federal Student Financial Aid (SFA) records. Using these data, we compared the postsecondary experiences of eligible applicants offered the opportunity to participate in Upward Bound (the treatment group) with the experiences of eligible applicants not offered that opportunity (the control group), over a period extending to about seven to nine years after they were scheduled to graduate from high school. These estimated effects are “intended to treat” (ITT) effects. Some sample members end up not “complying” with their experimental assignment: some treatment group members do not actually participate in Upward Bound, and some control group members do participate in Upward Bound (or Upward Bound Math-Science). Therefore, we also present estimates of the effects of actually participating in Upward Bound. These are “complier average causal effect” (CACE) estimates.

This chapter presents these two kinds of estimates to assess Upward Bound’s effects on three main sets of outcomes relating to postsecondary educational attainment:

1. **Enrollment:** Whether the sample member enrolled at any type of postsecondary institution, along with the highest level of postsecondary educational institution attended and the selectivity of four-year colleges and universities attended
2. **Aid:** Whether the sample member applied for, and received, financial aid
3. **Completion:** Whether the sample member completed any postsecondary credential (degree, certificate, or license), and the highest postsecondary credential earned.

Our analyses of impacts on these outcomes drew on multiple data sources. We used information collected in follow-up surveys during 1998-1999, 2001-2002, and 2003-2004, along

with data from NSC and SFA administrative records. There are many ways to combine data from these sources to measure postsecondary enrollment or completion, and many different assumptions that can be made about enrollment or completion status when the data do not provide definitive evidence. Each approach reflects choices about how to resolve issues that arise from the nature of the data: whether to use data from previous surveys or only the latest, which data sources to use, in which “order of preference” to combine the data when there are apparent contradictions, how to deal with cases for which the data do not provide definitive evidence of enrollment or completion, and whether to use all available data or only data covering a certain period. A detailed discussion of these issues is presented in Appendix B.

The impact estimates presented in detail in this chapter are for one measure for each outcome, but other estimates are presented in Appendix C. The main estimates presented in this chapter are based on the fifth follow-up survey data along with NSC and SFA administrative records. The alternative estimates emerged from sensitivity analyses examining different measures of the outcomes based on different methods and assumptions. Additional sensitivity analyses pertaining to the weighting of the evaluation sample are presented in Appendix G. Findings from all of the sensitivity analyses are summarized at the end of this chapter.

#### **A. THE EFFECT OF THE OPPORTUNITY TO PARTICIPATE IN UPWARD BOUND (ITT)**

As documented in detail in this section, Upward Bound had no detectable effect on overall postsecondary enrollment for the average eligible applicant, and did not affect the types of institutions eligible Upward Bound applicants attended, either in level or selectivity. Similarly, Upward Bound did not have a detectable effect on financial aid application or receipt. However, there is evidence that Upward Bound increased the completion of certificates or licenses.

Table III.1 presents the effect of the opportunity to participate in Upward Bound—the ITT impact—on a range of postsecondary outcomes. Each row in the table presents the results for one outcome, with columns for the regression-adjusted treatment group mean, the control group mean, the impact of Upward Bound on the outcome, an indicator for statistical significance, and the p-value underlying the significance indicator. Each analysis is conducted using post-stratification adjusted weights that account for sample selection probabilities and survey nonresponse. In this chapter, we focus on one measure of enrollment (designated 5B in the appendices) and one measure of completion (designated 7B in the appendices).

Table III.1  
Impact of Upward Bound on Postsecondary Outcomes (ITT)

	Treatment Mean	Control Mean	Impact	P-value
<b>Postsecondary enrollment (%)</b>				
Any postsecondary enrollment	80.60	79.06	1.54	0.58
Highest level of schooling attended				
Four-year college or university	53.18	51.89	1.29	0.71
Two-year college	19.51	22.44	-2.93	0.25
Vocational institution	6.94	3.92	3.02	0.19
Highly selective four-year institution (%)	11.47	9.85	1.62	0.44
<b>Financial aid (%)</b>				
Applied for aid	71.35	70.01	1.34	0.57
Received Pell Grant	57.20	54.74	2.45	0.40
<b>Postsecondary completion (%)</b>				
Any degree, certificate, or license	37.03	34.77	2.26	0.25
Highest degree, certificate, or license				
Bachelor's degree or higher	21.70	21.56	0.14	0.96
Associate's degree	6.95	9.13	-2.18	0.12
Certificate or license	8.62	4.08	4.54 *	0.09

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

With Measure 5B for enrollment, we code a sample member as an enrollee if he or she is found to be an enrollee in the full NSC data *or* is a Pell recipient according to the SFA data *or* said in the survey that he or she was enrolled at some time. The sample member is not an enrollee if he or she does not appear in the NSC data (and is therefore not an enrollee) *and* has not been a Pell recipient *and* said in the survey that he or she had never been enrolled. This leaves uncoded the survey nonrespondents who are not in the NSC data and did not receive a Pell grant. For them, we assume that they are not enrollees if they never applied for financial aid. If they did apply for financial aid, we code their enrollment status as missing. The sample members with missing enrollment status get dropped from the analyses of enrollment, and weights for the remaining sample members are adjusted to compensate, as described in Appendix A. For measuring completion, the SFA data do not provide information on the actual receipt of degrees, certificates, or licenses. Recognizing this limitation in constructing Measure 7B for completion, we code a sample member as a completer if he or she is a completer according to the full NSC data *or* said in the survey that he or she has completed a degree, certificate, or license. The sample member is not a completer if he or she has no evidence of completion in the NSC data *and* said in the survey that he or she had not completed a degree, certificate or license. This leaves uncoded the survey nonrespondents who have no evidence of completion in the NSC data. For them, we assume that they are not completers if they never applied for financial aid. If they did apply for financial aid, we code their completion status as missing. The sample members with missing completion status get dropped from the analyses of completion, and weights for the remaining sample members are adjusted to compensate. See Appendix A for more information on weighting, Appendix E for more information on estimation, Appendix B for a discussion of alternative measures of postsecondary enrollment and completion, Appendix C for analyses

using the alternative measures to assess the robustness of our findings, and Appendix G for analyses pertaining to the weighting of the evaluation sample.

### **1. The Effect of Upward Bound on Postsecondary Enrollment and College Selectivity**

Upward Bound attracts students who are much more likely to enroll in postsecondary education than are similarly disadvantaged students. A comparison of overall postsecondary enrollment rates for Upward Bound applicants and students nationwide shows that Upward Bound applicants are just as likely to enroll in postsecondary education as the average eighth grader in the United States, regardless of socioeconomic status. Serving this applicant pool of motivated disadvantaged youth, Upward Bound did not have a detectable effect on enrollment in postsecondary institutions within approximately seven to nine years after scheduled high school graduation. Approximately 81 percent of treatment group members and 79 percent of control group members attended some type of postsecondary institution (four-year, two-year, or vocational). The difference, which is the effect of the opportunity to participate in Upward Bound, is not statistically significant (effect size = 4 percent). Similarly, the opportunity to participate in Upward Bound did not significantly affect the type or selectivity of postsecondary institutions attended by eligible applicants.

### **2. The Effect of Upward Bound on Financial Aid Application and Pell Grant Receipt**

Although academic improvement is the primary focus of most Upward Bound projects, addressing financial barriers is also important. Nearly one-half of all Upward Bound project directors reported in a survey of grantees that inadequate financial resources are the most serious obstacle to college completion (Fasciano and Jacobson 1997), and many projects aimed to link students to financial aid resources. Despite such efforts, Upward Bound did not have a

detectable effect on the percentage of eligible Upward Bound applicants who at some point applied for financial aid or received a Pell Grant for postsecondary education.

### **3. The Effect of Upward Bound on Postsecondary Completion**

Upward Bound had no detectable effect on the likelihood of completing a postsecondary credential in the seven to nine years after high school (effect size = 5 percent). The program did increase the percentage of sample members whose highest credential was a certificate or license, from four to nine percent (effect size = 23 percent).

It is possible that sample members could obtain a credential later. Approximately seven percent of both treatment and control group members were still enrolled at the time of the survey.

### **B. THE EFFECT OF PARTICIPATION IN UPWARD BOUND (CACE)**

For the average eligible applicant to Upward Bound, the pattern of statistically significant effects of actual participation (the CACE effects) is nearly identical to that for the effects of the opportunity to participate in Upward Bound (the ITT effects). However, the CACE estimates in Table III.2 are generally larger than the ITT estimates in Table III.1, reflecting the fact that approximately 15 percent of treatment group members did not participate in Upward Bound or Upward Bound Math-Science and about 14 percent of control group members did participate in Upward Bound or Upward Bound Math-Science.

### **C. SUMMARY OF SENSITIVITY ANALYSES**

Several important choices were made in designing the evaluation. One choice pertained to the length of the follow-up period. Considering the objective of Upward Bound to prepare students for entry into and success in postsecondary education, the Department of Education specified a long follow-up period that allowed sample members to be observed for many years



Table III.2  
Impact of Upward Bound on Postsecondary Outcomes (CACE)

	Participant Mean	Nonparticipant Mean	Impact	P-value
<b>Postsecondary enrollment (%)</b>				
Any postsecondary enrollment	81.17	79.06	2.11	0.52
Highest level of schooling attended				
Four-year college or university	53.68	51.89	1.78	0.68
Two-year college	18.55	22.44	-3.89	0.23
Vocational institution	8.17	3.92	4.24	0.24
Highly selective four-year institution (%)	11.00	9.85	1.16	0.69
<b>Financial aid (%)</b>				
Applied for aid	71.70	70.01	1.68	0.58
Received Pell Grant	57.84	54.74	3.10	0.39
<b>Postsecondary completion (%)</b>				
Any degree, certificate, or license	37.66	34.77	2.89	0.21
Highest degree, certificate, or license				
Bachelor's degree or higher	21.24	21.56	-0.33	0.93
Associate's degree	5.94	9.13	-3.18 *	0.08
Certificate or license	10.48	4.08	6.40 *	0.09

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: For the CACE analysis, both treatment and control group members who participated in either regular Upward Bound or Upward Bound Math-Science were classified as "participants." All other sample members were "nonparticipants." CACE estimates were derived using a quasi-experimental instrumental variables estimator and sample weights (see Appendices A and E for more details). As discussed in Appendix E, it is valid to interpret CACE estimates as the causal effects of Upward Bound participation only if several untestable, yet plausible assumptions are valid.

\*/\*\*/\*\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

beyond expected high school graduation. Although response rates to the evaluation's follow-up surveys remained high, administrative data from the NSC and federal SFA files were obtained to assess and address the potential effects of survey nonresponse. While nonresponse is one potential limitation of survey data, measurement and coverage error are concerns with administrative data.

Measuring postsecondary outcomes in different ways can shed light on how the relative strengths and weaknesses of the data sources affect the findings of the evaluation. Therefore, we

have conducted a set of sensitivity analyses to examine alternative ways of combining data from the available sources—surveys, NSC, and SFA—to measure postsecondary enrollment and completion.

Other important design choices pertained to the sample of projects that would be selected. In addition to specifying that the sample had to be nationally representative, the Department of Education required that the sample have substantial overrepresentation of some less common, but key types of projects, including, for example, projects serving predominantly Native American students. Attempting to balance the competing needs of the evaluation, the chosen design had much higher selection probabilities for these relatively rare projects than for more common types of projects. This led to substantial undersampling and underrepresentation of the latter and to very unequal weighting of projects in the evaluation sample.

One implication of the sample design was that some of the most common types of Upward Bound projects had low selection probabilities and were substantially undersampled. This is true of one set of projects in particular—projects that were medium-sized, located in an urban setting, hosted by a four-year public institution, and not serving a group of students that is predominantly Asian, Native American, or Latino. This stratum of projects ends up accounting for about 26 percent of all eligible Upward Bound applicants nationwide. The final sample selected for the impact evaluation included only one project out of 56 projects in this stratum. The main impact analyses weight the sample accordingly, and the sample members from this one project account for approximately 26 percent of the total weight.

Because one project and its students comprise such a large proportion of the weighted sample, two additional sets of analyses were conducted. The first examined whether this one sampled project—labeled Project 69—is an outlier or unusual in any way. The second reduced the relative weight given to Project 69 when estimating impacts.

## 1. Sensitivity Analyses Pertaining to the Measurement of Outcomes

There are many approaches to combining data from the available sources to measure postsecondary enrollment or completion, and many assumptions that can be made about enrollment or completion status when the data do not provide definitive evidence. In Appendix B, we discuss these issues, and describe many different measures for the postsecondary outcomes examined in this report. We present estimates for the measures in Appendix C.

Across a wide range of approaches to measuring postsecondary enrollment, the basic finding of no detectable impact holds up. For 27 different measures of postsecondary enrollment, the distribution of estimated impacts ranges from  $-2.4$  to  $2.8$ , with a mean of  $1.3$ . None of the estimates are significant. For the impact on attending a four-year institution, the 27 estimates range from  $0$  to  $5.5$ , with a mean of  $1.8$ , and one estimate is significant.<sup>14</sup>

There are fewer ways to use the available data for measuring completion than there are for measuring enrollment, because SFA data do not provide any direct information about postsecondary completion. We considered nine different measures of completion (see Appendix B). Estimates for three of the nine indicate that the impact on completing any degree, certificate, or license is significant. The nine estimates range from  $0.5$  to  $13.0$  (the second largest is  $3.7$ ), with a mean of  $3.5$ . When we examine the estimated impacts on receipt of a bachelor's degree, we find that estimates for the nine measures range from  $-1.0$  to  $4.3$ , with a mean of  $0.6$ , and one

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<sup>14</sup> As discussed in this chapter and elsewhere in the report, each data source has different relative strengths and weaknesses. A specific concern with using NSC data to measure enrollment pertains to its coverage of postsecondary institutions. Specifically, when students in the evaluation first began enrolling in postsecondary institutions, the percentage of institutions that participated in the NSC was lower than it was in later years. Also, coverage rates vary across different types of institutions. In light of concerns about coverage of the NSC, the sensitivity analyses include enrollment measures that are based on survey and SFA data only—relevant NSC data are ignored by these measures. As shown in the main analyses and presented in Table III.1 (and Appendix C), the impacts on overall postsecondary enrollment and enrollment at four-year institutions according to a measure (5B) using all three data sources—survey, SFA, and NSC—are  $1.54$  and  $1.29$ , respectively. As shown in the sensitivity analyses and presented in Appendix C, the corresponding impacts according to a measure (6B) using only survey and SFA data are  $1.38$  and  $1.29$ . None of these estimates is statistically significant.

estimate is significant. These estimates and the estimates pertaining to the receipt of certificates or licenses as the highest degree completed suggest that if Upward Bound affects postsecondary completion, it might do so by increasing the likelihood of earning a certificate or license, as suggested previously by Table III.1.

Exploring results obtained with different measures of the outcomes is important because judgments are required to decide which results are most likely to reflect the overall national effects of the program. Although not all approaches are equally good, there are some reasonable alternatives to the methods underlying the main results reported here, and reporting the sensitivity of those findings to alternative approaches can help readers evaluate and interpret the results.

## **2. Sensitivity Analyses Pertaining to Sample Weighting**

The sample design adopted for the evaluation has important consequences for the weighting of sample data. As noted above, the sample selection stratum composed of the most common type of project is represented by one project, Project 69, and that project had a selection probability much lower than the average selection probability. It also had a large pool of eligible applicants. As a consequence, the students in Project 69 represent 26 percent of eligible applicants nationwide. In the main analyses, their data are weighted as such to account for the precision of the sample decision and measure the effect of the national Upward Bound program on the average eligible applicant.

Because Project 69 and its students comprise such a large proportion of the weighted sample, we performed analyses to address two broad questions (see Appendix G for details):

- Is this project an “outlier,” that is, unusual in some way?
- Does this project have a large amount of influence on our results?

By the available measures, Project 69 is not an outlier. We find, for example, that it is similar in terms of project-level characteristics to the five projects from the same sample selection stratum that were selected for the grantee survey sample but not the impact study sample. Further analyses find that there are some significant differences between treatment and control groups in Project 69, as there are for other projects. Some such differences at the project level are expected to occur by chance. We adjust for these differences using regression methods, and include in our models covariates measuring student baseline characteristics, as well as interactions that capture the effects of these covariates specific to Project 69.

This examination of baseline differences between the treatment and control groups revealed that as shown in Appendix G, treatment group members in Project 69 were more likely to have applied to the program in ninth grade and less likely to have applied in tenth grade than control group members were. These differences are not statistically significant. Nevertheless, although the evaluation has had a very long follow-up period for observing postsecondary outcomes, the treatment group members in Project 69 had somewhat less time, on average, to begin and complete postsecondary education. Therefore, to assess the potential effects of this, we conducted additional sensitivity analyses. One analysis derived impacts using a regression model that controlled for not only grade at application (as in the main analysis) but also expected year of high school graduation, including indicators for different years and estimating effects specific to Project 69. With one exception, the impacts obtained are numerically smaller than the impacts in Table III.1, and are not significant.<sup>15</sup> For another sensitivity analysis, we constructed a standardized outcome measure—postsecondary enrollment within six years of the year of

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<sup>15</sup> The impacts on overall enrollment and completion, for example, are 1.04 and 1.57 (p-values = 0.73 and 0.51), while the impacts from the main analysis are 1.54 and 2.26. The one exception to the pattern is the impact on the receipt of certificates and licenses, which is 4.66 and significant (p-value = 0.09), compared with the impact of 4.54 estimated in the main analysis.

expected high school graduation. With this standardized measure, the impact on overall postsecondary enrollment is numerically larger than the impact from our main analysis—1.60 compared with 1.54. With p-values of 0.60 and 0.58, respectively, neither impact is significant.<sup>16</sup>

In addition to the analyses of project-level characteristics from the grantee survey and baseline differences between the treatment and control groups, we examined the distribution across projects of average baseline characteristics of sample members, no-show and crossover rates by treatment and control group members, mean outcomes of control group members as of the fifth follow up, and impacts on postsecondary outcomes. These analyses support the finding that Project 69 is not an outlier, although as would be expected for any project, it is sometimes in the lower or upper portion of the distribution and not right at the center.

We also conducted analyses to examine the influence of Project 69 on overall impacts and assess the robustness of the main findings. Detailed results and a detailed description of the analyses can be found in Appendix G.

In one analysis, we determined how much larger Project 69's impact on each outcome would have to be to make the overall impact of Upward Bound statistically significant when Project 69 gets its full weight and standard errors correctly reflect the precision of the sample design. We find that Project 69's impact would often have to move from the lower end of the distribution of project-level impacts to the upper end in order for the overall impact of Upward Bound to be significant. This implies that Project 69 and the other 55 projects in Project 69's

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<sup>16</sup> A standardized measure has potentially important limitations. It requires data pertaining to the timing of events, which are likely subject to greater recall error than data about whether an event occurred. It also ignores relevant data, specifically, the available longer-run data about postsecondary outcomes that occur after the chosen cut-off date. In light of these limitations, the main analysis examines outcomes that are observed at any time during the period for which data are available from the surveys, the NSC, or the SFA records.

selection stratum would have to have had larger impacts, on average, than all of the other Upward Bound projects. Otherwise, the results would not be affected.

In contrast to this analysis, most of the sensitivity analyses involved changing weights to reduce the relative weight given to Project 69's sample members. One such analysis adjusted the weights within each project to weight up to the number of funded slots rather than the number of applicants. This addresses concerns about not only the effects of typical year-to-year fluctuations in the number of applicants, but also whether the implementation of random assignment might have inflated the number of applicants differentially across projects. With this approach, Project 69 accounts for about 15 percent, rather than 26 percent, of the total weight—a much lower but still appropriately large fraction. The estimated impacts are generally somewhat bigger than those obtained in our main analyses. The pattern of significance levels is essentially the same. (See the last column of Table III.3.)

Most of the other analyses that reduce the relative weight given to Project 69's sample members changed weights even more substantially. In these analyses, we examined impact estimates obtained by: combining project sampling strata in various ways; redistributing much of Project 69's weight to various sets of projects that were most similar to Project 69 on a wide range of project- and student-level characteristics; and redistributing much of the weight of each Project 69 sample member to sample members in other projects with similar individual characteristics. We also ran unweighted analyses, and derived weighted estimates without Project 69. Results from a few of these analyses are shown in Table III.3. To facilitate comparisons of results, the first column of Table III.3 repeats the estimates from the main analysis, which were presented in Table III.1 above.

Many of these sensitivity analyses that changed sample weights substantially produced larger impacts for most outcomes compared with the findings from the main impact analysis,

Table III.3

## Illustrative Impact Estimates from Sensitivity Analyses

	Estimates from Main Analyses	Collapse 3 Strata	Redistribute Weight to 7 Similar Projects	Redistribute Weight to Similar Individuals	Reweight Based on Slots
<b>Postsecondary enrollment (%)</b>					
Any postsecondary enrollment	1.54	3.86 *	4.04 **	3.22 **	2.12
Highest level four-year institution	1.29	3.32	5.16 **	3.99 *	3.25
<b>Financial aid (%)</b>					
Applied for aid	1.34	5.06 *	3.42 *	2.82 *	2.72
Received Pell Grant	2.45	3.96	4.65 *	4.45 **	3.83
<b>Postsecondary completion (%)</b>					
Any degree, certificate, or license	2.26	0.75	2.28	2.10	2.47
Highest degree bachelor's or higher	0.14	3.16	2.61	2.58	2.11

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details). The estimates in the columns are from the main ITT analysis, combining the three strata with the largest shares of total weight into one stratum, redistribution of part of Project 69's weight to the 7 projects that are most similar on a wide range of project characteristics, redistribution of part of the weight of each Project 69 sample member to individuals in other projects with similar individual characteristics, and adjusting the weights within each project to weight up to the project's number of funded slots rather than the number of applicants. As discussed in Appendix G and elsewhere in the report, the estimates from the sensitivity analyses have potentially important limitations.

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.



which weighted all sample members according to their actual selection probabilities. Many of the impacts from the analyses with large changes in weights are also significant. This suggests that the results are sensitive to such large changes in the weight of Project 69.

Because Project 69 had below average impacts for most outcomes, reducing its weight relative to other projects results in larger overall impacts. Reducing the weight of Project 69 also underestimates the standard errors associated with the impact estimates. With larger impact estimates and reduced standard errors, many impact estimates become statistically significant when the sample weight for Project 69 is substantially reduced. When the standard errors more accurately reflect the precision of the sample design, many of these impact estimates are not statistically significant. Furthermore, as shown in Appendix G, they become smaller and fewer are significant when other projects with relatively large weights are dropped from the analysis along with Project 69. This illustrates an important consideration—the potential for influencing the findings through post hoc adjustments that deviate from the chosen design.

Another important consideration in interpreting results from analyses that omit Project 69 or otherwise change the weights of projects in any substantial way is that the resulting sample no longer represents the actual universe of Upward Bound projects. In particular, the sample does not appropriately represent the most common stratum of Upward Bound projects. Thus, with the possible exception of the analysis that adjusts weights to the number of funded slots, such analyses do not answer the evaluation’s research questions about the impacts of the national Upward Bound program. Moreover, the estimates from such analyses do not generalize to urban projects, large projects, or any other well-defined subset of projects for which the findings might have policy implications.

In contrast, the findings from the main impact analyses, which include all projects weighted based on their selection probabilities, are intended to generalize to the national Upward Bound

program. In assessing the implications of those findings, however, a statistical consideration is that as a consequence of selecting a single project from a large stratum—the stratum represented by Project 69—the estimates and inferences for that stratum and, therefore, the universe of projects will generally not be as robust as the estimates and inferences that would be obtained with an alternative design with much less variable project selection probabilities and with several projects selected from the large stratum. The lower robustness of the chosen sample design and the results from the extensive sensitivity analyses can be taken into account in determining the implications of the main findings.

#### **IV. THE EFFECT OF UPWARD BOUND ON POSTSECONDARY OUTCOMES FOR SELECTED SUBGROUPS**

Impact estimates for the full evaluation sample might conceal important differences in impacts across subgroups. If Upward Bound has an effect on the average eligible applicant, it might be heavily concentrated in, or could be much larger for, certain subgroups of applicants. Conversely, if Upward Bound has no effect on the average eligible applicant, the program might still have positive effects for some subgroups, counterbalanced by negative effects for other subgroups. Thus, estimates of subgroup impacts can help policymakers identify the persons for whom a program is most effective and, in some cases, help policymakers better target a program or better tailor its services. However, this targeting or tailoring must be done with caution, as it is unknown what the effects of Upward Bound would be if the composition of students enrolled in Upward Bound or the services provided were different.

The subgroups for which we present estimates here in the main text are based on the following characteristics: (1) grade at application to Upward Bound; (2) educational expectations at the time of application to Upward Bound; (3) level of ninth-grade mathematics class; and (4) grade point average in ninth grade. Appendix I also presents estimates of effects for subgroups defined by gender, race and ethnicity, an academic performance index, the Upward Bound eligibility criteria, and the likelihood of a student being served under normal selection procedures (rather than random assignment), as well as project and project host characteristics. As before, when an impact estimate is statistically significant, that is, significantly different from zero, we highlight the estimate in the table with one or more asterisks (\*). In addition, when the difference in impact estimates between two subgroups is statistically significant, we highlight the estimate for one of the two subgroups with a pound sign (#).

Because a large number of outcomes and subgroups are considered, some effects will be significant by chance. We thus focus on a few key subgroups, and interpret results with caution; however, we make no formal adjustments for multiple comparisons. In light of the evolving approaches to program targeting that were discussed in Chapter I, it is probably most appropriate to interpret the subgroup analyses as exploratory rather than confirmatory, providing suggestive evidence for further investigation.<sup>17</sup>

Smaller sample sizes make it more difficult to obtain precise impact estimates. Therefore, for small subgroups, we are likely to detect significant impacts only if the effects are relatively large. When we report that the effect for a small subgroup is not detectable (not statistically significant), it may mean that Upward Bound has no effect on that outcome for that subgroup or that there is an effect but that it was not large enough to be detected given the sample size. The evaluation would have had to have substantially more projects and students to reliably detect small impacts for each subgroup and small differences between subgroups.

## **A. THE EFFECT OF THE OPPORTUNITY TO PARTICIPATE IN UPWARD BOUND FOR SELECTED SUBGROUPS (ITT)**

### **1. Grade at Application to Upward Bound**

The grade at which a student applies to participate in Upward Bound may give us some insight into the motivation and attitudes of a student. Those students who learn about the program and apply earlier may be more motivated to continue their pursuit of education beyond high school. In some ways, this may be an indication of the educational expectations of a student, based on their actions rather than responses to questions. Additionally, applying earlier

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<sup>17</sup> In conducting the subgroup analyses, we assessed the sensitivity of the findings to alternative ways of measuring the outcomes, and present the results in Appendix I. We did not, however, conduct sensitivity analyses pertaining to sample weighting.

provides the opportunity for greater exposure to Upward Bound, the benefits of which are discussed in more detail in the next chapter.

For the 54 percent of students who applied in ninth grade or earlier, Upward Bound had no detectable effects on postsecondary enrollment or completion, either overall or by level (Table IV.1). Upward Bound increased the likelihood of receiving a Pell Grant, from 52 to 58 percent, for this subgroup of early applicants.

Relative to the effects for eligible applicants who applied early in high school, our findings suggest that Upward Bound had more detectable effects on postsecondary outcomes for the eligible applicants who applied in tenth grade or later. For this subgroup of later applicants, there is a significant three percentage point increase in any postsecondary enrollment, from 82 to 85 percent. There are also significant increases in financial aid applications (from 73 to 77 percent) and certificate or license completion (from three to nine percent). None of the differences between impacts for the early and late applicant groups is significant.

## **2. Applicants' Educational Expectations at the Time of Application to Upward Bound**

Earlier evaluation reports have found that Upward Bound has larger effects on the eligible applicants who did not expect to obtain a bachelor's degree at the time they applied for Upward Bound than for those who did. The findings in this report are less conclusive in terms of statistical significance of impacts—there are no statistically significant differences between the group impacts—but still suggest that the program may have some more favorable effects on eligible applicants with lower educational expectations (Table IV.2).

For the 20 percent of eligible applicants with lower educational expectations—those who did not expect to earn a bachelor's degree—Upward Bound had a detectable effect on overall postsecondary enrollment, increasing it from 70 to 75 percent, similar to the six percentage point

Table IV.1

## Impact of Upward Bound on Postsecondary Outcomes by Students' Grade at Application (ITT)

	10th Grade or Above at Application				9th Grade or Below at Application			
	Treatment Mean	Control Mean	Impact	P-value	Treatment Mean	Control Mean	Impact	P-value
<b>Postsecondary enrollment (%)</b>								
Any postsecondary enrollment	85.33	82.15	3.18 **	0.03	80.54	76.88	3.66	0.23
Highest level of schooling attended								
Four-year college or university	62.49	56.97	5.52	0.20	51.78	48.31	3.48	0.39
Two-year college	15.25	21.81	-6.56	0.26	23.16	22.88	0.28	0.89
Vocational institution	7.45	3.16	4.29	0.13	6.21	4.46	1.75	0.51
Highly selective four-year institution (%)	10.12	8.70	1.41	0.37	12.75	10.66	2.09	0.48
<b>Financial aid (%)</b>								
Applied for aid	76.95	72.51	4.44 *	0.08	69.31	68.22	1.09	0.78
Received Pell Grant	59.83	58.15	1.68	0.58	58.09	52.29	5.80 **	0.04
<b>Postsecondary completion (%)</b>								
Any degree, certificate, or license	44.84	41.51	3.33	0.21	34.03	30.09	3.94	0.12
Highest degree, certificate, or license								
Bachelor's degree or higher	26.06	24.64	1.41	0.56	20.47	19.43	1.04	0.80
Associate's degree	11.25	13.74	-2.48	0.30	4.53	5.93	-1.40	0.38
Certificate or license	9.38	3.13	6.25 **	0.04	8.02	4.73	3.29	0.25

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

# Indicates that the impact is significantly different at the 0.10 level from the impact for students who applied in 10th grade or later.

Table IV.2

## Impact of Upward Bound on Postsecondary Outcomes by Students' Educational Expectations (ITT)

	Lower Expectations				Higher Expectations			
	Treatment Mean	Control Mean	Impact	P-value	Treatment Mean	Control Mean	Impact	P-value
<b>Postsecondary enrollment (%)</b>								
Any postsecondary enrollment	75.48	69.93	5.56 *	0.07	85.99	82.74	3.25 ***	0.01
Highest level of schooling attended								
Four-year college or university	47.57	37.81	9.77	0.17	59.14	56.82	2.32	0.36
Two-year college	16.10	26.05	-9.95	0.17	19.27	21.51	-2.24	0.47
Vocational institution	11.12	4.69	6.43 **	0.02	6.31	3.65	2.67	0.36
Highly selective four-year institution (%)	12.76	6.51	6.25	0.22	12.32	11.20	1.12	0.71
<b>Financial aid (%)</b>								
Applied for aid	56.91	57.11	-0.21	0.98	75.85	74.23	1.63	0.43
Received Pell Grant	46.24	44.44	1.81	0.79	62.99	58.48	4.51 **	0.04
<b>Postsecondary completion (%)</b>								
Any degree, certificate, or license	39.31	27.29	12.02 **	0.05	39.92	37.97	1.95	0.32
Highest degree, certificate, or license								
Bachelor's degree or higher	17.80	12.70	5.10	0.33	24.81	24.44	0.36	0.90
Associate's degree	12.82	9.47	3.34	0.33	5.85	9.75	-3.89 **	0.03
Certificate or license	8.82	5.12	3.70	0.25	8.19	3.78	4.41	0.12

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

# Indicates that the impact is significantly different at the 0.10 level from the impact for students with lower expectations.

increase in enrollment in vocational institutions.<sup>18</sup> Unlike previous findings, treatment group members with lower expectations were not significantly more likely to attend a more selective four-year college or university than were control group members with lower expectations; although the estimated rate at which they attended highly selective institutions nearly doubled, this impact is not significant. Findings for postsecondary completion differed from the pattern for enrollment: there were separate increases in four-year, two-year, and other degrees that were each not statistically significant, but the overall rate of completion for sample members with lower expectations rose by a significant 12 percentage points, and reached the rate for sample members with higher expectations.

Our findings suggest that Upward Bound also had a few detectable effects on postsecondary outcomes for the 80 percent of eligible applicants with higher educational expectations—those who expected to earn a bachelor’s degree when they applied to Upward Bound. For this subgroup, there is a significant increase in any postsecondary enrollment of three percentage points and a significant decrease in associate’s degrees of four percentage points. There is also a significant increase in the likelihood of receiving a Pell Grant.

### **3. Level of Ninth-Grade Mathematics Class**

Targeting Upward Bound services to students based on their self-expressed expectations at the time of application to Upward Bound presents potential challenges. If Upward Bound projects began to screen applicants based on their educational expectations and it became common knowledge that applicants with lower expectations were more likely to be admitted than were applicants with higher expectations, applicants would face a strong incentive to understate their educational expectations in the application process.

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<sup>18</sup> Looking across the various measures of enrollment (see Appendix I), the largest estimated effect on four-year college or university enrollment by sample members with lower educational expectations is 21.0 percentage points, based on the measure that uses only fifth follow-up survey data. This is similar to the 20 percentage point survey-based effect reported in Myers et al. (2004).



In light of these practical limitations, we also examine whether Upward Bound has effects on subgroups defined by an alternative measure of academic expectations—the level of ninth-grade mathematics class taken.<sup>19</sup> In particular, we define subgroups based on whether a sample member’s ninth-grade mathematics class was below the level of algebra or at the level of algebra or above. Students who do not take algebra or a course above algebra in ninth grade would not generally be considered to be on a “college track,” so this can be used as an indication of whether the student expects and is preparing to attend a four-year college or university. Among eligible Upward Bound applicants, approximately two-thirds took algebra or above in ninth grade and approximately one-third took a course below algebra.<sup>20</sup>

We find that Upward Bound has significantly different effects on overall postsecondary enrollment and enrollment at two-year institutions for the two subgroups (Table IV.3). Among sample members who took a course below algebra, treatment group members were nearly seven percentage points more likely than control group members to enroll in any postsecondary institution. For sample members who took algebra or higher, the impact on overall enrollment is an insignificant decrease of one percentage point. The impact on attendance at two-year institutions is a significant six percentage point decrease for this subgroup, whereas it is an insignificant two percentage point increase for the sample members who took a course below algebra in ninth grade. There were significant increases in the likelihood of receiving a Pell Grant for both subgroups.

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<sup>19</sup> For students who applied to Upward Bound in eighth or ninth grade, this measure, like ninth-grade GPA, is based on ninth-grade transcripts, and could be affected by participation in Upward Bound if the program has an immediate effect on high school courses taken and achievement in those courses.

<sup>20</sup> Among eligible Upward Bound applicants, 76 percent of those who took a course below algebra in ninth grade reported that they expected to earn a bachelor’s degree or above, as compared with 87 percent of those who took algebra or above. Although the level of ninth-grade mathematics class is far from a perfect predictor of self-reported educational expectations, the percentage of applicants with high self-reported expectations is significantly different between the two groups defined by the level of ninth-grade mathematics class. Furthermore, the subgroups defined by ninth-grade mathematics class are interesting in their own right.

Table IV.3

Impact of Upward Bound on Postsecondary Outcomes by Students' Ninth-Grade Math Class (ITT)

	Took Course Below Algebra				Took Algebra or Above				
	Treatment Mean	Control Mean	Impact	P-value	Treatment Mean	Control Mean	Impact	P-value	
<b>Postsecondary enrollment (%)</b>									
Any postsecondary enrollment	72.29	65.75	6.54 **	0.01	86.46	87.35	-0.89	0.80	#
Highest level of schooling attended									
Four-year college or university	41.23	36.87	4.37	0.20	62.55	60.66	1.89	0.62	
Two-year college	24.51	22.56	1.95	0.45	17.03	22.98	-5.95 *	0.06	#
Vocational institution	5.75	5.37	0.38	0.79	7.16	3.26	3.90	0.20	
Highly selective four-year institution (%)	7.79	5.68	2.11	0.20	14.23	12.29	1.94	0.47	
<b>Financial aid (%)</b>									
Applied for aid	65.34	61.25	4.09	0.12	78.97	76.70	2.27	0.26	
Received Pell Grant	49.86	42.09	7.78 **	0.02	67.03	62.50	4.53 **	0.04	
<b>Postsecondary completion (%)</b>									
Any degree, certificate, or license	25.29	23.01	2.29	0.51	44.41	41.36	3.04	0.21	
Highest degree, certificate, or license									
Bachelor's degree or higher	12.39	8.92	3.47	0.12	26.95	27.93	-0.98	0.81	
Associate's degree	5.32	8.10	-2.78	0.18	8.04	10.11	-2.07	0.32	
Certificate or license	7.23	5.98	1.25	0.39	9.25	3.32	5.93 *	0.09	

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

# Indicates that the impact is significantly different at the 0.10 level from the impact for students with a ninth-grade math class lower than algebra.

#### **4. Grade Point Average in Ninth Grade**

This measure divides sample members into two roughly equal-sized subgroups: those with ninth-grade GPAs greater than or equal to 2.5 and those with ninth-grade GPAs less than 2.5. The results reveal several significant differences in impacts between the subgroups, and indicate that Upward Bound has larger effects on enrollment and financial aid for eligible applicants with higher academic performance in ninth grade and larger effects on completion for eligible applicants with lower academic performance in ninth grade (Table IV.4).

For eligible applicants with higher ninth-grade GPAs (above 2.5), Upward Bound had significant effects on overall postsecondary attendance, attendance at two- and four-year institutions, and attendance at more selective four-year institutions. In this higher GPA group, treatment group members were three percentage points more likely than control group members to enroll in any postsecondary institution. There were also significant shifts by type of institution, with an increase in attendance at four-year institutions (eight percentage points) and a decrease in attendance at two-year institutions (seven percentage points). Treatment group members with higher GPAs were also six percentage points more likely to enroll in a more selective four-year institution. Among the higher GPA group, treatment group members were more likely to apply for financial aid and receive a Pell Grant, both by six percentage points. The impacts on four-year college or university enrollment did not translate to higher rates of postsecondary completion, with overall completion falling insignificantly, driven by a significant four percentage point drop in associate's degrees and no significant increase in the likelihood of earning a bachelor's degree.

In contrast, Upward Bound had no detectable effects on postsecondary enrollment, overall and by type, on financial aid application and receipt, and on completion of bachelor's or associate's degrees, for eligible applicants with lower ninth-grade GPAs (below 2.5). However,

Table IV.4

## Impact of Upward Bound on Postsecondary Outcomes by Students' Ninth-Grade GPA (ITT)

	Grade Point Average Above 2.5				Grade Point Average Below 2.5				
	Treatment Mean	Control Mean	Impact	P-value	Treatment Mean	Control Mean	Impact	P-value	
<b>Postsecondary enrollment (%)</b>									
Any postsecondary enrollment	91.13	88.51	2.62 *	0.10	72.67	72.39	0.27	0.95	
Highest level of schooling attended									
Four-year college or university	76.47	68.17	8.30 **	0.03	38.01	40.15	-2.14	0.41	#
Two-year college	10.66	17.40	-6.74 ***	0.01	23.94	26.18	-2.25	0.72	
Vocational institution	1.70	2.74	-1.05	0.30	9.62	4.82	4.80	0.14	
Highly selective four-year institution (%)	19.45	13.06	6.39 ***	0.01	3.82	7.81	-3.99	0.18	#
<b>Financial aid (%)</b>									
Applied for aid	87.63	81.99	5.64 **	0.01	61.30	61.47	-0.17	0.95	#
Received Pell Grant	74.61	68.20	6.41 **	0.02	46.52	46.30	0.21	0.96	
<b>Postsecondary completion (%)</b>									
Any degree, certificate, or license	47.86	51.25	-3.39	0.48	30.27	23.76	6.51 **	0.01	#
Highest degree, certificate, or license									
Bachelor's degree or higher	35.73	35.26	0.48	0.92	11.58	12.52	-0.93	0.73	
Associate's degree	7.85	12.13	-4.28 *	0.06	7.12	7.10	0.02	0.99	#
Certificate or license	4.02	3.86	0.16	0.92	10.41	4.14	6.26 *	0.09	

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Treatment group mean and impact estimate obtained using regression adjustment to account for chance imbalances in background covariates between treatment and control groups. Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

# Indicates that the impact is significantly different at the 0.10 level from the impact for students with a ninth-grade grade point average above 2.5.

treatment group members with lower GPAs were six percentage points more likely than control group members with lower GPAs to earn a certificate or license but no higher degree, leading to a significant seven percentage point increase in postsecondary completion overall.

## **B. THE EFFECT OF PARTICIPATION IN UPWARD BOUND ON SELECTED SUBGROUPS (CACE)**

In the subgroups defined by the grade at application and ninth-grade GPA, the pattern of statistically significant CACE effects is exactly the same as the pattern of statistically significant ITT effects. Generally, most of the patterns of effects are similar for subgroups defined by ninth-grade math course. The exception is that the CACE effect on the completion of a bachelor's degree or higher is statistically significant for sample members who took a course lower than algebra in ninth grade. For the subgroups of eligible applicants defined by self-reported educational expectations, the pattern of effects of participation in Upward Bound is again very similar to the pattern of effects of being offered the opportunity to participate in Upward Bound.

Although the point estimate of the CACE effect is generally larger than the ITT effect estimate, the standard error also increases, leading to similar results with regard to statistical significance. The larger standard error (seen for many outcomes) of the CACE effect is attributable to the estimation of additional parameters, specifically those relating participation in Upward Bound to assignment to the treatment or control group.



## V. THE EFFECT OF ADDITIONAL UPWARD BOUND PARTICIPATION ON POSTSECONDARY OUTCOMES

It is possible that students would reap larger benefits from Upward Bound if they spent more time in the program. The typical participant remains in Upward Bound for a little more than a year and a half, and most participants—61 percent—do not complete the program. In this chapter, we describe the relationships between postsecondary outcomes and two measures of the extent to which students participated in Upward Bound—the duration of program participation and program completion. In measuring these relationships, we attempt to estimate the effects of additional participation on postsecondary outcomes. As we describe later, the estimated effects of additional participation may overstate the true effects due to selection bias. With this caution in mind, our findings suggest that keeping students in Upward Bound for longer periods may substantially improve their postsecondary outcomes.

### A. RESEARCH QUESTIONS

To assess the potential for keeping students in Upward Bound for longer periods of time, we classified participants as *low-duration* (1 to 12 months of participation), *medium-duration* (13 to 24 months of participation) or *high-duration* (25 or more months of participation), and also as program *completers* (still participating in the spring of senior year) or *noncompleters*. Among Upward Bound participants, 36 percent participate for 1 to 12 months, 29 percent participate for 13 to 24 months and 35 percent participate for 25 or more months; 39 percent complete the program (see Table V.1). These figures suggest that there is considerable opportunity to increase the completion rate and the length of time that participants remain in the program.

To better understand the potential effects of Upward Bound retention on postsecondary outcomes, we address two research questions:

1. For *low-duration* and *medium-duration* participants, how would their postsecondary outcomes change if they participated for an additional year?
2. For *noncompleters*, how would their postsecondary outcomes change if they completed Upward Bound?

## **B. RESEARCH METHODS**

To answer these questions, we compared the outcomes for students with relatively low levels of participation to those for students with relatively high levels of participation. A simple comparison of students with different levels of Upward Bound participation, however, may fail to reveal the effects of additional participation. While random assignment ensures that there will be no systematic differences between treatment and control students, it does not ensure there will be no differences between completers and noncompleters or among students who choose to participate in Upward Bound for different lengths of time. The characteristics of students may influence how long they choose to participate in Upward Bound and whether they complete Upward Bound. If so, the average characteristics of students will vary with the level of Upward Bound participation. For example, we found that students who participate in Upward Bound for longer periods of time are more likely to be female and have higher educational expectations than students who participate for shorter periods; we find similar differences between completers and noncompleters. Therefore, we cannot infer the effects of additional Upward Bound participation simply from differences in average outcomes between shorter- and longer-duration participants and between completers and noncompleters.



Table V.1  
Duration of Upward Bound Participation and Completion Rates, Excluding No-Shows

	Mean Duration	Distribution of Duration (Months)			Completion Rate
		1-12	13-24	25+	
<b>All Cohorts of Participants</b>	20.2	36.4	29.1	34.6	39.0
<b>Gender</b>					
Male	19.1	40.4	30.7	28.9	30.3
Female	20.8	34.5	28.2	37.3	43.2
<b>Race / Ethnicity</b>					
White	21.1	30.1	37.8	32.1	37.2
African-American	20.9	37.2	26.3	36.6	39.3
Hispanic	18.1	41.5	24.1	34.4	42.0
Other Race	19.5	35.3	34.5	30.2	34.7
<b>Grade at Application</b>					
Grade 8	28.8	29.8	15.5	54.7	29.8
Grade 9	20.5	37.6	20.8	41.7	31.7
Grade 10	18.5	35.2	39.5	25.3	49.3
Grade 11	12.2	43.6	56.4	0.0	55.6
<b>Upward Bound Eligibility</b>					
Low-income and first-generation	20.2	34.8	30.8	34.4	40.5
Low-income only	22.4	28.3	35.0	36.7	40.3
First generation only	19.5	46.8	18.3	34.9	31.3
<b>Educational Aspirations</b>					
Did not expect to attend college	18.0	34.6	25.7	39.6	6.1
Expected to attend some college	18.5	55.7	3.4	40.9	38.5
Expected to earn an Associate's degree	18.0	38.5	37.5	24.0	36.4
Expected to earn a Bachelor's degree	19.7	38.5	27.7	33.8	42.3
Expected to earn a Master's degree	24.1	25.3	28.2	46.5	46.2
Expected to earn a Ph.D.	21.5	36.4	27.0	36.6	37.4
<b>Number of Students</b>	<b>1,264</b>	<b>377</b>	<b>449</b>	<b>438</b>	<b>1,264</b>

Source: Participation data provided by Upward Bound project staff.

Because students with different levels of Upward Bound participation have different characteristics, we used statistical matching to select samples of shorter- and longer-duration participants with similar observed characteristics and samples of noncompleters and completers with similar characteristics. Unlike random assignment, which ensures two statistically

equivalent groups that are similar in terms of observed and unobserved characteristics, the matching procedures can only create groups that are similar in terms of observed characteristics.

To measure the potential effects of participating in Upward Bound for an additional year, we matched low-duration participants to similar medium-duration participants, and we matched medium-duration participants to similar high-duration participants. These matches allow us to simulate what the outcomes of low-duration participants would have been had they instead been medium-duration participants and what the outcomes of medium-duration participants would have been had they instead been high-duration participants. Likewise, to measure the potential effects of program completion, we matched noncompleters to similar completers. The matching process ensured that matched samples contained participants with similar observed characteristics; we used propensity score matching to select the matched samples (see Appendix F for additional details).

Once matching was completed, we estimated program effects using the same methods employed throughout this report. For example, consider the comparison of noncompleters to similar completers. The completer-noncompleter difference in mean outcomes provides an estimate of the potential benefit of additional Upward Bound participation. Mean outcomes were regression-adjusted with the same logistic model used throughout the report to compute the impacts of the opportunity to participate in Upward Bound.<sup>21</sup> Although the matched samples were observationally similar, they may differ in ways not revealed by the data collected for the evaluation. For example, our matched samples of completers and noncompleters may differ in their motivation to attend college. Unobserved differences between matched samples may bias the estimates presented in the next section.

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<sup>21</sup> The model used the same variables that were included as control variables in our regression analyses (see Table II.2), excluding the indicator for Project 69 and its interactions with the other variables.

## **C. THE EFFECT OF ADDITIONAL UPWARD BOUND PARTICIPATION**

Though subject to the caveats discussed in this chapter, findings from this analysis suggest that longer program participation or program completion may yield large, positive effects on several postsecondary outcomes.

### **1. Postsecondary Enrollment**

Our findings suggest that Upward Bound would encourage postsecondary enrollment among more shorter-duration participants—students who participated for no more than 24 months—if it could keep them in the program longer. An additional year of Upward Bound participation increases enrollment at four-year institutions, raising it by nine percentage points (see Table V.2).

Our findings also suggest that Upward Bound would have a larger effect on noncompleters if it retained them through high school graduation (see Table V.3). If noncompleters remained in Upward Bound through program completion, we estimate that they would, on average, participate for an additional 18 months, as the average duration was just over thirteen months for noncompleters and more than 31 months for completers. The impact estimate of Upward Bound completion for any postsecondary enrollment is 19 percentage points, raising enrollment from 77 to 96 percent. The effect of program completion on postsecondary enrollment operates primarily through increased enrollment in a four-year college or university, raising it by 27 percentage points. These effects of program completion are much more pronounced than the effects from increased program duration.

Table V.2  
Quasi-Experimental Impact of an Additional Year of Upward Bound on Postsecondary Outcomes

	Mean for Longer-Duration Participants	Mean for Shorter-Duration Participants	Impact	P-value
<b>Postsecondary enrollment (%)</b>				
Any postsecondary enrollment	81.10	76.22	4.88	0.12
Highest level of schooling attended				
Four-year college or university	54.81	45.39	9.41 ***	0.00
Two-year college	21.48	24.61	-3.12	0.28
Vocational institution	3.81	5.28	-1.47	0.46
Highly selective four-year institution (%)	14.81	10.54	4.27 **	0.03
<b>Financial aid (%)</b>				
Applied for aid	75.81	69.91	5.89 **	0.03
Received Pell Grant	58.91	54.34	4.58	0.13
<b>Postsecondary completion (%)</b>				
Any degree, certificate, or license	37.77	29.53	8.24 ***	0.01
Highest degree, certificate, or license				
Bachelor's degree or higher	22.09	16.71	5.39 **	0.04
Associate's degree	9.24	6.92	2.31	0.26
Certificate or license	6.44	6.47	-0.03	0.98

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Shorter-duration participants participated in Upward Bound for 1-12 or 13-24 months. They were statistically matched (based on propensity scores) to observationally similar longer-duration participants who participated in Upward Bound for an additional year (see Appendix F for more details). The estimated effects of additional participation, which were obtained by using quasi-experimental methods and making strong assumptions, may substantially overstate the true effects due to selection bias.

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

We have also examined the effect of longer participation and completion on the selectivity of the four-year institutions attended by Upward Bound participants. Longer Upward Bound participation increased the likelihood of attending a highly selective four-year college or university by four percentage points. For noncompleters, Upward Bound completion would also raise the likelihood of attending a highly selective four-year institution as indicated by the ten percentage point impact estimate.

Table V.3  
Quasi-Experimental Impact of Upward Bound Completion on Postsecondary Outcomes

	Mean for Completers	Mean for Noncompleters	Impact	P-value
<b>Postsecondary enrollment (%)</b>				
Any postsecondary enrollment	95.55	77.04	18.51 ***	0.00
Highest level of schooling attended				
Four-year college or university	68.75	41.64	27.12 ***	0.00
Two-year college	23.50	28.18	-4.68	0.19
Vocational institution	3.12	4.91	-1.79	0.37
Highly selective four-year institution (%)	19.42	9.51	9.91 ***	0.00
<b>Financial aid (%)</b>				
Applied for aid	89.02	67.84	21.18 ***	0.00
Received Pell Grant	71.96	52.19	19.77 ***	0.00
<b>Postsecondary completion (%)</b>				
Any degree, certificate, or license	46.61	28.07	18.53 ***	0.00
Highest degree, certificate, or license				
Bachelor's degree or higher	34.41	13.27	21.14 ***	0.00
Associate's degree	6.72	7.06	-0.34	0.87
Certificate or license	5.48	7.19	-1.71	0.30

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Upward Bound completers were still participating in the program in the spring of their senior year, while noncompleters were no longer participating at that time. Noncompleters were statistically matched (based on propensity scores) to observationally similar completers (see Appendix F for more details). The estimated effects of completion, which were obtained by using quasi-experimental methods and making strong assumptions, may substantially overstate the true effects due to selection bias.

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

## 2. Financial Aid

Our estimates suggest that an additional year of Upward Bound participation would increase the likelihood of applying for financial aid by six percentage points. The evidence also suggests that the impact is substantially larger for completers, as the estimated impacts of program completion are 21 percentage points for aid application and 20 points for Pell Grant receipt.

### **3. Postsecondary Completion**

Longer participation in Upward Bound increases the likelihood of completing any postsecondary credentials, with a statistically significant eight percentage point impact. Parallel to the effect of longer participation on postsecondary enrollment, the positive effect of longer participation on overall postsecondary completion appears to be driven by an increase in the likelihood of completing a degree at a four-year institution (an increase of five percentage points). Longer participation did not have a detectable effect on the likelihood of completing an associate's degree or a certificate or license. Our estimates show similar, though much larger, positive effects of Upward Bound completion on the likelihood of completing a postsecondary credential. The impact estimate for any postsecondary credential is 21 percentage points, primarily attributable to an 18 percentage point increase in the likelihood of completing a bachelor's degree.

### **D. INTERPRETATION OF THE FINDINGS**

The potential effects of retaining Upward Bound participants who would otherwise leave the program early may be large, with estimates suggesting that additional participation would raise the postsecondary enrollment and completion rates for shorter-duration participants and noncompleters. However, we suspect the true effects of additional participation are probably smaller than the estimates presented in this chapter. Although we used rigorous statistical methods in our analysis, we could not randomly assign students to different levels of Upward Bound participation. Because participants decide how long to participate and whether to complete the program (unless they are expelled), the groups may differ along many dimensions, including unmeasured characteristics like the motivation to attend college. If so, the estimated effects of additional participation, based on comparisons between these groups, may be partly

attributable to differences in motivation that predated the Upward Bound participation of these students.

While this selection bias could be positive or negative, we suspect that it leads us to overestimate the effects of additional participation. It seems likely that more motivated students participate longer in Upward Bound and complete Upward Bound at higher rates than less motivated students, leading to higher levels of motivation among longer-duration participants and completers. If more motivated students tend to enroll in college at higher rates than less motivated students, longer-duration participants and completers would have higher college enrollment rates than shorter-duration participants and noncompleters. While matching may reduce the motivational differences between the samples, we expect that remaining unobserved differences partially explain the large positive effects of additional participation and completion reported in this chapter.





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## **APPENDIX A**

### **SAMPLE DESIGN, UNIT NONRESPONSE, AND WEIGHTS**



In this appendix, we describe how the treatment and control samples were selected for the Upward Bound evaluation. We also describe how weights were assigned to members of both samples to account for the sample design and the missing data attributable to unit nonresponse.

## **A. SAMPLE DESIGN**

For the impact study, a two-stage process was used to select a nationally representative sample of eligible Upward Bound applicants. First, a nationally representative sample of Upward Bound projects was selected to serve as primary sampling units (PSUs). Second, eligible applicants in the projects were randomly assigned to treatment and control groups.

### **1. First-Stage Sampling: Selection of Projects**

The universe of projects for the impact study—the collection of projects whose students were eligible to be selected for the study sample—consisted of active regular Upward Bound projects that (1) are located in the 50 states and the District of Columbia, (2) are hosted by postsecondary educational institutions, (3) had operated for at least three years by October 1992, and (4) were not serving only students with physical disabilities. Veteran’s projects and Math-Science projects are not considered regular projects. During the period when the impact study sample of students was being selected (roughly May 1992 through March 1994), 395 Upward Bound projects met the definition of the universe.<sup>1</sup>

From the universe of 395 projects, we selected a sample of 70 projects by using stratified random sampling: each project in the universe was assigned to a group of projects (a stratum), with a sample drawn from each stratum. Alternative sample designs were considered, and one was chosen to balance the competing needs of the evaluation. The sampling rates for the chosen design varied substantially across strata defined by location (urban or rural), type and control of

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<sup>1</sup> Some projects funded in the 1989–1992 grant cycle were defunded in the 1992–1995 grant cycle and therefore eliminated from the universe. Projects newly funded in the 1992–1995 and later grant cycles were also excluded from the universe.

the host institution (two- or four-year, public or private), size, and racial composition, and some projects had a much greater chance of selection than others. Objectives of such a design included assuring the Upward Bound community that some relatively rare types of projects were adequately represented and, if policy interest later emerged, allowing more precise estimates of Upward Bound's effects on particular applicant and project subgroups, even though estimates for other subgroups and the full sample would be less precise as a result of variability in project selection probabilities and, therefore, sample weights. In addition to the substantial overrepresentation—relative to the full universe of projects—of some types of projects with less common characteristics, this sample design yielded substantial underrepresentation of some types of projects with more common characteristics.

Table A.1 displays the 46 strata used to select projects in the first-stage sampling for the impact study. It also shows, for each stratum, the number of projects in the universe, the number of projects selected for the sample, and the number of projects in which random assignment of students was carried out. Within each stratum, projects were selected by using simple random sampling without replacement. Thus, although selection probabilities varied across strata, each project in a given stratum had the same chance of selection. That chance equals the number of selected projects divided by the number of projects in the universe in that stratum.<sup>2</sup> The wide range of sampling probabilities of the projects (as well as variation in the number of applications received by projects) led to an unequal distribution of weights across projects (see Table A.2). Appendix G assesses sensitivity of the results to the redistribution of weights using a variety of methods.

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<sup>2</sup> Three of the projects in the sample are backups selected randomly from the same strata as three originally selected projects for which it was determined that random assignment would be inappropriate. Two of the three originally selected projects were operating under special administrative provisions, and the third project had, for several years, been unable to fill all available openings. The three projects replaced by backups are included in the universe counts in Table A.1.



Table A.1  
Selection of Upward Bound Projects for the Impact Study

Stratum	Number of Projects		
	Universe	Sample	
		Selected	Respondents <sup>a</sup>
<b>Urban: Four-year, Public</b>			
Small:			
	African American <sup>b</sup>	14	2
	Latino	4	1
	Other	7	1
Medium:			
	Asian	5	2
	Native American	2	1
	Latino	9	2
	Other	56	1
Large:			
	African American	25	3
	Latino	6	3
	White	2	1
	Other	6	1
<b>Urban: Four-year, Private</b>			
Small:			
	African American	8	1
	Other	5	1
Medium:			
	Asian	4	1
	African American	38	3
	Latino	3	2
	Other	5	1
Large:			
	Asian	2	1
	African American	22	5
	Other	3	1
<b>Urban: Two-year</b>			
Small:			
	Native American	1	1
	African American	9	3
	Latino	3	1
	Other	5	1
Medium:			
	Asian	2	1
	African American	10	3
	Other	4	1
Large:			
		3	1

Table A.1 (continued)

Stratum	Number of Projects		
	Universe	Sample	
		Selected	Respondents <sup>a</sup>
<b>Rural: Four-year, Public</b>			
Small:			
White	6	1	1
Other	6	1	1
Medium:			
Native American	7	3	2
Latino	4	1	1
Other	30	1	1
Large:			
African American	5	1	1
Other	10	2	2
<b>Rural: Four-year, Private</b>			
Small	7	1	1
Medium	14	2	2
Large	4	1	1
<b>Rural: Two-year</b>			
Small:			
African American	4	2	2
White	5	1	1
Other	6	1	1
Medium:			
African American	5	1	1
White	8	2	2
Other	5	1	1
Large:			
White	3	1	1
Other	3	1	1
<b>Total</b>	<b>395</b>	<b>70</b>	<b>67</b>

<sup>a</sup> Respondents are projects in which random assignment was carried out.

<sup>b</sup> At least 50 percent of the students served by "African American projects" are classified as African American according to the 1990-91 Upward Bound performance reports. Native American, Latino, and White projects are similarly defined. (Native American includes Alaskan Native.) For Asian projects, at least 25 percent of the students served are classified as Asian or Pacific Islander.

Table A.2  
Weight Shares of Each Project

37	0.05	76	0.50	28	0.90	70	1.46
48	0.11	51	0.51	72	0.90	73	1.54
59	0.13	61	0.52	13	0.96	67	1.70
47	0.17	44	0.52	12	0.99	22	1.78
29	0.19	24	0.53	62	1.04	20	1.89
38	0.24	77	0.54	71	1.06	60	1.91
75	0.26	15	0.55	54	1.10	63	1.95
81	0.27	57	0.55	39	1.10	55	2.29
68	0.31	31	0.58	80	1.11	45	2.61
17	0.34	35	0.59	16	1.14	46	2.62
33	0.36	49	0.59	78	1.15	52	2.82
43	0.36	34	0.64	36	1.17	50	2.90
74	0.37	18	0.69	41	1.19	40	3.30
19	0.41	27	0.69	32	1.35	79	3.42
64	0.44	11	0.75	23	1.37	30	6.72
82	0.44	56	0.80	66	1.40	69	26.38
58	0.47	26	0.88	21	1.46		

Strata are defined, in part, by cross-tabulating three stratifying variables: (1) location of the host institution, (2) type and control of the host institution, and (3) project size. Type and control was ascertained from the 1990–1991 Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics file. The project size variable has three categories: (1) small (60 or fewer students), (2) medium (61 to 99 students), and (3) large (100 or more students). Enrollment figures were obtained from the 1990–1991 Upward Bound performance reports.

Although some strata are defined entirely in terms of the location, type, and size variables, many strata are defined by also taking into account projects’ racial/ethnic composition. At least 25 percent of the students served by “Asian projects” are classified as Asian or Pacific Islander. For a Native American (including Alaskan Native), African American, Latino, or white project, at least 50 percent of the students served by the project are classified as members of the specified racial/ethnic group. Data on race/ethnicity were obtained from Upward Bound performance reports.

When possible, projects were sampled proportionately by racial/ethnic composition within classifications based on the other three stratifying variables. Thus, differences by racial/ethnic composition in the overall rates at which projects were sampled are partly attributable to disproportionate sampling by size and by type and control. Small projects, large projects, and projects hosted by two-year postsecondary institutions were oversampled to provide adequate sample sizes for subgroup analyses. In addition, however, the Department of Education required the inclusion in the sample of substantial numbers of predominantly Asian, Native American, and Latino projects. Highly disproportionate and, therefore, unequal sampling rates were required to obtain such overrepresentation of these projects given that they are relatively rare in the universe of Upward Bound projects.

## **2. Second-Stage Sampling: Selection of Students**

For each project selected in the first stage, we identified its main recruiting period(s)—typically spring 1993, fall 1993, or both—that fell during the student sample intake period for the impact study (roughly October 1992 to March 1994). With few exceptions, eligible students applying to Upward Bound during a project’s main recruiting period(s) were selected with certainty for the baseline impact study sample and subject to random assignment to treatment (Upward Bound) and control groups. The exceptions were students designated as “exempt” from random assignment and students randomly chosen as “givebacks.” We discuss these exceptions after describing how random assignment was conducted.

### **a. Random Assignment**

When a project had completed recruiting for a given recruiting period, we selected eligible applicants at random to fill all available program openings. Eligible applicants not selected for Upward Bound and assigned to the treatment group were assigned to the control group or, more

accurately, to a waiting list that could be used to fill certain future program openings. The next section discusses the waiting list and students selected from it, so-called post-initial treatments (PITs).<sup>3</sup>

At least one round of random assignment was conducted in each of 67 projects.<sup>4</sup> In 17 projects with more than one recruiting period, there were two or more rounds of random assignment. We conducted a total of 87 rounds of random assignment.

Many Upward Bound project directors were concerned that the element of chance introduced by random assignment could severely unbalance the student composition of their programs. For example, it would be possible for all students in a cohort to come from just one target school or to be female. The former outcome could have seriously damaged relationships with target schools whose students were not selected while the latter outcome might have hampered program operations if enough dormitory rooms were not available for females during the summer session. Therefore, project directors were allowed to specify random assignment strata and, subject to the existence of enough eligible applicants, to allocate available program openings across the strata to obtain the desired mix of students.<sup>5</sup> In all, there were 339 random assignment strata. Within a given stratum, random assignment was conducted as described

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<sup>3</sup> As discussed later, students designated as post-initial treatments are not necessarily members of the treatment group for baseline or follow-up analyses.

<sup>4</sup> As indicated in Table A.1, we did not conduct random assignment in three of the 70 projects selected for the sample. The stated policy of one of those three projects was to serve all eligible applicants. Although not policy, the practice of another project was also to serve all eligible applicants because just enough students were available to fill program openings, leaving none to form a control group. The third project suffered a cut in funding and had no openings for new students. These three projects could not be replaced by backups even though, as noted earlier, three other projects in which random assignment could not be carried out had been replaced. Backups could not be selected because random assignment was determined to be infeasible only after it had been announced that no additional projects would be selected for the impact study. Failure to carry out random assignment in originally selected projects may introduce bias of unknown direction and magnitude into sample estimates.

<sup>5</sup> Stratification was also needed in some instances to ensure that a project did not violate the federal requirement that two-thirds of the project's students must demonstrate both low-income status and potential first-generation college student status. For projects with several rounds of random assignment, each round had its own set of strata.

earlier, selecting eligible applicants in the stratum at random to fill the available openings and assigning to the waiting list students not picked for Upward Bound.

**b. Exemptions, Givebacks, and PITs**

**Exemptions.** At the request of Upward Bound project directors a very small number of students applying to Upward Bound were exempt from random assignment. The project directors determined that the random assignment of such students could be unusually or permanently disruptive to normal program operations. For example, if a project and a local child protective services agency had an agreement that all eligible students referred by the agency would be accepted into Upward Bound, that agreement was not violated for the evaluation, and students referred during the sample intake period were exempt from random assignment. Strict policies of accepting all or no siblings into the program were honored; these policies accounted for a few exemptions. For instance, one of a pair of twins applying to a project with such a policy was exempt from random assignment while the other twin was subject to random assignment. The exempt twin would be allowed to participate in Upward Bound only if the nonexempt twin were randomly assigned to the treatment group. All exempt students were designated as nonresearch cases and excluded from all analyses.

**Givebacks.** Some projects recruited many more eligible applicants than were needed to fill available program openings and form an adequately sized control group. In such instances, we randomly selected students from the control group and “gave them back” to the projects immediately after random assignment. Projects could select the givebacks to fill program openings when the impact study’s student intake period closed. Although subject to random assignment, givebacks are not part of the baseline or follow-up samples. All 97 givebacks (distributed across 11 projects) are nonresearch cases.

**PITs.** After their selection for Upward Bound, some students never enter the program; other students enter but leave before completing the program. Therefore, Upward Bound projects typically maintain waiting lists of students so that program directors can fill openings without either mounting a full-scale recruiting effort or waiting until the next recruiting period.

During the sample intake period for the evaluation, projects were not allowed to maintain their own waiting lists: all nonexempt applicants were subject to random assignment.<sup>6</sup> To enable projects to maintain full enrollment under such conditions, we assigned students not selected for Upward Bound to an evaluation waiting list rather than to a strict control group. Students could be randomly selected from the evaluation waiting list to fill program openings, although such use of the waiting list was subject to time and size restrictions. Specifically, students could not be selected from the waiting list after a certain date—typically, the start of the next recruiting period. In addition, for a given random assignment stratum, a student could not be selected from the waiting list if the selection of a student reduced the number of students remaining on the waiting list to less than about two-thirds the number of students originally assigned to the treatment group. Students randomly selected from the evaluation waiting list are designated as PITs. The next section discusses how PITs are used in the baseline and follow-up analyses.

## **B. WEIGHTING**

Students were assigned weights that we have used in estimating impacts. Weighting has four purposes. First, it ensures that the sample “weights up” to the universe, producing correct

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<sup>6</sup> Even students who applied to Upward Bound and were placed on a project’s waiting list before the study’s sample intake period were generally subject to random assignment. The only exceptions were students previously promised admission when openings became available. Such students were among the small number of exemptions.

totals (subject to sampling variability).<sup>7</sup> Second, for purposes of estimation, weighting “undoes” the effects of disproportionate sampling so that two strata with the same number of students in the universe are counted equally, even if the strata have different numbers of students in the sample. Appropriate weighting is needed to generalize results to the national Upward Bound program. Third, using weights is critical to capturing the imprecision in the sample design associated with variability in the weights. Fourth, weighting adjusts for nonresponse.

In the following sections, we describe how we assigned baseline and fifth follow-up weights. To exclude exemptions and givebacks from all analyses, we assigned them zero baseline and fifth follow-up weights. In contrast, all PITs were included in the baseline analyses and received nonzero baseline weights. As discussed later, a PIT’s assignment of a nonzero fifth follow-up weight depended on when that student was selected from the evaluation waiting list.

## 1. Baseline Weights

We assigned nonzero baseline weights to 3,028 students—all nonexempt students except givebacks.<sup>8</sup> A student’s baseline weight is:

$$w = \frac{1}{\text{project selection probability}} \times \frac{(\text{number of applicants})_s}{(\text{number of applicants} - \text{number of givebacks})_s},$$

where  $s$  indexes the student’s random assignment stratum. This baseline weight is the inverse of the student’s probability of selection for the baseline sample. That selection probability is:

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<sup>7</sup> For example, without weighting, a total estimated from a simple one-in-two random sample would, on average, fall short of the true (population) total by 50 percent.

<sup>8</sup> For the baseline sample, students were designated as treatments or controls based on their initial random assignment status. Students initially selected for Upward Bound are treatments while students initially placed on the evaluation waiting list, including students who later became PITs, are controls.



$$p = \text{project selection probability} \times \frac{(\text{number of applicants} - \text{number of givebacks})_s}{(\text{number of applicants})_s}.$$

The first term is the project selection probability in the first stage of sampling, that is, the probability that the project to which the student applied was selected. The second term is the student selection probability in the second stage of sampling, that is, the probability that the student was selected *conditional* on the selection of the student's project. In other words, the second term equals the probability that the student remained in the experimental sample after random assignment, which equals the probability of not being selected as a giveback. The product of the first and second terms gives the student's overall (unconditional) probability of selection for the evaluation. The first-stage probability equals the proportion of all projects in the stratum that conducted random assignment for the evaluation (see Table A.1). The second-stage probability equals the proportion of all nonexempt students who were not givebacks.

Two simple examples illustrate how we calculated baseline weights. For an applicant to a large, rural project hosted by a private, four-year university, the project selection probability is 1/4: according to Table A.1, random assignment was carried out in one of the four large, rural projects hosted by private, four-year universities. If there were seven other applicants (for a total of eight) and no givebacks in the student's random assignment stratum, the second-stage selection probability equals 1, and the overall selection probability equals  $1/4 \times 1 = 1/4$ . Therefore, the student's baseline weight is 4 (the inverse of 1/4), implying that the student represents her- or himself and three other students who applied to projects that were not selected for the first-stage sample. Alternatively, if there were four givebacks instead of none, the second-stage selection probability equals 4/8, and the overall selection probability equals  $1/4 \times 4/8 = 1/8$ . Then, the student's baseline weight is 8, implying that the student represents him- or

herself, one giveback, and six other students (two applicants to each of three projects not selected for the evaluation).

## **2. Fifth Follow-Up Weights**

As discussed in the previous section, 3,028 students received nonzero baseline weights. For the fifth follow-up survey, we set aside the 184 students classified as nonresearch cases (see the next section) and focused on the other 2,844 students. Our goal was to complete interviews with all 2,844 students; we succeeded in interviewing 2,085 students, corresponding to a 74 percent response rate.<sup>9</sup> Next, we discuss how we weighted students for the analyses of the fifth follow-up data to account for sampling and unit nonresponse. The survey weights, for example, are designed to allow (1) the treatment students who responded to the survey to represent the population of eligible Upward Bound applicants nationwide and (2) the control students who responded to the survey to represent the same population, accounting for differences in the baseline characteristics of the respondents and nonrespondents (see Table A.3). We begin by describing how we designated students as treatments, controls, or nonresearch cases.

### **a. Designating Students as Treatments, Controls, or Nonresearch Cases**

Of the 3,028 students who received nonzero baseline weights, 1,524 were designated as treatments, 1,320 as controls, and 184 as nonresearch cases for the fifth follow-up analysis. All 1,479 students assigned to the treatment group at initial random assignment are designated as treatments for this analysis. Similarly, all 1,320 students assigned to the evaluation waiting list at initial random assignment and not randomly selected as PITs from the waiting list are controls.

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<sup>9</sup> After removal of the 21 deceased sample members, 2,823 were eligible for the survey. Item nonresponse (failure to answer individual questions) created little missing data beyond that created by unit nonresponse (failure to answer any questions).

Table A.3  
Baseline Characteristics of Fifth Follow-up Survey Respondents and Nonrespondents

Baseline Characteristics (%)	Respondents	Nonrespondents	Difference
Gender			
Male	27	39	-12 ***
Race			
White	24	13	11 ***
African-American	49	55	-6
Hispanic	21	24	-4
Other Race	7	8	-1
Upward Bound Eligibility			
Low-Income and First-Generation	77	83	-6 *
Low-Income Only	4	5	-1
First-Generation Only	19	12	6 **
Educational expectations			
Student Did Not Expect to Attend College	2	4	-1
Student Expected to Attend Some College	17	17	0
Student Expected to Earn a Bachelor's Degree	34	39	-6
Student Expected to Earn a Graduate Degree	38	33	5
Parents' expectations about student			
Father Expected Student to Earn a Bachelor's Degree	61	57	4
Mother Expected Student to Earn a Bachelor's Degree	75	75	-1
Applied to Upward Bound in			
Grade 8	13	13	1
Grade 9	45	49	-3
Grade 10	31	32	0
Grade 11	10	7	3
GPA in Ninth Grade			
Less than 2.5	60	61	-1
Less than 2	34	31	3
Between 2 and 3	40	38	2
Greater than 3	19	18	2
Higher Academic Performance	22	17	5
Took Mathematics Class Below Algebra in Ninth Grade	33	32	1
<b>Sample Size</b>	<b>2,085</b>	<b>759</b>	

Source: Baseline survey of sample members.

Note: The numbers in the "Difference" column may not exactly equal the difference between the numbers in the "Respondent" and "Non-respondent" columns due to rounding; weights used to account for differential sampling probabilities.

\*/\*\*/\*\* Difference between groups is statistically significant at the 0.10 / 0.05 / 0.01 level.

Of the 229 PITs (from 42 projects), 45 are designated as treatments for the fifth follow-up analyses; the rest are designated as nonresearch cases. A PIT was designated as a treatment if two conditions were satisfied. First, the PIT had the opportunity to begin participation in Upward Bound at essentially the same time (often the same day) as the original treatment group members in the PIT’s random assignment stratum. Second, the PIT did not replace a treatment group member who dropped out of Upward Bound (or never showed up). PITs satisfying these two conditions were designated as treatments because it is assumed that they would have been original treatments had the Upward Bound project director not underestimated the number of slots available at initial random assignment.<sup>10</sup> As noted before, all other PITs were designated as nonresearch cases.

#### **b. Survey Weights**

Survey weights were developed to account for the probability of assignment to the treatment group for treatment students, the probability of assignment to the control group for control students, and the probability of responding to the survey. Table A.3 shows the baseline characteristics of survey respondents and nonrespondents. Characteristics associated with response status include gender, race, and Upward Bound eligibility. The survey weights are specified to adjust for these differences seen between respondents and nonrespondents. The following steps were taken to compute survey weights:

1. ***Calculate control totals.*** We summed the baseline weights of all sample members (treatment, control, and nonresearch) in each randomization stratum to obtain 192 control totals.<sup>11</sup>

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<sup>10</sup> Project directors often do not regard a slot as open until there is strong evidence that a previously enrolled student has dropped out. Therefore, rather than delaying student selection until the “last minute,” some slots that were later confirmed as open were not filled in the initial random assignment.

<sup>11</sup> Because some of the original 339 random assignment strata did not have respondents to our surveys in either the treatment group or the control group, we combined strata within—but not across—projects, resulting in 192 strata.

2. *Estimate propensity scores.* For each treatment and control group member, we estimated the probability that the sample member responded to the survey, conditional on a set of baseline characteristics.<sup>12</sup> This probability is known as the propensity score.
3. *Compute preliminary survey weights.* We multiplied each sample member's baseline weight by the inverse of her or his propensity score to compute a preliminary survey weight.
4. *Post-stratify the sample to compute final survey weights.* To compute final survey weights, the preliminary weights were ratio-adjusted to ensure that the final weights for treatments and controls separately summed to the control totals within each randomization stratum. Final weights for all nonrespondents and nonresearch cases were set to zero.

### **c. Additional Fifth Follow-Up Weights**

Most of our outcomes are constructed from multiple data sources, and it would be inappropriate to use a weight which accounts for the probability of responding to the fifth follow-up survey. Instead, as these outcomes are constructed, at least in part, from data sources that cover the entire follow-up period, we view these measures of the outcomes as longitudinal and use baseline weights that were constructed for comparing treatments and controls.<sup>13</sup> As noted above, these weights give students' overall (unconditional) probabilities of selection for the evaluation.

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<sup>12</sup> We obtained the probability for all 2,844 treatment and control group members from two logistic regression models, one for the treatment group and the other for the control group. The models predict response to the fifth follow-up survey as a function of demographic variables and response status to earlier follow-up surveys. The variables considered for inclusion were response to the second, third, and fourth follow-up surveys, grade at application (9th, 10th, or 11th), gender, race (white, black, or Hispanic), native English speaker, sibling in Upward Bound, mother in United States most of her life, and whether the student planned to graduate from college as measured at baseline. We also examined financial aid application, Pell grant receipt, and postsecondary enrollment according to the NSC as potential predictors, as well as interactions of these three indicators with the demographic variables. Each predictor was coded as an indicator (0/1) variable for being in the specified group. We selected the specific variables in each model by using forward and backward stepwise selection procedures in SAS, and compared candidate models using various measures of goodness of fit and predictive ability.

<sup>13</sup> Specifically, the original baseline weights were ratio-adjusted so that for each project, the resulting baseline weights would sum—for treatments and controls separately—to control totals obtained by summing the original baseline weights across all baseline sample members. The weights for nonresearch cases were set to zero for deriving the weights but not the control totals.

To construct alternative measures of outcomes, we use the available data in different ways, including how we treat uncoded cases, that is, cases for which the available data are not definitive (see Appendix B for more detail). There are essentially three ways in which we deal with the uncoded cases: treat them all as zeroes (the outcome did not occur), treat them all as missing (we do not know what happened regarding the outcome), or something in between (treat some as if the outcome did not occur, and leave the others as unknown). In the first case, treating them all as if the outcome did not occur, there will be no missing values for the outcome, and the weight used in analyzing the outcome of interest will exactly equal the baseline weight for each sample member.

In the other two cases, some sample members will have a missing value for the outcome. To compensate for such “nonresponse,” we performed a straightforward post-stratification adjustment to the baseline weights. The following steps were taken to compute weights for analyzing each outcome with some missing values:

1. ***Calculate weight totals.*** We summed the baseline weights of all treatment and control sample members by project and treatment status to obtain 134 control totals (A), and we summed the baseline weights of sample members who had a nonmissing outcome value by project and treatment status to obtain 134 “respondent” totals (B).
2. ***Adjust the weights.*** To compute final weights for an outcome, the baseline weights were ratio-adjusted using  $(A/B)$  to ensure that the final weights for treatments and controls separately summed to the baseline weight totals (A) within each project and treatment/control cell. Weights for sample members with missing values were set to zero.

Table A.4

## Baseline Characteristics of the Fifth Follow-up Survey Respondents by Treatment Status

Baseline Characteristics (%)	Treatment Mean	Control Mean	Difference
Gender			
Male	29	29	0
Race			
White	21	19	3
African-American	49	51	-2
Hispanic	22	23	-1
Other Race	7	7	0
Upward Bound Eligibility			
Low-Income and First-Generation	76	78	-2
Low-Income Only	4	4	0
First-Generation Only	20	18	2
Educational expectations			
Student Did Not Expect to Attend College	2	4	-2
Student Expected to Attend Some College	19	14	5 *
Student Expected to Earn a Bachelor's Degree	38	30	9 **
Student Expected to Earn a Graduate Degree	32	45	-13 ***
Parents' expectations about student			
Father Expected Student to Earn a Bachelor's Degree	60	62	-2
Mother Expected Student to Earn a Bachelor's Degree	72	79	-7 *
Applied to Upward Bound in			
Grade 8	12	14	-2
Grade 9	46	44	1
Grade 10	31	33	-2
Grade 11	11	8	2
GPA in Ninth Grade			
Less than 2.5	63	60	4
Less than 2	37	31	7
Between 2 and 3	39	41	-2
Greater than 3	17	19	-2
Higher Academic Performance	25	19	6
Took Mathematics Class Below Algebra in Ninth Grade	34	29	6
<b>Sample Size</b>	<b>1,145</b>	<b>940</b>	

Source: Baseline survey of sample members.

Note: The numbers in the "Difference" column may not exactly equal the difference between the numbers in the "Respondent" and "Non-respondent" columns due to rounding; weights used to account for differential sampling probabilities.

\*/\*\*/\*\* Difference between groups is statistically significant at the 0.10 / 0.05 / 0.01 level.

Table A.5

## Baseline Characteristics of the Treatment and Control Groups, Full Evaluation Sample

Baseline Characteristics (%)	Treatment Mean	Control Mean	Difference
Gender			
Male	32	29	4
Race			
White	21	20	1
African-American	50	50	0
Hispanic	21	22	-1
Other Race	7	7	0
Upward Bound Eligibility			
Low-Income and First-Generation	79	79	0
Low-Income Only	4	5	-1
First-Generation Only	17	17	1
Educational expectations			
Student Did Not Expect to Attend College	3	3	0
Student Expected to Attend Some College	20	14	6 **
Student Expected to Earn a Bachelor's Degree	37	33	5
Student Expected to Earn a Graduate Degree	31	43	-12 ***
Parents' expectations about student			
Father Expected Student to Earn a Bachelor's Degree	60	60	0
Mother Expected Student to Earn a Bachelor's Degree	72	78	-6 **
Applied to Upward Bound in			
Grade 8	13	13	0
Grade 9	48	45	3
Grade 10	30	33	-3
Grade 11	10	9	1
GPA in Ninth Grade			
Less than 2.5	62	59	3
Less than 2	36	30	5
Between 2 and 3	38	41	-2
Greater than 3	18	21	-3
Higher Academic Performance	23	19	4
Took Mathematics Class Below Algebra in Ninth Grade	35	31	5
<b>Sample Size</b>	<b>1524</b>	<b>1320</b>	

Source: Baseline survey of sample members.

Note: The numbers in the "Difference" column may not exactly equal the difference between the numbers in the "Treatment" and "Control" columns due to rounding; weights used to account for differential sampling probabilities.

\*/\*\*/\*\* Difference between groups is statistically significant at the 0.10 / 0.05 / 0.01 level.



## **APPENDIX B**

### **DATA COLLECTION AND OUTCOME MEASURES**



This appendix describes and assesses the procedures for collecting the data that we used to measure the outcomes examined in this report. The data come from two types of sources:

1. Follow-up surveys of sample members (third, fourth, and fifth rounds)
2. Administrative records (National Student Clearinghouse and Student Financial Aid)

This appendix focuses on procedures for obtaining completed interviews in the fifth follow-up survey, collecting administrative records, and constructing outcome measures from multiple sources.

## **A. FIFTH FOLLOW-UP SURVEY OF SAMPLE MEMBERS**

The fifth follow-up survey was conducted between July 2003 and December 2004. It was designed to collect information on postsecondary outcomes.

### **1. Data Collection Modes**

One week before we began interviewing, we sent a letter to all study participants. The letter stated that we would call them to complete an interview for an important study. In addition, the letter encouraged the individuals' participation in the survey and noted that we would pay respondents \$10 for completing the interview. Toward the end of the data collection (September, 2004), ED requested that OMB approve an increase in the incentive to \$25; the final 180 interviews were collected under the higher incentive scheme.

Most interviews were administered using computer-assisted telephone interviewing (CATI). CATI interviews took about 30 minutes to complete. When a CATI interview was not possible, we attempted to obtain a completed questionnaire through the mail. Study participants also had the option of completing the survey on the Web. Throughout the data collection process, we mailed questionnaires to study participants when respondents requested it or when we

determined they could not be reached by telephone. We conducted three follow-up mailings after the first mailing, with the last set of questionnaires sent out in December 2004.

## **2. Locating**

Throughout the data collection period, locating staff used services such as LexisNexis and Internet databases to obtain updated addresses and telephone numbers for difficult-to-reach study participants.

## **3. Incentives**

To obtain a high response rate, we used financial incentives for survey completion. As noted, we offered study participants \$10 or \$25 for responding to the survey. We mailed incentive checks after the sample member completed the interview.

## **4. Response Rates**

Of the 2,823 eligible sample members from the treatment and control groups, 2,085 completed a fifth follow-up interview. At the time of the fifth follow-up survey, 21 sample members were deceased. For 17 of the deceased sample members, we were able to determine postsecondary outcomes based on prior surveys and administrative records; outcomes for the others were coded as missing. Therefore, the response rate for the full sample was 74 percent. The response rates for the control group and the treatment group were 72 percent and 76 percent, respectively. Table B.1 displays, for the treatment group and the control group, the number of completed interviews and the number of eligible nonrespondents.

Table B.1  
Response Counts for the Fifth Follow-up Survey of Students

	Treatment Group	Control Group	Full Sample
Completed Interview	1,145	940	2,085
Eligible Nonrespondent	371	367	738
Ineligible - Deceased	8	13	21
Total	1,524	1,320	2,844

## B. TRANSCRIPT DATA COLLECTION

For the fifth follow-up, we collected postsecondary transcripts between January 2004 and May 2006. We made transcript requests to institutions that were reported by sample members either in the fifth follow-up survey of sample members or earlier surveys.

### 1. Preparation for Requesting Transcripts

For purposes of requesting transcripts, we relied primarily on follow-up interviews for information about sample members' postsecondary enrollment.<sup>14</sup> Once sample members reported the postsecondary institutions that they had attended, we requested postsecondary transcripts from all postsecondary institutions reported by each sample member who reported or confirmed attendance at a regular postsecondary institution. To obtain mailing addresses for the schools attended by sample members, we matched schools reported by survey respondents to the Integrated Postsecondary Education Data System,<sup>15</sup> a directory of postsecondary schools maintained by the U.S. Department of Education.

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<sup>14</sup> We also based some transcript requests on data in the federal Student Financial Aid records.

<sup>15</sup> We asked sample members to provide the name and state of each postsecondary school they attended, but sometimes misspellings or incomplete information resulted in invalid requests for student transcripts as schools were matched with an incorrect address and transcripts were requested from the wrong school. When a school indicated that they could not fill a request because they had no record of the student whose transcript we requested, it was sometimes due to such mismatches. In these cases, we attempted to identify the correct name and address of the school where the student was enrolled and to make a new transcript request.

## 2. Procedures for Requesting Transcripts

We sent each school a transcript request packet that included:

- A letter, printed on U.S. Department of Education letterhead, that explained the purpose of the study and the reason we were requesting transcripts
- A statement of Authorization and Confidentiality, which cited the Family Rights and Privacy Act (FRPA) and included questions and answers regarding consent and confidentiality
- A transcript checklist of all the materials requested from the school, including student transcripts, a course catalog, grade descriptions, and a transcript reimbursement form, which would indicate the reimbursement that the school required for providing the requested transcripts
- A postage-paid business reply envelope for sending the transcripts
- A disclosure notice to be placed in each student's file, indicating that a copy of his or her transcript had been released to Mathematica Policy Research as an agent of the U.S. Department of Education

## 3. Follow-Up Procedures

For schools that did not respond to our initial request for transcripts, we mailed another request for student transcripts. We periodically sent out additional mailings as we tracked the schools that had not yet sent the requested transcripts and corrected requests that contained errors. As the end date for collecting transcripts approached, interviewers started calling schools directly to inquire about the status of our requests. Many schools responded to the calls by faxing the requested transcripts. When a school indicated that it could not provide one or more requested transcripts, the interviewer completed a problem sheet indicating the reason for not filling the request. The reason generally fell into one of the following categories:

- ***The student was never enrolled at the school according to the school's records.*** When the school claimed that the student had never attended the institution, our first response was to call the school and provide more information on the student (e.g., date of birth and dates of attendance) to see if the additional information would help in locating a transcript. In many cases, the school was able to locate and provide transcripts once we provided additional information. In other cases, the school

provided some information that helped us determine where we might obtain the needed transcripts.<sup>16</sup> When all other attempts to locate the student's transcript failed, we tried to contact the student directly to verify his or her enrollment at the school. If we were unable to reach the student and the school had no record of the student's attendance, we finally marked the case as an invalid request. When we did reach the student and the student confirmed the information in the database, we would call the school again to request a check of its records and provide any additional information that might help in locating the transcript. Typically, after we called the school again and confirmed the student's attendance dates, the school located and sent the transcript.

- ***A central office held the transcripts.*** Some schools held only the transcripts of currently enrolled students and sent all other transcripts to a central office. In this case, the school would sometimes forward the request packet. Other times, the school returned the materials to us, and we sent them to the central office.
- ***The student transferred to another school.*** When the student had transferred to another school, we requested a transcript from the school to which the student had transferred. In some cases, the registrar forwarded the request materials to the transfer school. In other cases, the school returned the request materials to us, and we sent a new request to the transfer school.
- ***The school would not release any transcript without the student's written consent.*** Many schools returned the transcript request materials with no transcripts, indicating that they required written consent from each student whose transcript we requested. Interviewers completed a problem sheet for these cases and forwarded them to the survey manager for follow-up. As a first step, the survey manager called the school to explain that, as an agent of the U.S. Department of Education, Mathematica Policy Research was authorized to collect student transcripts for the purposes of the study and that, according to FRPA, schools are permitted to release student transcripts to the U.S. Department of Education without the written consent of students participating in the study. The survey manager also explained that students had given oral consent over the telephone or written consent when they completed the mail survey and that we did not request transcripts for any students who refused consent. Some schools agreed to send the requested transcripts upon hearing this explanation. Others reiterated that school policy required signed consent. In this case, we sent written consent forms to the students for them to sign and return to Mathematica so that we could obtain their transcripts. We included a \$10 check and a postage-paid return envelope with the form as an incentive for completing and returning the consent form. Several students did sign and return the consent form, but many letters came back unopened because we no longer had a valid address for the student.

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<sup>16</sup> For example, some school registrars indicated that their school was often confused with another school with the same or similar name and suggested that we direct our request to the other school. In this case, we would call the other school to find out if the student was ever enrolled there. If so, we made a correction to the database and sent the request to the newly identified school.

- *The school would not release transcripts without advance payment.* In these cases, we sent a check to cover the cost of each transcript, along with a list of the students whose transcripts we were requesting.
- *The school would not release a transcript until the student paid an outstanding debt.* In some cases, we were eventually able to obtain transcripts when students cleared their account with the school. When debts remained unpaid, however, we had no way to obtain transcripts, and we marked such cases as unfilled requests.

In a substantial fraction of cases for which a school did not provide a transcript, the school did verify whether the sample member had attended the school and whether the sample member had received a degree, certificate, or license.

#### **4. Response Rates**

We requested transcripts for 2,079 sample members and received at least some transcripts for 1,772 of them (85 percent), though for some sample members, we received fewer transcripts than requested. Of the 3,887 total transcripts that we requested for sample members who responded to the fifth follow-up survey, we received 2,780 transcripts, achieving a response rate of 72 percent.

#### **C. NATIONAL STUDENT CLEARINGHOUSE DATA**

The National Student Clearinghouse (NSC) is a repository of information on enrollment, loans, and degrees awarded for postsecondary institutions that join the NSC as members. The NSC is a nonprofit organization that began in 1993 with support from ED to verify enrollment for student loan recipients. Currently, the NSC is an enrollment and degree verification resource for ED, colleges and universities, and employers. It is supported by fees paid by the member institutions, as well as fees for enrollment and degree searches. Currently, the NSC has 9,800



member institutions, which represent more than 91 percent of all students enrolled in college.<sup>17</sup> The NSC can provide information on enrollment if provided with a student's name, Social Security number, and date of birth.

We submitted identifying information for all 2,844 analysis sample members from the treatment and control groups, including some students without complete information. The NSC provided enrollment information on 1,752 students, or 62 percent of the (unweighted) sample. This is likely lower than the approximately 82 percent enrollment rate from the fifth follow-up survey for three reasons. If sample enrollees were distributed evenly across schools that were covered and not covered by the NSC, a 91 percent coverage rate would result in an enrollment rate of about 72 percent for our sample ( $0.91 \times 0.82$ ). Furthermore, as the NSC coverage has been growing over time, it was lower (between 57 percent in 1997 and 88 percent in 2002) during the late 1990s and early 2000s when many of the sample members would have attended a postsecondary institution. Finally, while the NSC has a high coverage rate overall, the rate for non-four-year institutions is lower; it is approximately 87 percent for students enrolled in two-year institutions, but likely substantially lower for vocational institutions (many vocational schools reported by sample members in the survey were not found in the NSC data). Given the proportions of students in the sample who attend two-year and vocational schools, this lower coverage may result in reduced enrollment rates for the eligible sample based solely on NSC data.

The coverage rate for Upward Bound project host institutions is similar to the overall rate, with 61 of the 67 sample projects in the NSC; the six schools that did not participate in the NSC were all two-year institutions. For the ones in the NSC data, the starting date of participation

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<sup>17</sup> Figures are based on [http://www.studentclearinghouse.org/about/pdfs/Clearinghouse\\_profile.pdf](http://www.studentclearinghouse.org/about/pdfs/Clearinghouse_profile.pdf), the profile found on the NSC website.

varied, with the bulk starting in the mid-90s, and only 10 in 2000 or later: 1993 (2), 1994 (3), 1995 (7), 1996 (18), 1997 (13), 1998 (4), 1999 (5), 2000 (1), 2001 (3), 2002 (4), 2005 (1), and 2006 (1).

#### **D. FEDERAL STUDENT FINANCIAL AID DATA**

The Office of Postsecondary Education (OPE) in the U.S. Department of Education (ED) provided consistent, comprehensive data on applications for federal financial aid. We were able to obtain files including information on all sample members who applied for aid for each year of the follow-up period. The data source for all applications for federal financial aid is the Free Application for Federal Student Aid (FAFSA). The main data items of interest were application for financial aid and receipt of a Pell grant. The primary approach for searching for someone in the SFA data is based on the person's Social Security number (SSN). For cases with a missing or obviously invalid SSN, attempts were made to match using name and date of birth. During the years of interest, 2,132 (75 percent, unweighted) of our sample members applied for aid in at least one year, and 1,677 (59 percent, unweighted) received a Pell grant.

#### **E. COMBINING DATA**

Each of our three data sources—the follow-up surveys conducted for the evaluation, the NSC, and the federal SFA files—contain valuable information for measuring postsecondary educational outcomes. However, each also has some important limitations. The limitations of the surveys include nonresponse and, potentially, response error. For the fifth follow-up survey, 26 percent of sample members did not respond at all. Although there is very little item nonresponse among respondents, some respondents might not have answered questions correctly, forgetting, for example, a brief period of college enrollment several years earlier. The main limitation of the NSC is undercoverage, that is, not all postsecondary institutions are in the NSC.

Because a substantial fraction of postsecondary enrollees never receive financial support from a Pell grant, the main limitation of the SFA data is measurement error and, specifically, the fact that Pell grant receipt/nonreceipt is not equivalent to postsecondary enrollment/nonenrollment.

In using these data sources and determining how to address effectively their relative limitations, several questions arise, including the following. How might we combine the data sources? How much of the available data do we use, recognizing that the different data sources do not cover exactly the same periods of time? How do we handle cases for which the data that are used do not provide definitive evidence about postsecondary enrollment status? Because none of these questions has a single, unambiguously correct answer, our approach has been to develop many different measures of outcomes that reflect different reasonable answers to the questions.

## **1. Enrollment Measures**

We constructed measures using only the fifth follow-up survey (Measure 1), only the NSC (Measure 2) and only the SFA data (Measure 3). We used the Pell receipt indicator variable from the SFA data for the construction of measures of enrollment because it was an indication that a school actually received Pell grant money following a student's enrollment. The indicator of application for financial aid, in contrast, is not necessarily indicative of subsequent enrollment. We also created measures using each possible combination of data, including NSC and SFA (Measure 4), SFA and survey (Measure 6), NSC and survey (Measure 7), and all three data sources (Measures 5 and 8). The last two differ only in the order in which the data were used: Measure 5 uses all data sources simultaneously, while Measure 8 uses the survey data first. The final combination, Measure 9, augments all three current sources with data from the third and fourth follow-up surveys.

Although the survey and SFA data available cover roughly the same reference periods, the NSC data are available for a period of time after the completion of the fifth follow-up survey and the years for which financial aid records were available to us. One advantage of truncating the NSC data at the end of 2004 is that we have a similar reference period for all data sources; however, this also means discarding relevant data for sample members who may have taken longer to enroll in school. Therefore, for all measures using NSC data, we created versions using the full data through 2006 and truncated data through 2004.

For each combination of data sources that we consider, we ascertain the enrollment status of as many cases as we can with the information that is available in the applicable data sources. With Measure 5, for example, we code a sample member as an enrollee if he or she is found to be an enrollee in the NSC data *or* is a Pell recipient according to the SFA data *or* said in the survey that he or she was enrolled at some time. The sample member is not an enrollee if he or she does not appear in the NSC data (and is therefore not an enrollee) *and* has not been a Pell recipient *and* said in the survey that he or she had never been enrolled. This leaves uncoded the survey nonrespondents who are not in the NSC data and did not receive a Pell grant. For them, we apply the following assumptions: (A) not enrolled, (B) not enrolled if never applied for financial aid (otherwise, left as enrollment status missing), and (C) left as enrollment status missing. With assumptions B and C, cases left as enrollment status missing get dropped from the analysis, and weights for the remaining cases are adjusted to compensate, as described in Appendix A. When creating measures based on the truncated NSC data, we follow the same steps described above, but ignore all NSC records that have a starting date after July 31, 2004.

Measures 4, 6, and 7 are constructed in similar fashion. Measure 4 combines the NSC and SFA data, and has versions based on whether we use the full or truncated NSC file. Measure 6 combines the fifth follow-up survey with the SFA data, and has variations based on the

assumptions applied to survey nonrespondents. Measure 7 combines the fifth follow-up survey with the NSC data, and includes variations based on both the amount of NSC data used and assumptions about how to code nonrepondents; it does not, however, have assumption B for dealing with uncoded data, as that assumption relies on SFA data.

Measures 8 and 9 are similar to Measure 5, with some small exceptions. Rather than treating all data equivalently, as in Measure 5, Measure 8 establishes preference for the fifth follow-up survey. Variables are defined first using survey responses, and data from the other two sources are used only for survey nonrespondents. This implies that if we have inconsistent data from multiple sources, the survey data take precedence. Measure 9 uses Measure 5 as a starting point, and augments it with data from the third and fourth follow-up surveys. Any remaining uncoded observations use the following modified assumptions: (A) enrolled if reported enrollment in either the fourth or third follow-up surveys, otherwise not enrolled; (B) not enrolled if reported lack of enrollment in either the fourth or third follow-up surveys and if never applied for financial aid, otherwise left as enrollment status missing; and (C) left as enrollment status missing.

## **2. Financial Aid Measures**

The variety of outcome measures we can construct using our data sources is much more limited for financial aid, as the NSC data contain no information on aid. From the fifth follow-up survey, we have information on financial aid and Pell grant receipt. We also have Pell grant receipt from the SFA, but rather than receipt of financial aid, we know whether a sample member applied for aid. For survey nonrespondents, uncoded cases were assumed to be zeroes (no receipt of aid) or missing to create alternative measures.

### **3. Completion Measures**

Just as the NSC data were unable to provide information on financial aid application and receipt, the SFA data are unable to provide information on postsecondary completion. In the creation of measures of completion, we are therefore limited to those that can be constructed using only the fifth follow-up survey and NSC data: Measure 1 (fifth follow-up survey only), Measure 2 (NSC only), and Measure 7 (the two sources combined). Furthermore, the degree completion information in the NSC is less comprehensive than enrollment information (just over half of the schools provide degree information), adding to the limitations of the data for our analysis.

## **APPENDIX C**

### **SENSITIVITY ANALYSES PERTAINING TO THE MEASUREMENT OF OUTCOMES**





Table C.1  
Impact of Upward Bound on Any Postsecondary Enrollment (ITT)

	Data Source	Uncoded	Treat	Control	Impact	Sig P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	82.73	81.17	1.56	0.65
2	NSC through 05-06 ( <i>NSCF</i> )	None	57.48	59.84	-2.36	0.67
2T	NSC through 03-04 ( <i>NSCT</i> )	None	55.56	57.02	-1.46	0.77
3	Pell Receipt ( <i>SFA</i> )	None	57.20	54.74	2.45	0.40
4	NSCF / SFA	None	70.06	70.29	-0.24	0.95
4T	NSCT / SFA	None	69.51	68.69	0.83	0.83
5A	Survey / NSCF / SFA	Set to 0	79.49	77.36	2.13	0.44
5AT	Survey / NSCT / SFA	Set to 0	78.96	76.12	2.84	0.22
5B	Survey / NSCF / SFA	Set to 0 if no aid app	80.60	79.06	1.54	0.58
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	79.93	78.41	1.51	0.58
5C	Survey / NSCF / SFA	Set to Missing Value	88.03	86.50	1.53	0.59
5CT	Survey / NSCT / SFA	Set to Missing Value	87.58	85.95	1.62	0.56
6A	Survey / SFA	Set to 0	75.03	72.85	2.18	0.36
6B	Survey / SFA	Set to 0 if no aid app	78.00	76.61	1.38	0.62
6C	Survey / SFA	Set to Missing Value	86.14	84.87	1.28	0.67
7A	Survey / NSCF	Set to 0	74.95	72.91	2.04	0.42
7AT	Survey / NSCT	Set to 0	74.13	71.29	2.84	0.19
7C	Survey / NSCF	Set to Missing Value	86.71	85.69	1.01	0.73
7CT	Survey / NSCT	Set to Missing Value	86.20	84.95	1.25	0.67
8	Survey then NSCF / SFA	Set to 0	77.18	75.57	1.61	0.56
8T	Survey then NSCT / SFA	Set to 0	77.00	74.76	2.24	0.33
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	81.74	80.48	1.26	0.68
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	80.98	79.73	1.25	0.68
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	82.21	81.11	1.11	0.71
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	81.49	80.57	0.92	0.76
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	84.36	83.48	0.88	0.76
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	83.61	82.92	0.69	0.81

Table C.2

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution (ITT)

	Data Source	Uncoded	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	57.69	52.24	5.45	**	0.01
2	NSC through 05-06 ( <i>NSCF</i> )	None	36.46	36.50	-0.04		0.99
2T	NSC through 03-04 ( <i>NSCT</i> )	None	35.37	34.59	0.77		0.88
3	Pell Receipt ( <i>SFA</i> )	None	36.28	34.89	1.39		0.73
4	NSCF / SFA	None	45.09	43.58	1.51		0.73
4T	NSCT / SFA	None	44.23	42.13	2.11		0.60
5A	Survey / NSCF / SFA	Set to 0	52.59	50.74	1.86		0.59
5AT	Survey / NSCT / SFA	Set to 0	51.77	49.62	2.15		0.49
5B	Survey / NSCF / SFA	Set to 0 if no aid app	53.18	51.89	1.29		0.71
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	52.30	51.13	1.17		0.73
5C	Survey / NSCF / SFA	Set to Missing Value	57.92	56.80	1.12		0.75
5CT	Survey / NSCT / SFA	Set to Missing Value	57.17	56.07	1.10		0.75
6A	Survey / SFA	Set to 0	50.11	48.07	2.04		0.52
6B	Survey / SFA	Set to 0 if no aid app	51.84	50.55	1.29		0.71
6C	Survey / SFA	Set to Missing Value	56.91	56.08	0.84		0.82
7A	Survey / NSCF	Set to 0	50.27	47.33	2.93		0.32
7AT	Survey / NSCT	Set to 0	49.34	46.13	3.21		0.22
7C	Survey / NSCF	Set to Missing Value	57.70	55.67	2.03		0.53
7CT	Survey / NSCT	Set to Missing Value	56.97	54.95	2.02		0.51
8	Survey then NSCF / SFA	Set to 0	52.59	50.74	1.86		0.59
8T	Survey then NSCT / SFA	Set to 0	51.77	49.62	2.15		0.49
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	53.63	51.75	1.88		0.61
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	52.80	50.64	2.16		0.51
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	53.86	52.18	1.69		0.64
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	53.10	51.15	1.94		0.55
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	55.00	53.71	1.29		0.73
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	54.23	52.66	1.57		0.65

Table C.3

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution (ITT)

	Data Source	Uncoded	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	15.86	24.93	-9.07		0.18
2	NSC through 05-06 ( <i>NSCF</i> )	None	13.71	16.18	-2.48		0.19
2T	NSC through 03-04 ( <i>NSCT</i> )	None	12.65	16.22	-3.57 *		0.07
3	Pell Receipt ( <i>SFA</i> )	None	15.21	15.89	-0.68		0.66
4	NSCF / SFA	None	17.86	20.76	-2.89 **		0.04
4T	NSCT / SFA	None	17.98	20.99	-3.01 **		0.03
5A	Survey / NSCF / SFA	Set to 0	19.15	22.02	-2.87		0.25
5AT	Survey / NSCT / SFA	Set to 0	19.44	22.14	-2.69		0.29
5B	Survey / NSCF / SFA	Set to 0 if no aid app	19.51	22.44	-2.93		0.25
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	19.81	22.77	-2.97		0.26
5C	Survey / NSCF / SFA	Set to Missing Value	20.92	24.52	-3.60		0.24
5CT	Survey / NSCT / SFA	Set to Missing Value	21.37	24.95	-3.58		0.25
6A	Survey / SFA	Set to 0	17.98	20.43	-2.45		0.25
6B	Survey / SFA	Set to 0 if no aid app	18.67	21.45	-2.78		0.24
6C	Survey / SFA	Set to Missing Value	20.34	23.70	-3.36		0.23
7A	Survey / NSCF	Set to 0	16.08	20.20	-4.12		0.27
7AT	Survey / NSCT	Set to 0	16.10	20.34	-4.24		0.25
7C	Survey / NSCF	Set to Missing Value	17.70	23.56	-5.86		0.24
7CT	Survey / NSCT	Set to Missing Value	17.80	24.10	-6.30		0.23
8	Survey then NSCF / SFA	Set to 0	19.15	22.02	-2.87		0.25
8T	Survey then NSCT / SFA	Set to 0	19.44	22.14	-2.69		0.29
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	19.57	22.75	-3.18		0.21
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	19.85	22.92	-3.06		0.23
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	19.76	22.89	-3.13		0.22
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	20.00	23.17	-3.17		0.21
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	20.08	23.50	-3.42		0.20
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	20.35	23.79	-3.44		0.19

Table C.4

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution (ITT)

	Data Source	Uncoded	Treat	Control	Impact	Sig P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	7.93	3.35	4.58	0.19
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.63	0.40	0.24	0.46
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.60	0.20	0.40	0.14
3	Pell Receipt ( <i>SFA</i> )	None	4.81	3.92	0.89	0.25
4	NSCF / SFA	None	4.45	3.47	0.98	0.16
4T	NSCT / SFA	None	4.55	3.47	1.09 *	0.10
5A	Survey / NSCF / SFA	Set to 0	6.83	3.81	3.01	0.19
5AT	Survey / NSCT / SFA	Set to 0	6.85	3.85	3.00	0.19
5B	Survey / NSCF / SFA	Set to 0 if no aid app	6.94	3.92	3.02	0.19
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.93	3.98	2.95	0.20
5C	Survey / NSCF / SFA	Set to Missing Value	7.60	4.30	3.30	0.22
5CT	Survey / NSCT / SFA	Set to Missing Value	7.64	4.37	3.27	0.22
6A	Survey / SFA	Set to 0	7.03	4.05	2.98	0.21
6B	Survey / SFA	Set to 0 if no aid app	7.36	4.29	3.07	0.20
6C	Survey / SFA	Set to Missing Value	8.17	4.75	3.42	0.22
7A	Survey / NSCF	Set to 0	4.99	2.29	2.70	0.23
7AT	Survey / NSCT	Set to 0	5.05	2.29	2.77	0.22
7C	Survey / NSCF	Set to Missing Value	6.00	2.79	3.21	0.26
7CT	Survey / NSCT	Set to Missing Value	6.10	2.82	3.28	0.25
8	Survey then NSCF / SFA	Set to 0	6.83	3.81	3.01	0.19
8T	Survey then NSCT / SFA	Set to 0	6.85	3.85	3.00	0.19
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	7.49	4.80	2.69	0.20
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	7.51	4.83	2.68	0.20
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	7.54	4.85	2.69	0.20
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	7.57	4.89	2.68	0.21
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	7.93	5.02	2.91	0.21
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	7.97	5.07	2.90	0.21

Table C.5

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution (ITT)

	Data Source	Uncoded	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	10.87	10.47	0.40		0.88
2	NSC through 05-06 ( <i>NSCF</i> )	None	8.52	7.41	1.10		0.39
2T	NSC through 03-04 ( <i>NSCT</i> )	None	7.99	7.10	0.90		0.48
3	Pell Receipt ( <i>SFA</i> )	None	6.64	4.52	2.12 **		0.05
4	NSCF / SFA	None	9.40	8.76	0.63		0.73
4T	NSCT / SFA	None	8.91	8.45	0.47		0.80
5A	Survey / NSCF / SFA	Set to 0	11.37	9.62	1.75		0.41
5AT	Survey / NSCT / SFA	Set to 0	10.93	9.46	1.47		0.48
5B	Survey / NSCF / SFA	Set to 0 if no aid app	11.47	9.85	1.62		0.44
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.03	9.75	1.28		0.55
5C	Survey / NSCF / SFA	Set to Missing Value	12.36	10.93	1.43		0.52
5CT	Survey / NSCT / SFA	Set to Missing Value	11.91	10.85	1.07		0.63
6A	Survey / SFA	Set to 0	10.15	8.58	1.58		0.41
6B	Survey / SFA	Set to 0 if no aid app	10.12	9.04	1.08		0.64
6C	Survey / SFA	Set to Missing Value	10.80	10.23	0.57		0.83
7A	Survey / NSCF	Set to 0	11.60	8.97	2.63		0.12
7AT	Survey / NSCT	Set to 0	11.15	8.81	2.35		0.15
7C	Survey / NSCF	Set to Missing Value	12.76	10.77	1.99		0.31
7CT	Survey / NSCT	Set to Missing Value	12.32	10.72	1.60		0.42
8	Survey then NSCF / SFA	Set to 0	11.37	9.62	1.75		0.41
8T	Survey then NSCT / SFA	Set to 0	10.93	9.46	1.47		0.48

Table C.6

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt (ITT)

	Outcome / Data Source	Uncoded	Treat	Control	Impact	Sig	P-value
1	Pell receipt (Survey)	Set to Missing Value	66.85	62.66	4.19		0.23
2	Pell receipt (Survey)	Set to 0	57.10	51.27	5.84		0.13
3	Pell receipt (SFA)	None	57.20	54.74	2.45		0.40
	Applied for aid (SFA)	None	71.35	70.01	1.34		0.57
1	Aid receipt (Survey)	Set to Missing Value	85.88	81.80	4.09		0.12
2	Aid receipt (Survey)	Set to 0	73.15	67.62	5.53 *		0.10

Table C.7

## Impact of Upward Bound on Completed Any Credential and Highest Credential Completed (ITT)

Outcome / Data Source		Uncoded	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>							
1	Survey	Set to Missing Value	54.81	41.84	12.97	**	0.02
2	NSCF	None	17.97	17.47	0.51		0.85
2T	NSCT	None	15.39	14.62	0.77		0.76
7A	Survey / NSCF	Set to 0	35.43	32.37	3.05	*	0.08
7AT	Survey / NSCT	Set to 0	33.64	29.91	3.73	**	0.04
7B	Survey / NSCF / SFA	Set to 0 if no aid app	37.03	34.77	2.26		0.25
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	35.22	32.52	2.70		0.20
7C	Survey / NSCF	Set to Missing Value	40.62	38.32	2.30		0.27
7CT	Survey / NSCT	Set to Missing Value	39.12	35.93	3.19		0.14
<i>Highest Degree Completed: Four-year Degree</i>							
1	Survey	Set to Missing Value	27.67	23.42	4.25	*	0.08
2	NSCF	None	13.48	12.34	1.14		0.64
2T	NSCT	None	11.62	11.08	0.54		0.82
7A	Survey / NSCF	Set to 0	20.88	19.95	0.93		0.71
7AT	Survey / NSCT	Set to 0	19.34	18.72	0.63		0.80
7B	Survey / NSCF / SFA	Set to 0 if no aid app	21.70	21.56	0.14		0.96
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.16	20.48	-0.32		0.91
7C	Survey / NSCF	Set to Missing Value	23.21	23.82	-0.60		0.85
7CT	Survey / NSCT	Set to Missing Value	21.67	22.69	-1.02		0.76
<i>Highest Degree Completed: Two-year Degree</i>							
1	Survey	Set to Missing Value	10.63	11.32	-0.69		0.75
2	NSCF	None	3.21	4.61	-1.40		0.20
2T	NSCT	None	3.11	3.16	-0.05		0.95
7A	Survey / NSCF	Set to 0	6.67	8.57	-1.90		0.13
7AT	Survey / NSCT	Set to 0	6.85	7.30	-0.45		0.70
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.95	9.13	-2.18		0.12
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.19	7.85	-0.66		0.60
7C	Survey / NSCF	Set to Missing Value	7.26	10.04	-2.79	*	0.10
7CT	Survey / NSCT	Set to Missing Value	7.62	8.64	-1.02		0.46
<i>Highest Degree Completed: Other Degree</i>							
1	Survey	Set to Missing Value	14.70	7.10	7.60		0.15
2	NSCF	None	0.73	0.52	0.21		0.59
2T	NSCT	None	0.61	0.38	0.23		0.50
7A	Survey / NSCF	Set to 0	8.18	3.85	4.32	*	0.08
7AT	Survey / NSCT	Set to 0	8.20	3.89	4.31	*	0.09
7B	Survey / NSCF / SFA	Set to 0 if no aid app	8.62	4.08	4.54	*	0.09
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.62	4.19	4.43	*	0.10
7C	Survey / NSCF	Set to Missing Value	9.60	4.45	5.14	*	0.09
7CT	Survey / NSCT	Set to Missing Value	9.64	4.60	5.03		0.10
<i>Currently In School</i>							
1	Currently in school (Survey)	Set to Missing Value	7.53	6.76	0.78		0.61
1	In school or completed degree (Survey)	Set to Missing Value	62.13	49.06	13.07	***	0.00

Table C.8

## Impact of Upward Bound on Any Postsecondary Enrollment (CACE)

	Data Source	Uncoded	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1.61		0.70
2	NSC through 05-06 ( <i>NSCF</i> )	None	-2.93		0.67
2T	NSC through 03-04 ( <i>NSCT</i> )	None	-1.76		0.78
3	Pell Receipt ( <i>SFA</i> )	None	3.10		0.39
4	NSCF / SFA	None	-0.19		0.97
4T	NSCT / SFA	None	1.15		0.81
5A	Survey / NSCF / SFA	Set to 0	2.92		0.36
5AT	Survey / NSCT / SFA	Set to 0	3.78		0.16
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2.11		0.52
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2.09		0.51
5C	Survey / NSCF / SFA	Set to Missing Value	1.35		0.71
5CT	Survey / NSCT / SFA	Set to Missing Value	1.53		0.67
6A	Survey / SFA	Set to 0	3.21		0.22
6B	Survey / SFA	Set to 0 if no aid app	2.04		0.53
6C	Survey / SFA	Set to Missing Value	1.12		0.76
7A	Survey / NSCF	Set to 0	3.06		0.26
7AT	Survey / NSCT	Set to 0	4.07 *		0.07
7C	Survey / NSCF	Set to Missing Value	0.71		0.85
7CT	Survey / NSCT	Set to Missing Value	1.05		0.78
8	Survey then NSCF / SFA	Set to 0	2.29		0.46
8T	Survey then NSCT / SFA	Set to 0	3.03		0.25
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	1.54		0.68
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	1.55		0.68
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	1.35		0.71
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	1.13		0.76
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	0.84		0.82
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	0.64		0.86

Table C.9

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution (CACE)

	Data Source	Uncoded	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	6.77	***	0.01
2	NSC through 05-06 ( <i>NSCF</i> )	None	-0.14		0.98
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.89		0.89
3	Pell Receipt ( <i>SFA</i> )	None	1.70		0.73
4	NSCF / SFA	None	1.88		0.73
4T	NSCT / SFA	None	2.62		0.60
5A	Survey / NSCF / SFA	Set to 0	2.48		0.56
5AT	Survey / NSCT / SFA	Set to 0	2.82		0.45
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1.78		0.68
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1.60		0.70
5C	Survey / NSCF / SFA	Set to Missing Value	1.50		0.73
5CT	Survey / NSCT / SFA	Set to Missing Value	1.45		0.73
6A	Survey / SFA	Set to 0	2.67		0.49
6B	Survey / SFA	Set to 0 if no aid app	1.76		0.68
6C	Survey / SFA	Set to Missing Value	1.14		0.80
7A	Survey / NSCF	Set to 0	3.77		0.29
7AT	Survey / NSCT	Set to 0	4.08		0.19
7C	Survey / NSCF	Set to Missing Value	2.65		0.50
7CT	Survey / NSCT	Set to Missing Value	2.58		0.50
8	Survey then NSCF / SFA	Set to 0	2.48		0.56
8T	Survey then NSCT / SFA	Set to 0	2.82		0.45
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	2.52		0.57
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	2.86		0.47
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	2.29		0.60
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	2.59		0.51
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	1.71		0.71
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	2.04		0.63



Table C.10

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution (CACE)

	Data Source	Uncoded	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	-10.79		0.18
2	NSC through 05-06 ( <i>NSCF</i> )	None	-2.53		0.15
2T	NSC through 03-04 ( <i>NSCT</i> )	None	-3.22 **		0.03
3	Pell Receipt ( <i>SFA</i> )	None	-0.44		0.80
4	NSCF / SFA	None	-3.05 **		0.02
4T	NSCT / SFA	None	-2.85 **		0.03
5A	Survey / NSCF / SFA	Set to 0	-3.81		0.23
5AT	Survey / NSCT / SFA	Set to 0	-3.41		0.27
5B	Survey / NSCF / SFA	Set to 0 if no aid app	-3.89		0.23
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	-3.75		0.24
5C	Survey / NSCF / SFA	Set to Missing Value	-4.59		0.23
5CT	Survey / NSCT / SFA	Set to Missing Value	-4.44		0.24
6A	Survey / SFA	Set to 0	-3.20		0.22
6B	Survey / SFA	Set to 0 if no aid app	-3.62		0.22
6C	Survey / SFA	Set to Missing Value	-4.28		0.22
7A	Survey / NSCF	Set to 0	-5.01		0.25
7AT	Survey / NSCT	Set to 0	-5.00		0.23
7C	Survey / NSCF	Set to Missing Value	-7.00		0.23
7CT	Survey / NSCT	Set to Missing Value	-7.34		0.22
8	Survey then NSCF / SFA	Set to 0	-3.81		0.23
8T	Survey then NSCT / SFA	Set to 0	-3.41		0.27
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	-4.16		0.19
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	-3.83		0.21
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	-4.11		0.20
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	-3.95		0.20
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	-4.45		0.18
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	-4.29		0.18

Table C.11

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution (CACE)

	Data Source	Uncoded	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	6.42		0.17
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.24		0.51
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.40		0.24
3	Pell Receipt ( <i>SFA</i> )	None	1.68		0.15
4	NSCF / SFA	None	1.79 *		0.09
4T	NSCT / SFA	None	1.91 *		0.06
5A	Survey / NSCF / SFA	Set to 0	4.26		0.23
5AT	Survey / NSCT / SFA	Set to 0	4.24		0.24
5B	Survey / NSCF / SFA	Set to 0 if no aid app	4.24		0.24
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	4.14		0.24
5C	Survey / NSCF / SFA	Set to Missing Value	4.59		0.24
5CT	Survey / NSCT / SFA	Set to Missing Value	4.52		0.24
6A	Survey / SFA	Set to 0	4.15		0.25
6B	Survey / SFA	Set to 0 if no aid app	4.34		0.25
6C	Survey / SFA	Set to Missing Value	4.74		0.25
7A	Survey / NSCF	Set to 0	4.10		0.25
7AT	Survey / NSCT	Set to 0	4.18		0.23
7C	Survey / NSCF	Set to Missing Value	4.78		0.26
7CT	Survey / NSCT	Set to Missing Value	4.82		0.25
8	Survey then NSCF / SFA	Set to 0	4.26		0.23
8T	Survey then NSCT / SFA	Set to 0	4.24		0.24
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	3.61		0.25
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	3.60		0.25
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	3.61		0.25
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	3.59		0.25
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	4.07		0.25
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	4.06		0.25

Table C.12

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution (CACE)

	Data Source	Uncoded	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	-0.95		0.80
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.61		0.76
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.41		0.84
3	Pell Receipt ( <i>SFA</i> )	None	2.54 **		0.02
4	NSCF / SFA	None	0.18		0.94
4T	NSCT / SFA	None	0.01		1.00
5A	Survey / NSCF / SFA	Set to 0	1.32		0.64
5AT	Survey / NSCT / SFA	Set to 0	1.02		0.72
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1.16		0.69
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	0.78		0.79
5C	Survey / NSCF / SFA	Set to Missing Value	0.87		0.78
5CT	Survey / NSCT / SFA	Set to Missing Value	0.45		0.88
6A	Survey / SFA	Set to 0	1.11		0.66
6B	Survey / SFA	Set to 0 if no aid app	0.87		0.75
6C	Survey / SFA	Set to Missing Value	0.16		0.96
7A	Survey / NSCF	Set to 0	2.12		0.38
7AT	Survey / NSCT	Set to 0	1.82		0.44
7C	Survey / NSCF	Set to Missing Value	1.47		0.59
7CT	Survey / NSCT	Set to Missing Value	1.05		0.70
8	Survey then NSCF / SFA	Set to 0	1.32		0.64
8T	Survey then NSCT / SFA	Set to 0	1.02		0.72

Table C.13

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt (CACE)

	Outcome / Data Source	Uncoded	Impact	Sig	P-value
1	Pell receipt (Survey)	Set to Missing Value	5.45		0.18
2	Pell receipt (Survey)	Set to 0	7.31		0.11
3	Pell receipt (SFA)	None	3.10		0.39
	Applied for aid (SFA)	None	1.68		0.58
1	Aid receipt (Survey)	Set to Missing Value	5.57		0.10
2	Aid receipt (Survey)	Set to 0	6.88		0.10

Table C.14

## Impact of Upward Bound on Completed Any Credential and Highest Credential Completed (CACE)

Outcome / Data Source		Uncoded	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>					
1	Survey	Set to Missing Value	15.82	**	0.02
2	NSCF	None	-0.21		0.95
2T	NSCT	None	0.15		0.96
7A	Survey / NSCF	Set to 0	3.88	*	0.05
7AT	Survey / NSCT	Set to 0	4.70	**	0.03
7B	Survey / NSCF / SFA	Set to 0 if no aid app	2.89		0.21
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.44		0.17
7C	Survey / NSCF	Set to Missing Value	3.04		0.23
7CT	Survey / NSCT	Set to Missing Value	4.10		0.12
<i>Highest Degree Completed: Four-year Degree</i>					
1	Survey	Set to Missing Value	5.19	*	0.06
2	NSCF	None	1.44		0.62
2T	NSCT	None	0.71		0.80
7A	Survey / NSCF	Set to 0	0.67		0.85
7AT	Survey / NSCT	Set to 0	0.27		0.94
7B	Survey / NSCF / SFA	Set to 0 if no aid app	-0.33		0.93
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	-0.96		0.81
7C	Survey / NSCF	Set to Missing Value	-0.80		0.86
7CT	Survey / NSCT	Set to Missing Value	-1.37		0.76
<i>Highest Degree Completed: Two-year Degree</i>					
1	Survey	Set to Missing Value	0.46		0.85
2	NSCF	None	-1.87		0.12
2T	NSCT	None	-0.83		0.36
7A	Survey / NSCF	Set to 0	-2.86	*	0.08
7AT	Survey / NSCT	Set to 0	-1.60		0.30
7B	Survey / NSCF / SFA	Set to 0 if no aid app	-3.18	*	0.08
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	-1.82		0.28
7C	Survey / NSCF	Set to Missing Value	-3.49	*	0.07
7CT	Survey / NSCT	Set to Missing Value	-1.68		0.30
<i>Highest Degree Completed: Other Degree</i>					
1	Survey	Set to Missing Value	10.17		0.13
2	NSCF	None	0.22		0.59
2T	NSCT	None	0.27		0.46
7A	Survey / NSCF	Set to 0	6.07	*	0.08
7AT	Survey / NSCT	Set to 0	6.03	*	0.09
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.40	*	0.09
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.23	*	0.09
7C	Survey / NSCF	Set to Missing Value	7.32	*	0.09
7CT	Survey / NSCT	Set to Missing Value	7.15	*	0.09
<i>Currently In School</i>					
1	Currently in school (Survey)	Set to Missing Value	0.29		0.89
1	In school or completed degree (Survey)	Set to Missing Value	16.05	***	0.00

**APPENDIX D**

**SAMPLE SIZES AND WEIGHTED STANDARD DEVIATIONS  
FOR ALL OUTCOME VARIABLES**



Table D.1  
Sample Sizes and Standard Deviations for Any Postsecondary Enrollment

Data Source	Uncoded	Sample Size		Standard Deviation		
		Treat	Control	Treat	Control	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1,151	951	40	39
2	NSC through 05-06 ( <i>NSCF</i> )	None	1,524	1,320	49	49
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1,524	1,320	50	50
3	Pell Receipt ( <i>SFA</i> )	None	1,524	1,320	50	50
4	NSCF / SFA	None	1,524	1,320	46	46
4T	NSCT / SFA	None	1,524	1,320	46	46
5A	Survey / NSCF / SFA	Set to 0	1,524	1,320	41	42
5AT	Survey / NSCT / SFA	Set to 0	1,524	1,320	42	43
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1,495	1,292	40	41
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,493	1,287	41	41
5C	Survey / NSCF / SFA	Set to Missing Value	1,399	1,185	35	34
5CT	Survey / NSCT / SFA	Set to Missing Value	1,390	1,177	35	35
6A	Survey / SFA	Set to 0	1,524	1,320	44	44
6B	Survey / SFA	Set to 0 if no aid app	1,459	1,258	42	42
6C	Survey / SFA	Set to Missing Value	1,342	1,134	37	36
7A	Survey / NSCF	Set to 0	1,524	1,320	44	44
7AT	Survey / NSCT	Set to 0	1,524	1,320	45	45
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	36	35
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	36	36
8	Survey then NSCF / SFA	Set to 0	1,524	1,320	43	43
8T	Survey then NSCT / SFA	Set to 0	1,524	1,320	43	43
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	1,524	1,320	40	40
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	1,524	1,320	41	40
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	1,507	1,307	40	39
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	1,505	1,304	40	40
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	1,477	1,271	38	37
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	1,475	1,268	38	38

Table D.2

## Sample Sizes and Standard Deviations for Highest Level of Postsecondary Enrollment: Four-Year Institution

	Data Source	Uncoded	Sample Size		Standard Deviation	
			Treat	Control	Treat	Control
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1,151	951	50	50
2	NSC through 05-06 ( <i>NSCF</i> )	None	1,524	1,320	48	48
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1,524	1,320	48	48
3	Pell Receipt ( <i>SFA</i> )	None	1,524	1,320	48	48
4	NSCF / SFA	None	1,524	1,320	50	50
4T	NSCT / SFA	None	1,524	1,320	49	49
5A	Survey / NSCF / SFA	Set to 0	1,524	1,320	50	50
5AT	Survey / NSCT / SFA	Set to 0	1,524	1,320	50	50
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1,495	1,292	50	50
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,493	1,287	50	50
5C	Survey / NSCF / SFA	Set to Missing Value	1,399	1,185	50	50
5CT	Survey / NSCT / SFA	Set to Missing Value	1,390	1,177	50	50
6A	Survey / SFA	Set to 0	1,524	1,320	50	50
6B	Survey / SFA	Set to 0 if no aid app	1,459	1,258	50	50
6C	Survey / SFA	Set to Missing Value	1,342	1,134	50	50
7A	Survey / NSCF	Set to 0	1,524	1,320	50	50
7AT	Survey / NSCT	Set to 0	1,524	1,320	50	50
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	50	50
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	50	50
8	Survey then NSCF / SFA	Set to 0	1,524	1,320	50	50
8T	Survey then NSCT / SFA	Set to 0	1,524	1,320	50	50
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	1,524	1,320	50	50
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	1,524	1,320	50	50
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	1,507	1,307	50	50
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	1,505	1,304	50	50
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	1,477	1,271	50	50
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	1,475	1,268	50	50



Table D.3

## Sample Sizes and Standard Deviations for Highest Level of Postsecondary Enrollment: Two-Year Institution

Data Source	Uncoded	Sample Size		Standard Deviation		
		Treat	Control	Treat	Control	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1,151	951	38	43
2	NSC through 05-06 ( <i>NSCF</i> )	None	1,524	1,320	36	37
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1,524	1,320	35	37
3	Pell Receipt ( <i>SFA</i> )	None	1,524	1,320	35	37
4	NSCF / SFA	None	1,524	1,320	38	41
4T	NSCT / SFA	None	1,524	1,320	38	41
5A	Survey / NSCF / SFA	Set to 0	1,524	1,320	39	41
5AT	Survey / NSCT / SFA	Set to 0	1,524	1,320	39	42
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1,495	1,292	39	42
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,493	1,287	39	42
5C	Survey / NSCF / SFA	Set to Missing Value	1,399	1,185	40	43
5CT	Survey / NSCT / SFA	Set to Missing Value	1,390	1,177	40	43
6A	Survey / SFA	Set to 0	1,524	1,320	38	40
6B	Survey / SFA	Set to 0 if no aid app	1,459	1,258	38	41
6C	Survey / SFA	Set to Missing Value	1,342	1,134	40	43
7A	Survey / NSCF	Set to 0	1,524	1,320	38	40
7AT	Survey / NSCT	Set to 0	1,524	1,320	38	40
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	40	42
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	40	43
8	Survey then NSCF / SFA	Set to 0	1,524	1,320	39	41
8T	Survey then NSCT / SFA	Set to 0	1,524	1,320	39	42
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	1,524	1,320	39	42
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	1,524	1,320	39	42
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	1,507	1,307	39	42
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	1,505	1,304	39	42
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	1,477	1,271	40	42
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	1,475	1,268	40	43

Table D.4

## Sample Sizes and Standard Deviations for Highest Level of Postsecondary Enrollment: Other Institution

	Data Source	Uncoded	Sample Size		Standard Deviation	
			Treat	Control	Treat	Control
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1,151	951	29	18
2	NSC through 05-06 ( <i>NSCF</i> )	None	1,524	1,320	8	6
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1,524	1,320	7	4
3	Pell Receipt ( <i>SFA</i> )	None	1,524	1,320	23	19
4	NSCF / SFA	None	1,524	1,320	22	18
4T	NSCT / SFA	None	1,524	1,320	22	18
5A	Survey / NSCF / SFA	Set to 0	1,524	1,320	26	19
5AT	Survey / NSCT / SFA	Set to 0	1,524	1,320	26	19
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1,495	1,292	26	19
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,493	1,287	26	20
5C	Survey / NSCF / SFA	Set to Missing Value	1,399	1,185	28	20
5CT	Survey / NSCT / SFA	Set to Missing Value	1,390	1,177	28	20
6A	Survey / SFA	Set to 0	1,524	1,320	26	20
6B	Survey / SFA	Set to 0 if no aid app	1,459	1,258	27	20
6C	Survey / SFA	Set to Missing Value	1,342	1,134	29	21
7A	Survey / NSCF	Set to 0	1,524	1,320	23	15
7AT	Survey / NSCT	Set to 0	1,524	1,320	23	15
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	25	16
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	25	17
8	Survey then NSCF / SFA	Set to 0	1,524	1,320	26	19
8T	Survey then NSCT / SFA	Set to 0	1,524	1,320	26	19
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	1,524	1,320	27	21
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	1,524	1,320	27	21
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	1,507	1,307	27	21
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	1,505	1,304	27	22
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	1,477	1,271	27	22
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	1,475	1,268	27	22

Table D.5

## Sample Sizes and Standard Deviations for Attended a Highly-Selective Four-Year Postsecondary Institution

	Data Source	Uncoded	Sample Size		Standard Deviation	
			Treat	Control	Treat	Control
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1,151	951	31	31
2	NSC through 05-06 ( <i>NSCF</i> )	None	1,524	1,320	29	26
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1,524	1,320	28	26
3	Pell Receipt ( <i>SFA</i> )	None	1,524	1,320	24	21
4	NSCF / SFA	None	1,524	1,320	30	28
4T	NSCT / SFA	None	1,524	1,320	29	28
5A	Survey / NSCF / SFA	Set to 0	1,524	1,320	32	29
5AT	Survey / NSCT / SFA	Set to 0	1,524	1,320	32	29
5B	Survey / NSCF / SFA	Set to 0 if no aid app	1,495	1,292	32	30
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,493	1,287	32	30
5C	Survey / NSCF / SFA	Set to Missing Value	1,399	1,185	34	31
5CT	Survey / NSCT / SFA	Set to Missing Value	1,390	1,177	33	31
6A	Survey / SFA	Set to 0	1,524	1,320	30	28
6B	Survey / SFA	Set to 0 if no aid app	1,459	1,258	31	29
6C	Survey / SFA	Set to Missing Value	1,342	1,134	32	30
7A	Survey / NSCF	Set to 0	1,524	1,320	32	29
7AT	Survey / NSCT	Set to 0	1,524	1,320	32	28
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	34	31
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	34	31
8	Survey then NSCF / SFA	Set to 0	1,524	1,320	32	29
8T	Survey then NSCT / SFA	Set to 0	1,524	1,320	32	29

Table D.6

## Sample Sizes and Standard Deviations for Pell Grant and Any Financial Aid Receipt

	Outcome / Data Source	Uncoded	Sample Size		Standard Deviation	
			Treat	Control	Treat	Control
1	Pell receipt (Survey)	Set to Missing Value	959	772	48	48
2	Pell receipt (Survey)	Set to 0	1,151	951	50	50
3	Pell receipt (SFA)	None	1,524	1,320	50	50
	Applied for aid (SFA)	None	1,524	1,320	45	46
1	Aid receipt (Survey)	Set to Missing Value	970	780	38	39
2	Aid receipt (Survey)	Set to 0	1,151	951	47	47

Table D.7

## Sample Sizes and Standard Deviations for Completed Any Credential and Highest Credential Completed

Outcome / Data Source		Uncoded	Sample Size		Standard Deviation	
			Treat	Control	Treat	Control
<i>Any Postsecondary Degree</i>						
1	Survey	Set to Missing Value	957	767	50	49
2	NSCF	None	1,524	1,320	37	38
2T	NSCT	None	1,524	1,320	35	35
7A	Survey / NSCF	Set to 0	1,524	1,320	48	47
7AT	Survey / NSCT	Set to 0	1,524	1,320	47	46
7B	Survey / NSCF / SFA	Set to 0 if no aid app	1,445	1,240	48	48
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,439	1,231	48	47
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	49	49
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	49	48
<i>Highest Degree Completed: Four-year Degree</i>						
1	Survey	Set to Missing Value	957	767	44	42
2	NSCF	None	1,524	1,320	34	33
2T	NSCT	None	1,524	1,320	31	31
7A	Survey / NSCF	Set to 0	1,524	1,320	40	40
7AT	Survey / NSCT	Set to 0	1,524	1,320	39	39
7B	Survey / NSCF / SFA	Set to 0 if no aid app	1,445	1,240	41	41
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,439	1,231	39	40
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	42	43
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	41	42
<i>Highest Degree Completed: Two-year Degree</i>						
1	Survey	Set to Missing Value	957	767	31	32
2	NSCF	None	1,524	1,320	16	21
2T	NSCT	None	1,524	1,320	15	17
7A	Survey / NSCF	Set to 0	1,524	1,320	25	28
7AT	Survey / NSCT	Set to 0	1,524	1,320	25	26
7B	Survey / NSCF / SFA	Set to 0 if no aid app	1,445	1,240	26	29
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,439	1,231	25	27
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	27	30
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	26	28
<i>Highest Degree Completed: Other Degree</i>						
1	Survey	Set to Missing Value	957	767	37	26
2	NSCF	None	1,524	1,320	8	7
2T	NSCT	None	1,524	1,320	8	6
7A	Survey / NSCF	Set to 0	1,524	1,320	29	19
7AT	Survey / NSCT	Set to 0	1,524	1,320	29	19
7B	Survey / NSCF / SFA	Set to 0 if no aid app	1,445	1,240	29	20
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	1,439	1,231	29	20
7C	Survey / NSCF	Set to Missing Value	1,349	1,133	31	21
7CT	Survey / NSCT	Set to Missing Value	1,336	1,121	31	21
<i>Currently In School</i>						
1	Currently in school (Survey)	Set to Missing Value	1,151	951	25	25
1	In school or completed degree (Survey)	Set to Missing Value	957	767	49	50

**APPENDIX E**

**ESTIMATION OF IMPACTS  
AND STANDARD ERRORS**



## A. THE EFFECTS OF THE OPPORTUNITY TO PARTICIPATE IN UPWARD BOUND (ITT)

This section describes how we estimated the effects (impacts) of an eligible applicant being offered the opportunity to participate in Upward Bound; such effects are called intended to treat (ITT) effects. Our estimates of the ITT effects of Upward Bound are based on a comparison of sample members randomly assigned to the treatment group with sample members randomly assigned to the control group. To compute the average effect of the opportunity to participate in Upward Bound, we estimate a statistical model that predicts the outcome of interest as a function of treatment status and background characteristics: sex, race/ethnicity, educational expectations, grade at application, and Upward Bound eligibility (both low-income and potential first-generation college student, low-income only, or first-generation only). We include baseline characteristics in the model to increase the precision with which we estimate program effects and to adjust for chance differences in baseline characteristics that remained after random assignment of students to the treatment and control groups.<sup>18</sup> We also include as covariates interactions between these characteristics and an indicator for Project 69, the project that has the largest weight (see Appendix G for more details on the project and its characteristics).<sup>19</sup> The basic form of the model is:

$$g(y_i) = \beta_0 + \beta_1 T_i + \beta_2 X_i + \varepsilon_{1i},$$

where  $y_i$  is the outcome of interest;  $T_i$  equals 1 if the sample member was randomly assigned to the treatment group and equals 0 otherwise;  $X_i$  is a vector of covariates;  $\varepsilon_{1i}$  is a random error

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<sup>18</sup> The simple difference of means estimates, which do not control for differences in baseline characteristics, are presented in Table E.1.

<sup>19</sup> See Table II.2 for a listing of covariates included in the model.

term that captures the effects of unobserved factors that influence the outcome; and  $\beta_0$ ,  $\beta_1$ , and  $\beta_2$  are parameters or vectors of parameters to be estimated.

The parameter of greatest interest is  $\beta_1$  because it shows the effect on sample member outcomes of being offered the opportunity to participate in Upward Bound. This parameter can be interpreted as the causal effect of being offered the opportunity to participate in Upward Bound because assignment to the treatment and control groups was done randomly. Interpreting  $\beta_1$  as a causal effect also assumes that the model relating the outcome  $y_i$  to the covariates  $X_i$  is correct and that the treatment has an additive effect: that is, the treatment effect is the same for all individuals regardless of the values of the covariates  $X_i$ .

As all of our outcomes are binary, we estimate the parameters by using logistic regression,  $g(\pi_i) = \log(\pi_i/(1-\pi_i))$ , where  $\pi_i = E(y_i)$ . We include all observations with a nonmissing value for the outcome, and all regression models are weighted to account for the sampling design and unit nonresponse (see Appendix A). Using the coefficients from the model, we predict the probability of a positive outcome for each sample member. Then, we calculate the probability of a positive outcome if the sample member were in the *other* experimental group. That is, for treatment group members, we calculate their probabilities as if they were control group members, and vice versa. Therefore, each person has predicted probabilities as both a treatment group member,  $\pi_t$ , and a control group member,  $\pi_c$ . We then calculated the mean of those predicted probabilities across all sample members, and the impact is computed as the difference of the averages.

To determine whether effect estimates are statistically significant, we computed standard errors that account for the study's sample design. The first stage of sampling in the evaluation involved selection of a stratified random sample of Upward Bound projects. The second stage of



the sampling process involved taking a random sample of eligible applicants and assigning them to the treatment group and assigning the remaining applicants to the control group. Given that projects were first sampled and then applicants were sampled, we have a cluster sample of eligible applicants rather than a simple random sample of eligible applicants. To accommodate the complex sample design, we use regression procedures for complex survey data that calculate appropriate standard errors given the weights and the clustering of applicants in projects (Brogan 1998).<sup>20</sup> Because projects were sampled without replacement within strata and the population sample sizes in some strata were particularly small, a finite population correction was also utilized at the first sampling stage (sampling of projects).

## **B. THE EFFECTS OF PARTICIPATION IN UPWARD BOUND (CACE)**

This section describes our approach to estimating another quantity of interest—the effect of actually participating in Upward Bound, called the “Complier Average Causal Effect” (CACE).<sup>21</sup> We define participation in Upward Bound as receiving any regular Upward Bound or Upward Bound Math-Science services. CACE estimates account for the fact that some sample members do not comply with their treatment assignment: some treatment group members do not participate in Upward Bound, and some control group members do participate in Upward Bound.

After randomly assigning students to the treatment and control groups, we discovered that project directors at some of the 67 projects conducting random assignment had allowed 29 control group members (2.2 percent) to participate in regular Upward Bound. In the follow-up student surveys, an alternative source of information on Upward Bound participation,

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<sup>20</sup> Specifically, we used “proc rlogist” in SAS-callable SUDAAN<sup>®</sup> Version 9.0.0.

<sup>21</sup> This effect is sometimes referred to as the effect of the treatment on the treated (TOT), where “treated” refers to individuals who received the treatment, not to the full treatment group assigned to receive the treatment. We use the CACE terminology to avoid potential confusion.

14 additional control group members (1.1 percent) reported that they had participated in Upward Bound projects, including projects not in the evaluation and thus not conducting random assignment.<sup>22</sup> Upward Bound Math-Science participation was reported by 148 control group members, including 11 who had previously reported that they had participated in regular Upward Bound, and 137 (10.4 percent) who did not. Thus, about 14 percent of control group members reported participating in Upward Bound or Upward Bound Math-Science  $[(29+14+137)/1,320]$ . In our ITT analysis, we maintained each control group member's original status in order to preserve the comparability between the two groups due to random assignment; in our CACE analysis, all 180 were treated as noncompliers.<sup>23</sup>

A treatment group member is considered to have participated in Upward Bound if the duration of involvement with the program, as based on participation data from Upward Bound projects, is greater than zero. Otherwise, a treatment group member is considered as a “no-show.” Based on this measure, 1,282 treatment group members participated in Upward Bound. In addition, 13 treatment group members who did not participate in Upward Bound indicated in their responses to the follow-up surveys that they participated in Upward Bound Math-Science. Thus, including Upward Bound Math-Science participants, we identify 1,295 treatment group

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<sup>22</sup> Sample member responses to questions in the 2<sup>nd</sup> and 3<sup>rd</sup> follow-up surveys were used to determine the Upward Bound or Upward Bound Math-Science participation status of control group members. In the second follow-up survey, question B5 asked for the name of other supplemental service programs attended between the 1992-1993 and 1993-1994 academic years, and specifically listed Upward Bound Math-Science as an option; question B8 asked a parallel question for different time periods (summer 1994 through academic year 1995-1996); and question B11 asked about the program in which the respondent spent the most time. In the third follow-up survey, question B5 asked if any supplemental services were received since May, 1996; question B6 asked about the frequency of those services for various time periods; and question B7 asked other questions related specifically to those services, including naming regular Upward Bound and Upward Bound Math-Science, between summer 1996 and summer 1998. Although treatment and control group members were asked the same basic questions at the beginning of the supplemental services section in the 2<sup>nd</sup> follow-up, the questions for control group members did not ask specifically about Upward Bound. However, control group members were asked the name of the program they were participating in if they were in one, and Upward Bound was recorded if that was the response. In the 3<sup>rd</sup> follow-up, both groups were asked the exact same questions (listed above), and Upward Bound was one of the options to be checked in a box.

<sup>23</sup> The counts and percentages in this paragraph are unweighted.

members as program participants, which yields a “no-show” rate of approximately 17 percent  $[(1,524-1,295)/1,524]$ .

Interpreting the CACE estimates as the effects for program participants requires three types of assumptions. First, we must make assumptions that are known as “exclusion restrictions” (Angrist, Imbens, and Rubin 1996). The first exclusion restriction assumes that assignment to the treatment group (being given the opportunity to participate in Upward Bound) has no effect on treatment group members who did not actually attend one or more Upward Bound sessions; that is, mere selection for the treatment group is assumed to have no effect on high school, postsecondary, or related outcomes for those who did not participate in Upward Bound. This assumption would be violated, for example, if treatment group members who may have declined participation received encouragement concerning their academic potential from projects and were motivated to perform at a higher level while in high school.

The second exclusion restriction assumes that assignment to the control group has no effect on control group members who received Upward Bound services anyway. In other words, Upward Bound applicants who find a way to participate in Upward Bound even if assigned to the control group would have the same outcome values whether assigned to the treatment or control group. Although we must make these exclusion restriction assumptions to interpret the CACE estimates as the effects of program participation, their validity cannot be tested.

The second type of assumption is that the proportion of treatment group members who did not receive any Upward Bound services is the same proportion we would have observed among control group members if they had a chance to participate. Likewise, we assume that the proportion of control group members who did receive Upward Bound services is the same proportion we would have observed among treatment group members if they did not have the

opportunity to participate in Upward Bound. These are reasonable assumptions given the random assignment of eligible applicants to the treatment and control groups.

With respect to the third type of assumption, we assume that there are no eligible applicants who would participate in Upward Bound if assigned to the control group, and would not participate in Upward Bound if assigned to the treatment group. In other words, using the language of Angrist, Imbens, and Rubin (1996), we assume that there are no “defiers” who would always do the opposite of their assignment.

To compute the CACE estimates of the effect of participating in Upward Bound, we estimate the relationship between being offered the opportunity to participate and participation and the relationship between participation and outcomes.<sup>24</sup> These relationships can be expressed as:

$$P_i = \alpha_0 + \alpha_1 T_i + \alpha_2 X_i + \varepsilon_{pi}$$

$$y_i = \beta_0 + \beta_1 P_i + \beta_2 X_i + \varepsilon_{yi},$$

where  $y_i$  is the outcome of interest;  $T_i$  equals 1 for sample members who were randomly assigned to the treatment group and equals 0 for other sample members;  $X_i$  is a vector that includes background variables;  $P_i$  equals 1 for sample members who participated in Upward Bound (or Upward Bound Math-Science) and equals 0 for other sample members;  $\varepsilon_{pi}$  and  $\varepsilon_{yi}$  are random error terms that capture the effects of unobserved factors that influence participation and the

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<sup>24</sup> Another procedure sometimes used to estimate the CACE is Bloom’s correction (Bloom 1984). Bloom’s correction is a special case of the method presented here that does not use covariates in the model of participation. For the average eligible applicant, estimates of the CACE using Bloom’s correction are very similar to the instrumental variables estimates presented here. Differences in the estimates may be larger for some subgroup effects, partly because Bloom’s correction makes the additional restrictive assumption that the participation rate is the same for all sample members.

outcome, respectively; and  $\alpha_0$ ,  $\alpha_1$ ,  $\alpha_2$ ,  $\beta_0$ ,  $\beta_1$ , and  $\beta_2$  are parameters or vectors of parameters to be estimated.

We estimate the parameters of the model using the instrumental variables estimator (Angrist, Imbens, and Rubin 1996). This technique allows us to compute asymptotically unbiased and efficient estimates of the parameters. The parameter  $\beta_1$  can be interpreted as the causal effect for compliers (that is, the CACE estimate). To implement the instrumental variables estimator, we use a two-stage ordinary least squares procedure. To accommodate the complex sample design, we use an instrumental variables regression procedure for complex survey data that calculates correct standard errors, accounting for the weights that reflect sampling probabilities and adjust for nonresponse and the clustering of eligible applicants in projects.<sup>25</sup> Estimated impacts are presented in the main body of this report. Standard errors are presented in Tables E.2-E.8.

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<sup>25</sup> Specifically, we use the Stata 9 survey instrumental variables regression command “svy: ivreg.”

Table E.1

## Impact of Upward Bound on Postsecondary Outcomes (Difference of Means)

	Treatment Mean	Control Mean	Impact	P-value
<b>Postsecondary enrollment (%)</b>				
Any postsecondary enrollment	79.41	79.06	0.35	0.91
Highest level of schooling attended				
Four-year college or university	51.16	51.89	-0.73	0.87
Two-year college	18.84	22.44	-3.60	0.18
Vocational institution	7.49	3.92	3.56	0.31
Highly selective four-year institution (%)	11.88	9.85	2.03	0.11
<b>Financial aid (%)</b>				
Applied for aid	70.81	70.01	0.79	0.72
Received Pell Grant	55.57	54.74	0.83	0.80
<b>Postsecondary completion (%)</b>				
Any degree, certificate, or license	37.82	34.77	3.05 **	0.03
Highest degree, certificate, or license				
Bachelor's degree or higher	21.18	21.56	-0.39	0.88
Associate's degree	7.14	9.13	-1.99 **	0.03
Certificate or license	9.50	4.08	5.42	0.23

Sources: Fifth follow-up survey of sample members, National Student Clearinghouse, and Federal Student Financial Aid records.

Notes: Estimates were calculated using weights to account for sampling probabilities and nonresponse (see Appendix A for more details).

\*/\*\*/\*\* Impact estimate is statistically significant at the 0.10 / 0.05 / 0.01 level.

Table E.2  
Standard Errors for Any Postsecondary Enrollment Estimates

	Data Source	Uncoded	N	ITT	CACE
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2102	3.27	4.10
2	NSC through 05-06 ( <i>NSCF</i> )	None	2844	5.44	6.92
2T	NSC through 03-04 ( <i>NSCT</i> )	None	2844	5.01	6.34
3	Pell Receipt ( <i>SFA</i> )	None	2844	2.86	3.57
4	NSCF / SFA	None	2844	4.12	5.17
4T	NSCT / SFA	None	2844	3.70	4.66
5A	Survey / NSCF / SFA	Set to 0	2844	2.65	3.16
5AT	Survey / NSCT / SFA	Set to 0	2844	2.18	2.64
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2787	2.68	3.24
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2780	2.63	3.17
5C	Survey / NSCF / SFA	Set to Missing Value	2584	2.73	3.65
5CT	Survey / NSCT / SFA	Set to Missing Value	2567	2.69	3.60
6A	Survey / SFA	Set to 0	2844	2.29	2.56
6B	Survey / SFA	Set to 0 if no aid app	2717	2.73	3.19
6C	Survey / SFA	Set to Missing Value	2476	2.86	3.69
7A	Survey / NSCF	Set to 0	2844	2.47	2.70
7AT	Survey / NSCT	Set to 0	2844	2.05	2.19
7C	Survey / NSCF	Set to Missing Value	2482	2.89	3.72
7CT	Survey / NSCT	Set to Missing Value	2457	2.82	3.67
8	Survey then NSCF / SFA	Set to 0	2844	2.67	3.10
8T	Survey then NSCT / SFA	Set to 0	2844	2.21	2.60
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	2844	2.92	3.69
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	2844	2.96	3.72
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	2814	2.90	3.66
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	2809	2.93	3.67
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	2748	2.84	3.62
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	2743	2.87	3.63

Table E.3

## Standard Errors for Highest Level of Postsecondary Enrollment: Four-Year Institution Estimates

	Data Source	Uncoded	N	ITT	CACE
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2102	2.00	2.35
2	NSC through 05-06 ( <i>NSCF</i> )	None	2844	5.20	6.57
2T	NSC through 03-04 ( <i>NSCT</i> )	None	2844	5.00	6.19
3	Pell Receipt ( <i>SFA</i> )	None	2844	4.00	4.89
4	NSCF / SFA	None	2844	4.28	5.34
4T	NSCT / SFA	None	2844	3.97	4.91
5A	Survey / NSCF / SFA	Set to 0	2844	3.43	4.19
5AT	Survey / NSCT / SFA	Set to 0	2844	3.08	3.73
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2787	3.46	4.24
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2780	3.36	4.14
5C	Survey / NSCF / SFA	Set to Missing Value	2584	3.46	4.32
5CT	Survey / NSCT / SFA	Set to Missing Value	2567	3.36	4.20
6A	Survey / SFA	Set to 0	2844	3.12	3.78
6B	Survey / SFA	Set to 0 if no aid app	2717	3.48	4.29
6C	Survey / SFA	Set to Missing Value	2476	3.62	4.56
7A	Survey / NSCF	Set to 0	2844	2.91	3.48
7AT	Survey / NSCT	Set to 0	2844	2.57	3.04
7C	Survey / NSCF	Set to Missing Value	2482	3.18	3.93
7CT	Survey / NSCT	Set to Missing Value	2457	3.04	3.76
8	Survey then NSCF / SFA	Set to 0	2844	3.43	4.19
8T	Survey then NSCT / SFA	Set to 0	2844	3.08	3.73
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	2844	3.58	4.38
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	2844	3.23	3.92
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	2814	3.56	4.37
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	2809	3.20	3.91
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	2748	3.72	4.65
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	2743	3.35	4.17



Table E.4

## Standard Errors for Highest Level of Postsecondary Enrollment: Two-Year Institution Estimates

	Data Source	Uncoded	N	ITT	CACE
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2102	5.77	7.82
2	NSC through 05-06 ( <i>NSCF</i> )	None	2844	1.75	1.74
2T	NSC through 03-04 ( <i>NSCT</i> )	None	2844	1.79	1.44
3	Pell Receipt ( <i>SFA</i> )	None	2844	1.50	1.77
4	NSCF / SFA	None	2844	1.28	1.27
4T	NSCT / SFA	None	2844	1.29	1.23
5A	Survey / NSCF / SFA	Set to 0	2844	2.36	3.15
5AT	Survey / NSCT / SFA	Set to 0	2844	2.39	3.05
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2787	2.40	3.19
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2780	2.46	3.15
5C	Survey / NSCF / SFA	Set to Missing Value	2584	2.85	3.73
5CT	Survey / NSCT / SFA	Set to Missing Value	2567	2.93	3.75
6A	Survey / SFA	Set to 0	2844	2.00	2.60
6B	Survey / SFA	Set to 0 if no aid app	2717	2.22	2.88
6C	Survey / SFA	Set to Missing Value	2476	2.64	3.43
7A	Survey / NSCF	Set to 0	2844	3.43	4.30
7AT	Survey / NSCT	Set to 0	2844	3.36	4.13
7C	Survey / NSCF	Set to Missing Value	2482	4.54	5.78
7CT	Survey / NSCT	Set to Missing Value	2457	4.65	5.83
8	Survey then NSCF / SFA	Set to 0	2844	2.36	3.15
8T	Survey then NSCT / SFA	Set to 0	2844	2.39	3.05
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	2844	2.37	3.14
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	2844	2.39	3.02
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	2814	2.38	3.14
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	2809	2.38	3.01
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	2748	2.47	3.27
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	2743	2.46	3.12

Table E.5

## Standard Errors for Highest Level of Postsecondary Enrollment: Other Institution Estimates

	Data Source	Uncoded	N	ITT	CACE
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2102	5.85	4.63
2	NSC through 05-06 ( <i>NSCF</i> )	None	2844	0.43	0.36
2T	NSC through 03-04 ( <i>NSCT</i> )	None	2844	0.49	0.34
3	Pell Receipt ( <i>SFA</i> )	None	2844	0.84	1.15
4	NSCF / SFA	None	2844	0.76	1.04
4T	NSCT / SFA	None	2844	0.72	0.99
5A	Survey / NSCF / SFA	Set to 0	2844	3.26	3.53
5AT	Survey / NSCT / SFA	Set to 0	2844	3.25	3.53
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2787	3.26	3.54
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2780	3.19	3.48
5C	Survey / NSCF / SFA	Set to Missing Value	2584	3.88	3.89
5CT	Survey / NSCT / SFA	Set to Missing Value	2567	3.81	3.82
6A	Survey / SFA	Set to 0	2844	3.26	3.54
6B	Survey / SFA	Set to 0 if no aid app	2717	3.29	3.68
6C	Survey / SFA	Set to Missing Value	2476	3.92	4.05
7A	Survey / NSCF	Set to 0	2844	3.93	3.48
7AT	Survey / NSCT	Set to 0	2844	3.92	3.45
7C	Survey / NSCF	Set to Missing Value	2482	4.92	4.21
7CT	Survey / NSCT	Set to Missing Value	2457	4.88	4.16
8	Survey then NSCF / SFA	Set to 0	2844	3.26	3.53
8T	Survey then NSCT / SFA	Set to 0	2844	3.25	3.53
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	2844	2.77	3.07
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	2844	2.77	3.07
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	2814	2.78	3.08
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	2809	2.78	3.08
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	2748	3.08	3.51
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	2743	3.07	3.51

Table E.6

## Standard Errors for Attended a Highly-Selective Four-Year Postsecondary Institution Estimates

	Data Source	Uncoded	N	ITT	CACE
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2102	2.81	3.68
2	NSC through 05-06 ( <i>NSCF</i> )	None	2844	1.34	1.97
2T	NSC through 03-04 ( <i>NSCT</i> )	None	2844	1.33	1.98
3	Pell Receipt ( <i>SFA</i> )	None	2844	1.19	1.06
4	NSCF / SFA	None	2844	1.87	2.54
4T	NSCT / SFA	None	2844	1.86	2.55
5A	Survey / NSCF / SFA	Set to 0	2844	2.22	2.83
5AT	Survey / NSCT / SFA	Set to 0	2844	2.17	2.79
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2787	2.22	2.83
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2780	2.20	2.84
5C	Survey / NSCF / SFA	Set to Missing Value	2584	2.32	3.03
5CT	Survey / NSCT / SFA	Set to Missing Value	2567	2.31	3.05
6A	Survey / SFA	Set to 0	2844	2.03	2.53
6B	Survey / SFA	Set to 0 if no aid app	2717	2.42	2.70
6C	Survey / SFA	Set to Missing Value	2476	2.68	3.11
7A	Survey / NSCF	Set to 0	2844	1.80	2.38
7AT	Survey / NSCT	Set to 0	2844	1.76	2.34
7C	Survey / NSCF	Set to Missing Value	2482	2.06	2.69
7CT	Survey / NSCT	Set to Missing Value	2457	2.09	2.74
8	Survey then NSCF / SFA	Set to 0	2844	2.22	2.83
8T	Survey then NSCT / SFA	Set to 0	2844	2.17	2.79

Table E.7

## Standard Errors for Pell Grant and Any Financial Aid Receipt Estimates

	Outcome / Data Source	Uncoded	N	ITT	CACE
1	Pell receipt (Survey)	Set to Missing Value	1731	3.31	3.95
2	Pell receipt (Survey)	Set to 0	2102	3.75	4.48
3	Pell receipt (SFA)	None	2844	2.86	3.57
	Applied for aid (SFA)	None	2844	2.31	3.03
1	Aid receipt (Survey)	Set to Missing Value	1750	2.35	3.34
2	Aid receipt (Survey)	Set to 0	2102	3.12	4.09

Table E.8

## Standard Errors for Completed Any Credential and Highest Credential Completed Estimates

Outcome / Data Source		Uncoded	N	ITT	CACE
<i>Any Postsecondary Degree</i>					
1	Survey	Set to Missing Value	1724	5.37	6.40
2	NSCF	None	2844	2.63	3.68
2T	NSCT	None	2844	2.52	3.43
7A	Survey / NSCF	Set to 0	2844	1.73	1.95
7AT	Survey / NSCT	Set to 0	2844	1.81	2.05
7B	Survey / NSCF / SFA	Set to 0 if no aid app	2685	1.96	2.29
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	2670	2.10	2.48
7C	Survey / NSCF	Set to Missing Value	2482	2.09	2.46
7CT	Survey / NSCT	Set to Missing Value	2457	2.17	2.59
<i>Highest Degree Completed: Four-year Degree</i>					
1	Survey	Set to Missing Value	1724	2.52	2.73
2	NSCF	None	2844	2.50	2.90
2T	NSCT	None	2844	2.37	2.75
7A	Survey / NSCF	Set to 0	2844	2.53	3.49
7AT	Survey / NSCT	Set to 0	2844	2.46	3.42
7B	Survey / NSCF / SFA	Set to 0 if no aid app	2685	2.82	3.96
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	2670	2.85	4.08
7C	Survey / NSCF	Set to Missing Value	2482	3.25	4.33
7CT	Survey / NSCT	Set to Missing Value	2457	3.23	4.36
<i>Highest Degree Completed: Two-year Degree</i>					
1	Survey	Set to Missing Value	1724	2.08	2.45
2	NSCF	None	2844	0.93	1.19
2T	NSCT	None	2844	0.69	0.90
7A	Survey / NSCF	Set to 0	2844	1.11	1.61
7AT	Survey / NSCT	Set to 0	2844	1.13	1.53
7B	Survey / NSCF / SFA	Set to 0 if no aid app	2685	1.23	1.78
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	2670	1.21	1.65
7C	Survey / NSCF	Set to Missing Value	2482	1.44	1.84
7CT	Survey / NSCT	Set to Missing Value	2457	1.31	1.61
<i>Highest Degree Completed: Other Degree</i>					
1	Survey	Set to Missing Value	1724	7.26	6.49
2	NSCF	None	2844	0.50	0.40
2T	NSCT	None	2844	0.47	0.36
7A	Survey / NSCF	Set to 0	2844	3.53	3.41
7AT	Survey / NSCT	Set to 0	2844	3.57	3.43
7B	Survey / NSCF / SFA	Set to 0 if no aid app	2685	3.72	3.64
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	2670	3.69	3.62
7C	Survey / NSCF	Set to Missing Value	2482	4.33	4.17
7CT	Survey / NSCT	Set to Missing Value	2457	4.30	4.15
<i>Currently In School</i>					
1	Currently in school (Survey)	Set to Missing Value	2102	1.58	2.12
1	In school or completed degree (Surv	Set to Missing Value	1724	3.69	4.62

## **APPENDIX F**

### **METHODS USED TO ESTIMATE THE EFFECTS OF ADDITIONAL UPWARD BOUND PARTICIPATION**



The duration and completion analyses presented in Chapter V are designed to measure the potential benefits of additional Upward Bound participation, defined as longer Upward Bound participation for students who participate for a relatively short period of time and Upward Bound completion for noncompleting participants. The two “target” populations for this analysis—students who could be targeted for program retention efforts—are students who participated in Upward Bound for less than two years and students who ceased their participation before the end of high school. To estimate the effects of additional Upward Bound participation on the target populations, we matched samples from the target populations to seemingly appropriate comparison samples. The remainder of this appendix describes the target and comparison samples, details the rules used in matching, and assesses the comparability of the matched target and comparison samples.

#### **A. SELECTING TARGET AND COMPARISON SAMPLES TO BE MATCHED**

To measure the impacts of an additional year of Upward Bound participation, we defined three groups of participants: *low-duration* participants, who participated for 1-12 months; *medium-duration* participants, who participated for 13 to 24 months; and *high-duration* participants, who participated for 25 months or longer. We then selected a comparison population of students who participated in Upward Bound for roughly one more year than the target population—medium-duration participants for targeted low-duration participants, and high-duration participants for targeted medium-duration participants. To measure the impacts of program completion on noncompleters, we defined the target population to be all participants who did not complete Upward Bound (noncompleters) and the comparison population to be all participants who did complete the program (completers).

The treatment group provides samples of students from the target and comparison populations that can be used to measure the potential impacts of additional Upward Bound participation. We restricted our sample to students who (1) applied for Upward Bound at one of the 67 evaluation projects, (2) were assigned to the treatment group, and (3) ultimately participated in Upward Bound. The sample is restricted to Upward Bound participants so that we can measure the impacts of longer spells of participation relative to shorter spells and the impact of program completion relative to participation without completion. Of the 1,524 treatment sample members, 1,282 had a positive length of duration, averaging just over 20 months. The average lengths of participation are 6.3, 19.0, and 35.9 for the low-, medium-, and high-duration groups, respectively; 39 percent of participating sample members were still active in Upward Bound at the completion of high school.

## **B. SELECTING MATCHED TARGET AND COMPARISON SAMPLES**

For each matching exercise, we estimated propensity scores on which the target and comparison samples were matched (Rosenbaum and Rubin 1983; Rosenbaum and Rubin 1985). An unweighted logit model was estimated to distinguish between members of the two samples; the dependent variable was coded as 1 for target sample members and 0 for comparison sample members. The predictor variables contain demographic information about gender, race/ethnicity, educational aspirations, grade at application, and Upward Bound eligibility.<sup>26</sup> The model was used to estimate the log odds of being in the target sample conditional on the explanatory variables for each target and comparison sample member.<sup>27</sup>

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<sup>26</sup> The model used the same variables that were included as control variables in our regression analyses (see Table II.2), excluding the indicator for Project 69 and its interactions with the other variables.

<sup>27</sup> The log odds of being in the target sample equals the natural log of  $P(1) / P(0)$ , where  $P(1)$  equals the probability of being in the target sample and  $P(0)$  equals the probability of being in the comparison sample. These probabilities were predicted using the estimated coefficients from the logit model.



Using this measure, we matched target sample members to “similar” comparison sample members; two students were deemed comparable when their log odds were sufficiently close (as defined below). We matched each target sample member to *all* comparison sample members who were deemed similar, that is, we matched target sample members to comparison sample members with replacement. Target sample members for whom we were unable to find a similar comparison sample member were excluded from the matched target sample because no comparison student could provide credible information about the outcomes we would have observed with additional Upward Bound participation. All comparison sample members who were matched to one or more target sample members were included in the matched comparison sample.

The matched comparison sample was weighted to represent the same segment of the Upward Bound population that is represented by the matched target sample. For each comparison student,  $c$ , who was matched to a single target student,  $t$ , we assigned a weight of  $w_c = w_t/n_t$ , where  $w_t$  equals the weight of the target student, and  $n_t$  equals the number of comparison students who were matched to the target student. That is, the weight of target student  $t$  was distributed equally to all comparison students to whom  $t$  was matched. However, most comparison students were matched to multiple target students. Therefore, for each matched comparison student, we assigned a weight of  $w_c = \sum_{t \in M_c} w_t/n_t$ , where  $M_c$  is the set of target students who were matched to the comparison student.

The most challenging task in selecting an algorithm for choosing the matched target and comparison samples was selecting a “caliper range” that defines how close the log odds of matched target and comparison sample members must be to be considered similar. Narrow caliper ranges can leave many target sample members unmatched when similar students could be

found in the comparison sample; wide caliper ranges generate matches between students who are not really comparable. We tested several different caliper ranges in matching the target samples to the comparison samples, based on fractions of the standard deviation of the log odds measure. Each caliper range generated different matched target and comparison samples; therefore, selecting a caliper range was equivalent to selecting a pair of matched target and comparison samples. Ultimately, we selected the widest caliper range that led to matched target and comparison samples with a small number of significant differences in variables that describe baseline characteristics. For our model to be correctly specified, the conditioning variables should be distributed identically across the target and matched comparison samples. In each set of matched samples, we test whether this is satisfied using paired  $t$ -tests for individual variables, as well as a joint  $F$  test for the entire set of variables.

The resulting matched samples were used to measure the impacts of additional Upward Bound participation in Chapter V. To measure the impacts of an additional year of Upward Bound, the matched target sample consisted of the following groups: low-duration students who were matched to one or more medium-duration students and medium-duration students who were matched to one or more high-duration students. To measure the impacts of completing Upward Bound for noncompleters, the matched target sample consisted of noncompleters who were matched to one or more completers. In all cases, the matched comparison sample consisted of all the comparison sample members to whom target sample members were matched.

### **C. DESCRIBING AND ASSESSING THE MATCHED SAMPLES**

Through the process described in Section B, we were able to select observationally comparable matched target and comparison samples for answering the questions posed in Chapter V. Included in this appendix are two tables that compare the average characteristics of

the matched and unmatched target sample members. Table F.1 presents the mean characteristics of the shorter-duration target sample and the longer-duration comparison sample; Table F.2 presents the mean characteristics of the target sample of noncompleters and the comparison sample of completers.

Each table shows that while the unmatched target and comparison samples differ from each other, the matched target and comparison samples are more similar to each other. For each group, the first set of columns, titled “Full Samples,” provides mean values for the baseline characteristics of the target and comparison samples, along with an indicator for the level at which the difference in means is statistically significant. The second set of columns, titled “Matched Samples,” provides mean values for the baseline characteristics of the matched target and comparison samples, also followed by an indicator of the level of statistical significance for the difference. The means for the full samples—both the target sample and the comparison sample—and means for the matched target sample are weighted using baseline weights. In contrast, the matched comparison sample means are weighted to account for the results from matching, as described in Section B.

An assessment from each table suggests that matching was successful in producing samples that are comparable in the characteristics that we examined based on data collected for the evaluation. To assess the performance of matching in balancing the two samples, we compare the number of statistically significant baseline differences between the *full target and comparison samples* to the number of statistically significant baseline differences between the

Table F.1

## Assessing Balance Between Shorter-Duration Participants and Longer-Duration Participants

	Full Samples			Matched Samples	
	Shorter	Longer		Shorter	Longer
<b>Gender</b>					
Male	35.0	30.2		36.4	39.0
Female	65.1	69.8		63.6	61.0
<b>Race / Ethnicity</b>					
White	23.4	24.8		22.9	25.6
African-American	46.3	47.2		47.7	44.2
Hispanic	21.9	20.1		21.0	21.8
Other Race	8.4	8.0		8.5	8.3
<b>Grade at Application</b>					
Grade 8	9.3	14.8	***	10.1	12.7
Grade 9	41.8	46.0		45.4	40.6
Grade 10	34.8	31.0		37.8	39.3
Grade 11	14.1	8.2	**	6.7	7.4
<b>Upward Bound Eligibility</b>					
Low-income and first-generation	79.7	81.4		78.9	78.4
Low-income only	4.8	5.6		4.9	3.8
First generation only	15.5	13.0		16.2	17.8
<b>Educational Aspirations</b>					
Did not expect to attend college	2.9	3.2		3.1	1.9
Expected to attend some college	3.2	2.5		3.5	2.9
Expected to earn an Associate's degree	18.9	15.7		17.0	17.2
Expected to earn a Bachelor's degree	37.0	35.3		38.1	36.9
Expected to earn a Master's degree	8.4	12.1	*	8.5	11.0
Expected to earn a Ph.D.	20.8	21.4		20.7	20.2
<b>Number of Students</b>	<b>826</b>	<b>887</b>		<b>740</b>	<b>805</b>

\*/\*\*/\*\* Difference between groups is statistically significant at the 0.10 / 0.05 / 0.01 level.

Table F.2  
Assessing Balance Between Noncompleting Participants and Completing Participants

	Full Samples			Matched Samples	
	Non	Complete		Non	Complete
<b>Gender</b>					
Male	36.9	25.0	**	36.9	38.1
Female	63.2	75.0	**	63.2	61.9
<b>Race / Ethnicity</b>					
White	23.3	21.5		23.3	26.1
African-American	47.6	48.0		47.6	41.0
Hispanic	20.8	23.5		20.8	24.8
Other Race	8.4	7.0		8.4	8.1
<b>Grade at Application</b>					
Grade 8	15.5	10.3	**	15.5	17.0
Grade 9	52.5	38.1	**	52.5	51.0
Grade 10	25.3	38.5	**	25.3	23.6
Grade 11	6.7	13.1	*	6.7	8.5
<b>Upward Bound Eligibility</b>					
Low-income and first-generation	77.6	82.4		77.6	78.7
Low-income only	4.9	5.1		4.9	4.9
First generation only	17.6	12.5		17.6	16.3
<b>Educational Aspirations</b>					
Did not expect to attend college	4.8	0.5	**	4.8	4.6
Expected to attend some college	3.6	3.5		3.6	2.5
Expected to earn an Associate's degree	17.0	15.2		17.0	21.6
Expected to earn a Bachelor's degree	34.6	39.6		34.6	26.7
Expected to earn a Master's degree	9.1	12.2		9.1	8.8
Expected to earn a Ph.D.	22.0	20.6		22.0	28.6
<b>Number of Students</b>	<b>722</b>	<b>542</b>		<b>722</b>	<b>533</b>

\*/\*\*/\*\* Difference between groups is statistically significant at the 0.10 / 0.05 / 0.01 level.

*matched target and comparison samples.*<sup>28</sup> Typically, the target and comparison samples are significantly different on a few baseline characteristics, and the matched target and comparison samples are significantly different on only one. Furthermore, an  $F$  test cannot reject the null hypothesis that all of the differences are zero. The matching algorithm generated matched samples that appear to differ primarily in the extent of their participation.

The matched target and comparison samples might provide credible estimates of the potential impacts of additional Upward Bound participation. Each matched comparison sample is at least as similar to its corresponding matched target sample in the number of significant baseline differences as we would expect under random assignment. Furthermore, the baseline variables used to assess the comparability of matched samples provide information on factors that may influence postsecondary enrollment and persistence. Thus, the findings in Chapter V could have strong internal validity relative to many other nonexperimental analyses. Additionally, 90 percent of students in the target sample of shorter-duration participants were matched and included in the analysis (and all noncompleters were able to be matched); therefore, the findings in Chapter V may also have strong external validity. Nonetheless, although the matched samples were observationally similar, they may differ substantially in ways not revealed by the data collected for the evaluation. For example, our matched samples of completers and noncompleters may differ in their motivation to attend college. Unobserved differences between matched samples may severely bias the estimates.

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<sup>28</sup> Our tests for significant differences account for heteroscedasticity due to unequal weighting but do not account for the correlation between the means of the two samples due to matching. Mean differences are flagged as statistically significant at the 10 percent (\*), 5 percent (\*\*), and 1 percent (\*\*\*) levels.

**APPENDIX G**

**SENSITIVITY ANALYSES PERTAINING  
TO SAMPLE WEIGHTING**





As discussed in the main body of this report and Appendix A, several important design choices pertained to the sample of projects that would be selected. In addition to specifying that the evaluation sample had to be nationally representative, the Department of Education required that the sample have substantial overrepresentation of some less common, but key types of projects, including, for example, projects serving predominantly Native American students. Alternative sampling schemes were considered, and a design was chosen to balance the competing needs of the evaluation. The chosen design had much higher selection probabilities for the relatively rare projects than for more common types of projects, leading to substantial undersampling and underrepresentation of the latter. This led to very unequal weighting of projects in the evaluation sample.

One implication of the sample design was that some of the most common types of Upward Bound projects had low selection probabilities and were substantially undersampled. For example, only one project—labeled Project “69”—was chosen out of 56 projects defined as being medium-sized, located in an urban setting, hosted by a four-year public institution, and not serving a group of students that is predominantly Asian, Native American, or Latino (see Table A.1).

As discussed in Appendix A, the sample members are weighted up to represent all eligible Upward Bound applicants. Because Project 69 represents itself and 55 other Upward Bound projects, the 52 control group members and 33 treatment group members for Project 69 represent about 26 percent of all eligible Upward Bound applicants nationwide. They are weighted accordingly in the analysis, and the sample members in Project 69 account for approximately 26 percent of the total weight. The two projects with the next highest percentage of the total weight account for seven and three percent, respectively (see Table A.2). In addition to the unequal project sampling probabilities described above, the variation in the weights across projects is also

a result of the fact that the numbers of eligible applicants varied across projects and, in particular, that Project 69 had a relatively large number of applicants. This Appendix examines the extent to which Project 69 is unusual, how impacts would change if the weights were different, and the role that Project 69 plays in affecting both the point estimates and the standard errors of the estimates.

## **A. IS PROJECT 69 AN OUTLIER?**

Since this one project receives a large share of the total analysis weight, we closely examined the characteristics of Project 69 and its sample in a variety of dimensions. Using data from the Upward Bound Grantee Survey, we compared Project 69 with other projects in the same sampling stratum in terms of project-level characteristics to see how the project selected from the stratum for the impact study (Project 69) compared to projects that were not selected for the impact study. We also assessed how Project 69 compares with other projects in terms of the following: sample members' baseline characteristics, baseline equivalence of the treatment and control groups, level of noncompliance by treatment group members (no-shows) and control group members (crossovers), fifth follow-up outcomes for the control group members, and impacts. The purpose of these analyses is to determine whether Project 69 is an outlier, that is, whether the project is unusual in some way.

### **1. Grantee Characteristics**

When we conducted a survey of Upward Bound grantees in 1993 as part of this evaluation of Upward Bound (Moore 1997), we selected and obtained information from six projects (including Project 69) that are in the stratum from which Project 69 was selected. Subsequently, we have explored how Project 69 compares with the other five projects from its stratum, with the aim of identifying whether Project 69 is an unusual project within its stratum. As indicated by

Table G.1, when compared to the other five projects from its stratum, there is at least another project that is similar to Project 69 on such characteristics as project environment, project staffing, student recruitment and selection strategies, and characteristics of project participants. Project 69 seems to be a typical project in the stratum, as it hosts other college academic assistance programs; staffs mentor/tutor, teacher/instructor and administrative positions with a mix of part-time and full-time staff; reaches out to as many students as possible before screening for Upward Bound eligibility; recruits students during both the summer and academic year; and considers student performance after admission for continuation of Upward Bound services.

According to Table G.1, Project 69 had a large number of Upward Bound applicants during the 1992-93 academic year, but there is another project that also had a similarly large number of applicants in that year. Project 69 also seems to be similar to other projects from its stratum surveyed in the Grantee Survey with respect to the number of students enrolled and the number of courses offered during the summer and academic year programs, the number of mandatory courses and mandatory science courses offered, course requirements for students (with strong math-science orientation), the methods of instruction, and the instructional emphasis on enrichment, remediation and support. Although the length of the 1992-93 academic year program in Project 69 is shorter compared to the other five projects, it is not substantially shorter—28 weeks in Project 69 as opposed to 30 or 32 weeks in two other programs. Project 69 also appears to be representative of other projects in its stratum in regarding “academic improvement” as the most important goal for the program.

## **2. Baseline: Combined Treatment and Control Characteristics**

The remaining analyses regarding Project 69 are based on student-level data and compare Project 69 with all of the other projects selected for the impact study, none of which is from the same sample selection stratum as Project 69. When the sample in Project 69 (treatment and

control samples combined) is compared with samples from the other projects in the evaluation, it appears that for most of the baseline characteristics Project 69 lies at about the middle of the distribution. Table G.2 presents the comparison of Project 69 with other projects on various student baseline characteristics such as gender, race/ethnicity, Upward Bound eligibility, grade when applied to Upward Bound, educational expectations, ninth-grade GPA, level of math course taken in ninth grade, and ninth-grade academic performance. As is indicated by the last column in Table G.2, Project 69 has fewer male and white students compared to the other projects, and a smaller share of students with level of ninth-grade math course below algebra; however, it is not an outlier in terms of these characteristics. For example, although Project 69 is near the bottom of the distribution of projects in terms of share of students with a ninth-grade math course below algebra, there are a couple of projects that are lower and several that are only slightly higher. For most of the other baseline characteristics, between one-fifth and two-thirds of the other 66 projects have higher means than Project 69, which suggests that based on the levels of baseline characteristics, Project 69 is in the middle of the distribution. In other words, students in Project 69 are not atypical of students in other Upward Bound projects.<sup>29</sup>

### **3. Baseline: Treatment-Control Differences**

When the treatment and control samples within Project 69 are compared, there are statistically significant differences on some baseline characteristics; with 52 control group members and 33 treatment group members, Project 69's sample provides sufficient power to detect modest treatment-control differences. For instance, in Project 69, 53 percent of the treatment group members expect to get a four-year college degree, whereas 25 percent of control

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<sup>29</sup> The relatively low fraction of students rated "most likely" to be admitted reflects the relatively large number of eligible applicants for the available openings in Project 69.

group members have such expectations. Conversely, 15 percent of the treatment sample members expect to get a post-baccalaureate degree, while 55 percent of the control sample members have similar educational aspirations. The other characteristics on which there are statistically significant treatment-control differences in Project 69 are level of math course taken and academic performance in ninth grade. These treatment-control differences remain statistically significant after adjusting for multiple comparisons using the Benjamini-Hochberg method.

Such differences between treatment and control group members are due to chance. We adjust for these random differences between the observable baseline characteristics of treatment and control group members by using multivariate regression models with most of these baseline characteristics included as covariates. We also include interactions that capture the effects of these covariates specific to Project 69.

Despite randomized assignment of students to treatment and control groups, it is possible to have statistically significant differences between the treatment and control groups at baseline due to chance. And, in fact, there are other projects included in the evaluation that had treatment-control differences similar in magnitude to those in Project 69: seven other projects show significant differences on variables for at least four characteristics, six other projects show significant differences on variables for three characteristics, and 16 projects show significant differences on variables for two characteristics. This is best depicted by the series of histograms in Figure G.1. Each graph provides a histogram of treatment-control difference across projects for a particular baseline characteristic, and a vertical line indicates the location of Project 69 in the distribution.

Visual inspection of these graphs, as well as the numbers in the last column of Table G.3, suggests that for most of the characteristics, the baseline treatment-control differential in Project

69 is not at the extreme end of the distribution of such differentials for all projects. For the handful of characteristics for which Project 69 is at the tail end of the distribution (expects a bachelor's degree, expects a master's degree or above, and applied to Upward Bound in grades nine and ten), there are other projects with even larger treatment-control differentials.<sup>30</sup>

The treatment-control differences in various baseline characteristics can be summarized by estimating a multivariate treatment propensity model for each project where treatment status is predicted by the large set of baseline characteristics: gender, race/ethnicity, grade at Upward Bound application, Upward Bound eligibility status, educational expectations, whether the applicant is a native English speaker, whether the applicant's mother is in the U.S., and whether any sibling is or has been in the Upward Bound program. From the model, we compute the project-specific difference in means of predicted treatment propensities between treatment and control groups, and standardize the difference by dividing it by the project-specific standard deviation of treatment propensities (across the two groups combined). Figure G.2 shows a histogram of standardized treatment propensity differentials for all projects and a vertical line indicates the location of Project 69. The standardized differential score for Project 69 is 0.71, which puts it at about the 44th percentile among all sample projects. Thirty-eight other projects have higher differential scores than Project 69, and 28 have lower differential scores. Therefore, Project 69 does not appear to be an outlier according to the summary measure of baseline differences between the treatment and control groups.

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<sup>30</sup> Table G.4 presents the mean baseline characteristics and treatment-control differences for the two separate random assignment strata of Project 69. These strata were created to randomly assign eligible applicants from the project's two separate recruiting periods. The treatment and control groups' members were weighted separately to the appropriate control totals for each student random assignment stratum.

#### **4. Noncompliance**

We also compared Project 69 with the other projects in the evaluation on the level of noncompliance (by crossovers and no-shows). Considering control group members who participated in either Upward Bound or Upward Bound Math-Science as “crossovers,” we find that nine percent of Project 69 control group members were crossovers. Among Project 69 sample members assigned to the treatment group, 24 percent were no-shows. Overall, the noncompliance rate in Project 69 was 17 percent. When compared with all other evaluation projects on crossover, no-show, and noncompliance rates, Project 69 was located at the 19th, 67th, and 33rd percentiles of the distribution of all projects, respectively. Put differently, there are 45 other projects with a crossover rate at least as high as Project 69, 13 other projects with a no-show rate at least as high, and 22 other projects with a noncompliance rate at least as high.

#### **5. Fifth Follow-Up: Control Group Means**

In addition to comparing baseline levels of characteristics and the baseline treatment-control equivalence of the sample in Project 69 with all other evaluation projects, we have assessed whether Project 69 appears to be an outlier in terms of mean outcomes within the control group as of the fifth follow-up and in terms of estimated project-level impacts. Control group means at fifth follow-up are shown in Table G.5. Rather than examine the full range of measures for each outcome, we selected a few representatives for some of the key outcomes (overall enrollment, four-year enrollment, financial aid application and receipt, overall completion, and four-year completion). The selected measures presented in the tables below were not chosen because they might be better than other measures. Rather, they span the range of assumptions and approaches that we have considered. For each outcome, the table presents the maximum, minimum, mean, and median value for the distribution of project-level outcome means, along with the level at Project 69 and the percentage of projects with means lower than Project 69. Across the

outcomes presented, the mean outcome at Project 69 is nearly always above the average for all projects. However, there are always several projects with control group means above that of Project 69; it is, in the extreme case, at the 82<sup>nd</sup> percentile of the distribution.

## **6. Fifth Follow-Up: Impacts**

The location of the impact at Project 69 in the distribution of project-level impacts is presented in Table G.6. Depending on the outcome, Project 69's impact ranges from the 7<sup>th</sup> to the 82<sup>nd</sup> percentile, though for only two measures of the different outcomes is it in the lowest decile. Project 69's impact tends to be in the lower quartile of the distribution for overall enrollment, and it ranges from the 15<sup>th</sup> to the 82<sup>nd</sup> percentile for four-year postsecondary attendance, depending on how the outcome is measured. Compared with all other projects, Project 69's impacts do not appear to be outliers.

Relative to subsets of projects that are more like Project 69, it is similarly unlikely to be an outlier. Using a distance measure (described in detail below), we compare the impact at Project 69 to four subsets of projects that are most similar to Project 69. For each comparison set, we can replicate the exercise of describing the distribution of project-level impacts, as well as the location of Project 69's impact in the distribution. As the number of projects in the comparison set falls, the remaining projects are more similar to Project 69 in terms of student and project characteristics. Across the columns in Table G.7, we find that as Project 69 is compared to smaller sets of more similar projects, its impact tends to remain in the same place in the distribution, though moving more toward the lower end for the overall completion and financial aid outcomes. In the small fraction of instances for which Project 69 has the lowest impact, it is generally not far below the project with the next lowest impact.



## **B. HOW WOULD THE IMPACTS CHANGE WITH DIFFERENT WEIGHTS?**

Due to the high proportion of weight allocated to the sample members of Project 69, there is the potential for the impacts of Project 69 to influence substantially the overall impact of Upward Bound across all projects. We conducted many sensitivity analyses to examine the extent to which Project 69 affects the overall impact and to assess the robustness of the findings.

### **1. Redistributing Weight**

One approach for reducing the proportion of weight given to Project 69 is to redistribute some of the weight to other projects, and one approach to redistributing weight is to collapse the strata from which projects were selected. The second column of Table G.8 presents the impacts of Upward Bound when the three strata with the largest shares of total weight are combined into one—method “A” for collapsing strata. Sample members in these three strata represent about 43 percent of the total weight, with Strata 2.4, 5.2, and 11.3 accounting for about 26, ten, and seven percent of the total weight, respectively (see Table A.2). Stratum 2.4 includes 56 medium-size projects in urban areas hosted by four-year, public institutions from which we selected one project; Stratum 5.2 includes 38 medium-size projects in urban areas hosted by four-year, private institutions from which we selected three projects; and Stratum 11.3 includes 30 medium-size projects in rural areas hosted by four-year, public institutions from which we selected one project. Prior to collapsing the strata, sample members in one project (Project 69) accounted for about a quarter of the total weight, while in the new collapsed stratum, sample members in each of the five projects account for 8.6 percent of the total weight. We obtain enrollment and four-year completion impacts that are larger than the impacts estimated with the correct weights. With the exception of overall enrollment, few of the impacts are statistically significant. Additionally, the impacts on overall postsecondary completion are smaller, resulting in no statistically significant impact across the measures.

The third column presents an alternative way of collapsing strata (method “B”), based on the predominant race or ethnicity of a project. In the sample design, strata are defined in terms of the location, type, size, and racial/ethnic composition of projects. We remove the stratification by racial/ethnic composition by combining strata defined by this criterion. For example, large projects in urban areas hosted by four-year public institutions were initially further stratified by the projects' racial/ethnic background into four strata. This second collapsing strategy combines into one stratum all eight of the large projects in urban areas hosted by four-year public institutions that were selected from the original four strata. This strategy replaces the original 46 project selection strata with 18 new strata. In one of the new collapsed strata, the weight given to Project 69 and five other projects are shared equally across the six projects. The new weights imply larger impacts, several of which are statistically significant.

The remaining four columns present other approaches for collapsing strata. These alternatives include combining all medium size, urban, four-year, public hosts (six projects, including Project 69, in four strata); combining all public and private, medium size, urban, four-year hosts (13 projects, including Project 69, in eight strata); combining all urban and rural, medium size, four-year hosts (ten projects, including Project 69, in seven strata); and collapsing strata over project size and race, resulting in a total of six strata. Generally, impacts are larger than those obtained using the correct weights for outcomes other than overall completion. The pattern of statistical significance of findings varies across the alternatives, except for overall enrollment for which most of the estimates are significant.

Rather than redistributing weight from Project 69 to other projects based on one stratifying characteristic (such as racial composition), we can identify similar projects based on a wide range of characteristics, and redistribute weight to those projects. For this analysis, we identified projects that were “closest” to Project 69 using a Mahalanobis distance measure based on several

student-level characteristics (gender, race/ethnicity, grade at application, eligibility status, educational expectations, academic risk, ninth-grade grade point average, and ninth-grade math class) and project-level characteristics (type, urbanicity, and control). Specifically, our distance measure,  $d$ , for a project,  $p$ , was the following:

$$d_p = \sum_{x \in X} \left( \frac{x_{69} - x_p}{\sigma_x} \right)^2$$

where  $x$  is one of the set of student and project characteristics (with  $X$  denoting the full set). Projects that had characteristics most like Project 69 were those with the smallest values of the distance measure.

We constructed the measure for each project using four slightly different versions of the distance measure that varied by their inclusion of host control (public or private) and urbanicity (urban or not): one included both host control and urbanicity, one included host control only, one included urbanicity only, and the last included neither host control nor urbanicity. Then, for each of the four measures, we examined a variety of cutoffs (such as minimum distance plus one-half of a standard deviation and two standard deviations) to find reasonable sets of nearest neighbors for Project 69. Using the various cutoffs across the four distance measures, we found certain groups of projects tended to cluster together in their distance from Project 69. Therefore, we settled on four potential comparison groups, containing seven, ten, 13, and 17 neighbors. For each analysis,  $\frac{3}{4}$  of the weight from Project 69 was distributed equally to each of the  $N$  closest projects,  $W = (0.75 * W_{69}) / N$ , where  $W_{69}$  is the total baseline weight at Project 69, and  $W$  is the amount of weight to be given to each of the projects close to Project 69. The remaining  $\frac{1}{4}$  of the weight was left, taking the weight of Project 69 down to about the level of the project with the next highest weight. The scaling factor for project  $p$ ,  $F_p$ , was calculated to be  $(W_p + W) / W_p$ ,

where  $W_p$  is the total baseline weight at project  $p$  (before the redistribution of weight). The weight for each person in project  $p$  is then multiplied by  $F_p$ . The first four columns of Table G.9 present the findings based on these redistributions of weight, showing impacts that are consistently larger than those based on the correct weights, except for overall completion. Additionally, most of the impacts are statistically significant. The significance findings are more consistent for enrollment than for completion across different measures of an outcome.

A conceptually similar approach is to redistribute some of the weight of individual sample members in Project 69 to sample members in other projects. We used a propensity score matching model to identify sample members in other projects who were most similar to the sample members in Project 69. We estimated an unweighted logit model to distinguish between members of the two samples; the dependent variable was coded as 1 for Project 69 sample members and 0 for sample members from other projects. Exact matching was done within treatment status, using the same set of individual characteristics that were used as controls in the impact regressions, with the exclusion of the Project 69 indicator and its interactions with other characteristics. The model was used to estimate the log odds of being in Project 69 conditional on the predictor variables for each sample member.

Using this measure, we matched Project 69 members to “similar” sample members from other projects; two students were deemed comparable when their log odds were sufficiently close. Narrow caliper ranges (defining “how close” the log odds of two samples must be to be considered similar) can leave many Project 69 members unmatched when similar students could, in fact, be found in the comparison sample; wide caliper ranges generate matches between students who are not really similar. Ultimately, we selected the widest caliper range that led to matched samples with a small number of significant differences in variables that describe baseline characteristics. We matched each Project 69 member to *all* sample members from other

projects who were deemed similar, that is, we matched Project 69 members to sample members from other projects with replacement.

As with redistribution of weights to neighboring projects, we distributed  $\frac{3}{4}$  of the weight of the Project 69 sample member; that is,  $\frac{3}{4}$  of the weight of the Project 69 student was distributed equally to all comparison students to whom he or she was matched and added to the comparison students' original weights. However, most comparison students were matched to multiple Project 69 students. Therefore, matched comparison students received additional weight from each Project 69 member to whom they were matched. The last column of Table G.9 presents the findings based on this redistribution of weight, which are similar to the redistribution by project—most impacts are larger than those obtained using the correct weights, except for overall completion, and more impacts are statistically significant.

## **2. Reweighting Projects**

A second set of approaches for reducing Project 69's weight entail creating a completely new set of weights for the projects, rather than trying to redistribute Project 69's weight according to project or student characteristics. To do a sensitivity analysis that mitigates the effect of typical year-to-year variation in cohort sizes as well as any differential increase across projects in the number of applicants due to the implementation of random assignment (and thus mitigates the effect of the relatively high number of applicants to Project 69 between 1992 and 1994), we adjusted the weights within each project to weight up to the project size—the number of funded Upward Bound slots in 1993—rather than the number of eligible applicants. This distributes the weights more evenly across projects. In this analysis, the contribution of students in Project 69 to the total of all weights is much less, with students from Project 69 accounting for approximately 15 percent of the total weight. The impact estimates using the modified weights

are shown in the first column of Table G.10. These impacts are somewhat larger than those obtained using the correct weights, but the pattern of significant impacts is essentially the same.

An extreme variation of reweighting is to run the analysis without weights, which treats all of the projects as if they were selected with the same probability and, therefore, represent the same number of projects in the universe of Upward Bound projects. Running the analysis without weights also eliminates the nonresponse adjustment portion of the weight, which is small relative to the portion due to project selection. Furthermore, it eliminates the larger component reflecting differences in assignment probabilities across students. In this analysis, very uncommon projects have the same influence on the overall impact as projects that are more typical of the Upward Bound universe. As discussed in Chapter II, unweighted estimates do not measure the impacts of the national Upward Bound program and, more generally, do not have any clearly meaningful interpretation in light of the highly variable sampling rates and resulting differences between the compositions of the sample and the universe of projects.

The second and third columns of Table G.10 present the findings from this analysis. We find that when all projects are weighted equally, impacts are larger and statistically significant for most measures.

Another extreme version of reweighting is to drop Project 69 from the analysis, keeping the weights of the other projects unchanged relative to each other, but giving Project 69 a weight of zero. By removing this project (and the relatively large share of the Upward Bound universe that it represents), the impacts are representative only of the effects of Upward Bound on the remaining population. Essentially, this is an analysis of a subgroup defined by *not* having all of the same stratifying characteristics (in terms of host type, size, urbanicity, and race and ethnicity) as the most common type of project (Project 69 and the 55 other similar projects). Columns four and five show that the patterns of results from this analysis are similar to those obtained by

weighting all projects equally. This is to be expected, as giving Project 69 a very low weight (somewhat higher than 1/67<sup>th</sup>, because it has more applicants than average) or 0 are similar, and both are very different from the 26 percent of the weight it actually represents. Impacts are larger and statistically significant for nearly all measures.

With the possible exception of the analysis that adjusts weights to the number of funded slots, any of the analyses that substantially change the weight of Project 69 by redistributing weight or reweighting projects have two important limitations. First, when weights are changed substantially, the resulting weighted sample no longer represents the universe of Upward Bound projects, and analyses do not estimate the impacts of the national Upward Bound program. Second, disregarding at least some of the design imprecision due to the variability in the weights, the analyses underestimate standard errors, and produce spuriously significant impacts. When the standard errors more accurately reflect the precision of the sample design, as in the main analyses using the correct weights (see the first column of Table G.12), many of the impact estimates in Tables G.8, G.9, and G.10 are not statistically significant.

Another consideration raised by this focus on Project 69 is that while Project 69 has, by far, the biggest weight, other projects also have much larger than average weights. Like Project 69, some of those projects (Projects 30 and 45) were the only projects selected from their strata, and some (Projects 30, 45, 40, and 50) have significant differences between treatments and controls at baseline on characteristics such as educational expectations and ninth grade academic performance. Should these projects be dropped or otherwise given less weight?

Suppose, for example, that we drop not only Project 69, but also Projects 30, 45, 79, 40, and 50.<sup>31</sup> The latter projects together account for about 19 percent of the total weight. According to

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<sup>31</sup> Project 30 is the one project that was selected from the stratum of 30 projects defined as medium-sized, located in a rural setting, hosted by a four-year public institution, and not serving a group of students that is

the outcome measures used in the main analysis, the impacts on overall enrollment, enrollment at four-year institutions, overall completion, and completion of a four-year degree are 1.65 ( $p = 0.23$ ), 4.36 ( $p = 0.03$ ), 0.69 ( $p = 0.72$ ), and 2.37 ( $p = 0.15$ ), respectively. Compared with the estimates of 4.49, 5.16, 3.75, and 3.21 obtained when only Project 69 is dropped (see Table G.10), all of these estimates from dropping additional projects are numerically smaller, and three of the four are not significant. This analysis reveals how the results can change when different projects are dropped, and illustrates how post hoc adjustments that deviate from the chosen design allow the findings from the evaluation to be influenced.<sup>32</sup>

### **C. WHAT WOULD AFFECT SIGNIFICANCE?**

The statistical significance of an impact is directly affected by two values: the point estimate and the standard error of the estimate. In this section, we examine the role that Project 69 could play in affecting both of these numbers and, therefore, statistical significance. Taking the analysis of project-level impacts from the first section of this appendix a step further, we examine the thought experiment of how much Project 69's impact would have to change to make the overall impact statistically significant when Project 69 gets its full weight and standard errors correctly reflect the precision of the sample design. The first column of Table G.11 replicates from Table G.6 the location of Project 69 among project-level impacts. Using the standard

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*(continued)*

predominantly Native American or Latino. Project 45 is the one project that was selected from the stratum of six projects defined as small-sized, located in a rural setting, hosted by a four-year public institution, and serving predominantly white students. Projects 79, 40, and 50 are the three projects that were selected from the stratum of 38 projects defined as medium-sized, located in an urban setting, hosted by a four-year private institution, and serving predominantly African American students.

<sup>32</sup> Another important consideration discussed below and in the main text of the report is that the estimates from the analyses that drop projects or otherwise substantially change the weights of projects do not answer the evaluation's research questions about the impacts of the national Upward Bound program and do not generalize to any well-defined, policy-relevant subset of projects.



errors from our main analysis (see the first column of Table G.12), which correctly reflects the precision of the design, the next column presents the overall impact that would be required for that impact to be statistically significant (at the 0.05 level). Based on this overall impact, the next column displays what impact would be required in Project 69, holding all other project-level impacts unchanged, to achieve the overall impact in the previous column. Finally, the last column shows where Project 69's impact would be in the distribution of project-level impacts were it to achieve that level.

Comparing the first and last columns for measures that are not already significant, we find that Project 69's impact would often have to move from the lower end of the distribution of project-level impacts to the upper end in order for the overall impact of Upward Bound to be significant. This implies that Project 69 and the other 55 projects in Project 69's selection stratum would have to have had larger impacts, on average, than all of the other Upward Bound projects. Otherwise, the overall impact would not be significant.

In terms of the other component involved in estimating statistical significance, one of the effects of Project 69 having so much weight is that it drives up the standard errors due to variability in the weights. Therefore, we conducted some sensitivity analyses to determine if the impacts obtained using the correct weights (see, for example, the first column of Table G.8) would be significant if part of the design effect associated with Project 69 getting its full weight were removed from the standard errors. An approximation to the design effect associated with the variability in weights is proportional to the sum of squared weights divided by the squared sum of weights. We estimated the design effect associated with the full weights, along with the design effects when the weights for Project 69 sample members are cut to one-half or one-third of the correct weights. We then multiplied the standard errors from our main analysis (Column 1 of Table G.12) by the square root of the ratio of these effects (for example, design effect with

Project 69 having one-half weights/design effect with Project 69 having full weights) to obtain the standard errors in Columns 2 and 3 of Table G.12. As another approach, we re-estimated the regression models with the Project 69 weights cut to one-half (Column 4) and one-third (Column 5) of the correct weights, and derived standard errors using the re-estimated model. Finally, we have some of the standard errors from our redistribution of weights to other projects and sample members: Column 6 has the standard errors from collapsing the three largest strata (as in Table G.8, Column A), Column 7 has the standard errors from distributing  $\frac{3}{4}$  of Project 69's weight to the seven most similar projects based on the Mahalanobis distance measure (as in Table G.9, Column 4), and Column 8 has the standard errors from distributing  $\frac{3}{4}$  of Project 69 sample members' weights to similar sample members in other projects (as in Table G.9, Column 5).

Table G.12 presents the standard errors from these analyses. If the impact estimated using the correct weights would be significant for a given standard error, that standard error is shown in bold. Across the columns, the standard errors are generally lower than those obtained using the correct weights. According to the table, such reductions in standard errors rarely lead to changes in statistical significance. For one measure of overall postsecondary enrollment do some of the smaller standard errors result in a finding of statistical significance where there was none previously.

#### **D. SUMMARY OF SENSITIVITY ANALYSES**

In light of Project 69's large weight relative to other projects, this appendix initially sought to determine whether Project 69 was unusual. By the available measures, Project 69 is not an outlier. We find, for example, that it is similar in terms of project-level characteristics to the five projects from the same sample selection stratum that were selected for the grantee survey sample but not the impact study sample. Further analyses find that there are some significant differences

between treatment and control groups in Project 69, as there are for other projects. Some such differences at the project level are expected to occur by chance. We adjust for these differences using regression methods, and include in our models covariates measuring student baseline characteristics, as well as interactions that capture the effects of these covariates specific to Project 69. In other analyses, we examined the distribution across projects of average baseline characteristics of sample members, no-show and crossover rates by treatment and control group members, mean outcomes of control group members as of the fifth follow up, and impacts on postsecondary outcomes. These analyses support the finding that Project 69 is not an outlier.

We also conducted analyses to examine the influence of Project 69 on overall impacts and assess the robustness of the main findings. In one analysis, we determined how much larger Project 69's impact on each outcome would have to be to make the overall impact of Upward Bound statistically significant when Project 69 gets its full weight and standard errors correctly reflect the precision of the sample design. We find that Project 69's impact would often have to move from the lower end of the distribution of project-level impacts to the upper end in order for the overall impact of Upward Bound to be significant. This implies that Project 69 and the other 55 projects in Project 69's selection stratum would have to have had larger impacts, on average, than all of the other Upward Bound projects. Otherwise, the overall impact would not be significant.

In contrast to this analysis, most of the sensitivity analyses involved changing weights to reduce the relative weight given to Project 69's sample members. One such analysis adjusted the weights within each project to weight up to the number of funded slots rather than the number of applicants. This addresses concerns about not only the effects of typical year-to-year fluctuations in the number of applicants, but also whether the implementation of random assignment might have inflated the number of applicants differentially across projects. With this

approach, Project 69 accounts for about 15 percent, rather than 26 percent, of the total weight—a much lower but still appropriately large fraction. The estimated impacts are generally somewhat bigger than those obtained in our main analyses. The pattern of significance levels is essentially the same.

Most of the other analyses that reduce the relative weight given to Project 69’s sample members changed weights even more substantially. In these analyses, we examined impact estimates obtained by: combining project sampling strata in various ways; redistributing much of Project 69’s weight to various sets of projects that were most similar to Project 69 on a wide range of project- and student-level characteristics; and redistributing much of the weight of each Project 69 sample member to sample members in other projects with similar individual characteristics. We also ran unweighted analyses, and derived weighted estimates without Project 69.

Many of these sensitivity analyses that changed sample weights substantially produced larger impacts for most outcomes compared with the findings from the main impact analysis, which weighted all sample members according to their actual selection probabilities. Many of the impacts from the analyses with large changes in weights are also significant. This suggests that the results are sensitive to such large changes in the weight of Project 69.

Because Project 69 had below average impacts for most outcomes, reducing its weight relative to other projects results in larger overall impacts. Reducing the weight of Project 69 also underestimates the standard errors associated with the impact estimates. With larger impact estimates and reduced standard errors, many impact estimates become statistically significant when the sample weight for Project 69 is substantially reduced. When the standard errors more accurately reflect the precision of the sample design, many of these impact estimates are not statistically significant. Furthermore, impact estimates become smaller and fewer are significant

when other projects with relatively large weights are dropped from the analysis along with Project 69.

For impacts that remain significant, their interpretation and size need to be assessed. With regard to size, are the impacts substantively important? With regard to interpretation, what questions do the estimated impacts answer? An important consideration in interpreting results from analyses that omit Project 69 or otherwise change the weights of projects in any substantial way is that the resulting sample no longer represents the actual universe of Upward Bound projects. In particular, the sample does not appropriately represent the most common stratum of Upward Bound projects. Thus, with the possible exception of the analysis that adjusts weights to the number of funded slots, such analyses do not answer the evaluation's research questions about the impacts of the national Upward Bound program. Moreover, the estimates from these analyses do not generalize to any well-defined subset of projects for which the findings might have policy implications.

In contrast, the findings from the main impact analyses, which include all projects weighted based on their selection probabilities, are intended to generalize to the national Upward Bound program. In assessing the implications of those findings, however, a statistical consideration is that as a consequence of selecting a single project from a large stratum—the stratum represented by Project 69—the estimates and inferences for that stratum and, therefore, the universe of projects will generally not be as robust as the estimates and inferences that would be obtained with an alternative design with much less variable project selection probabilities and with several projects selected from the large stratum. The lower robustness of the chosen sample design and the results from the extensive sensitivity analyses can be taken into account in determining the implications of the main findings.

Table G.1

Comparison of Project 69 and Five Other Projects from the Sampling Stratum 2.4

Characteristics	69	112	153	272	275	303
<b>Project environment</b>						
Whether operating continually since project first began (yes=1)	1	1	0	1	1	1
Other college academic assistance program operate at this institution (yes=1)	1	1	1	1	1	1
<i>Length of association with target schools</i>						
Number of target schools with less than 1 year relationship	1	0	0	2	0	0
Number of target schools with 1-5 year relationship	2	0	0	0	14	0
Number of target schools with 6-10 year relationship	2	0	0	1	0	0
Number of target schools with more than 10 year relationship	0	8	9	8	22	8
<b>Project staff</b>						
<i>Number of mentors/tutors during 1992 summer program</i>						
Full-time	0	5	8	8	15	26
Part-time	5	0	0	5	6	0
<i>Number of mentors/tutors during 1992-93 academic yr program</i>						
Full-time	0	0	0	0	0	0
Part-time	15	0	13	10	9	12
<i>Total number of staff (excluding mentors/tutors) during 1992 summer</i>						
Full-time (teacher/counselor/instructor/administrator)	11	2	2	1	1	37
Part-time (teacher/counselor/instructor/administrator)	0	7	4	6	0	0
<i>Total number of staff (excluding mentors/tutors) during '92-93 academic year</i>						
Full-time (teacher/counselor/instructor/administrator)	2	2	2	1	1	3
Part-time (teacher/counselor/instructor/administrator)	8	5	2	4	0	15
<b>Student recruiting and selection</b>						
<i>Student recruitment strategy</i>						
Reach as many students as possible, then screen for eligibility (yes=1)	1	1	1	1	1	0
Target recruiting efforts to students most likely to be eligible (yes=1)	0	0	0	0	0	1
Number of applicants for 1992-93 academic year	300	25	20	50	283	80
<i>When does project admit "new participants"?</i>						
During both summer and academic year (yes=1, no=0)	1	1	1	1	1	0
Summer only (yes=1, no=0)	0	0	0	0	0	1
Performance after admission influences continuation of UB services (yes=1)	1	1	1	0	1	1

Table G.1 (continued)

Characteristics	69	112	153	272	275	303
<b>Project participants</b>						
Length of 92-93 academic year program (in weeks)	28	32	42	36	34	30
<i>Number of students enrolled in</i>						
1992 non-bridge summer program	75	47	48	70	74	104
1992 summer bridge program	10	1	6	0	6	11
1992-93 academic year program	85	64	64	77	80	128
<i>Number of courses offered</i>						
Number of summer courses	15	16	18	16	15	16
Number of academic courses	17	9	15	3	21	3
Number of mandatory courses	15	8	14	15	19	12
Number of mandatory science courses	4	1	4	5	5	3
<i>Project type based on course requirements for students in 1992-93</i>						
Strong math-science program (yes=1, no=0)	1	0	1	0	1	1
Foundational program (yes=1, no=0)	0	1	0	1	0	0
<i>Methods of instruction in 1992-93 acad yr: small group instruction</i>						
grouped by grade in school (no=0, sometimes=1, often=2)	2	2	2	1	0	1
grouped by proficiency level (no=0, sometimes=1, often=2)	2	0	2	0	2	1
grouped by diverse proficiency (no=0, sometimes=1, often=2)	1	1	1	1	2	1
<i>Methods of instruction in 1992-93 academic year: lecture style classes</i>						
Led by non-college faculty (no=0, sometimes=1, often=2)	2	0	2	1	2	0
Led by college faculty (no=0, sometimes=1, often=2)	1	0	1	1	0	0
<i>Instructional emphasis</i>						
Enrichment or enrichment/support (yes=1, no=0)	1	0	1	1	1	1
Remediation, or remediation/support (yes=1, no=0)	1	1	1	1	1	1
<i>Project Goals</i>						
"Academic improvement" is the most important goal of the project (yes=1)	1	1	1	1	1	1
"Exposure to college" is the second most important goal of the project (yes=1)	1	0	0	0	0	1

Source: Upward Bound Survey of Grantees

Table G.2

Student Baseline Characteristics in Project 69 and All Other Projects (Combined Treatments and Controls)

Characteristic	Project Means			Overall Mean Excluding P69	Project 69 Mean	% of Other 66 Projects with Higher Mean
	Min	Median	Max			
<b>Gender</b>						
Male	0.09	0.34	0.75	0.35	0.18 ***	88
<b>Race/ethnicity</b>						
White	0.00	0.08	0.97	0.28	0.00 ***	74
Black	0.00	0.35	1.00	0.47	0.58 **	38
Hispanic	0.00	0.03	0.92	0.15	0.41 ***	23
Other	0.00	0.03	0.92	0.10	0.01 ***	59
<b>UB eligibility</b>						
Low income and first generation	0.54	0.80	1.00	0.80	0.75	62
Low income only	0.00	0.04	0.25	0.06	0.01 *	70
First generation only	0.00	0.15	0.46	0.15	0.24 **	21
<b>Educational Expectations</b>						
Expects high school diploma	0.00	0.02	0.22	0.03	0.03	38
Expects some college	0.00	0.15	0.40	0.17	0.14	55
Expects bachelor's degree	0.08	0.37	0.80	0.33	0.38	44
Expects master's degree or above	0.00	0.36	0.73	0.37	0.39	39
<b>Parent's expectations</b>						
Father expects college degree	0.20	0.61	0.87	0.59	0.64	41
Mother expects college degree	0.40	0.74	1.00	0.72	0.83 **	20
<b>Grade applied at Upward Bound</b>						
Grade 8	0.00	0.00	1.00	0.17	0.00 ***	35
Grade 9	0.00	0.43	0.93	0.44	0.54 *	35
Grade 10	0.00	0.29	1.00	0.30	0.37	38
Grade 11	0.00	0.06	0.50	0.09	0.08	47
<b>9th grade GPA</b>						
GPA less than 2.5	0.17	0.53	0.90	0.57	0.65	30
GPA less than 2	0.05	0.26	0.61	0.31	0.35	23
GPA between 2 to 3	0.13	0.39	0.55	0.37	0.48 **	20
GPA higher than 3	0.00	0.23	0.61	0.22	0.12 **	80
<b>Academic performance</b>						
Low performance	0.00	0.17	0.54	0.22	0.15	64
<b>Level of math at 9th grade</b>						
Below algebra	0.00	0.33	0.88	0.41	0.08 ***	95
<b>Likelihood of admission</b>						
Most likely	0.27	0.51	0.97	0.52	0.38 **	92
Somewhat likely	0.00	0.40	0.71	0.37	0.58 ***	5
Least likely	0.00	0.08	0.43	0.10	0.04 *	62

\*/\*\*/\*\* Mean is statistically significantly different from the overall weighted mean at a 0.10/0.05/0.01 level.



Table G.3

## Project-Specific Treatment and Control Group Differences in Student Baseline Characteristics

Characteristic	P69	All Other Projects	Project-Specific Differentials				% of Other 66 Projects with Smaller Differentials
			Min	Max	Mean	Median	
Sample size	85	2,759	4	96	42	41	
<b>Gender</b>							
Male	0.10	0.01	-0.67	0.30	0.00	0.00	83
<b>Race/ethnicity</b>							
White	0.00	0.02	-0.25	0.25	0.00	0.00	62
Black	-0.04	0.02	-0.31	0.50	0.01	0.00	18
Hispanic	0.06	<b>-0.04</b>	-0.36	0.31	-0.01	0.00	88
Other	-0.02	0.01	-0.50	0.22	0.00	0.00	26
<b>UB eligibility</b>							
Low income and first generation	-0.05	0.02	-0.50	0.50	0.01	0.00	27
Low income only	-0.02	0.00	-0.50	0.32	0.00	0.00	33
First generation only	0.06	-0.02	-0.43	0.50	-0.01	0.00	79
<b>Educational Expectations</b>							
Expects high school diploma	0.00	0.00	-0.13	0.12	0.01	0.00	73
Expects some college	0.10	<b>0.04</b>	-0.33	0.50	0.04	0.03	71
Expects bachelor's degree	<b>0.29</b>	<b>-0.04</b>	-0.46	0.50	-0.02	-0.02	95
Expects master's degree or above	<b>-0.40</b>	-0.01	-0.50	0.72	-0.01	0.00	2
<b>Parent's expectations</b>							
Father expects college degree	-0.05	0.01	-0.32	0.50	0.02	0.02	30
Mother expects college degree	<b>-0.18</b>	-0.02	-0.29	0.30	0.01	0.01	12
<b>Grade applied at Upward Bound</b>							
Grade 8	0.00	-0.01	-0.21	0.36	0.00	0.00	82
Grade 9	0.16	-0.02	-1.00	0.25	-0.03	0.00	94
Grade 10	-0.17	0.02	-0.27	0.50	0.03	0.00	5
Grade 11	0.01	0.01	-0.25	0.50	0.00	0.00	64
<b>9th grade GPA</b>							
GPA less than 2.5	0.18	-0.02	-0.50	1.00	0.00	0.02	91
GPA less than 2	0.17	0.01	-0.53	0.50	0.01	0.01	85
GPA between 2 to 3	-0.08	0.00	-0.33	0.35	0.02	0.02	27
GPA higher than 3	-0.10	-0.01	-0.67	0.31	-0.03	-0.01	26
<b>Academic performance</b>							
Low performance	<b>0.21</b>	-0.02	-0.34	1.00	0.03	0.01	94
<b>Level of math at 9th grade</b>							
Below algebra	<b>0.17</b>	0.00	-0.39	0.50	0.02	0.00	82
<b>Likelihood of admission</b>							
Most likely	-0.01	0.01	-0.50	1.00	0.01	-0.02	53
Somewhat likely	-0.02	-0.01	-1.00	0.40	-0.03	0.00	45
Least likely	0.03	0.00	-0.26	0.50	0.01	0.00	68

Note: Bold indicates baseline treatment-control differential is statistically significant at the 0.10 level.

Table G.4  
Baseline Characteristics in Stratum 1 and Stratum 2 of Project 69

Variable	Combined Treatments and Controls				Baseline T-C Differential		
	P69	P69 Stratum 1	P69 Stratum 2	Difference Between Strata	P69	P69 Stratum 1	P69 Stratum 2
Sample size	85	59	26		85	59	26
<b>Gender</b>							
Male	0.18	0.16	0.23		0.10	0.07	0.15
<b>Race/ethnicity</b>							
White	0.00	0.00	0.00		0.00	0.00	0.00
Black	0.58	0.73	0.31	***	-0.04	-0.07	0.00
Hispanic	0.41	0.25	0.69	***	0.06	0.09	0.00
Other	0.01	0.01	0.00		-0.02	-0.03	0.00
<b>UB eligibility</b>							
Low income and first generation	0.75	0.77	0.73		-0.05	0.06	-0.23
Low income only	0.01	0.01	0.00		-0.02	-0.03	0.00
First generation only	0.24	0.22	0.27		0.06	-0.03	0.23
<b>Educational Expectations</b>							
Expects high school diploma	0.03	0.03	0.04		0.00	0.05	-0.08
Expects some college	0.14	0.23	0.08		0.10	<b>0.25</b>	-0.15
Expects bachelor's degree	0.38	0.33	0.50		<b>0.29</b>	0.14	<b>0.54</b>
Expects master's degree or above	0.39	0.36	0.35		<b>-0.40</b>	<b>-0.41</b>	<b>-0.38</b>
<b>Parent's expectations</b>							
Father expects college degree	0.64	0.56	0.73		-0.05	-0.12	0.08
Mother expects college degree	0.83	0.77	0.88		<b>-0.18</b>	-0.15	<b>-0.23</b>
<b>Grade applied at Upward Bound</b>							
Grade 8	0.00	0.00	0.00		0.00	0.00	0.00
Grade 9	0.54	0.49	0.65		0.16	0.11	0.23
Grade 10	0.37	0.37	0.35		-0.17	-0.14	-0.23
Grade 11	0.08	0.14	0.00	*	0.01	0.02	0.00
<b>9th grade GPA</b>							
GPA less than 2.5	0.65	0.73	0.58		0.18	<b>0.23</b>	0.08
GPA less than 2	0.35	0.37	0.38		0.17	<b>0.27</b>	0.00
GPA between 2 to 3	0.48	0.49	0.42		-0.08	-0.09	-0.08
GPA higher than 3	0.12	0.08	0.15		-0.10	<b>-0.15</b>	0.00
<b>Academic performance</b>							
Low performance	0.15	0.15	0.19		<b>0.21</b>	<b>0.20</b>	0.23
<b>Level of math at 9th grade</b>							
Below algebra	0.08	0.11	0.08		<b>0.17</b>	<b>0.17</b>	0.15
<b>Likelihood of admission</b>							
Most likely	0.38	0.29	0.46		-0.01	-0.18	0.31
Somewhat likely	0.58	0.63	0.54		-0.02	0.14	-0.31
Least likely	0.04	0.08	0.00		0.03	0.05	0.00

Note: Bold numbers indicate baseline T-C differentials are statistically significant at least at 0.10 level.

Table G.5

## Distribution of Project-Level Control Group Means

Data Source	Uncoded	Maximum	Minimum	Mean	Median	Project 69	P69 %	
<b>Enrollment</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	100.0	35.0	81.8	83.8	94.9	77.3
4	NSC / Pell	None	100.0	22.4	71.8	73.8	75.9	59.1
5AT	NSCT / Pell / Survey	Set to 0	100.0	30.0	78.3	80.1	82.4	59.1
5B	NSC / Pell / Survey	Set to 0 if no aid app	100.0	30.0	81.1	82.3	85.5	57.6
6B	Pell / Survey	Set to 0 if no aid app	100.0	30.0	77.3	77.8	84.8	66.7
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	100.0	30.0	83.3	85.7	88.5	62.1
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	100.0	31.2	85.7	87.5	91.5	59.1
<b>Highest level attended - four year</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	100.0	0.0	50.8	48.6	65.1	77.3
4	NSC / Pell	None	100.0	8.7	42.1	42.7	52.8	74.2
5AT	NSCT / Pell / Survey	Set to 0	100.0	9.2	48.8	47.4	58.3	71.2
5B	NSC / Pell / Survey	Set to 0 if no aid app	100.0	9.2	50.4	51.6	62.0	77.3
6B	Pell / Survey	Set to 0 if no aid app	100.0	6.7	48.7	49.6	62.0	81.8
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	100.0	9.2	51.0	54.0	62.7	75.8
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	100.0	9.2	52.5	54.1	64.8	71.2
<b>Pell receipt</b>								
3	Pell Receipt ( <i>Pell</i> )	None	100.0	13.7	56.4	56.1	56.1	50.0
Faid	Applied for aid ( <i>Pell</i> )	None	100.0	33.3	72.3	72.2	67.1	27.3
<b>Completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	100.0	0.0	47.2	49.2	42.9	42.4
7AT	NSCT / Survey	Set to 0	88.7	0.0	32.8	31.3	32.4	51.5
7B	NSC / Pell / Survey	Set to 0 if no aid app	88.7	3.8	37.6	36.6	38.7	57.6
7C	NSC / Survey	Set to Missing Value	88.7	4.1	41.3	40.0	43.9	62.1
<b>Four-year degree completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	100.0	0.0	24.6	21.9	30.1	68.2
7AT	NSCT / Survey	Set to 0	55.7	0.0	19.1	16.9	24.7	74.2
7B	NSC / Pell / Survey	Set to 0 if no aid app	58.9	0.0	22.1	20.3	28.6	72.7
7C	NSC / Survey	Set to Missing Value	65.7	0.0	24.2	21.8	32.4	74.2

Table G.6

## Distribution of Project-Level Impacts

Data Source	Uncoded	Maximum	Minimum	Mean	Median	Project 69	P69 %	
<b>Enrollment</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	53.1	-28.8	1.8	0.0	-13.5	13.6
4	NSC / Pell	None	50.0	-50.0	2.3	2.3	-12.1	13.6
5AT	NSCT / Pell / Survey	Set to 0	38.4	-25.0	2.7	0.0	-6.8	24.2
5B	NSC / Pell / Survey	Set to 0 if no aid app	38.4	-22.9	2.4	2.0	-9.8	15.2
6B	Pell / Survey	Set to 0 if no aid app	38.4	-31.1	2.5	0.9	-10.7	16.7
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	38.4	-22.9	2.3	1.9	-12.8	7.6
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	38.4	-22.2	2.0	1.1	-11.4	13.6
<b>Highest level attended - four year</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	66.7	-50.0	3.4	3.0	-16.3	15.2
4	NSC / Pell	None	50.0	-50.0	4.0	4.2	-10.2	18.2
5AT	NSCT / Pell / Survey	Set to 0	50.0	-50.0	3.3	2.6	-6.1	22.7
5B	NSC / Pell / Survey	Set to 0 if no aid app	70.2	-65.8	1.7	2.1	24.9	81.8
6B	Pell / Survey	Set to 0 if no aid app	100.0	-39.9	3.6	2.2	3.4	51.5
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	50.0	-41.3	2.2	3.0	3.0	50.0
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	50.0	-57.1	1.7	3.2	3.9	53.0
<b>Pell receipt</b>								
3	Pell Receipt ( <i>Pell</i> )	None	39.7	-44.4	3.3	2.6	-13.2	10.6
Faid	Applied for aid ( <i>Pell</i> )	None	50.0	-45.6	3.6	3.5	-16.8	13.6
<b>Completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	69.7	-46.8	4.3	1.6	-10.3	27.3
7AT	NSCT / Survey	Set to 0	50.0	-50.0	3.9	3.6	-16.1	7.6
7B	NSC / Pell / Survey	Set to 0 if no aid app	50.0	-40.0	3.4	4.8	-12.4	16.7
7C	NSC / Survey	Set to Missing Value	50.0	-44.4	3.3	3.5	-16.2	13.6
<b>Four-year degree completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	63.7	-54.4	3.9	3.8	-2.1	33.3
7AT	NSCT / Survey	Set to 0	100.0	-25.0	3.3	1.0	-9.1	18.2
7B	NSC / Pell / Survey	Set to 0 if no aid app	50.0	-27.9	2.7	2.9	-8.5	22.7
7C	NSC / Survey	Set to Missing Value	50.0	-26.6	2.5	2.7	-9.4	27.3

Table G.7

## Location (Percentile) of Project 69 Within the Distribution of Project-Level Impacts

Data Source	Uncoded	All Projects	17 Projects	13 Projects	10 Projects	7 Projects	
<b>Enrollment</b>							
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	13.6	17.6	15.4	20.0	14.3
4	NSC / Pell	None	13.6	17.6	7.7	10.0	14.3
5AT	NSCT / Pell / Survey	Set to 0	24.2	35.3	23.1	30.0	42.9
5B	NSC / Pell / Survey	Set to 0 if no aid app	15.2	11.8	7.7	10.0	14.3
6B	Pell / Survey	Set to 0 if no aid app	16.7	17.6	15.4	20.0	28.6
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	7.6	0.0	0.0	0.0	0.0
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	13.6	11.8	0.0	0.0	0.0
<b>Highest level attended - four year</b>							
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	15.2	17.6	7.7	0.0	0.0
4	NSC / Pell	None	18.2	23.5	7.7	10.0	14.3
5AT	NSCT / Pell / Survey	Set to 0	22.7	35.3	30.8	30.0	42.9
5B	NSC / Pell / Survey	Set to 0 if no aid app	81.8	76.5	76.9	70.0	57.1
6B	Pell / Survey	Set to 0 if no aid app	51.5	52.9	61.5	50.0	57.1
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	50.0	52.9	53.8	40.0	42.9
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	53.0	52.9	61.5	50.0	57.1
<b>Pell receipt</b>							
3	Pell Receipt ( <i>Pell</i> )	None	10.6	17.6	7.7	0.0	0.0
Faid	Applied for aid ( <i>Pell</i> )	None	13.6	11.8	7.7	0.0	0.0
<b>Completion</b>							
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	27.3	35.3	30.8	10.0	14.3
7AT	NSCT / Survey	Set to 0	7.6	5.9	0.0	0.0	0.0
7B	NSC / Pell / Survey	Set to 0 if no aid app	16.7	17.6	7.7	0.0	0.0
7C	NSC / Survey	Set to Missing Value	13.6	17.6	7.7	0.0	0.0
<b>Four-year degree completion</b>							
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	33.3	29.4	30.8	20.0	28.6
7AT	NSCT / Survey	Set to 0	18.2	11.8	15.4	10.0	14.3
7B	NSC / Pell / Survey	Set to 0 if no aid app	22.7	11.8	15.4	10.0	14.3
7C	NSC / Survey	Set to Missing Value	27.3	17.6	23.1	20.0	28.6

Table G.8  
Impacts Associated with Redistribution of Weights

Data Source	Uncoded	Estimates Using Correct Weights	Collapsing Strata						
			A	B	C	D	E	F	
<b>Enrollment</b>									
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1.56	2.13	3.58 *	3.30	2.81	3.92 *	3.12
4	NSC / Pell	None	-0.24	2.08	3.76	3.64	4.67 **	2.78	2.85
5AT	NSCT / Pell / Survey	Set to 0	2.84	3.99 *	4.97 ***	4.65 **	4.69 **	4.54 **	4.27 **
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.54	3.86 *	4.25 ***	4.54 **	4.28 **	4.42 **	3.40 **
6B	Pell / Survey	Set to 0 if no aid app	1.38	3.86 *	3.97 **	4.29 **	3.75 **	4.72 ***	3.58 **
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.11	4.54 **	3.88 **	5.11 ***	4.59 ***	4.61 ***	3.82 **
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	0.88	3.55 *	3.67 **	4.04 **	3.98 **	3.62 **	3.41 **
<b>Highest level attended - four year</b>									
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.45 **	3.68	4.94 **	4.75	5.21 *	4.22	4.01
4	NSC / Pell	None	1.51	3.98 *	4.83 *	5.12 **	6.02 ***	5.06 **	4.71 **
5AT	NSCT / Pell / Survey	Set to 0	2.15	3.71	4.16 **	3.91	5.06 **	4.17 *	4.57 **
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.29	3.32	3.69 *	3.64	4.36 *	3.81	3.99 *
6B	Pell / Survey	Set to 0 if no aid app	1.29	3.04	3.60	3.29	4.84 **	3.39	3.43
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.69	4.14	3.95 *	4.56	5.08 **	4.55 *	4.60 *
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	1.29	3.57	3.72 *	3.96	4.77 **	3.96	4.47 *
<b>Pell receipt</b>									
3	Pell Receipt ( <i>Pell</i> )	None	2.45	3.96	4.59	4.76	4.50	5.41 *	5.03 **
Faid	Applied for aid ( <i>Pell</i> )	None	1.34	5.06 *	2.83	6.04 **	5.37 **	5.06 **	4.21 **
<b>Completion</b>									
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	12.97 **	2.64	12.12 ***	4.97	5.37	6.50 **	0.15
7AT	NSCT / Survey	Set to 0	3.73 **	2.26	6.04 **	2.40	2.27	4.73 **	2.14
7B	NSC / Pell / Survey	Set to 0 if no aid app	2.26	0.75	4.69 **	1.17	0.67	3.67 *	0.11
7C	NSC / Survey	Set to Missing Value	2.30	0.14	4.76 *	0.71	0.03	3.30	-0.58
<b>Four-year degree completion</b>									
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.25 *	5.49 *	5.53 *	5.61 **	5.80 **	7.47 ***	4.41
7AT	NSCT / Survey	Set to 0	0.63	3.33	2.60	3.35	2.55	4.24 *	3.34 *
7B	NSC / Pell / Survey	Set to 0 if no aid app	0.14	3.16	2.53	3.49	2.05	4.37 *	2.62
7C	NSC / Survey	Set to Missing Value	-0.60	2.88	2.26	3.24	1.55	4.22 *	2.34

Table G.9  
Impacts Associated with Redistribution of Weights

Data Source		Uncoded	Estimates Using Correct Weights	Redistribute Weight to Similar Projects				Redistribute Weight to Similar Individuals
				17 Projects	13 Projects	10 Projects	7 Projects	
<b>Enrollment</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1.56	3.92 *	4.70 **	4.67 *	3.51	3.73 *
4	NSC / Pell	None	-0.24	3.54	4.67 **	4.90 **	4.92 **	2.67
5AT	NSCT / Pell / Survey	Set to 0	2.84	4.52 ***	5.25 ***	5.26 ***	4.74 **	4.15 **
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.54	3.89 **	4.49 ***	4.70 ***	4.04 **	3.22 **
6B	Pell / Survey	Set to 0 if no aid app	1.38	3.62 **	4.23 **	4.21 **	3.27	2.70
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.11	4.12 **	4.75 ***	5.05 ***	4.32 **	2.82 *
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	0.88	3.95 **	4.70 ***	5.03 ***	4.51 **	2.84 *
<b>Highest level attended - four year</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.45 **	5.22 **	6.51 **	7.86 ***	6.80 ***	5.56 **
4	NSC / Pell	None	1.51	5.12 **	6.10 **	6.46 ***	5.99 **	4.56 **
5AT	NSCT / Pell / Survey	Set to 0	2.15	4.62 **	5.54 **	6.53 ***	6.14 ***	4.08 **
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.29	4.24 *	5.22 **	6.03 ***	5.42 **	3.99 *
6B	Pell / Survey	Set to 0 if no aid app	1.29	4.01 *	4.84 **	5.92 **	5.16 **	3.32
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.69	4.84 **	5.76 **	6.52 ***	6.06 ***	4.45 **
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	1.29	4.74 **	5.75 **	6.55 ***	6.16 ***	4.54 **
<b>Pell receipt</b>								
3	Pell Receipt ( <i>Pell</i> )	None	2.45	3.98 *	5.27 **	4.98 **	4.65 *	4.45 **
Faid	Applied for aid ( <i>Pell</i> )	None	1.34	3.12 *	3.79 **	4.28 **	3.42 *	2.82 *
<b>Completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	12.97 **	6.61 *	5.88	6.56 *	7.33 *	7.23 *
7AT	NSCT / Survey	Set to 0	3.73 **	3.68 *	3.14	3.73 *	3.29	3.06
7B	NSC / Pell / Survey	Set to 0 if no aid app	2.26	2.52	2.21	2.86	2.28	2.10
7C	NSC / Survey	Set to Missing Value	2.30	2.17	1.87	2.50	1.80	2.04
<b>Four-year degree completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.25 *	5.30 **	5.41 **	6.17 **	5.26 **	5.70 **
7AT	NSCT / Survey	Set to 0	0.63	2.91 *	2.83 *	3.55 **	2.72	2.34
7B	NSC / Pell / Survey	Set to 0 if no aid app	0.14	3.00 *	2.77	3.52 *	2.61	2.58
7C	NSC / Survey	Set to Missing Value	-0.60	2.71	2.48	3.25	2.26	2.67

Table G.10  
Impacts Associated with Reweighting

Data Source	Uncoded	Estimates Using Correct Weights	Reweight Based on Slots	Unweighted		Drop Project 69 (Weighted)		
				ITT	CACE	ITT	CACE	
<b>Enrollment</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1.56	2.26	2.73 *	3.36 *	4.73 **	5.77 **
4	NSC / Pell	None	-0.24	1.75	2.98 *	3.68 *	4.58 ***	5.64 ***
5AT	NSCT / Pell / Survey	Set to 0	2.84	2.98	3.44 **	4.26 ***	5.10 ***	6.27 ***
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.54	2.12	3.10 **	3.84 **	4.49 ***	5.49 ***
6B	Pell / Survey	Set to 0 if no aid app	1.38	1.74	3.13 **	3.96 **	4.24 ***	5.29 **
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.11	1.90	3.03 **	3.70 ***	4.31 ***	5.26 ***
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	0.88	1.89	2.56 **	3.03 **	3.93 ***	4.69 **
<b>Highest level attended - four year</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.45 **	6.49 **	5.16 **	6.36 **	5.84 **	7.22 **
4	NSC / Pell	None	1.51	3.85	4.93 ***	6.09 ***	6.45 ***	7.84 ***
5AT	NSCT / Pell / Survey	Set to 0	2.15	3.89	4.00 **	4.97 **	5.46 ***	6.70 ***
5B	NSC / Pell / Survey	Set to 0 if no aid app	1.29	3.25	4.27 **	5.30 **	5.16 ***	6.35 ***
6B	Pell / Survey	Set to 0 if no aid app	1.29	2.92	4.16 **	5.17 **	5.12 ***	6.31 ***
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	1.69	3.60	4.68 **	5.81 ***	5.70 ***	7.02 ***
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	1.29	3.51	4.48 **	5.53 **	5.51 ***	6.75 ***
<b>Pell receipt</b>								
3	Pell Receipt ( <i>Pell</i> )	None	2.45	3.83	4.12 **	5.12 **	5.36 **	6.52 **
Faid	Applied for aid ( <i>Pell</i> )	None	1.34	2.72	3.60 **	4.45 ***	3.84 **	4.74 **
<b>Completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	12.97 **	9.57 **	4.84 *	5.95 *	7.39 **	9.00 **
7AT	NSCT / Survey	Set to 0	3.73 **	4.15 **	3.59 **	4.45 *	4.56 **	5.58 **
7B	NSC / Pell / Survey	Set to 0 if no aid app	2.26	2.47	3.10 *	3.82 *	3.75 **	4.61 **
7C	NSC / Survey	Set to Missing Value	2.30	2.43	2.50	3.09	3.55	4.43 *
<b>Four-year degree completion</b>								
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.25 *	5.51 **	5.15 ***	6.42 ***	5.91 **	7.15 ***
7AT	NSCT / Survey	Set to 0	0.63	2.96	2.37 *	2.94 *	3.19 **	3.92 **
7B	NSC / Pell / Survey	Set to 0 if no aid app	0.14	2.11	2.54 *	3.11 *	3.21 **	3.93 **
7C	NSC / Survey	Set to Missing Value	-0.60	1.55	2.16	2.66	3.04 *	3.76 *

G.34



Table G.11

## Change Required in Project 69 Impact to Make Overall Impact Significant

Data Source	Uncoded	P69 % - Actual	Overall Impact	P69 Impact	P69 %	
<b>Enrollment</b>						
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	13.6	6.41	10.7	75.8
4	NSC / Pell	None	13.6	8.08	18.5	86.4
5AT	NSCT / Pell / Survey	Set to 0	24.2	4.28	9.4	66.7
5B	NSC / Pell / Survey	Set to 0 if no aid app	15.2	5.26	10.1	78.8
6B	Pell / Survey	Set to 0 if no aid app	16.7	5.36	9.6	69.7
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	7.6	5.68	8.7	75.8
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	13.6	5.56	9.6	78.8
<b>Highest level attended - four year</b>						
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	15.2	NA	NA	NA
4	NSC / Pell	None	18.2	8.39	21.5	84.8
5AT	NSCT / Pell / Survey	Set to 0	22.7	6.03	16.7	84.8
5B	NSC / Pell / Survey	Set to 0 if no aid app	81.8	6.78	50.6	95.5
6B	Pell / Survey	Set to 0 if no aid app	51.5	6.82	29.2	90.9
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	50.0	6.97	29.4	89.4
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	53.0	7.30	31.5	89.4
<b>Pell receipt</b>						
3	Pell Receipt ( <i>Pell</i> )	None	10.6	5.61	7.9	60.6
Faid	Applied for aid ( <i>Pell</i> )	None	13.6	4.52	0.3	34.8
<b>Completion</b>						
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	27.3	NA	NA	NA
7AT	NSCT / Survey	Set to 0	7.6	NA	NA	NA
7B	NSC / Pell / Survey	Set to 0 if no aid app	16.7	3.84	2.1	48.5
7C	NSC / Survey	Set to Missing Value	13.6	4.09	-0.8	30.3
<b>Four-year degree completion</b>						
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	33.3	4.93	16.4	71.2
7AT	NSCT / Survey	Set to 0	18.2	4.82	9.1	65.2
7B	NSC / Pell / Survey	Set to 0 if no aid app	22.7	5.53	12.5	69.7
7C	NSC / Survey	Set to Missing Value	27.3	6.36	14.7	75.8

Note: NA indicates that the estimate is not applicable because the original estimate was already statistically significant.

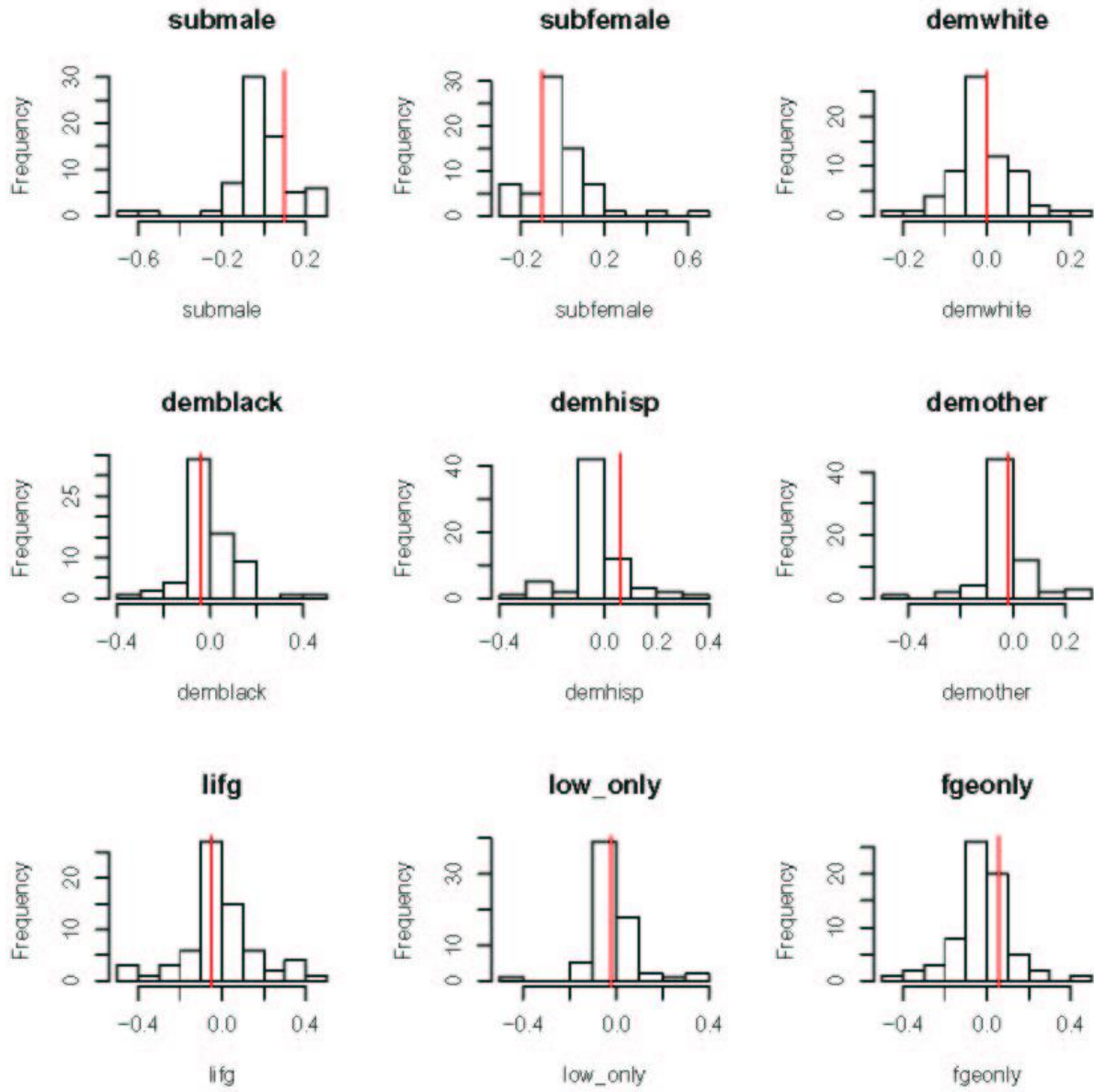
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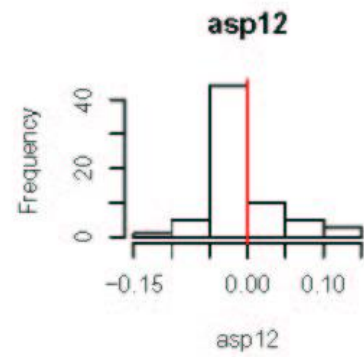
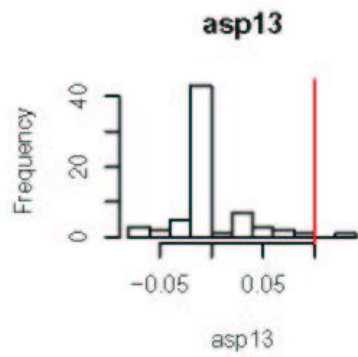
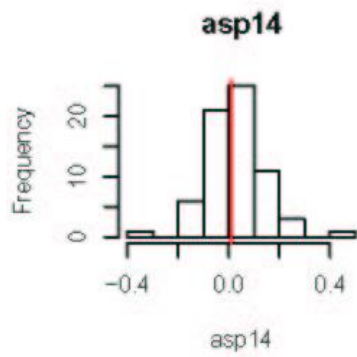
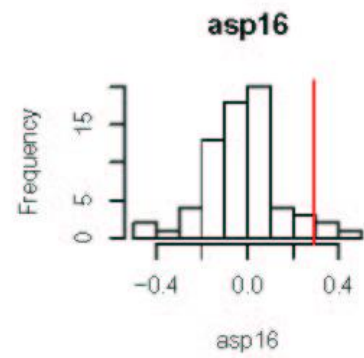
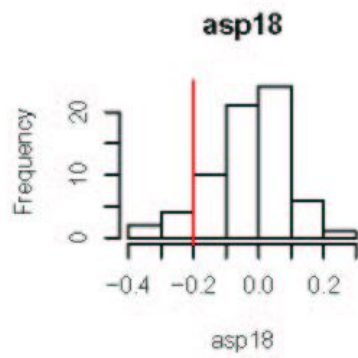
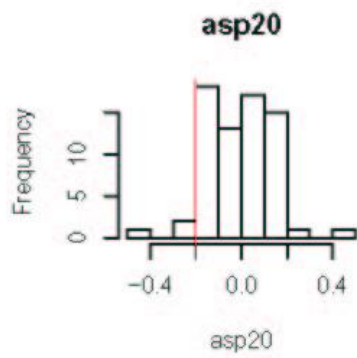
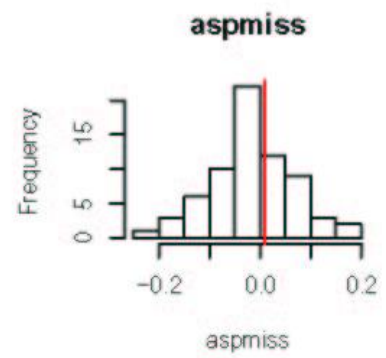
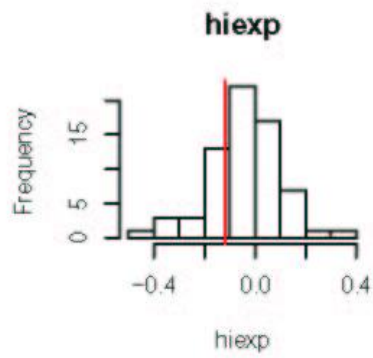
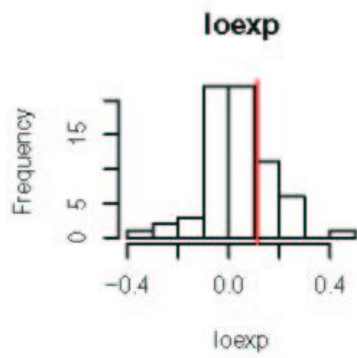
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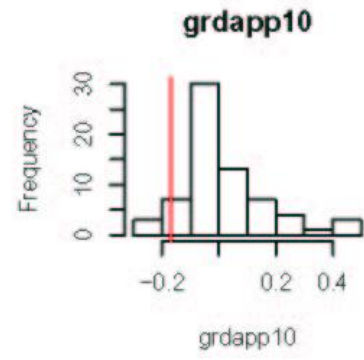
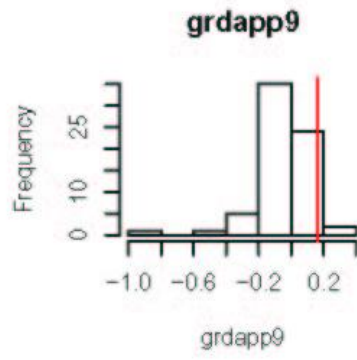
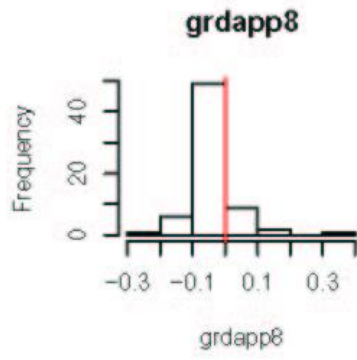
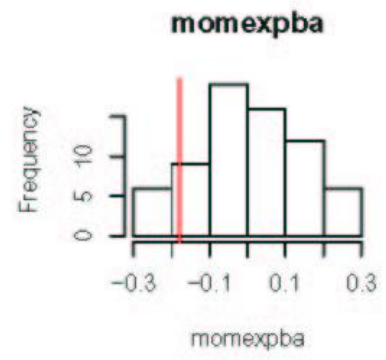
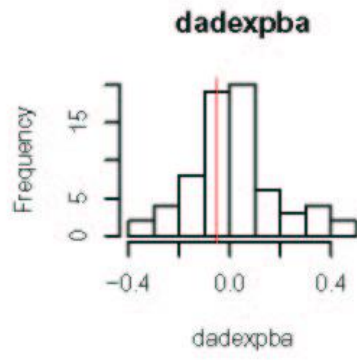
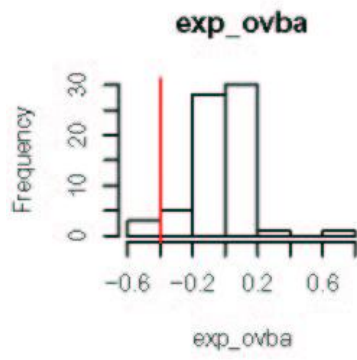
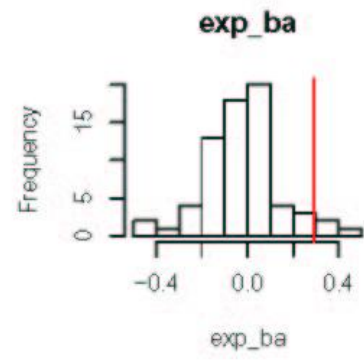
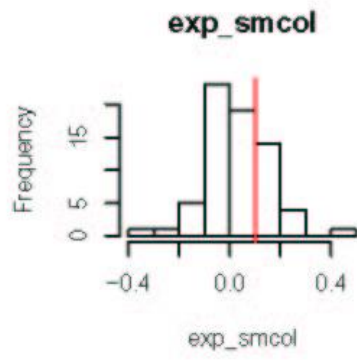
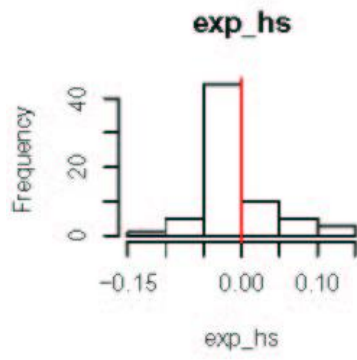
Data Source	Uncoded	Estimates Using Correct Weights	Design Effect 1/2 Weight	Design Effect 1/3 Weight	Impacts with 1/2 Weight	Impacts with 1/3 Weight	Collapse 3 Strata	Redist Weight to Projects	Redist Weight to Indiv	
<b>Enrollment</b>										
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	3.27	2.49	2.29	2.31	2.02	2.53	2.00	2.07
4	NSC / Pell	None	4.12	3.19	2.96	2.79	2.26	2.62	2.15	1.97
5AT	NSCT / Pell / Survey	Set to 0	2.18	<b>1.69</b>	<b>1.57</b>	<b>1.65</b>	<b>1.48</b>	2.00	1.80	<b>1.46</b>
5B	NSC / Pell / Survey	Set to 0 if no aid app	2.68	2.08	1.93	1.86	1.57	1.81	1.65	1.46
6B	Pell / Survey	Set to 0 if no aid app	2.73	2.11	1.95	1.96	1.70	1.90	1.88	1.62
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	2.90	2.25	2.09	1.96	1.63	1.56	1.54	1.49
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	2.84	2.19	2.03	1.91	1.59	1.78	1.57	1.51
<b>Highest level attended - four year</b>										
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	<b>2.00</b>	<b>1.52</b>	<b>1.40</b>	<b>2.10</b>	<b>2.15</b>	<b>2.83</b>	<b>2.42</b>	<b>2.27</b>
4	NSC / Pell	None	4.28	3.32	3.08	3.06	2.59	3.44	2.28	2.25
5AT	NSCT / Pell / Survey	Set to 0	3.08	2.38	2.21	2.34	2.06	2.39	2.03	1.96
5B	NSC / Pell / Survey	Set to 0 if no aid app	3.46	2.68	2.49	2.54	2.19	3.35	2.04	1.98
6B	Pell / Survey	Set to 0 if no aid app	3.48	2.66	2.45	2.62	2.29	2.41	2.12	2.06
9B	NSC / Pell / Mult Surveys (3rd - 5th)	Set to 0 if no aid app	3.56	2.76	2.56	2.59	2.22	2.37	2.14	1.98
9C	NSC / Pell / Mult Surveys (3rd - 5th)	Set to Missing Value	3.72	2.87	2.66	2.70	2.31	2.63	2.24	2.13
<b>Pell receipt</b>										
3	Pell Receipt ( <i>Pell</i> )	None	2.86	2.22	2.06	2.35	2.19	2.91	2.37	2.05
Faid	Applied for aid ( <i>Pell</i> )	None	2.31	1.79	1.66	1.84	1.68	2.71	1.87	1.62
<b>Completion</b>										
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	<b>5.37</b>	<b>4.33</b>	<b>4.09</b>	<b>4.09</b>	<b>3.68</b>	<b>3.69</b>	<b>4.19</b>	<b>3.69</b>
7AT	NSCT / Survey	Set to 0	<b>1.81</b>	<b>1.40</b>	<b>1.30</b>	<b>1.86</b>	<b>1.89</b>	<b>2.22</b>	<b>2.26</b>	<b>2.19</b>
7B	NSC / Pell / Survey	Set to 0 if no aid app	1.96	1.51	1.40	1.81	1.78	2.79	2.23	2.16
7C	NSC / Survey	Set to Missing Value	2.09	1.59	1.47	2.05	2.06	2.89	2.57	2.45
<b>Four-year degree completion</b>										
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	<b>2.52</b>	<b>2.03</b>	<b>1.92</b>	<b>2.41</b>	<b>2.40</b>	2.96	2.70	<b>2.34</b>
7AT	NSCT / Survey	Set to 0	2.46	1.90	1.77	1.93	1.73	2.55	1.81	1.68
7B	NSC / Pell / Survey	Set to 0 if no aid app	2.85	2.20	2.04	2.18	1.92	2.78	1.92	1.91
7C	NSC / Survey	Set to Missing Value	3.25	2.48	2.28	2.51	2.22	2.95	2.28	2.23

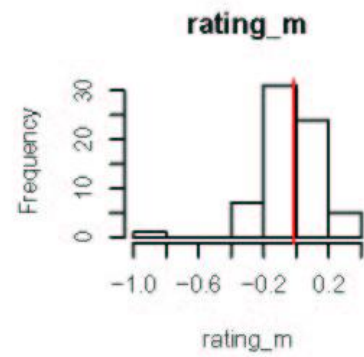
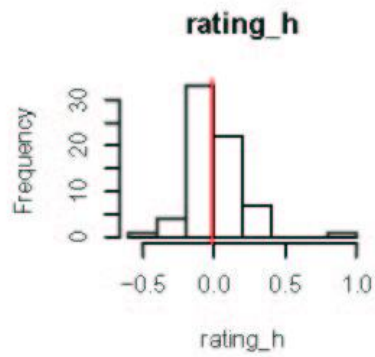
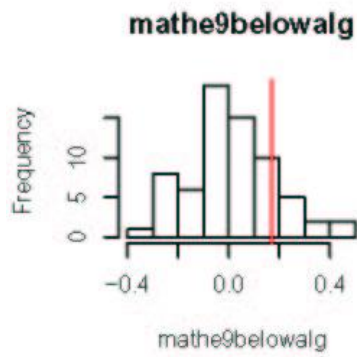
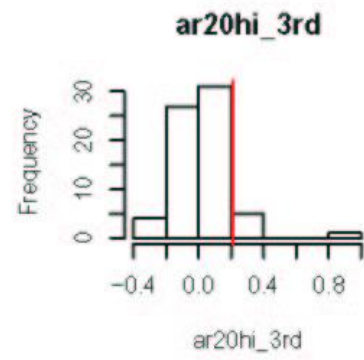
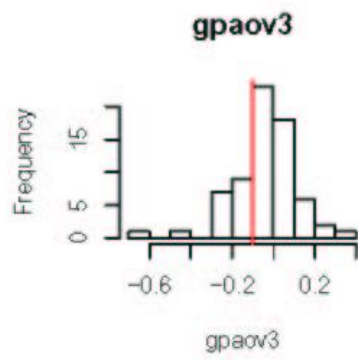
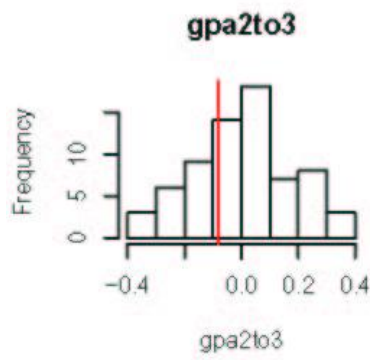
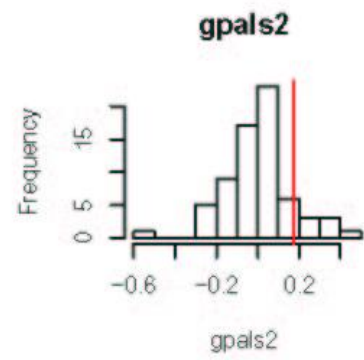
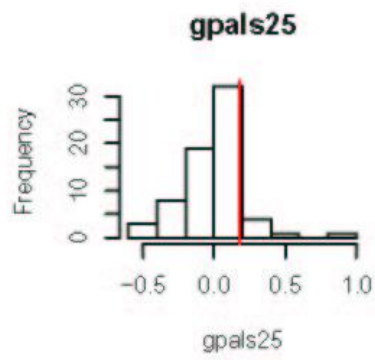
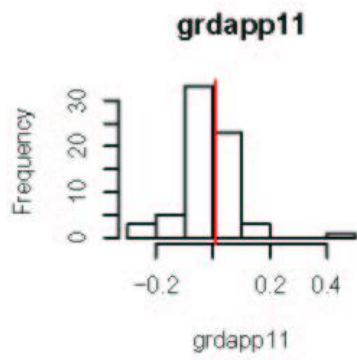
FIGURE G.1

BASELINE TREATMENT-CONTROL DIFFERENCES ACROSS PROJECTS









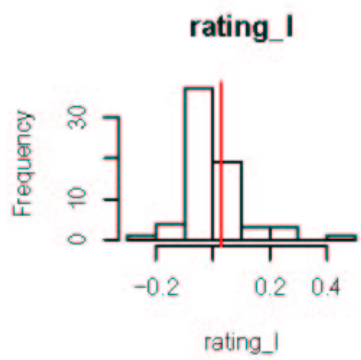
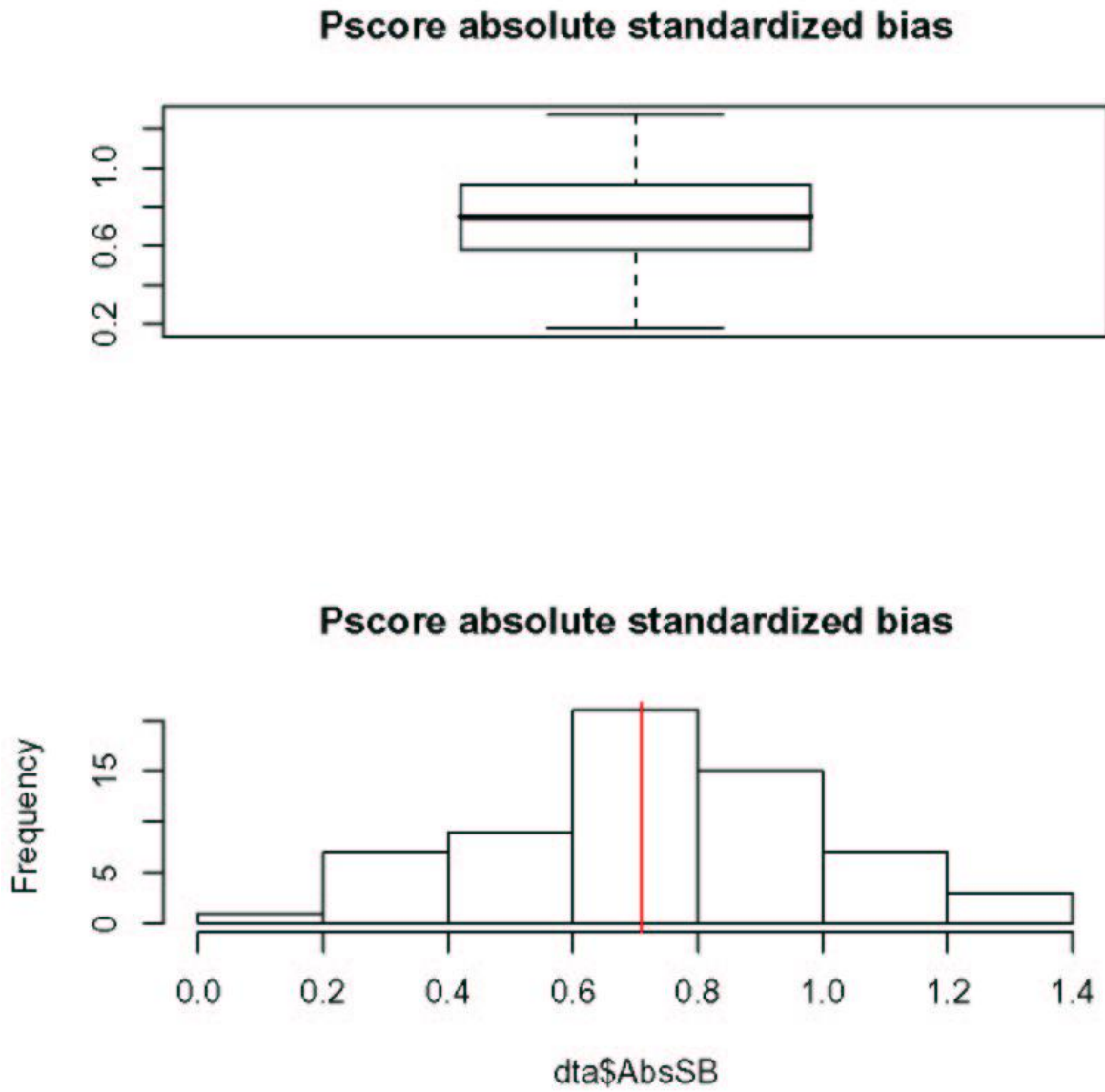


FIGURE G.2

ABSOLUTE STANDARDIZED DIFFERENCES





**APPENDIX H**

**OTHER SUPPLEMENTAL SERVICE PROGRAMS**



Table H.1  
 Programs From Which Students Reported Receiving Supplemental Services

Name of Program
4H
Advancement via Individual Determination (AVID)
BETA
Champ
College Prep Program (Careers, Applications, Interviewing)
Counseling, Student Support Services
DECA
English Program/Tutoring/AP Courses
Financial Aid Assistance
Future Business Leaders of America (FBLA)
Future Homemakers of America
JTPA/PIC
Magnet Program
Math , Writing, and Multi-Cultural Literature
Math Engineering Science Achievement (MESA)
Math Program/Tutoring/Club
Mi Carrera
National Honor Society
ROTC/JROTC
SAT Prep Course or Workshop/ACT (e.g., Kaplan Princeton Review) PSAT
Science Program/Tutoring/Club
Summer School
Talent Search/ETS
Tutoring (unspecified) Mentoring

Source: Upward Bound 2nd Follow-up Survey



**APPENDIX I**

**ADDITIONAL SUBGROUP TABLES**



Table I.1

## Impact of Upward Bound on Any Postsecondary Enrollment by Students' Academic Performance Index (ITT)

Data Source	Uncoded	Lower Performing					Higher Performing				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	66.53	63.84	2.69	0.56	88.40	87.18	1.22	0.69	
2	NSC through 05-06 ( <i>NSCF</i> )	None	42.53	41.66	0.88	0.87	65.34	66.36	-1.02	0.81	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	38.21	38.89	-0.67	0.89	63.82	63.43	0.39	0.92	
3	Pell Receipt ( <i>SFA</i> )	None	37.10	33.65	3.45	0.59	66.72	61.60	5.12 *	0.05	
4	NSCF / SFA	None	50.43	47.54	2.89	0.57	78.68	77.84	0.85	0.76	
4T	NSCT / SFA	None	48.94	46.00	2.95	0.52	78.46	76.22	2.24	0.34	
5A	Survey / NSCF / SFA	Set to 0	60.93	57.91	3.02	0.38	85.83	84.17	1.66	0.55	
5AT	Survey / NSCT / SFA	Set to 0	59.49	57.27	2.23	0.50	85.59	82.82	2.76	0.21	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	63.33	58.56	4.77	0.19	86.59	86.06	0.53	0.85	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	62.27	58.15	4.12	0.23	85.94	85.49	0.44	0.87	
5C	Survey / NSCF / SFA	Set to Missing Value	74.86	67.64	7.23 *	0.06	91.58	91.21	0.37	0.88	
5CT	Survey / NSCT / SFA	Set to Missing Value	74.25	67.19	7.05 *	0.07	91.04	90.80	0.24	0.92	
6A	Survey / SFA	Set to 0	54.51	54.28	0.24	0.95	81.92	79.29	2.63	0.28	
6B	Survey / SFA	Set to 0 if no aid app	58.45	55.71	2.74	0.45	84.69	83.85	0.85	0.77	
6C	Survey / SFA	Set to Missing Value	71.43	65.35	6.08	0.15	90.24	89.84	0.40	0.87	
7A	Survey / NSCF	Set to 0	57.66	56.75	0.91	0.81	80.96	78.97	2.00	0.48	
7AT	Survey / NSCT	Set to 0	54.58	55.90	-1.32	0.70	80.57	77.17	3.40	0.17	
7C	Survey / NSCF	Set to Missing Value	72.28	67.50	4.78	0.26	91.19	90.59	0.61	0.80	
7CT	Survey / NSCT	Set to Missing Value	70.77	66.84	3.93	0.32	90.65	90.02	0.63	0.79	
8	Survey then NSCF / SFA	Set to 0	55.05	55.57	-0.52	0.90	84.30	82.82	1.48	0.60	
8T	Survey then NSCT / SFA	Set to 0	53.88	55.44	-1.56	0.69	84.46	81.77	2.69	0.25	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	63.95	59.84	4.11	0.24	87.82	87.58	0.24	0.94	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	62.55	59.20	3.35	0.31	87.34	86.88	0.46	0.89	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	65.44	60.19	5.25	0.14	87.94	88.18	-0.24	0.94	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	64.44	59.79	4.65	0.18	87.35	87.73	-0.39	0.90	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	68.39	62.17	6.23 *	0.09	90.37	89.87	0.50	0.82	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	67.35	61.75	5.60	0.11	89.76	89.41	0.36	0.87	

Table I.2

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Students' Academic Performance Index (ITT)

Data Source	Uncoded	Lower Performing					Higher Performing				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	41.25	29.76	11.48 *	0.09	65.14	58.39	6.75 **	0.02	
2	NSC through 05-06 ( <i>NSCF</i> )	None	23.09	18.85	4.24	0.14	43.75	41.98	1.77	0.66	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	21.91	18.75	3.16	0.26	42.88	39.47	3.40	0.36	
3	Pell Receipt ( <i>SFA</i> )	None	17.10	15.95	1.15	0.85	45.75	40.98	4.77 **	0.04	
4	NSCF / SFA	None	25.79	20.42	5.38 *	0.08	54.48	50.69	3.80	0.18	
4T	NSCT / SFA	None	25.74	20.42	5.32 *	0.09	53.59	48.75	4.84 *	0.06	
5A	Survey / NSCF / SFA	Set to 0	34.06	29.95	4.10	0.18	61.02	57.50	3.52	0.18	
5AT	Survey / NSCT / SFA	Set to 0	33.99	29.95	4.04	0.19	60.04	56.02	4.02 *	0.09	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	35.12	30.31	4.82	0.15	61.49	58.81	2.68	0.30	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	35.44	30.34	5.10	0.14	60.41	57.83	2.58	0.31	
5C	Survey / NSCF / SFA	Set to Missing Value	40.99	34.87	6.12 *	0.07	64.13	62.38	1.75	0.53	
5CT	Survey / NSCT / SFA	Set to Missing Value	41.46	34.90	6.56 *	0.06	63.21	61.46	1.75	0.51	
6A	Survey / SFA	Set to 0	32.49	28.09	4.39	0.19	58.27	54.41	3.86	0.11	
6B	Survey / SFA	Set to 0 if no aid app	34.55	28.79	5.75	0.12	60.43	57.50	2.93	0.23	
6C	Survey / SFA	Set to Missing Value	41.08	33.67	7.42 **	0.04	63.38	61.71	1.67	0.53	
7A	Survey / NSCF	Set to 0	32.58	29.47	3.10	0.36	58.09	53.21	4.88 **	0.03	
7AT	Survey / NSCT	Set to 0	31.81	29.47	2.34	0.48	57.14	51.60	5.54 ***	0.01	
7C	Survey / NSCF	Set to Missing Value	40.19	34.92	5.27	0.17	64.68	60.98	3.70	0.11	
7CT	Survey / NSCT	Set to Missing Value	40.58	34.98	5.60	0.16	63.86	60.10	3.76 *	0.10	
8	Survey then NSCF / SFA	Set to 0	34.06	29.95	4.10	0.18	61.02	57.50	3.52	0.18	
8T	Survey then NSCT / SFA	Set to 0	33.99	29.95	4.04	0.19	60.04	56.02	4.02 *	0.09	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	35.40	29.95	5.45 *	0.09	62.11	58.82	3.29	0.22	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	35.33	29.95	5.38 *	0.10	61.11	57.33	3.77	0.12	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	35.96	30.13	5.83 *	0.08	62.16	59.25	2.91	0.27	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	36.24	30.10	6.15 *	0.07	61.15	57.92	3.24	0.17	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	37.36	31.14	6.22 *	0.06	63.14	60.39	2.75	0.27	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	37.69	31.11	6.58 *	0.06	62.15	59.03	3.12	0.17	



Table I.3

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Students' Academic Performance Index (ITT)

Data Source	Uncoded	Lower Performing					Higher Performing				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	17.92	28.54	-10.62	0.17	15.90	25.12	-9.22	0.19	
2	NSC through 05-06 ( <i>NSCF</i> )	None	17.22	20.03	-2.81	0.56	12.46	15.71	-3.25	0.19	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	14.27	18.49	-4.23	0.32	11.73	16.15	-4.42 *	0.10	
3	Pell Receipt ( <i>SFA</i> )	None	15.67	14.56	1.11	0.73	14.51	16.57	-2.06	0.34	
4	NSCF / SFA	None	18.81	23.36	-4.55	0.31	16.77	20.64	-3.87 *	0.06	
4T	NSCT / SFA	None	18.27	21.81	-3.55	0.37	16.85	21.33	-4.48 **	0.05	
5A	Survey / NSCF / SFA	Set to 0	21.70	22.76	-1.06	0.79	18.62	22.46	-3.84	0.21	
5AT	Survey / NSCT / SFA	Set to 0	21.23	22.12	-0.90	0.82	19.06	22.77	-3.71	0.25	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	22.83	23.00	-0.17	0.97	18.87	22.91	-4.04	0.19	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	22.30	22.57	-0.27	0.94	19.33	23.47	-4.15	0.21	
5C	Survey / NSCF / SFA	Set to Missing Value	27.41	26.61	0.81	0.85	19.35	24.26	-4.91	0.16	
5CT	Survey / NSCT / SFA	Set to Missing Value	27.21	26.16	1.05	0.81	19.82	24.93	-5.11	0.18	
6A	Survey / SFA	Set to 0	17.85	20.84	-2.99	0.43	18.13	20.90	-2.77	0.33	
6B	Survey / SFA	Set to 0 if no aid app	19.27	21.46	-2.19	0.58	18.83	22.09	-3.26	0.30	
6C	Survey / SFA	Set to Missing Value	24.21	25.25	-1.04	0.82	19.49	23.60	-4.11	0.25	
7A	Survey / NSCF	Set to 0	20.65	22.69	-2.04	0.60	14.67	20.08	-5.41	0.28	
7AT	Survey / NSCT	Set to 0	19.20	22.05	-2.85	0.45	14.90	20.42	-5.52	0.28	
7C	Survey / NSCF	Set to Missing Value	26.42	27.03	-0.61	0.89	15.76	22.91	-7.15	0.24	
7CT	Survey / NSCT	Set to Missing Value	25.52	26.57	-1.05	0.80	15.62	23.72	-8.10	0.22	
8	Survey then NSCF / SFA	Set to 0	21.70	22.76	-1.06	0.79	18.62	22.46	-3.84	0.21	
8T	Survey then NSCT / SFA	Set to 0	21.23	22.12	-0.90	0.82	19.06	22.77	-3.71	0.25	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	23.13	24.25	-1.12	0.79	18.80	22.96	-4.16	0.17	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	22.67	23.61	-0.95	0.82	19.23	23.35	-4.12	0.20	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	23.93	24.37	-0.44	0.92	18.89	23.08	-4.19	0.17	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	23.48	24.02	-0.53	0.90	19.25	23.55	-4.29	0.18	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	24.91	25.10	-0.19	0.97	18.99	23.48	-4.49	0.15	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	24.47	24.73	-0.26	0.95	19.35	23.96	-4.61	0.16	

Table I.4

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Students' Academic Performance Index (ITT)

Data Source	Uncoded	Lower Performing					Higher Performing				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.29	3.82	1.47	0.55	5.08	3.47	1.61	0.54	
2	NSC through 05-06 ( <i>NSCF</i> )	None	-0.20	0.89	-1.09	0.40	0.84	0.27	0.57	0.20	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1.73	0.15	1.58 ***	0.00	0.72	0.19	0.54	0.17	
3	Pell Receipt ( <i>SFA</i> )	None	4.97	2.76	2.21	0.12	4.69	4.09	0.60	0.60	
4	NSCF / SFA	None	4.66	2.36	2.30	0.11	4.28	3.69	0.60	0.57	
4T	NSCT / SFA	None	4.66	2.36	2.30	0.11	4.46	3.69	0.78	0.45	
5A	Survey / NSCF / SFA	Set to 0	4.01	4.00	0.01	0.91	5.52	3.75	1.77	0.35	
5AT	Survey / NSCT / SFA	Set to 0	4.01	4.00	0.01	0.91	5.54	3.80	1.74	0.36	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	4.34	4.02	0.32	0.78	5.59	3.88	1.71	0.38	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	4.39	4.00	0.39	0.75	5.57	3.95	1.62	0.40	
5C	Survey / NSCF / SFA	Set to Missing Value	5.23	4.74	0.49	0.77	6.14	4.07	2.07	0.35	
5CT	Survey / NSCT / SFA	Set to Missing Value	5.28	4.72	0.55	0.75	6.14	4.16	1.98	0.37	
6A	Survey / SFA	Set to 0	4.33	4.36	-0.03	0.92	5.64	3.98	1.66	0.39	
6B	Survey / SFA	Set to 0 if no aid app	5.01	4.41	0.61	0.66	5.93	4.26	1.68	0.42	
6C	Survey / SFA	Set to Missing Value	6.21	5.25	0.96	0.62	6.56	4.53	2.03	0.40	
7A	Survey / NSCF	Set to 0	3.00	3.11	-0.11	0.96	3.36	2.24	1.12	0.47	
7AT	Survey / NSCT	Set to 0	2.92	2.89	0.02	0.89	3.41	2.29	1.12	0.47	
7C	Survey / NSCF	Set to Missing Value	3.96	3.81	0.15	0.88	3.87	2.67	1.20	0.52	
7CT	Survey / NSCT	Set to Missing Value	3.95	3.56	0.39	0.79	3.94	2.77	1.17	0.54	
8	Survey then NSCF / SFA	Set to 0	4.01	4.00	0.01	0.91	5.52	3.75	1.77	0.35	
8T	Survey then NSCT / SFA	Set to 0	4.01	4.00	0.01	0.91	5.54	3.80	1.74	0.36	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	3.83	4.36	-0.53	0.87	6.00	4.93	1.07	0.46	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	3.83	4.36	-0.53	0.87	6.02	4.98	1.04	0.47	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	3.97	4.39	-0.42	0.91	6.00	4.97	1.03	0.48	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	4.03	4.38	-0.35	0.94	6.03	5.03	0.99	0.50	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	4.09	4.60	-0.51	0.88	6.40	5.09	1.31	0.44	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	4.16	4.59	-0.43	0.91	6.42	5.15	1.28	0.46	

Table I.5

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Students' Academic Performance Index (ITT)

Data Source	Uncoded	Lower Performing					Higher Performing				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	1.97	3.22	-1.24	0.59	14.12	12.56	1.56	0.55	
2	NSC through 05-06 ( <i>NSCF</i> )	None	1.60	1.59	0.01	0.99	11.73	9.19	2.53 **	0.05	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1.54	1.59	-0.04	0.97	11.15	8.77	2.38 *	0.06	
3	Pell Receipt ( <i>SFA</i> )	None	1.02	0.58	0.44	0.52	7.66	5.51	2.15 *	0.09	
4	NSCF / SFA	None	1.60	1.59	0.01	0.99	12.36	10.79	1.56	0.32	
4T	NSCT / SFA	None	1.54	1.59	-0.04	0.97	11.83	10.37	1.46	0.36	
5A	Survey / NSCF / SFA	Set to 0	2.12	2.16	-0.04	0.98	14.84	11.74	3.10	0.10	
5AT	Survey / NSCT / SFA	Set to 0	2.06	2.16	-0.10	0.95	14.31	11.52	2.79	0.14	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	2.16	2.21	-0.05	0.97	14.92	11.98	2.94	0.12	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	2.04	2.20	-0.16	0.92	14.35	11.86	2.49	0.19	
5C	Survey / NSCF / SFA	Set to Missing Value	2.28	2.59	-0.31	0.86	15.50	12.86	2.64	0.20	
5CT	Survey / NSCT / SFA	Set to Missing Value	2.10	2.59	-0.49	0.79	14.93	12.77	2.15	0.30	
6A	Survey / SFA	Set to 0	1.65	2.16	-0.51	0.70	12.20	10.34	1.85	0.45	
6B	Survey / SFA	Set to 0 if no aid app	1.70	2.22	-0.53	0.70	12.61	10.92	1.69	0.50	
6C	Survey / SFA	Set to Missing Value	1.78	2.68	-0.90	0.58	13.05	11.94	1.10	0.69	
7A	Survey / NSCF	Set to 0	2.12	2.16	-0.04	0.98	15.61	11.01	4.59 ***	0.01 #	
7AT	Survey / NSCT	Set to 0	2.06	2.16	-0.10	0.95	15.07	10.80	4.26 **	0.01 #	
7C	Survey / NSCF	Set to Missing Value	2.25	2.69	-0.44	0.80	16.62	12.80	3.82 **	0.03	
7CT	Survey / NSCT	Set to Missing Value	2.08	2.71	-0.63	0.73	15.94	12.75	3.18 *	0.08	
8	Survey then NSCF / SFA	Set to 0	2.12	2.16	-0.04	0.98	14.84	11.74	3.10	0.10	
8T	Survey then NSCT / SFA	Set to 0	2.06	2.16	-0.10	0.95	14.31	11.52	2.79	0.14	

Table I.6

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Students' Academic Performance Index (ITT)

Outcome / Data Source	Uncoded	Lower Performing				Higher Performing			
		Treat	Control	Impact	Sig P-value	Treat	Control	Impact	Sig P-value
1 Pell receipt (Survey)	Set to Missing Value	54.28	48.46	5.82	0.62	70.74	65.02	5.71	0.25
2 Pell receipt (Survey)	Set to 0	39.06	31.82	7.24	0.44	63.59	56.62	6.97 *	0.09
3 Pell receipt (SFA)	None	37.10	33.65	3.45	0.59	66.72	61.60	5.12 *	0.05
Applied for aid (SFA)	None	51.48	54.67	-3.19	0.64	80.77	75.93	4.84 **	0.02
1 Aid receipt (Survey)	Set to Missing Value	70.78	64.38	6.40	0.56	86.33	85.04	1.29	0.67
2 Aid receipt (Survey)	Set to 0	50.35	44.14	6.21	0.53	78.40	74.45	3.95	0.17

Table I.7

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Students' Academic Performance Index (ITT)

Outcome / Data Source		Uncoded	Lower Performing				Higher Performing			
			Treat	Control	Impact	Sig P-value	Treat	Control	Impact	Sig P-value
<i>Any Postsecondary Degree</i>										
1	Survey	Set to Missing Value	32.28	16.33	15.95	0.14	56.79	47.18	9.62	0.18
2	NSCF	None	6.56	4.35	2.21	0.35	22.20	21.08	1.12	0.60
2T	NSCT	None	5.18	3.33	1.84	0.39	18.89	17.66	1.24	0.56
7A	Survey / NSCF	Set to 0	15.87	12.61	3.26	0.54	39.66	38.43	1.23	0.59
7AT	Survey / NSCT	Set to 0	14.43	11.59	2.84	0.54	37.69	35.40	2.30	0.30
7B	Survey / NSCF / SFA	Set to 0 if no aid app	16.41	12.72	3.69	0.50	42.05	41.64	0.41	0.87
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	15.62	11.83	3.80	0.48	39.94	38.93	1.01	0.68
7C	Survey / NSCF	Set to Missing Value	19.08	14.75	4.33	0.49	44.71	44.27	0.44	0.85
7CT	Survey / NSCT	Set to Missing Value	18.44	13.68	4.75	0.45	42.72	41.52	1.20	0.61
<i>Highest Degree Completed: Four-year Degree</i>										
1	Survey	Set to Missing Value	9.77	5.26	4.51	0.26	34.59	26.76	7.83 **	0.03
2	NSCF	None	1.84	2.16	-0.32	0.80	18.26	14.95	3.31 *	0.08
2T	NSCT	None	1.48	2.06	-0.58	0.63	15.44	13.30	2.14	0.28
7A	Survey / NSCF	Set to 0	4.86	3.78	1.08	0.58	28.00	24.43	3.57 **	0.04
7AT	Survey / NSCT	Set to 0	4.62	3.67	0.95	0.63	25.78	22.81	2.97 *	0.07
7B	Survey / NSCF / SFA	Set to 0 if no aid app	5.05	3.95	1.10	0.59	29.55	26.56	2.99 *	0.09
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	4.92	3.84	1.08	0.61	27.13	25.18	1.95	0.29
7C	Survey / NSCF	Set to Missing Value	5.70	4.55	1.15	0.59	31.08	28.31	2.77	0.15
7CT	Survey / NSCT	Set to Missing Value	5.62	4.42	1.20	0.58	28.56	26.94	1.62	0.41

Table I.7 (continued)

Outcome / Data Source		Uncoded	Lower Performing				Higher Performing			
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Highest Degree Completed: Two-year Degree</i>										
1	Survey	Set to Missing Value	9.43	5.17	4.26	0.36	9.62	13.33	-3.72	0.12
2	NSCF	None	1.21	1.67	-0.46	0.60	3.76	5.57	-1.81	0.21
2T	NSCT	None	0.89	0.75	0.14	0.82	3.65	3.98	-0.33	0.70
7A	Survey / NSCF	Set to 0	5.80	4.74	1.06	0.71	6.32	10.05	-3.72 *	0.05
7AT	Survey / NSCT	Set to 0	5.42	3.82	1.60	0.55	6.65	8.69	-2.05	0.18
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.11	4.75	1.36	0.65	6.69	10.81	-4.12 *	0.05
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.76	3.88	1.88	0.50	7.07	9.47	-2.40	0.15
7C	Survey / NSCF	Set to Missing Value	7.09	5.64	1.45	0.68	6.90	11.45	-4.55 **	0.04
7CT	Survey / NSCT	Set to Missing Value	6.75	4.59	2.15	0.51	7.40	10.04	-2.64	0.11
<i>Highest Degree Completed: Other Degree</i>										
1	Survey	Set to Missing Value	10.67	5.89	4.78	0.46	7.94	7.09	0.85	0.69
2	NSCF	None	3.29	0.52	2.77	0.17	-0.01	0.56	-0.57 **	0.03
2T	NSCT	None	2.29	0.52	1.77	0.20	0.01	0.37	-0.36 *	0.10
7A	Survey / NSCF	Set to 0	4.57	4.10	0.47	0.84	5.75	3.96	1.79	0.17
7AT	Survey / NSCT	Set to 0	4.03	4.10	-0.06	0.95	5.93	3.89	2.04	0.14
7B	Survey / NSCF / SFA	Set to 0 if no aid app	4.69	4.03	0.66	0.80	6.04	4.27	1.77	0.18
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	4.36	4.11	0.26	0.89	6.22	4.28	1.94	0.17
7C	Survey / NSCF	Set to Missing Value	5.96	4.56	1.40	0.71	8.77	4.51	4.25	0.24
7CT	Survey / NSCT	Set to Missing Value	5.54	4.67	0.86	0.80	5.86	4.54	1.32	0.36
<i>Currently In School</i>										
1	Currently in school (Survey)	Set to Missing Value	4.43	4.88	-0.45	0.85	9.98	7.05	2.94 **	0.01
1	In school or completed degree (Survey)	Set to Missing Value	37.90	21.38	16.52	0.10	65.63	54.50	11.13 *	0.07

Table I.8

Impact of Upward Bound on Any Postsecondary Enrollment by Students' Program Eligibility (ITT)

Data Source	Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	82.31	79.28	3.04	0.42	83.21	75.27	7.94	0.33	85.92	90.63	-4.71	0.19		
2	NSC through 05-06 ( <i>NSCF</i> )	None	54.85	58.80	-3.94	0.61	65.27	56.76	8.51	0.27	66.04	65.68	0.36	0.96		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	52.69	55.84	-3.15	0.66	64.18	55.56	8.62	0.23	65.92	62.98	2.94	0.66		
3	Pell Receipt ( <i>SFA</i> )	None	59.83	57.52	2.31	0.54	54.97	43.88	11.09	0.13	51.21	44.76	6.45	0.39		
4	NSCF / SFA	None	69.74	70.01	-0.27	0.96	66.92	63.24	3.68	0.51	72.94	73.67	-0.73	0.87		
4T	NSCT / SFA	None	69.20	68.34	0.86	0.85	66.92	63.24	3.68	0.51	72.83	71.89	0.94	0.85		
5A	Survey / NSCF / SFA	Set to 0	78.77	76.09	2.67	0.42	74.76	65.71	9.06	0.11	82.08	86.69	-4.61	0.24		
5AT	Survey / NSCT / SFA	Set to 0	78.24	74.81	3.43	0.22	74.76	65.71	9.06	0.11	81.97	85.32	-3.35	0.39		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	79.96	77.92	2.03	0.54	78.51	68.65	9.85 *	0.07	83.78	87.29	-3.51	0.34		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	79.22	77.35	1.87	0.56	78.46	68.63	9.83 *	0.07	84.03	86.09	-2.06	0.57		
5C	Survey / NSCF / SFA	Set to Missing Value	87.96	85.62	2.34	0.45	87.41	79.17	8.24	0.13	88.45	92.30	-3.85	0.24		
5CT	Survey / NSCT / SFA	Set to Missing Value	87.58	85.10	2.47	0.42	87.44	79.23	8.21	0.13	88.63	91.42	-2.79	0.38		
6A	Survey / SFA	Set to 0	74.77	71.79	2.97	0.33	68.87	59.69	9.19	0.16	75.92	81.63	-5.70	0.16		
6B	Survey / SFA	Set to 0 if no aid app	77.85	75.80	2.05	0.53	73.55	62.97	10.57	0.11	81.78	84.25	-2.47	0.49		
6C	Survey / SFA	Set to Missing Value	86.57	84.03	2.54	0.43	86.80	76.63	10.17	0.14	87.32	90.63	-3.31	0.36		
7A	Survey / NSCF	Set to 0	72.87	71.79	1.08	0.81	74.30	65.13	9.17	0.16	80.63	80.45	0.18	0.98		
7AT	Survey / NSCT	Set to 0	72.00	70.10	1.90	0.62	73.84	63.93	9.91	0.10	80.53	79.02	1.51	0.84		
7C	Survey / NSCF	Set to Missing Value	86.21	84.69	1.52	0.66	87.53	79.74	7.79	0.15	86.29	91.90	-5.61	0.12		
7CT	Survey / NSCT	Set to Missing Value	85.78	83.94	1.84	0.59	87.35	79.60	7.76	0.16	86.41	91.00	-4.59	0.19		
8	Survey then NSCF / SFA	Set to 0	76.56	74.19	2.37	0.49	71.70	64.41	7.29	0.21	79.70	85.32	-5.63	0.13		
8T	Survey then NSCT / SFA	Set to 0	76.35	73.27	3.08	0.28	71.70	64.41	7.29	0.21	79.61	84.80	-5.19	0.17		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	81.65	79.69	1.95	0.58	75.81	68.13	7.68	0.16	84.49	87.74	-3.25	0.36		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	80.85	79.03	1.82	0.61	75.81	68.13	7.68	0.16	84.47	86.37	-1.89	0.59		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	82.17	80.39	1.78	0.61	78.61	69.56	9.05 *	0.09	84.44	87.73	-3.29	0.36		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	81.37	79.97	1.40	0.69	78.67	69.65	9.02 *	0.10	84.63	86.50	-1.87	0.59		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	84.14	82.76	1.39	0.69	85.72	77.69	8.02	0.13	85.02	88.28	-3.26	0.33		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	83.29	82.31	0.98	0.78	85.75	77.77	7.98	0.13	85.20	87.02	-1.82	0.59		

Table I.9

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Students' Program Eligibility (ITT)

Data Source	Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	53.19	50.87	2.32	0.49	72.56	57.50	15.06	0.10		75.02	57.04	17.98	0.18	
2	NSC through 05-06 ( <i>NSCF</i> )	None	35.53	35.52	0.01	1.00	47.35	41.85	5.49	0.42		40.38	39.59	0.79	0.90	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	34.32	33.27	1.06	0.86	47.35	41.85	5.49	0.42		39.25	38.78	0.47	0.94	
3	Pell Receipt ( <i>SFA</i> )	None	38.86	35.65	3.20	0.38	48.00	29.41	18.59 ***	0.00	#	23.76	32.88	-9.12 **	0.03	
4	NSCF / SFA	None	46.15	42.66	3.49	0.40	51.14	45.37	5.77	0.35		39.04	47.42	-8.38	0.12	
4T	NSCT / SFA	None	45.33	40.97	4.36	0.24	51.14	45.37	5.77	0.35		37.85	46.67	-8.82	0.10	
5A	Survey / NSCF / SFA	Set to 0	50.85	49.40	1.44	0.73	59.33	46.38	12.95 *	0.08		60.06	58.30	1.75	0.76	
5AT	Survey / NSCT / SFA	Set to 0	49.99	48.14	1.84	0.63	59.33	46.38	12.95 *	0.08		59.19	57.55	1.64	0.77	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	51.37	50.64	0.72	0.87	61.47	48.37	13.10 *	0.07		60.84	58.70	2.14	0.70	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	50.43	49.81	0.62	0.88	61.44	48.36	13.08 *	0.07		60.12	58.02	2.10	0.69	
5C	Survey / NSCF / SFA	Set to Missing Value	56.35	55.63	0.71	0.86	68.29	55.29	13.00	0.10		64.61	62.43	2.19	0.70	
5CT	Survey / NSCT / SFA	Set to Missing Value	55.61	54.78	0.83	0.83	68.20	55.36	12.84	0.11		63.83	61.99	1.84	0.75	
6A	Survey / SFA	Set to 0	48.62	46.65	1.97	0.61	59.43	45.53	13.90 *	0.06		55.93	55.47	0.47	0.94	
6B	Survey / SFA	Set to 0 if no aid app	50.14	49.30	0.84	0.84	62.84	47.65	15.19 **	0.04	#	59.03	57.16	1.87	0.75	
6C	Survey / SFA	Set to Missing Value	55.33	54.71	0.62	0.88	74.12	57.61	16.51 **	0.04	#	63.14	61.81	1.33	0.83	
7A	Survey / NSCF	Set to 0	47.68	46.49	1.19	0.80	57.69	46.38	11.31	0.14		58.86	51.60	7.26	0.38	
7AT	Survey / NSCT	Set to 0	46.68	45.12	1.55	0.72	57.69	46.38	11.31	0.14		58.03	50.79	7.25	0.38	
7C	Survey / NSCF	Set to Missing Value	55.65	54.91	0.74	0.86	68.55	55.16	13.39 *	0.08		62.22	59.30	2.92	0.62	
7CT	Survey / NSCT	Set to Missing Value	55.07	54.05	1.02	0.80	68.80	56.13	12.67	0.11		61.50	58.81	2.70	0.65	
8	Survey then NSCF / SFA	Set to 0	50.85	49.40	1.44	0.73	59.33	46.38	12.95 *	0.08		60.06	58.30	1.75	0.76	
8T	Survey then NSCT / SFA	Set to 0	49.99	48.14	1.84	0.63	59.33	46.38	12.95 *	0.08		59.19	57.55	1.64	0.77	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	51.79	50.61	1.18	0.78	59.52	46.95	12.57 *	0.09		62.32	58.56	3.76	0.46	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	50.93	49.35	1.58	0.68	59.52	46.95	12.57 *	0.09		61.47	57.80	3.67	0.46	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	52.02	51.09	0.93	0.83	60.60	47.86	12.74 *	0.08		62.27	58.50	3.78	0.46	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	51.20	49.94	1.26	0.74	60.60	47.88	12.72 *	0.08		61.49	57.81	3.68	0.46	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	53.09	52.58	0.51	0.91	65.70	53.32	12.38	0.11		62.75	59.03	3.73	0.47	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	52.26	51.39	0.87	0.83	65.68	53.32	12.36	0.11		61.99	58.35	3.64	0.47	



Table I.10

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Students' Program Eligibility (ITT)

Data Source	Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	17.83	24.21	-6.38	0.30	8.27	11.60	-3.34	0.71	10.51	30.86	-20.35 *	0.08		
2	NSC through 05-06 ( <i>NSCF</i> )	None	13.40	15.93	-2.53	0.32	15.89	12.56	3.33	0.55	16.59	18.41	-1.82	0.65		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	12.87	16.15	-3.28 *	0.09	15.89	12.56	3.33	0.55	17.38	17.61	-0.22	0.95		
3	Pell Receipt ( <i>SFA</i> )	None	14.48	17.18	-2.69	0.18	7.04	10.89	-3.85	0.48	18.05	11.24	6.81	0.17		
4	NSCF / SFA	None	15.68	20.92	-5.24	0.10	15.44	15.45	-0.01	1.00	26.27	21.52	4.75	0.37		
4T	NSCT / SFA	None	16.04	21.20	-5.16 *	0.08	15.44	15.45	-0.01	1.00	27.15	21.59	5.57	0.31		
5A	Survey / NSCF / SFA	Set to 0	19.04	21.76	-2.73	0.37	17.26	16.59	0.66	0.92	20.49	24.79	-4.30	0.33		
5AT	Survey / NSCT / SFA	Set to 0	19.26	21.86	-2.60	0.40	17.26	16.59	0.66	0.92	21.02	25.02	-4.00	0.38		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	19.44	22.20	-2.76	0.37	16.09	17.30	-1.21	0.86	20.93	24.98	-4.05	0.39		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	19.66	22.56	-2.89	0.36	16.06	17.30	-1.24	0.85	21.51	25.30	-3.79	0.44		
5C	Survey / NSCF / SFA	Set to Missing Value	20.84	24.37	-3.53	0.33	17.23	20.62	-3.39	0.64	21.85	26.15	-4.30	0.36		
5CT	Survey / NSCT / SFA	Set to Missing Value	21.27	24.83	-3.56	0.34	17.31	20.63	-3.32	0.65	22.49	26.59	-4.10	0.40		
6A	Survey / SFA	Set to 0	18.37	20.29	-1.92	0.44	9.05	10.57	-1.53	0.80	18.71	23.93	-5.22	0.21		
6B	Survey / SFA	Set to 0 if no aid app	19.05	21.36	-2.31	0.40	8.70	11.32	-2.62	0.68	20.05	24.75	-4.69	0.32		
6C	Survey / SFA	Set to Missing Value	20.86	23.61	-2.75	0.40	7.61	14.39	-6.79	0.39	21.42	26.38	-4.96	0.29		
7A	Survey / NSCF	Set to 0	17.33	19.45	-2.12	0.47	17.38	15.39	1.98	0.76	10.87	25.12	-14.25	0.17		
7AT	Survey / NSCT	Set to 0	17.25	19.58	-2.33	0.42	17.38	15.39	1.98	0.76	11.37	25.35	-13.98	0.18		
7C	Survey / NSCF	Set to Missing Value	19.21	22.70	-3.48	0.36	17.59	19.77	-2.18	0.76	13.20	28.57	-15.36	0.19		
7CT	Survey / NSCT	Set to Missing Value	19.15	23.25	-4.11	0.32	17.58	19.99	-2.42	0.74	13.66	29.07	-15.41	0.20		
8	Survey then NSCF / SFA	Set to 0	19.04	21.76	-2.73	0.37	17.26	16.59	0.66	0.92	20.49	24.79	-4.30	0.33		
8T	Survey then NSCT / SFA	Set to 0	19.26	21.86	-2.60	0.40	17.26	16.59	0.66	0.92	21.02	25.02	-4.00	0.38		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	19.61	22.42	-2.81	0.36	16.99	18.45	-1.46	0.82	20.72	25.53	-4.80	0.27		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	19.83	22.59	-2.76	0.38	16.99	18.45	-1.46	0.82	21.24	25.76	-4.52	0.32		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	19.83	22.57	-2.73	0.37	17.34	18.87	-1.53	0.82	20.68	25.55	-4.87	0.26		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	19.99	22.86	-2.87	0.36	17.38	18.95	-1.57	0.82	21.26	25.84	-4.58	0.31		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	20.01	23.19	-3.17	0.32	18.94	21.25	-2.31	0.74	20.84	25.53	-4.69	0.28		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	20.21	23.49	-3.28	0.31	18.98	21.34	-2.36	0.74	21.42	25.82	-4.40	0.33		

Table I.11

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Students' Program Eligibility (ITT)

Data Source	Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	9.45	3.81	5.64	0.20	3.34	3.94	-0.60	0.61		1.18	1.22	-0.04	0.98	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.53	0.32	0.21	0.55	2.13	1.15	0.99 ***	0.00		0.90	0.53	0.37	0.76	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.44	0.15	0.29	0.28	2.13	1.15	0.99 ***	0.00		1.80	0.16	1.64	0.16	
3	Pell Receipt ( <i>SFA</i> )	None	5.33	4.63	0.70	0.47	-0.08	3.58	-3.66 *	0.06 #		5.21	0.64	4.58 **	0.04	
4	NSCF / SFA	None	5.07	4.08	0.99	0.24	1.93	2.42	-0.49	0.81		2.80	0.88	1.92	0.36	
4T	NSCT / SFA	None	5.19	4.16	1.03	0.21	1.93	2.42	-0.49	0.81		3.35	0.51	2.84	0.17	
5A	Survey / NSCF / SFA	Set to 0	7.57	4.32	3.25	0.21	2.68	2.73	-0.05	0.98		1.79	1.72	0.07	0.97	
5AT	Survey / NSCT / SFA	Set to 0	7.63	4.45	3.18	0.23	2.68	2.73	-0.05	0.98		1.98	1.35	0.64	0.78	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	7.72	4.46	3.27	0.21	2.80	2.98	-0.18	0.94		1.82	1.70	0.11	0.96	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.69	4.61	3.08	0.24	2.82	2.97	-0.15	0.95		2.07	1.33	0.74	0.75	
5C	Survey / NSCF / SFA	Set to Missing Value	8.73	4.91	3.82	0.24	3.16	3.25	-0.09	0.97		1.75	1.83	-0.08	0.97	
5CT	Survey / NSCT / SFA	Set to Missing Value	8.60	5.09	3.51	0.24	3.26	3.24	0.02	0.99		2.03	1.43	0.61	0.80	
6A	Survey / SFA	Set to 0	7.72	4.66	3.07	0.25	2.38	3.58	-1.21	0.60		2.96	1.35	1.61	0.49	
6B	Survey / SFA	Set to 0 if no aid app	8.05	4.92	3.13	0.25	2.50	4.00	-1.50	0.55		3.07	1.42	1.65	0.51	
6C	Survey / SFA	Set to Missing Value	9.04	5.47	3.57	0.25	3.08	4.64	-1.55	0.63		3.25	1.55	1.70	0.53	
7A	Survey / NSCF	Set to 0	5.70	2.42	3.28	0.25	2.15	2.16	-0.01	0.99		1.27	1.72	-0.45	0.80	
7AT	Survey / NSCT	Set to 0	5.80	2.49	3.31	0.26	2.15	2.16	-0.01	0.99		1.41	1.35	0.07	0.97	
7C	Survey / NSCF	Set to Missing Value	7.07	2.95	4.12	0.27	2.92	3.20	-0.28	0.86		1.27	1.95	-0.68	0.74	
7CT	Survey / NSCT	Set to Missing Value	7.18	3.07	4.11	0.28	3.07	3.48	-0.41	0.80		1.56	1.52	0.03	0.99	
8	Survey then NSCF / SFA	Set to 0	7.57	4.32	3.25	0.21	2.68	2.73	-0.05	0.98		1.79	1.72	0.07	0.97	
8T	Survey then NSCT / SFA	Set to 0	7.63	4.45	3.18	0.23	2.68	2.73	-0.05	0.98		1.98	1.35	0.64	0.78	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	8.54	5.56	2.98	0.22	2.68	2.73	-0.05	0.98		1.77	1.77	0.00	1.00	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	8.59	5.68	2.90	0.25	2.68	2.73	-0.05	0.98		1.97	1.40	0.57	0.80	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	8.60	5.62	2.98	0.23	2.74	2.83	-0.09	0.97		1.78	1.77	0.01	1.00	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	8.65	5.76	2.89	0.25	2.76	2.82	-0.06	0.98		2.02	1.40	0.62	0.78	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	9.11	5.82	3.29	0.24	3.13	3.12	0.00	1.00		1.78	1.81	-0.03	0.99	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	9.17	5.97	3.21	0.26	3.15	3.11	0.04	0.99		2.02	1.44	0.58	0.80	

Table I.12

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Students' Program Eligibility (ITT)

Data Source	Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	9.60	8.68	0.92	0.71	21.16	11.31	9.85	0.26		16.71	18.04	-1.33	0.79	
2	NSC through 05-06 ( <i>NSCF</i> )	None	7.29	6.07	1.22	0.36	16.14	5.82	10.32 *	0.09		14.93	14.22	0.71	0.87	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	6.82	5.67	1.15	0.39	16.03	5.82	10.21 *	0.09		14.33	14.22	0.12	0.98	
3	Pell Receipt ( <i>SFA</i> )	None	6.08	4.08	2.00 **	0.05	18.36	2.96	15.40 ***	0.00	#	2.92	7.05	-4.14	0.21	
4	NSCF / SFA	None	8.50	7.16	1.34	0.36	16.99	6.43	10.56 *	0.08		12.10	17.03	-4.92	0.12	
4T	NSCT / SFA	None	8.07	6.75	1.32	0.38	16.98	6.43	10.55 *	0.07		11.66	17.03	-5.37 *	0.08	
5A	Survey / NSCF / SFA	Set to 0	10.61	8.02	2.59	0.13	18.94	7.45	11.49 *	0.06		13.05	17.81	-4.76	0.15	
5AT	Survey / NSCT / SFA	Set to 0	10.25	7.82	2.43	0.16	19.15	7.45	11.71 *	0.05		12.56	17.81	-5.25	0.10	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	10.69	8.25	2.44	0.17	19.29	7.71	11.58 *	0.06		13.08	17.92	-4.84	0.15	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	10.27	8.09	2.18	0.23	19.60	7.68	11.92 **	0.04		12.65	18.00	-5.35	0.11	
5C	Survey / NSCF / SFA	Set to Missing Value	11.55	9.20	2.35	0.21	20.41	9.32	11.09 *	0.08		13.74	19.09	-5.35	0.13	
5CT	Survey / NSCT / SFA	Set to Missing Value	11.13	9.04	2.09	0.28	20.64	9.32	11.31 *	0.07		13.34	19.28	-5.94 *	0.09	
6A	Survey / SFA	Set to 0	9.92	6.69	3.23 **	0.02	19.15	7.45	11.71 *	0.05		11.98	17.81	-5.83	0.14	
6B	Survey / SFA	Set to 0 if no aid app	9.54	7.09	2.45	0.16	19.87	7.61	12.26 **	0.04		12.72	18.48	-5.75	0.18	
6C	Survey / SFA	Set to Missing Value	10.18	8.09	2.09	0.29	21.71	9.67	12.04 *	0.06		13.44	19.94	-6.50	0.17	
7A	Survey / NSCF	Set to 0	10.52	7.74	2.79	0.11	18.94	7.45	11.49 *	0.06		17.24	15.20	2.04	0.63	
7AT	Survey / NSCT	Set to 0	10.16	7.54	2.62	0.13	19.15	7.45	11.71 *	0.05		16.61	15.20	1.41	0.75	
7C	Survey / NSCF	Set to Missing Value	11.98	9.34	2.64	0.14	21.67	9.36	12.31 *	0.06		19.60	17.75	1.85	0.70	
7CT	Survey / NSCT	Set to Missing Value	11.60	9.20	2.39	0.20	21.77	9.78	11.99 *	0.06		19.13	17.90	1.23	0.81	
8	Survey then NSCF / SFA	Set to 0	10.61	8.02	2.59	0.13	18.94	7.45	11.49 *	0.06		13.05	17.81	-4.76	0.15	
8T	Survey then NSCT / SFA	Set to 0	10.25	7.82	2.43	0.16	19.15	7.45	11.71 *	0.05		12.56	17.81	-5.25	0.10	

Table I.13

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Students' Program Eligibility (ITT)

Outcome / Data Source	Uncoded	Low-income and First-generation				Low-income Only				First-generation Only				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
1 Pell receipt (Survey)	Set to Missing Value	69.65	68.08	1.57	0.80	77.24	67.49	9.75	0.28	49.69	40.94	8.75	0.40	
2 Pell receipt (Survey)	Set to 0	60.26	54.94	5.33	0.35	65.13	45.80	19.33 **	0.02	43.98	36.59	7.39	0.47	
3 Pell receipt (SFA)	None	59.83	57.52	2.31	0.54	54.97	43.88	11.09	0.13	51.21	44.76	6.45	0.39	
Applied for aid (SFA)	None	72.99	70.68	2.31	0.40	64.94	62.39	2.55	0.66	71.88	69.05	2.83	0.61	
1 Aid receipt (Survey)	Set to Missing Value	84.86	84.28	0.58	0.90	96.99	91.36	5.62	0.65	83.92	70.57	13.35	0.12	
2 Aid receipt (Survey)	Set to 0	71.78	68.53	3.25	0.57	78.60	63.64	14.96 *	0.09	74.11	64.52	9.59	0.30	

Table I.14

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Students' Program Eligibility (ITT)

Outcome / Data Source		Uncoded	Low-income and First-generation					Low-income Only					First-generation Only				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																	
1	Survey	Set to Missing Value	51.89	41.64	10.25 *	0.09	66.15	42.77	23.38 *	0.08	62.78	42.43	20.35 *	0.05			
2	NSCF	None	16.33	17.16	-0.83	0.82	23.11	19.41	3.69	0.50	24.32	18.38	5.94	0.29			
2T	NSCT	None	13.65	14.54	-0.90	0.82	17.43	17.12	0.30	0.96	24.58	14.26	10.31	0.25			
7A	Survey / NSCF	Set to 0	34.13	31.43	2.70	0.25	39.93	28.51	11.41	0.10	44.42	37.95	6.47	0.36			
7AT	Survey / NSCT	Set to 0	32.39	29.30	3.09	0.22	36.42	26.22	10.19	0.15	44.56	33.84	10.73	0.31			
7B	Survey / NSCF / SFA	Set to 0 if no aid app	36.32	33.76	2.56	0.24	43.13	30.50	12.64 *	0.09	38.99	40.87	-1.88	0.64			
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	34.49	31.90	2.58	0.31	39.29	28.82	10.46	0.16	39.03	36.53	2.50	0.64			
7C	Survey / NSCF	Set to Missing Value	39.82	37.35	2.47	0.29	48.37	35.86	12.51	0.12	41.60	43.43	-1.82	0.68			
7CT	Survey / NSCT	Set to Missing Value	38.14	35.40	2.74	0.31	44.39	34.21	10.18	0.22	41.66	38.83	2.83	0.62			
<i>Highest Degree Completed: Four-year Degree</i>																	
1	Survey	Set to Missing Value	25.48	22.48	2.99	0.19	63.09	25.44	37.65 ***	0.00 #	41.21	26.71	14.51	0.15			
2	NSCF	None	11.66	11.98	-0.32	0.94	20.44	16.74	3.71	0.48	19.55	12.79	6.76	0.44			
2T	NSCT	None	9.75	10.53	-0.79	0.85	15.72	15.40	0.32	0.95	18.48	12.42	6.06	0.48			
7A	Survey / NSCF	Set to 0	19.13	19.07	0.07	0.98	32.05	18.07	13.98 *	0.05 #	27.81	24.67	3.15	0.66			
7AT	Survey / NSCT	Set to 0	17.48	17.66	-0.17	0.95	29.07	16.73	12.34 *	0.08	26.82	24.29	2.52	0.72			
7B	Survey / NSCF / SFA	Set to 0 if no aid app	20.19	20.65	-0.47	0.88	34.88	19.05	15.83 **	0.04 #	27.31	26.68	0.63	0.92			
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	18.47	19.39	-0.92	0.78	31.63	18.02	13.60 *	0.08 #	26.25	26.39	-0.14	0.98			
7C	Survey / NSCF	Set to Missing Value	21.28	22.91	-1.63	0.66	38.83	22.36	16.47 *	0.06 #	29.89	28.39	1.50	0.82			
7CT	Survey / NSCT	Set to Missing Value	19.61	21.57	-1.96	0.61	35.48	21.37	14.12	0.10	28.63	28.18	0.45	0.94			

Table I.14 (continued)

Outcome / Data Source		Uncoded	Low-income and First-generation				Low-income Only				First-generation Only				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Highest Degree Completed: Two-year Degree</i>															
1	Survey	Set to Missing Value	10.35	12.51	-2.16	0.26	-1.34	9.37	-10.71 *	0.09		11.12	7.05	4.07	0.46
2	NSCF	None	3.80	4.70	-0.90	0.40	0.68	1.72	-1.05	0.52		2.42	5.00	-2.59	0.50
2T	NSCT	None	3.40	3.65	-0.25	0.77	-0.07	1.72	-1.79	0.15		3.25	1.26	1.99	0.33
7A	Survey / NSCF	Set to 0	7.22	8.78	-1.56	0.16	5.17	6.21	-1.04	0.82		5.97	8.29	-2.32	0.67
7AT	Survey / NSCT	Set to 0	7.29	7.95	-0.66	0.59	5.17	6.21	-1.04	0.82		7.48	4.55	2.94	0.43
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.61	9.33	-1.72	0.14	5.48	6.33	-0.85	0.85		6.45	8.97	-2.52	0.66
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.75	8.56	-0.81	0.54	5.48	6.36	-0.88	0.84		7.89	4.91	2.98	0.46
7C	Survey / NSCF	Set to Missing Value	8.31	10.29	-1.98	0.10	6.34	7.65	-1.31	0.78		5.96	9.55	-3.59	0.56
7CT	Survey / NSCT	Set to Missing Value	8.53	9.46	-0.93	0.50	6.28	7.70	-1.42	0.76		7.77	5.12	2.65	0.52
<i>Highest Degree Completed: Other Degree</i>															
1	Survey	Set to Missing Value	15.23	6.65	8.57	0.12	-0.22	7.96	-8.18	0.14 #		8.97	8.67	0.29	0.94
2	NSCF	None	0.22	0.48	-0.26	0.40	1.45	0.95	0.50	0.72		2.49	0.58	1.91	0.26
2T	NSCT	None	0.09	0.36	-0.27	0.26	0.95	0.00	0.95 ***	0.00 #		2.49	0.58	1.91	0.26
7A	Survey / NSCF	Set to 0	9.02	3.59	5.43 *	0.09	2.23	4.24	-2.01	0.32		7.39	5.00	2.39	0.42
7AT	Survey / NSCT	Set to 0	8.98	3.69	5.29 *	0.10	1.89	3.28	-1.39	0.45		7.72	5.00	2.72	0.37
7B	Survey / NSCF / SFA	Set to 0 if no aid app	9.74	3.78	5.96 *	0.10	2.81	5.12	-2.31	0.29		5.44	5.22	0.22	0.93
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	9.67	3.96	5.71	0.12	2.55	4.44	-1.89	0.34		5.82	5.23	0.60	0.83
7C	Survey / NSCF	Set to Missing Value	11.26	4.15	7.11 *	0.07	3.41	5.86	-2.45	0.28		5.71	5.49	0.22	0.94
7CT	Survey / NSCT	Set to Missing Value	10.67	4.37	6.30	0.12	3.13	5.14	-2.01	0.33		6.13	5.52	0.61	0.83
<i>Currently In School</i>															
1	Currently in school (Survey)	Set to Missing Value	8.20	6.77	1.43	0.46	5.19	12.93	-7.74	0.21 #		5.18	5.35	-0.18	0.96
1	In school or completed degree (Survey)	Set to Missing Value	60.53	48.97	11.56 **	0.01	71.94	56.61	15.33	0.12		66.30	48.05	18.25 *	0.08

Table I.15

Impact of Upward Bound on Any Postsecondary Enrollment by Students' Race and Ethnicity (ITT)

Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	87.90	84.52	3.37	0.29	75.73	71.00	4.72	0.20	85.06	80.65	4.41	0.40		
2	NSC through 05-06 ( <i>NSCF</i> )	None	58.59	61.24	-2.65	0.56	63.16	58.03	5.13 *	0.09	49.55	61.89	-12.34	0.34		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	56.92	56.68	0.24	0.95	61.64	56.87	4.78	0.12	47.81	60.74	-12.93	0.31		
3	Pell Receipt ( <i>SFA</i> )	None	60.14	58.36	1.78	0.62	50.27	44.76	5.51	0.12	52.72	56.95	-4.23	0.50		
4	NSCF / SFA	None	70.95	71.31	-0.36	0.93	68.51	62.78	5.73 **	0.04	61.77	76.28	-14.51	0.24		
4T	NSCT / SFA	None	70.71	68.82	1.88	0.58	68.44	61.71	6.73 **	0.03	60.36	75.71	-15.35	0.21		
5A	Survey / NSCF / SFA	Set to 0	82.49	79.93	2.56	0.34	75.68	70.53	5.15 **	0.04	72.17	79.77	-7.60	0.31		
5AT	Survey / NSCT / SFA	Set to 0	82.27	78.11	4.16 **	0.04	75.59	69.64	5.96 **	0.02	70.89	79.20	-8.31	0.27		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	84.32	81.88	2.44	0.35	76.37	71.13	5.24 **	0.04	73.15	80.11	-6.96	0.35		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	83.72	81.19	2.54	0.33	76.26	70.22	6.04 **	0.02	72.08	79.65	-7.57	0.31		
5C	Survey / NSCF / SFA	Set to Missing Value	91.57	90.10	1.46	0.61	79.40	76.06	3.34	0.29	92.45	86.29	6.16	0.16		
5CT	Survey / NSCT / SFA	Set to Missing Value	91.34	89.54	1.80	0.53	79.38	75.37	4.01	0.20	91.96	85.79	6.17	0.15		
6A	Survey / SFA	Set to 0	80.88	76.96	3.91 **	0.03	71.85	64.89	6.97 **	0.02	63.17	72.69	-9.51	0.14	#	
6B	Survey / SFA	Set to 0 if no aid app	83.42	80.76	2.66	0.24	73.34	66.31	7.03 **	0.02	66.20	77.20	-11.01	0.21		
6C	Survey / SFA	Set to Missing Value	90.79	89.24	1.54	0.60	77.76	72.99	4.77	0.15	88.53	84.34	4.19	0.35		
7A	Survey / NSCF	Set to 0	77.60	75.45	2.15	0.29	73.65	69.22	4.42	0.11	71.95	72.14	-0.19	0.97		
7AT	Survey / NSCT	Set to 0	77.16	73.02	4.14 **	0.01	73.10	68.32	4.78 *	0.07	70.59	71.31	-0.71	0.90		
7C	Survey / NSCF	Set to Missing Value	89.76	89.31	0.45	0.89	78.84	75.79	3.05	0.34	92.46	85.15	7.31	0.14		
7CT	Survey / NSCT	Set to Missing Value	89.67	88.40	1.27	0.68	78.65	75.08	3.57	0.26	91.47	84.59	6.87	0.15		
8	Survey then NSCF / SFA	Set to 0	80.57	78.62	1.95	0.47	73.78	68.29	5.49 *	0.05	69.38	77.96	-8.58	0.27		
8T	Survey then NSCT / SFA	Set to 0	80.59	77.21	3.38 *	0.08	73.72	67.87	5.85 **	0.05	68.65	77.96	-9.32	0.23		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	86.21	83.99	2.22	0.49	76.31	71.55	4.75 *	0.05	73.59	80.82	-7.23	0.32		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	85.58	83.15	2.43	0.47	76.21	70.66	5.56 **	0.03	72.32	80.25	-7.93	0.28		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	86.68	84.84	1.83	0.56	76.87	71.65	5.22 **	0.04	74.08	81.05	-6.97	0.33		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	86.04	84.40	1.63	0.61	76.76	70.74	6.02 **	0.02	72.98	80.50	-7.52	0.30		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	88.60	86.99	1.61	0.59	76.83	74.32	2.51	0.34	87.24	83.37	3.87	0.32		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	87.94	86.53	1.41	0.65	76.76	73.35	3.40	0.21	86.08	82.78	3.30	0.39		

Table I.16

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Students' Race and Ethnicity (ITT)

Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	57.05	51.75	5.31	0.11	53.28	44.01	9.27 **	0.03	62.28	55.16	7.13	0.12		
2	NSC through 05-06 ( <i>NSCF</i> )	None	40.28	37.05	3.23	0.41	42.62	36.59	6.02	0.10	20.76	36.95	-16.18	0.21	#	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	39.24	35.64	3.59	0.36	41.81	34.56	7.25 **	0.04	19.75	33.44	-13.70	0.26		
3	Pell Receipt ( <i>SFA</i> )	None	38.10	37.80	0.29	0.95	33.50	24.76	8.74 ***	0.00	#	31.06	36.77	-5.71	0.48	
4	NSCF / SFA	None	46.92	44.76	2.16	0.61	45.95	37.95	8.00 **	0.02	33.94	45.95	-12.02	0.29		
4T	NSCT / SFA	None	46.20	44.08	2.12	0.61	45.12	36.02	9.10 ***	0.01	34.97	42.71	-7.74	0.32		
5A	Survey / NSCF / SFA	Set to 0	54.98	52.83	2.15	0.56	51.93	43.56	8.37 **	0.02	42.36	51.09	-8.73	0.36		
5AT	Survey / NSCT / SFA	Set to 0	54.21	52.43	1.78	0.63	51.11	42.63	8.48 **	0.02	43.11	47.84	-4.73	0.45		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	56.12	54.19	1.93	0.60	52.24	43.95	8.28 **	0.02	42.81	51.21	-8.41	0.38		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	55.02	54.51	0.50	0.91	51.41	42.97	8.45 **	0.02	43.68	48.07	-4.39	0.50		
5C	Survey / NSCF / SFA	Set to Missing Value	60.99	59.64	1.35	0.73	54.19	46.79	7.40 *	0.07	51.35	55.54	-4.20	0.61		
5CT	Survey / NSCT / SFA	Set to Missing Value	60.08	60.15	-0.07	0.99	53.31	45.88	7.43 *	0.08	52.65	52.07	0.58	0.91		
6A	Survey / SFA	Set to 0	52.70	51.71	0.99	0.79	49.86	39.53	10.34 ***	0.00	#	40.83	45.86	-5.03	0.42	
6B	Survey / SFA	Set to 0 if no aid app	53.93	54.26	-0.33	0.94	50.69	40.32	10.37 ***	0.00	#	41.25	48.66	-7.41	0.40	
6C	Survey / SFA	Set to Missing Value	58.80	60.00	-1.20	0.81	53.59	44.30	9.30 **	0.02	#	51.59	53.46	-1.87	0.80	
7A	Survey / NSCF	Set to 0	51.22	48.50	2.72	0.42	51.62	43.56	8.06 **	0.03	43.48	46.75	-3.27	0.63		
7AT	Survey / NSCT	Set to 0	50.27	47.94	2.33	0.48	50.81	42.63	8.18 **	0.03	43.61	43.50	0.11	0.98		
7C	Survey / NSCF	Set to Missing Value	58.62	57.73	0.90	0.85	55.12	47.25	7.86 *	0.06	49.85	55.24	-5.39	0.51		
7CT	Survey / NSCT	Set to Missing Value	57.53	58.37	-0.84	0.88	54.38	46.27	8.11 *	0.05	52.35	51.60	0.75	0.86		
8	Survey then NSCF / SFA	Set to 0	54.98	52.83	2.15	0.56	51.93	43.56	8.37 **	0.02	42.36	51.09	-8.73	0.36		
8T	Survey then NSCT / SFA	Set to 0	54.21	52.43	1.78	0.63	51.11	42.63	8.48 **	0.02	43.11	47.84	-4.73	0.45		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	56.92	54.34	2.58	0.50	51.92	43.71	8.22 **	0.02	42.89	51.17	-8.28	0.39		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	56.15	53.94	2.21	0.56	51.11	42.77	8.34 **	0.02	43.62	47.92	-4.31	0.51		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	57.16	54.96	2.21	0.56	52.20	43.74	8.46 **	0.02	43.16	51.24	-8.08	0.41		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	56.48	54.73	1.75	0.64	51.37	42.77	8.60 **	0.02	44.00	48.00	-4.00	0.54		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	58.35	56.41	1.94	0.62	52.41	45.31	7.10 *	0.06	48.32	52.71	-4.39	0.63		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	57.67	56.19	1.48	0.70	51.57	44.30	7.27 *	0.05	49.28	49.38	-0.10	0.99		



Table I.17

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Students' Race and Ethnicity (ITT)

Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	19.66	29.17	-9.51	0.23	17.55	22.14	-4.59	0.11	6.16	21.58	-15.42	0.22		
2	NSC through 05-06 ( <i>NSCF</i> )	None	12.91	14.74	-1.83	0.29	19.08	20.41	-1.33	0.64	5.62	15.29	-9.68	0.44		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	12.23	13.18	-0.95	0.69	18.34	21.22	-2.88	0.23	3.90	18.31	-14.41	0.27		
3	Pell Receipt ( <i>SFA</i> )	None	16.26	15.89	0.37	0.88	14.06	16.28	-2.22	0.46	15.98	16.91	-0.93	0.83		
4	NSCF / SFA	None	17.59	19.27	-1.68	0.59	20.48	21.26	-0.78	0.79	10.55	24.02	-13.46	0.35		
4T	NSCT / SFA	None	18.24	18.00	0.24	0.95	20.95	22.30	-1.36	0.61	9.89	27.05	-17.16	0.26		
5A	Survey / NSCF / SFA	Set to 0	18.74	22.33	-3.59	0.20	20.96	21.74	-0.79	0.80	25.85	24.30	1.56	0.66		
5AT	Survey / NSCT / SFA	Set to 0	19.58	21.23	-1.65	0.45	21.42	21.79	-0.36	0.91	24.12	27.33	-3.22	0.48		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	19.14	22.81	-3.67	0.20	21.27	21.83	-0.56	0.86	26.47	24.39	2.09	0.55		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.03	22.05	-2.02	0.38	21.74	21.93	-0.20	0.95	24.69	27.44	-2.75	0.54		
5C	Survey / NSCF / SFA	Set to Missing Value	20.41	25.07	-4.66	0.16	22.41	23.53	-1.12	0.71	29.42	25.94	3.47	0.42		
5CT	Survey / NSCT / SFA	Set to Missing Value	21.64	24.30	-2.66	0.29	22.95	23.75	-0.79	0.80	27.39	29.31	-1.92	0.75		
6A	Survey / SFA	Set to 0	19.17	20.58	-1.41	0.48	19.20	20.26	-1.06	0.75	21.72	23.21	-1.49	0.71		
6B	Survey / SFA	Set to 0 if no aid app	20.08	21.61	-1.53	0.49	19.78	20.69	-0.92	0.79	23.53	24.56	-1.03	0.79		
6C	Survey / SFA	Set to Missing Value	21.85	23.88	-2.02	0.40	21.06	22.88	-1.82	0.58	26.35	26.52	-0.17	0.97		
7A	Survey / NSCF	Set to 0	16.12	21.92	-5.81	0.25	19.15	21.50	-2.35	0.40	19.53	17.13	2.40	0.51		
7AT	Survey / NSCT	Set to 0	16.80	20.99	-4.19	0.30	18.83	21.54	-2.71	0.31	17.20	19.90	-2.69	0.60		
7C	Survey / NSCF	Set to Missing Value	18.61	25.64	-7.03	0.25	20.52	23.64	-3.12	0.25	19.67	19.92	-0.25	0.97		
7CT	Survey / NSCT	Set to Missing Value	19.68	25.14	-5.46	0.27	20.33	23.90	-3.57	0.19	16.15	23.26	-7.10	0.44		
8	Survey then NSCF / SFA	Set to 0	18.74	22.33	-3.59	0.20	20.96	21.74	-0.79	0.80	25.85	24.30	1.56	0.66		
8T	Survey then NSCT / SFA	Set to 0	19.58	21.23	-1.65	0.45	21.42	21.79	-0.36	0.91	24.12	27.33	-3.22	0.48		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	19.07	22.88	-3.81	0.20	21.24	22.41	-1.17	0.70	26.81	24.77	2.04	0.56		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	19.88	21.89	-2.01	0.40	21.70	22.45	-0.75	0.82	25.02	27.80	-2.79	0.55		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	19.15	23.05	-3.89	0.19	21.50	22.42	-0.93	0.77	27.05	24.88	2.17	0.53		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	19.86	22.25	-2.38	0.33	21.96	22.50	-0.54	0.87	25.23	27.91	-2.68	0.56		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	19.58	23.51	-3.93	0.19	21.36	23.32	-1.96	0.53	27.02	25.54	1.48	0.69		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	20.29	22.69	-2.40	0.32	21.86	23.39	-1.53	0.64	25.11	28.65	-3.54	0.50		

Table I.18

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Students' Race and Ethnicity (ITT)

Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	9.94	2.76	7.19	0.14	4.50	3.95	0.55	0.74	8.79	3.64	5.14	0.29		
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.93	0.55	0.38	0.61	0.18	0.31	-0.12 ***	0.00	0.28	0.26	0.02	0.95		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1.09	0.27	0.81	0.16					0.19	0.26	-0.07	0.80		
3	Pell Receipt ( <i>SFA</i> )	None	5.65	4.58	1.07	0.52	2.26	3.72	-1.46	0.20	1.57	3.27	-1.70	0.27		
4	NSCF / SFA	None	5.42	3.94	1.48	0.35	1.45	3.13	-1.68	0.11	0.65	3.29	-2.64 *	0.06	#	
4T	NSCT / SFA	None	5.65	3.94	1.72	0.28	1.88	3.14	-1.25	0.25	0.65	3.29	-2.64 *	0.06	#	
5A	Survey / NSCF / SFA	Set to 0	8.30	3.97	4.34 *	0.07	2.34	4.22	-1.88	0.18	6.60	3.56	3.04	0.49		
5AT	Survey / NSCT / SFA	Set to 0	8.30	3.97	4.34 *	0.07	2.72	4.39	-1.67	0.24	6.60	3.56	3.04	0.49		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	8.46	4.07	4.40 *	0.06	2.39	4.29	-1.91	0.18	#	6.70	3.70	3.00	0.50	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.42	4.11	4.30 *	0.06	2.78	4.46	-1.69	0.24	#	6.73	3.68	3.05	0.50	
5C	Survey / NSCF / SFA	Set to Missing Value	9.02	4.49	4.53 *	0.06	2.46	4.62	-2.16	0.15	#	7.82	3.94	3.88	0.44	
5CT	Survey / NSCT / SFA	Set to Missing Value	9.03	4.55	4.48 *	0.06	2.87	4.85	-1.98	0.20	#	7.83	3.91	3.92	0.44	
6A	Survey / SFA	Set to 0	8.53	4.38	4.15	0.10	2.74	4.52	-1.78	0.21	7.24	3.46	3.78	0.40		
6B	Survey / SFA	Set to 0 if no aid app	8.87	4.58	4.29 *	0.09	2.83	4.70	-1.87	0.20	7.76	3.79	3.97	0.40		
6C	Survey / SFA	Set to Missing Value	9.57	5.05	4.52 *	0.08	3.02	5.18	-2.16	0.17	#	9.01	4.13	4.88	0.36	
7A	Survey / NSCF	Set to 0	6.46	1.99	4.47	0.17	2.22	3.04	-0.82	0.52	5.45	2.26	3.19	0.33		
7AT	Survey / NSCT	Set to 0	6.46	1.91	4.55	0.16	2.91	3.21	-0.30	0.81	5.33	2.26	3.07	0.34		
7C	Survey / NSCF	Set to Missing Value	7.95	2.37	5.59	0.18	2.43	3.62	-1.19	0.40	6.96	2.88	4.08	0.33		
7CT	Survey / NSCT	Set to Missing Value	8.02	2.30	5.72	0.17	3.20	3.89	-0.70	0.63	6.74	2.92	3.82	0.35		
8	Survey then NSCF / SFA	Set to 0	8.30	3.97	4.34 *	0.07	2.34	4.22	-1.88	0.18	6.60	3.56	3.04	0.49		
8T	Survey then NSCT / SFA	Set to 0	8.30	3.97	4.34 *	0.07	2.72	4.39	-1.67	0.24	6.60	3.56	3.04	0.49		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	9.73	5.74	4.00 *	0.06	2.55	4.22	-1.67	0.26	#	6.71	4.02	2.69	0.56	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	9.73	5.74	4.00 *	0.06	2.93	4.39	-1.45	0.32	#	6.71	4.02	2.69	0.56	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	9.82	5.79	4.02 *	0.06	2.58	4.23	-1.65	0.26	#	6.73	4.08	2.65	0.57	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	9.84	5.81	4.03 *	0.06	2.97	4.40	-1.43	0.33	#	6.74	4.08	2.66	0.57	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	10.19	5.97	4.22 *	0.06	2.58	4.40	-1.82	0.23	#	6.97	4.23	2.74	0.57	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	10.22	5.99	4.23 *	0.06	2.97	4.58	-1.61	0.29	#	6.99	4.24	2.75	0.57	

Table I.19

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Students' Race and Ethnicity (ITT)

Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.80	9.06	-4.26	0.26	9.53	6.44	3.09	0.16	#	18.62	12.73	5.89	0.18	#	
2 NSC through 05-06 ( <i>NSCF</i> )	None	7.81	7.16	0.65	0.76	5.82	4.47	1.35	0.45		16.19	8.46	7.73	0.21		
2T NSC through 03-04 ( <i>NSCT</i> )	None	7.34	7.16	0.18	0.93	5.23	3.39	1.85	0.15		15.80	8.21	7.59	0.21		
3 Pell Receipt ( <i>SFA</i> )	None	5.92	4.20	1.72	0.21	4.73	3.46	1.26	0.37		6.92	3.80	3.12	0.15		
4 NSCF / SFA	None	8.00	8.76	-0.75	0.77	7.29	5.43	1.86	0.36		19.31	8.95	10.36 *	0.09		
4T NSCT / SFA	None	7.61	8.76	-1.15	0.64	6.72	4.34	2.37	0.15		18.93	8.70	10.23 *	0.09		
5A Survey / NSCF / SFA	Set to 0	9.03	9.15	-0.12	0.97	9.98	6.68	3.30	0.13		20.70	9.53	11.18 *	0.08		
5AT Survey / NSCT / SFA	Set to 0	8.61	9.15	-0.54	0.85	9.50	6.37	3.13	0.12		20.33	9.27	11.05 *	0.08		
5B Survey / NSCF / SFA	Set to 0 if no aid app	9.19	9.35	-0.16	0.96	10.06	6.71	3.36	0.12		20.96	9.47	11.49 *	0.07		
5BT Survey / NSCT / SFA	Set to 0 if no aid app	8.80	9.46	-0.67	0.82	9.57	6.39	3.18	0.11		20.69	9.22	11.46 *	0.07		
5C Survey / NSCF / SFA	Set to Missing Value	9.96	10.58	-0.62	0.84	10.33	7.30	3.02	0.19		22.78	10.14	12.64 *	0.07		
5CT Survey / NSCT / SFA	Set to Missing Value	9.59	10.72	-1.13	0.70	9.79	7.01	2.79	0.20		22.51	9.88	12.63 *	0.07		
6A Survey / SFA	Set to 0	7.97	8.08	-0.11	0.95	9.50	6.08	3.42 *	0.08		14.24	8.45	5.79 *	0.07		
6B Survey / SFA	Set to 0 if no aid app	7.36	8.44	-1.08	0.67	9.63	6.21	3.42 *	0.08		15.40	8.84	6.56 *	0.05	#	
6C Survey / SFA	Set to Missing Value	7.76	9.58	-1.82	0.53	10.04	6.98	3.06	0.16		16.92	9.71	7.21 *	0.07	#	
7A Survey / NSCF	Set to 0	9.00	7.99	1.01	0.68	9.81	6.68	3.13	0.14		20.70	9.53	11.18 *	0.08		
7AT Survey / NSCT	Set to 0	8.58	7.99	0.58	0.81	9.33	6.37	2.96	0.14		20.33	9.27	11.05 *	0.08		
7C Survey / NSCF	Set to Missing Value	10.28	9.80	0.47	0.86	10.55	7.49	3.06	0.19		23.17	11.08	12.09	0.11		
7CT Survey / NSCT	Set to Missing Value	9.79	9.99	-0.20	0.94	10.07	7.20	2.87	0.18		23.07	10.78	12.29	0.10		
8 Survey then NSCF / SFA	Set to 0	9.03	9.15	-0.12	0.97	9.98	6.68	3.30	0.13		20.70	9.53	11.18 *	0.08		
8T Survey then NSCT / SFA	Set to 0	8.61	9.15	-0.54	0.85	9.50	6.37	3.13	0.12		20.33	9.27	11.05 *	0.08		

Table I.20

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Students' Race and Ethnicity (ITT)

Outcome / Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	64.56	65.99	-1.43	0.85	59.90	59.07	0.83	0.84	77.97	64.29	13.68 **	0.03	#		
2 Pell receipt (Survey)	Set to 0	58.98	55.16	3.82	0.62	47.65	43.06	4.59	0.18	63.97	50.72	13.25 ***	0.01			
3 Pell receipt (SFA)	None	60.14	58.36	1.78	0.62	50.27	44.76	5.51	0.12	52.72	56.95	-4.23	0.50			
Applied for aid (SFA)	None	71.54	73.06	-1.52	0.71	69.01	61.03	7.98 **	0.02	#	65.64	70.26	-4.62	0.33		
1 Aid receipt (Survey)	Set to Missing Value	81.67	85.03	-3.35	0.55	81.06	78.78	2.28	0.46	98.70	82.19	16.51 *	0.05	#		
2 Aid receipt (Survey)	Set to 0	73.42	71.22	2.20	0.76	65.63	59.83	5.80	0.17	77.46	65.63	11.83 *	0.06			

Table I.21

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Students' Race and Ethnicity (ITT)

Outcome / Data Source	Uncoded	Black					White					Hispanic				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																
1 Survey	Set to Missing Value	52.60	40.75	11.85	0.15	52.71	35.65	17.07 ***	0.00		67.75	46.78	20.97	0.14		
2 NSCF	None	15.79	18.29	-2.51	0.42	22.56	14.74	7.82 ***	0.01	#	13.56	17.09	-3.53	0.57		
2T NSCT	None	14.38	15.87	-1.49	0.55	20.27	11.69	8.58 ***	0.00	#	10.27	13.22	-2.95	0.67		
7A Survey / NSCF	Set to 0	35.17	33.24	1.92	0.36	37.43	26.52	10.91 ***	0.00	#	36.00	33.61	2.38	0.54		
7AT Survey / NSCT	Set to 0	34.41	31.00	3.41	0.17	35.87	23.68	12.19 ***	0.00	#	32.52	30.53	1.99	0.60		
7B Survey / NSCF / SFA	Set to 0 if no aid app	37.40	35.65	1.75	0.45	38.62	27.24	11.37 ***	0.00	#	36.37	36.50	-0.13	0.97		
7BT Survey / NSCT / SFA	Set to 0 if no aid app	36.67	33.85	2.81	0.29	37.14	24.31	12.83 ***	0.00	#	32.66	33.51	-0.84	0.84		
7C Survey / NSCF	Set to Missing Value	40.75	39.47	1.28	0.62	40.64	29.07	11.57 ***	0.00	#	45.99	39.85	6.14	0.25		
7CT Survey / NSCT	Set to Missing Value	40.13	37.61	2.51	0.40	39.10	26.05	13.05 ***	0.00	#	44.70	36.56	8.14	0.19		
<i>Highest Degree Completed: Four-year Degree</i>																
1 Survey	Set to Missing Value	27.75	24.68	3.07	0.47	23.36	15.79	7.57 **	0.02		26.92	25.64	1.28	0.71		
2 NSCF	None	13.61	13.28	0.32	0.88	15.37	9.52	5.85 **	0.01		7.68	12.52	-4.84	0.47		
2T NSCT	None	12.44	12.45	-0.01	0.99	14.81	8.48	6.33 ***	0.01	#	4.63	10.01	-5.38	0.33		
7A Survey / NSCF	Set to 0	19.96	21.17	-1.21	0.74	19.51	13.55	5.97 **	0.02		23.16	21.47	1.69	0.62		
7AT Survey / NSCT	Set to 0	19.10	20.34	-1.24	0.74	19.05	12.51	6.54 ***	0.01	#	20.70	19.08	1.62	0.55		
7B Survey / NSCF / SFA	Set to 0 if no aid app	20.65	22.89	-2.24	0.61	20.00	13.76	6.25 **	0.02	#	22.72	23.51	-0.80	0.85		
7BT Survey / NSCT / SFA	Set to 0 if no aid app	19.74	22.40	-2.66	0.58	19.62	12.66	6.96 ***	0.01	#	20.15	21.16	-1.00	0.76		
7C Survey / NSCF	Set to Missing Value	22.42	25.39	-2.97	0.54	20.69	14.73	5.96 **	0.03		24.74	25.70	-0.96	0.83		
7CT Survey / NSCT	Set to Missing Value	21.49	24.95	-3.46	0.51	20.32	13.59	6.73 **	0.01	#	22.14	23.12	-0.98	0.79		

Table I.21 (continued)

Outcome / Data Source		Uncoded	Black				White				Hispanic					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>																
1	Survey	Set to Missing Value	6.58	8.23	-1.65	0.52	12.83	10.50	2.32	0.47	16.02	16.49	-0.47	0.91		
2	NSCF	None	2.33	4.23	-1.91	0.30	5.40	4.68	0.71	0.67	3.36	4.47	-1.12	0.65		
2T	NSCT	None	2.28	2.78	-0.50	0.67	4.37	2.89	1.48	0.22	5.33	3.21	2.12	0.37		
7A	Survey / NSCF	Set to 0	4.89	7.51	-2.62	0.20	9.39	8.18	1.21	0.48	7.12	10.09	-2.98	0.39		
7AT	Survey / NSCT	Set to 0	5.29	6.06	-0.77	0.65	8.85	6.40	2.46	0.12	8.84	9.29	-0.45	0.90		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	5.31	7.95	-2.64	0.22	9.74	8.44	1.31	0.48	7.59	10.73	-3.14	0.40		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.78	6.50	-0.72	0.70	9.21	6.55	2.66	0.11	9.33	9.96	-0.63	0.87		
7C	Survey / NSCF	Set to Missing Value	5.75	8.84	-3.09	0.19	10.00	8.92	1.07	0.57	8.42	11.69	-3.27	0.39		
7CT	Survey / NSCT	Set to Missing Value	6.40	7.21	-0.82	0.68	9.44	6.95	2.49	0.15	10.42	10.85	-0.43	0.92		
<i>Highest Degree Completed: Other Degree</i>																
1	Survey	Set to Missing Value	16.48	7.84	8.64	0.27	16.05	9.35	6.70 *	0.08	2.85	4.65	-1.79	0.70		
2	NSCF	None	0.32	0.78	-0.46	0.24	1.51	0.54	0.97	0.11	-0.07	0.10	-0.17 ***	0.00		
2T	NSCT	None	0.33	0.63	-0.30	0.45	0.96	0.31	0.65	0.16						
7A	Survey / NSCF	Set to 0	10.44	4.56	5.88	0.15	8.35	4.79	3.56 **	0.03	4.18	2.05	2.13	0.41		
7AT	Survey / NSCT	Set to 0	10.52	4.60	5.93	0.15	7.89	4.77	3.12 *	0.06	4.22	2.16	2.06	0.45		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	11.24	4.81	6.43	0.16	8.68	5.05	3.63 **	0.04	4.41	2.25	2.15	0.42		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.31	4.96	6.35	0.17	8.22	5.10	3.11 *	0.08	4.44	2.39	2.04	0.48		
7C	Survey / NSCF	Set to Missing Value	12.26	5.24	7.02	0.16	9.80	5.42	4.38 **	0.04	1.52	2.47	-0.95	0.65		
7CT	Survey / NSCT	Set to Missing Value	12.36	5.45	6.91	0.18	9.21	5.52	3.69 *	0.07	1.46	2.58	-1.12	0.63		
<i>Currently In School</i>																
1	Currently in school (Survey)	Set to Missing Value	8.02	7.46	0.56	0.85	6.39	7.75	-1.36	0.41	8.45	5.07	3.38	0.32		
1	In school or completed degree (Survey)	Set to Missing Value	61.85	48.43	13.43 **	0.02	59.38	45.52	13.86 ***	0.01	75.34	52.09	23.25 *	0.09		

Table I.22

## Impact of Upward Bound on Any Postsecondary Enrollment by Students' Gender (ITT)

Data Source	Uncoded	Male					Female				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	74.58	72.85	1.73 *	0.10	86.22	84.58	1.64	0.62	
2	NSC through 05-06 ( <i>NSCF</i> )	None	48.26	46.89	1.37	0.26	62.12	65.01	-2.89	0.59	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	45.81	44.20	1.61	0.14	60.30	62.13	-1.83	0.71	
3	Pell Receipt ( <i>SFA</i> )	None	41.51	38.64	2.86 ***	0.01	61.33	61.16	0.17	0.96	
4	NSCF / SFA	None	57.23	55.24	2.00 **	0.05	74.88	76.30	-1.42	0.73	
4T	NSCT / SFA	None	55.95	53.81	2.14 **	0.04	74.52	74.62	-0.10	0.98	
5A	Survey / NSCF / SFA	Set to 0	65.24	64.37	0.87	0.22	86.74	82.54	4.20 *	0.08	
5AT	Survey / NSCT / SFA	Set to 0	64.42	63.72	0.70	0.35	86.33	81.07	5.26 **	0.01	#
5B	Survey / NSCF / SFA	Set to 0 if no aid app	67.24	66.40	0.84	0.31	87.30	84.07	3.23	0.18	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	66.62	66.00	0.62	0.47	86.74	83.34	3.40	0.16	
5C	Survey / NSCF / SFA	Set to Missing Value	79.92	79.40	0.51	0.50	90.70	89.00	1.70	0.62	
5CT	Survey / NSCT / SFA	Set to Missing Value	79.58	79.08	0.49	0.52	90.16	88.38	1.79	0.60	
6A	Survey / SFA	Set to 0	60.48	59.90	0.58	0.47	82.75	78.01	4.74 **	0.03	#
6B	Survey / SFA	Set to 0 if no aid app	63.76	62.85	0.91	0.30	85.04	82.11	2.93	0.25	
6C	Survey / SFA	Set to Missing Value	77.93	77.13	0.80	0.33	88.71	87.58	1.13	0.75	
7A	Survey / NSCF	Set to 0	61.58	61.29	0.29	0.72	83.37	77.54	5.83 ***	0.00	#
7AT	Survey / NSCT	Set to 0	59.91	59.56	0.35	0.66	82.78	75.97	6.80 ***	0.00	#
7C	Survey / NSCF	Set to Missing Value	78.84	78.82	0.02	0.98	89.79	88.12	1.68	0.63	
7CT	Survey / NSCT	Set to Missing Value	78.01	77.84	0.18	0.84	89.21	87.44	1.76	0.60	
8	Survey then NSCF / SFA	Set to 0	63.45	62.50	0.95	0.20	84.20	80.79	3.41	0.14	
8T	Survey then NSCT / SFA	Set to 0	62.79	62.07	0.73	0.34	84.19	79.82	4.37 **	0.04	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	69.94	69.13	0.81	0.28	88.11	85.01	3.11	0.21	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	69.12	68.48	0.64	0.42	87.62	84.21	3.41	0.19	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	71.30	70.47	0.83	0.33	88.20	85.31	2.89	0.24	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	70.72	70.10	0.62	0.48	87.64	84.70	2.94	0.24	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	75.23	74.57	0.67	0.37	88.75	86.89	1.87	0.53	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	74.63	74.19	0.44	0.57	88.17	86.25	1.92	0.52	

Table I.23

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Students' Gender (ITT)

Data Source	Uncoded	Male					Female				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	49.64	46.83	2.81 **	0.02	61.19	54.46	6.73 ***	0.01	
2	NSC through 05-06 ( <i>NSCF</i> )	None	30.33	28.31	2.03 **	0.03	39.50	39.77	-0.26	0.96	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	29.66	27.67	2.00 **	0.03	38.39	37.36	1.04	0.84	
3	Pell Receipt ( <i>SFA</i> )	None	26.91	25.33	1.58 *	0.08	39.96	38.71	1.25	0.79	
4	NSCF / SFA	None	34.68	33.21	1.46	0.13	49.66	47.72	1.94	0.70	
4T	NSCT / SFA	None	34.03	32.58	1.45	0.12	48.88	45.94	2.94	0.51	
5A	Survey / NSCF / SFA	Set to 0	42.83	42.12	0.72	0.36	58.47	54.18	4.29	0.24	
5AT	Survey / NSCT / SFA	Set to 0	42.27	41.67	0.60	0.45	57.72	52.79	4.92	0.13	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	44.10	43.40	0.70	0.39	58.81	55.25	3.56	0.34	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	43.66	43.10	0.56	0.48	57.96	54.32	3.64	0.30	
5C	Survey / NSCF / SFA	Set to Missing Value	52.59	52.05	0.54	0.58	60.88	58.48	2.40	0.58	
5CT	Survey / NSCT / SFA	Set to Missing Value	52.33	51.78	0.55	0.56	60.01	57.58	2.42	0.57	
6A	Survey / SFA	Set to 0	40.10	39.49	0.61	0.47	56.32	51.48	4.83	0.14	
6B	Survey / SFA	Set to 0 if no aid app	42.16	41.31	0.84	0.31	57.78	54.24	3.54	0.32	
6C	Survey / SFA	Set to Missing Value	51.67	50.75	0.92	0.37	59.88	57.94	1.94	0.65	
7A	Survey / NSCF	Set to 0	40.88	39.40	1.48 **	0.05	55.65	50.50	5.15 *	0.07	
7AT	Survey / NSCT	Set to 0	40.31	38.96	1.35 *	0.08	54.76	48.98	5.77 **	0.02	#
7C	Survey / NSCF	Set to Missing Value	52.25	50.47	1.78 *	0.05	59.63	57.50	2.12	0.59	
7CT	Survey / NSCT	Set to Missing Value	52.36	50.67	1.69 *	0.07	58.74	56.46	2.29	0.54	
8	Survey then NSCF / SFA	Set to 0	42.83	42.12	0.72	0.36	58.47	54.18	4.29	0.24	
8T	Survey then NSCT / SFA	Set to 0	42.27	41.67	0.60	0.45	57.72	52.79	4.92	0.13	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	43.71	42.77	0.95	0.24	59.31	55.34	3.97	0.31	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	43.15	42.32	0.83	0.31	58.55	53.96	4.60	0.18	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	44.59	43.66	0.93	0.29	59.32	55.54	3.78	0.33	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	44.16	43.36	0.80	0.35	58.58	54.23	4.35	0.20	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	47.14	46.34	0.80	0.35	59.71	56.53	3.18	0.45	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	46.70	46.03	0.67	0.42	58.97	55.19	3.78	0.31	



Table I.24

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Students' Gender (ITT)

Data Source	Uncoded	Male					Female				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	19.34	19.66	-0.32	0.74	15.12	27.08	-11.96	0.14	#
2	NSC through 05-06 ( <i>NSCF</i> )	None	14.64	14.51	0.13	0.90	12.99	16.85	-3.86 **	0.05	#
2T	NSC through 03-04 ( <i>NSCT</i> )	None	13.80	13.71	0.09	0.92	11.76	17.22	-5.46 **	0.02	#
3	Pell Receipt ( <i>SFA</i> )	None	11.13	10.40	0.73	0.29	16.09	18.08	-1.98	0.34	
4	NSCF / SFA	None	18.28	18.58	-0.30	0.73	18.20	21.63	-3.42 *	0.07	
4T	NSCT / SFA	None	17.78	17.78	0.00	1.00	18.17	22.27	-4.09 **	0.04	#
5A	Survey / NSCF / SFA	Set to 0	18.03	17.94	0.09	0.90	19.51	23.65	-4.13	0.13	
5AT	Survey / NSCT / SFA	Set to 0	17.91	17.74	0.17	0.80	19.75	23.89	-4.14	0.15	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	18.62	18.55	0.07	0.93	19.81	23.98	-4.17	0.13	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	18.58	18.45	0.13	0.86	20.03	24.49	-4.45	0.13	
5C	Survey / NSCF / SFA	Set to Missing Value	21.99	22.04	-0.06	0.95	20.32	25.39	-5.06	0.13	
5CT	Survey / NSCT / SFA	Set to Missing Value	22.05	21.99	0.06	0.94	20.64	26.00	-5.36	0.13	#
6A	Survey / SFA	Set to 0	16.49	16.35	0.13	0.84	18.58	22.06	-3.48	0.15	
6B	Survey / SFA	Set to 0 if no aid app	17.48	17.27	0.22	0.75	19.19	23.13	-3.94	0.13	#
6C	Survey / SFA	Set to Missing Value	21.19	21.10	0.10	0.90	19.87	24.62	-4.74	0.12	#
7A	Survey / NSCF	Set to 0	16.18	16.16	0.02	0.98	15.94	21.81	-5.87	0.17	
7AT	Survey / NSCT	Set to 0	15.85	15.96	-0.11	0.89	16.04	22.09	-6.05	0.17	
7C	Survey / NSCF	Set to Missing Value	20.61	20.84	-0.23	0.83	16.76	24.52	-7.76	0.17	
7CT	Survey / NSCT	Set to Missing Value	20.64	20.99	-0.35	0.71	16.80	25.19	-8.39	0.16	
8	Survey then NSCF / SFA	Set to 0	18.03	17.94	0.09	0.90	19.51	23.65	-4.13	0.13	
8T	Survey then NSCT / SFA	Set to 0	17.91	17.74	0.17	0.80	19.75	23.89	-4.14	0.15	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	18.78	19.10	-0.32	0.68	20.10	24.20	-4.11	0.15	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	18.66	18.90	-0.24	0.75	20.32	24.52	-4.20	0.16	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	19.13	19.41	-0.28	0.73	20.19	24.26	-4.07	0.15	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	19.10	19.33	-0.23	0.77	20.34	24.68	-4.34	0.14	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	20.06	20.40	-0.34	0.68	20.05	24.69	-4.64	0.14	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	20.02	20.32	-0.30	0.71	20.23	25.12	-4.89	0.13	

Table I.25

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Students' Gender (ITT)

Data Source	Uncoded	Male					Female				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.20	4.39	-0.19	0.84	8.72	2.92	5.80	0.20	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.66	0.51	0.15	0.45	0.48	0.35	0.13	0.67	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1.23	0.37	0.86	0.34	0.44	0.13	0.31	0.19	
3	Pell Receipt ( <i>SFA</i> )	None	3.44	2.92	0.53	0.37	4.74	4.32	0.42	0.67	
4	NSCF / SFA	None	3.20	2.30	0.90 **	0.04	4.05	3.93	0.12	0.90	
4T	NSCT / SFA	None	3.20	2.30	0.90 **	0.04	4.24	3.93	0.31	0.75	
5A	Survey / NSCF / SFA	Set to 0	3.13	2.78	0.35	0.44	7.59	4.23	3.37	0.28	
5AT	Survey / NSCT / SFA	Set to 0	3.13	2.78	0.35	0.44	7.63	4.27	3.36	0.28	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	3.21	2.86	0.35	0.44	7.67	4.35	3.32	0.29	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.22	2.86	0.35	0.44	7.68	4.42	3.26	0.29	
5C	Survey / NSCF / SFA	Set to Missing Value	3.84	3.48	0.36	0.50	8.14	4.59	3.56	0.29	
5CT	Survey / NSCT / SFA	Set to Missing Value	3.89	3.49	0.40	0.46	8.21	4.68	3.54	0.29	
6A	Survey / SFA	Set to 0	3.20	3.00	0.19	0.71	7.83	4.47	3.35	0.29	
6B	Survey / SFA	Set to 0 if no aid app	3.39	3.15	0.23	0.67	8.12	4.74	3.38	0.29	
6C	Survey / SFA	Set to Missing Value	4.22	3.98	0.24	0.72	8.74	5.02	3.71	0.28	
7A	Survey / NSCF	Set to 0	4.32	2.81	1.50	0.23	5.92	2.08	3.83	0.19	
7AT	Survey / NSCT	Set to 0	4.30	2.67	1.63	0.32	5.97	2.13	3.83	0.19	
7C	Survey / NSCF	Set to Missing Value	3.29	3.89	-0.60	0.23	6.72	2.40	4.33	0.22	
7CT	Survey / NSCT	Set to Missing Value	3.26	3.77	-0.51	0.30	6.82	2.49	4.33	0.22	
8	Survey then NSCF / SFA	Set to 0	3.13	2.78	0.35	0.44	7.59	4.23	3.37	0.28	
8T	Survey then NSCT / SFA	Set to 0	3.13	2.78	0.35	0.44	7.63	4.27	3.36	0.28	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	5.95	5.48	0.47	0.29	7.71	4.52	3.18	0.32	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	5.95	5.48	0.47	0.29	7.74	4.57	3.17	0.32	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	6.04	5.56	0.48	0.29	7.72	4.56	3.16	0.33	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	6.05	5.57	0.48	0.29	7.75	4.62	3.13	0.33	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	6.39	5.92	0.47	0.32	7.92	4.68	3.24	0.33	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	6.41	5.93	0.48	0.32	7.96	4.74	3.22	0.33	

Table I.26

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Students' Gender (ITT)

Data Source	Uncoded	Male				Female					
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	11.38	11.56	-0.17	0.89	11.03	10.03	1.00	0.78	
2	NSC through 05-06 ( <i>NSCF</i> )	None	5.89	5.74	0.15	0.79	9.11	8.08	1.03	0.64	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	5.70	5.74	-0.04	0.94	8.61	7.64	0.97	0.66	
3	Pell Receipt ( <i>SFA</i> )	None	4.80	4.76	0.04	0.93	7.54	4.42	3.12 **	0.04	#
4	NSCF / SFA	None	7.08	7.04	0.04	0.95	9.46	9.45	0.01	1.00	
4T	NSCT / SFA	None	6.89	7.04	-0.15	0.79	9.02	9.01	0.02	1.00	
5A	Survey / NSCF / SFA	Set to 0	9.06	8.40	0.65	0.43	10.92	10.11	0.81	0.82	
5AT	Survey / NSCT / SFA	Set to 0	8.89	8.40	0.49	0.56	10.51	9.89	0.62	0.86	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	9.33	8.77	0.56	0.53	11.03	10.28	0.75	0.83	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	9.17	8.79	0.38	0.66	10.58	10.13	0.45	0.90	
5C	Survey / NSCF / SFA	Set to Missing Value	11.22	10.84	0.38	0.72	11.37	10.96	0.41	0.92	
5CT	Survey / NSCT / SFA	Set to Missing Value	11.09	10.89	0.20	0.85	10.92	10.83	0.09	0.98	
6A	Survey / SFA	Set to 0	8.28	7.70	0.59	0.45	9.18	8.93	0.25	0.94	
6B	Survey / SFA	Set to 0 if no aid app	8.79	8.22	0.57	0.49	9.48	9.37	0.11	0.98	
6C	Survey / SFA	Set to Missing Value	10.97	10.57	0.40	0.70	9.75	10.11	-0.35	0.93	
7A	Survey / NSCF	Set to 0	8.67	7.71	0.96	0.24	11.64	9.47	2.17	0.39	
7AT	Survey / NSCT	Set to 0	8.51	7.71	0.79	0.34	11.21	9.24	1.97	0.43	
7C	Survey / NSCF	Set to Missing Value	11.19	10.41	0.78	0.47	12.22	10.90	1.32	0.66	
7CT	Survey / NSCT	Set to Missing Value	11.12	10.55	0.57	0.61	11.79	10.78	1.01	0.74	
8	Survey then NSCF / SFA	Set to 0	9.06	8.40	0.65	0.43	10.92	10.11	0.81	0.82	
8T	Survey then NSCT / SFA	Set to 0	8.89	8.40	0.49	0.56	10.51	9.89	0.62	0.86	

Table I.27

## Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Students' Gender (ITT)

Outcome / Data Source	Uncoded	Male					Female				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	56.04	48.89	7.16	***	0.00	66.32	67.83	-1.51	0.60	#
2 Pell receipt (Survey)	Set to 0	42.73	35.80	6.93	***	0.00	58.82	57.59	1.22	0.73	
3 Pell receipt (SFA)	None	41.51	38.64	2.86	***	0.01	61.33	61.16	0.17	0.96	
Applied for aid (SFA)	None	57.62	55.07	2.55	**	0.02	74.67	75.97	-1.31	0.64	
1 Aid receipt (Survey)	Set to Missing Value	82.64	79.36	3.29	*	0.08	85.32	82.73	2.60	0.19	
2 Aid receipt (Survey)	Set to 0	64.58	60.51	4.07	**	0.01	75.36	70.52	4.84	0.13	

Table I.28

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Students' Gender (ITT)

Outcome / Data Source		Uncoded	Male				Female			
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Any Postsecondary Degree</i>										
1	Survey	Set to Missing Value	44.16	40.21	3.95 **	0.05	54.00	42.43	11.57 *	0.05
2	NSCF	None	12.06	11.35	0.71	0.43	19.96	19.91	0.06	0.99
2T	NSCT	None	10.72	9.95	0.77	0.39	16.63	16.48	0.14	0.96
7A	Survey / NSCF	Set to 0	25.12	23.41	1.71 *	0.06	40.11	35.95	4.15 **	0.04
7AT	Survey / NSCT	Set to 0	23.99	22.01	1.99 **	0.03	38.14	33.06	5.08 **	0.03
7B	Survey / NSCF / SFA	Set to 0 if no aid app	26.85	25.07	1.78 *	0.06	41.26	38.63	2.63	0.22
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	25.94	23.90	2.04 **	0.03	39.28	35.94	3.35	0.14
7C	Survey / NSCF	Set to Missing Value	32.57	30.86	1.71	0.12	42.56	40.94	1.62	0.52
7CT	Survey / NSCT	Set to Missing Value	31.71	29.56	2.15 *	0.05	40.82	38.16	2.65	0.29
<i>Highest Degree Completed: Four-year Degree</i>										
1	Survey	Set to Missing Value	15.68	14.29	1.39	0.36	30.82	26.74	4.08	0.16
2	NSCF	None	7.47	7.10	0.37	0.56	15.72	14.43	1.29	0.70
2T	NSCT	None	6.72	6.53	0.19	0.76	13.48	12.90	0.59	0.85
7A	Survey / NSCF	Set to 0	10.86	10.00	0.86	0.20	24.36	23.92	0.44	0.89
7AT	Survey / NSCT	Set to 0	10.34	9.42	0.92	0.15	22.37	22.42	-0.05	0.99
7B	Survey / NSCF / SFA	Set to 0 if no aid app	11.53	10.67	0.87	0.21	25.24	25.90	-0.66	0.86
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.05	10.16	0.90	0.18	23.24	24.57	-1.33	0.72
7C	Survey / NSCF	Set to Missing Value	13.80	13.02	0.79	0.34	26.09	27.62	-1.53	0.72
7CT	Survey / NSCT	Set to Missing Value	13.33	12.48	0.85	0.30	24.11	26.27	-2.16	0.60

Table I.28 (continued)

Outcome / Data Source		Uncoded	Male				Female				
			Treat	Control	Impact	Sig P-value	Treat	Control	Impact	Sig P-value	
<i>Highest Degree Completed: Two-year Degree</i>											
1	Survey	Set to Missing Value	20.93	19.82	1.12	0.39	5.55	8.23	-2.67	0.23	
2	NSCF	None	3.77	3.66	0.11	0.79	2.82	4.99	-2.17	0.16	#
2T	NSCT	None	3.31	3.09	0.22	0.51	2.82	3.19	-0.37	0.67	
7A	Survey / NSCF	Set to 0	11.11	10.73	0.39	0.60	4.72	7.72	-2.99 *	0.07	#
7AT	Survey / NSCT	Set to 0	10.66	10.15	0.52	0.44	5.08	6.17	-1.08	0.48	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	11.96	11.57	0.39	0.62	4.63	8.15	-3.52 *	0.07	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.65	11.14	0.51	0.47	5.11	6.55	-1.44	0.38	
7C	Survey / NSCF	Set to Missing Value	14.60	14.33	0.28	0.75	4.34	8.54	-4.20 *	0.06	#
7CT	Survey / NSCT	Set to Missing Value	14.31	13.81	0.50	0.53	4.91	6.83	-1.92	0.27	
<i>Highest Degree Completed: Other Degree</i>											
1	Survey	Set to Missing Value	7.31	6.10	1.21	0.12	16.29	7.46	8.83	0.19	
2	NSCF	None	0.70	0.58	0.12	0.67	0.46	0.49	-0.03	0.93	
2T	NSCT	None	0.55	0.33	0.22	0.44	0.27	0.40	-0.12	0.65	
7A	Survey / NSCF	Set to 0	3.27	2.69	0.59 *	0.09	10.35	4.32	6.03	0.12	
7AT	Survey / NSCT	Set to 0	3.16	2.44	0.72 **	0.04	10.39	4.47	5.92	0.13	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	3.46	2.83	0.63	0.11	10.88	4.57	6.30	0.14	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.37	2.61	0.76 **	0.05	10.84	4.82	6.02	0.16	
7C	Survey / NSCF	Set to Missing Value	4.17	3.52	0.65 *	0.09	11.64	4.78	6.85	0.13	
7CT	Survey / NSCT	Set to Missing Value	4.10	3.28	0.82 **	0.05	11.59	5.07	6.52	0.16	
<i>Currently In School</i>											
1	Currently in school (Survey)	Set to Missing Value	5.16	4.92	0.24	0.65	8.20	7.51	0.70	0.75	
1	In school or completed degree (Survey)	Set to Missing Value	50.26	46.34	3.91 **	0.04	61.47	50.06	11.42 ***	0.00	#

Table I.29

Impact of Upward Bound on Any Postsecondary Enrollment by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Data Source	Uncoded	Most Likely					Somewhat Likely					Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	78.26	77.47	0.80	0.82	91.28	86.25	5.03 *	0.08	77.64	73.47	4.18	0.61		
2	NSC through 05-06 ( <i>NSCF</i> )	None	61.46	58.60	2.87	0.44	53.43	62.57	-9.15	0.23	62.15	52.41	9.74 *	0.09		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	59.21	56.49	2.72	0.49	51.69	58.74	-7.05	0.28	61.81	51.14	10.67 *	0.07		
3	Pell Receipt ( <i>SFA</i> )	None	58.44	56.03	2.41	0.58	58.68	53.33	5.35 **	0.04	56.92	55.33	1.60	0.74		
4	NSCF / SFA	None	70.71	67.81	2.90	0.37	71.08	73.95	-2.87	0.42	75.56	65.07	10.49 **	0.02		
4T	NSCT / SFA	None	69.49	67.20	2.28	0.48	71.60	71.20	0.39	0.88	75.94	63.80	12.14 ***	0.01	#	
5A	Survey / NSCF / SFA	Set to 0	75.72	72.60	3.12	0.19	86.68	83.41	3.27	0.17	80.70	72.18	8.52	0.10		
5AT	Survey / NSCT / SFA	Set to 0	74.52	72.20	2.32	0.33	86.66	81.27	5.39 *	0.06	80.95	70.91	10.04 *	0.07		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	76.60	74.96	1.64	0.51	88.35	84.05	4.30 *	0.08	79.83	75.21	4.62	0.39		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	75.57	74.60	0.98	0.70	87.79	83.27	4.52 *	0.07	80.15	73.98	6.17	0.27		
5C	Survey / NSCF / SFA	Set to Missing Value	84.25	83.41	0.85	0.83	92.96	91.01	1.96	0.35	83.94	78.96	4.98	0.32		
5CT	Survey / NSCT / SFA	Set to Missing Value	83.42	83.24	0.18	0.96	92.98	90.28	2.71	0.21	84.16	77.63	6.53	0.23		
6A	Survey / SFA	Set to 0	70.06	68.69	1.38	0.69	80.43	77.85	2.59	0.21	73.99	69.76	4.23	0.50		
6B	Survey / SFA	Set to 0 if no aid app	73.21	72.31	0.90	0.75	86.65	81.76	4.89 **	0.05	75.84	73.59	2.25	0.73		
6C	Survey / SFA	Set to Missing Value	81.73	81.79	-0.07	0.99	92.16	89.37	2.79	0.20	80.58	77.71	2.87	0.67		
7A	Survey / NSCF	Set to 0	72.49	69.41	3.08	0.20	77.02	78.17	-1.15	0.76	72.58	64.69	7.89	0.20		
7AT	Survey / NSCT	Set to 0	71.08	68.22	2.86	0.25	77.12	76.03	1.09	0.71	72.87	63.42	9.45	0.14		
7C	Survey / NSCF	Set to Missing Value	82.88	82.68	0.19	0.96	92.30	90.22	2.09	0.36	80.96	77.48	3.48	0.52		
7CT	Survey / NSCT	Set to Missing Value	81.93	82.16	-0.22	0.96	92.17	89.39	2.79	0.23	81.14	76.09	5.05	0.38		
8	Survey then NSCF / SFA	Set to 0	72.78	70.74	2.04	0.41	86.20	81.69	4.51 *	0.07	74.99	70.41	4.58	0.52		
8T	Survey then NSCT / SFA	Set to 0	72.21	70.50	1.71	0.50	86.04	80.12	5.92 **	0.05	74.99	70.41	4.58	0.52		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	79.22	77.50	1.72	0.55	88.03	84.71	3.32	0.16	81.08	74.86	6.22	0.19		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	78.01	77.18	0.83	0.77	87.83	83.59	4.23 *	0.08	81.33	73.59	7.74	0.13		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	79.74	78.47	1.27	0.65	88.50	84.88	3.62	0.13	80.98	75.81	5.17	0.25		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	78.72	78.20	0.53	0.85	88.00	84.22	3.78	0.12	81.25	74.54	6.71	0.17		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	81.43	81.45	-0.02	1.00	90.23	86.85	3.38	0.15	80.39	76.73	3.66	0.40		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	80.38	81.15	-0.77	0.82	89.68	86.17	3.51	0.13	80.70	75.43	5.27	0.26		

Table I.30

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Data Source	Uncoded	Most Likely				Somewhat Likely				Least Likely						
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	53.66	48.75	4.90	0.19	61.05	58.36	2.69	0.43	44.73	37.77	6.96	0.40		
2	NSC through 05-06 ( <i>NSCF</i> )	None	39.81	36.14	3.67	0.40	34.79	38.45	-3.65	0.56	31.99	28.87	3.12	0.52		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	38.73	35.53	3.19	0.46	33.16	35.44	-2.28	0.71	31.99	25.41	6.59	0.21		
3	Pell Receipt ( <i>SFA</i> )	None	37.60	34.99	2.61	0.46	37.16	36.22	0.94	0.83	34.50	27.61	6.90	0.27		
4	NSCF / SFA	None	46.64	42.27	4.37	0.23	46.25	46.03	0.22	0.96	42.47	38.43	4.04	0.48		
4T	NSCT / SFA	None	45.74	42.04	3.70	0.31	44.98	43.64	1.34	0.76	42.38	34.96	7.42	0.26		
5A	Survey / NSCF / SFA	Set to 0	51.05	46.19	4.86	0.15	52.89	56.78	-3.90	0.50	47.07	44.36	2.70	0.62		
5AT	Survey / NSCT / SFA	Set to 0	50.14	46.06	4.08	0.23	51.77	54.87	-3.10	0.56	46.42	41.89	4.54	0.41		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	51.23	47.74	3.48	0.32	53.77	57.26	-3.49	0.56	45.94	46.24	-0.30	0.96		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	50.47	47.59	2.88	0.43	52.38	56.26	-3.88	0.52	45.22	43.67	1.55	0.79		
5C	Survey / NSCF / SFA	Set to Missing Value	55.27	53.19	2.08	0.67	59.32	61.91	-2.59	0.58	48.93	48.81	0.12	0.98		
5CT	Survey / NSCT / SFA	Set to Missing Value	54.65	53.18	1.47	0.76	58.04	60.87	-2.83	0.56	48.12	46.06	2.06	0.74		
6A	Survey / SFA	Set to 0	48.45	43.96	4.49	0.21	50.37	53.83	-3.46	0.51	43.87	40.65	3.21	0.55		
6B	Survey / SFA	Set to 0 if no aid app	50.71	46.26	4.45	0.18	52.11	56.59	-4.48	0.50	44.32	42.79	1.53	0.79		
6C	Survey / SFA	Set to Missing Value	55.14	52.51	2.64	0.55	58.15	61.74	-3.59	0.50	47.51	45.51	2.01	0.75		
7A	Survey / NSCF	Set to 0	49.69	43.61	6.08 *	0.07	49.44	53.11	-3.67	0.49	39.97	37.72	2.25	0.75		
7AT	Survey / NSCT	Set to 0	48.58	43.46	5.12	0.13	48.31	51.01	-2.70	0.59	39.32	35.25	4.07	0.56		
7C	Survey / NSCF	Set to Missing Value	55.13	52.06	3.07	0.53	59.13	61.32	-2.19	0.62	44.47	44.51	-0.05	0.99		
7CT	Survey / NSCT	Set to Missing Value	54.43	52.45	1.98	0.69	57.99	59.91	-1.93	0.67	43.35	41.44	1.91	0.80		
8	Survey then NSCF / SFA	Set to 0	51.05	46.19	4.86	0.15	52.89	56.78	-3.90	0.50	47.07	44.36	2.70	0.62		
8T	Survey then NSCT / SFA	Set to 0	50.14	46.06	4.08	0.23	51.77	54.87	-3.10	0.56	46.42	41.89	4.54	0.41		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	51.66	47.73	3.93	0.30	54.07	57.23	-3.16	0.60	47.39	45.45	1.94	0.70		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	50.76	47.60	3.16	0.41	52.95	55.32	-2.37	0.67	46.73	42.97	3.76	0.48		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	51.91	48.37	3.54	0.35	54.20	57.35	-3.15	0.60	47.34	46.03	1.31	0.80		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	51.15	48.20	2.95	0.44	53.08	55.72	-2.64	0.63	46.64	43.51	3.13	0.56		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	52.50	50.21	2.29	0.61	55.58	58.68	-3.10	0.60	47.40	46.66	0.74	0.89		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	51.74	50.03	1.71	0.70	54.40	57.02	-2.62	0.62	46.72	44.12	2.60	0.64		



Table I.31

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Data Source	Uncoded	Most Likely					Somewhat Likely					Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	19.66	25.24	-5.58	0.17	14.94	24.53	-9.58	0.14	31.26	25.94	5.32	0.45		
2	NSC through 05-06 ( <i>NSCF</i> )	None	14.40	14.85	-0.45	0.87	9.94	17.50	-7.56	0.16	19.66	17.01	2.64	0.65		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	13.50	14.29	-0.79	0.76	9.66	17.77	-8.10 *	0.08	18.62	19.21	-0.59	0.93		
3	Pell Receipt ( <i>SFA</i> )	None	16.09	17.88	-1.80	0.53	14.54	12.54	2.00	0.65	22.91	22.37	0.53	0.94		
4	NSCF / SFA	None	17.58	20.87	-3.28	0.27	14.07	20.11	-6.04 *	0.07	31.37	23.79	7.58	0.27		
4T	NSCT / SFA	None	17.30	20.71	-3.41	0.25	14.97	20.38	-5.41 *	0.06	31.94	25.99	5.95	0.47		
5A	Survey / NSCF / SFA	Set to 0	19.11	22.21	-3.10	0.28	20.29	21.62	-1.34	0.57	33.32	23.32	10.00	0.13	#	
5AT	Survey / NSCT / SFA	Set to 0	19.01	22.02	-3.02	0.30	21.01	21.86	-0.85	0.72	34.23	24.52	9.71	0.17		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	19.57	22.87	-3.30	0.26	20.66	21.70	-1.04	0.66	33.20	24.29	8.90	0.19		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	19.48	22.75	-3.27	0.26	21.41	22.31	-0.89	0.70	34.20	25.63	8.56	0.24		
5C	Survey / NSCF / SFA	Set to Missing Value	21.66	25.36	-3.71	0.28	22.02	23.55	-1.52	0.54	34.76	25.46	9.30	0.18		
5CT	Survey / NSCT / SFA	Set to Missing Value	21.65	25.31	-3.66	0.29	23.09	24.28	-1.19	0.63	36.03	26.90	9.14	0.22		
6A	Survey / SFA	Set to 0	17.78	20.81	-3.03	0.27	19.34	19.62	-0.28	0.90	30.30	22.77	7.52	0.26		
6B	Survey / SFA	Set to 0 if no aid app	18.68	21.89	-3.21	0.24	20.24	20.51	-0.27	0.90	30.85	24.21	6.64	0.34		
6C	Survey / SFA	Set to Missing Value	20.95	24.59	-3.63	0.26	21.95	22.50	-0.55	0.81	32.71	25.55	7.15	0.32		
7A	Survey / NSCF	Set to 0	15.56	19.43	-3.86	0.24	15.82	20.59	-4.78	0.27	31.81	22.79	9.03	0.18	#	
7AT	Survey / NSCT	Set to 0	15.44	19.11	-3.67	0.27	16.19	21.02	-4.82	0.23	31.07	23.99	7.07	0.32		
7C	Survey / NSCF	Set to Missing Value	18.43	22.79	-4.35	0.25	17.66	23.64	-5.97	0.22	34.45	28.03	6.43	0.39		
7CT	Survey / NSCT	Set to Missing Value	18.37	22.65	-4.28	0.26	18.32	24.65	-6.33	0.19	34.28	29.75	4.54	0.55		
8	Survey then NSCF / SFA	Set to 0	19.11	22.21	-3.10	0.28	20.29	21.62	-1.34	0.57	33.32	23.32	10.00	0.13	#	
8T	Survey then NSCT / SFA	Set to 0	19.01	22.02	-3.02	0.30	21.01	21.86	-0.85	0.72	34.23	24.52	9.71	0.17		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	19.98	23.06	-3.08	0.28	20.40	22.06	-1.66	0.49	32.60	24.91	7.69	0.26		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	19.87	22.95	-3.08	0.28	21.13	22.33	-1.21	0.61	33.55	26.11	7.44	0.30		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	20.17	23.31	-3.15	0.27	20.61	22.06	-1.45	0.54	32.48	25.16	7.32	0.29		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	20.08	23.29	-3.21	0.27	21.23	22.48	-1.25	0.60	33.48	26.41	7.07	0.33		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	20.13	24.16	-4.03	0.22	21.46	22.52	-1.06	0.66	31.95	25.41	6.54	0.34		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	20.03	24.13	-4.09	0.21	22.09	22.96	-0.86	0.72	32.97	26.66	6.31	0.38		

Table I.32

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Data Source	Uncoded	Most Likely					Somewhat Likely					Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2.91	3.48	-0.57	0.66	11.11	2.53	8.59	0.15	-3.12	6.45	-9.56	0.11	#	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.89	0.33	0.56	0.29	0.36	0.54	-0.18	0.73	0.11	0.00	0.11	***	0.00	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.73	0.12	0.62 *	0.05	0.37	0.32	0.05	0.90	0.11	0.00	0.11	***	0.00	
3	Pell Receipt ( <i>SFA</i> )	None	4.56	3.21	1.35	0.24	5.19	4.41	0.77	0.68	0.22	5.35	-5.13 *	0.05	#	
4	NSCF / SFA	None	4.31	2.76	1.54 *	0.09	4.48	4.35	0.13	0.94	1.81	2.85	-1.05	0.55		
4T	NSCT / SFA	None	4.49	2.76	1.73 *	0.08	4.48	4.35	0.13	0.94	1.81	2.85	-1.05	0.55		
5A	Survey / NSCF / SFA	Set to 0	3.18	3.63	-0.45	0.64	8.89	4.16	4.72 *	0.08	1.48	2.77	-1.28	0.41		
5AT	Survey / NSCT / SFA	Set to 0	3.19	3.70	-0.51	0.61	8.89	4.16	4.72 *	0.08	1.48	2.77	-1.28	0.41		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	3.24	3.76	-0.52	0.60	9.07	4.25	4.82 *	0.08	1.55	2.82	-1.27	0.42		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.26	3.82	-0.56	0.59	8.96	4.31	4.64 *	0.09	1.54	2.81	-1.27	0.42		
5C	Survey / NSCF / SFA	Set to Missing Value	3.68	4.20	-0.52	0.63	9.57	4.62	4.94 *	0.09	1.08	2.86	-1.78	0.30		
5CT	Survey / NSCT / SFA	Set to Missing Value	3.71	4.26	-0.55	0.63	9.52	4.71	4.81 *	0.10	1.07	2.85	-1.78	0.30		
6A	Survey / SFA	Set to 0	3.44	3.91	-0.47	0.64	8.89	4.05	4.85 *	0.07	-0.11	4.60	-4.72 **	0.04	#	
6B	Survey / SFA	Set to 0 if no aid app	3.57	4.16	-0.58	0.59	9.27	4.28	4.99 *	0.07	0.17	4.75	-4.58 **	0.04	#	
6C	Survey / SFA	Set to Missing Value	4.13	4.70	-0.57	0.64	9.92	4.72	5.20 *	0.07	-0.54	4.85	-5.39 **	0.04	#	
7A	Survey / NSCF	Set to 0	1.75	2.38	-0.63	0.54	6.89	2.11	4.78	0.15	1.13	2.44	-1.32	0.41		
7AT	Survey / NSCT	Set to 0	1.72	2.37	-0.65	0.52	6.89	2.11	4.78	0.15	1.20	2.44	-1.24	0.54		
7C	Survey / NSCF	Set to Missing Value	2.18	2.96	-0.78	0.51	8.31	2.51	5.80	0.18	1.29	3.00	-1.71	0.28		
7CT	Survey / NSCT	Set to Missing Value	2.15	2.97	-0.83	0.50	8.43	2.58	5.85	0.19	-0.05	2.98	-3.02	0.37		
8	Survey then NSCF / SFA	Set to 0	3.18	3.63	-0.45	0.64	8.89	4.16	4.72 *	0.08	1.48	2.77	-1.28	0.41		
8T	Survey then NSCT / SFA	Set to 0	3.19	3.70	-0.51	0.61	8.89	4.16	4.72 *	0.08	1.48	2.77	-1.28	0.41		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	4.96	5.38	-0.41	0.65	9.06	4.37	4.68 *	0.10	1.08	3.45	-2.37	0.26		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	4.97	5.45	-0.48	0.61	9.06	4.37	4.68 *	0.10	1.08	3.45	-2.37	0.26		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	5.00	5.44	-0.44	0.64	9.13	4.41	4.72 *	0.10	1.03	3.50	-2.47	0.26		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	5.02	5.51	-0.48	0.62	9.14	4.44	4.70	0.10	1.03	3.50	-2.47	0.26		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	5.17	5.68	-0.51	0.60	9.51	4.55	4.96 *	0.09	0.61	3.55	-2.94	0.22		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	5.19	5.74	-0.55	0.59	9.53	4.59	4.94 *	0.10	0.61	3.55	-2.94	0.22		

Table I.33

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Data Source	Uncoded	Most Likely					Somewhat Likely					Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	11.00	10.16	0.85	0.76	8.05	10.33	-2.27	0.70	16.71	12.76	3.96	0.55		
2	NSC through 05-06 ( <i>NSCF</i> )	None	7.21	6.40	0.81	0.57	5.85	8.44	-2.59	0.56	10.71	7.82	2.90	0.48		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	6.30	6.15	0.15	0.91	5.74	7.99	-2.25	0.61	10.02	7.82	2.20	0.57		
3	Pell Receipt ( <i>SFA</i> )	None	5.73	5.42	0.31	0.81	6.39	2.49	3.90 **	0.04	13.56	9.76	3.79	0.32		
4	NSCF / SFA	None	8.82	7.48	1.35	0.39	6.51	9.16	-2.65	0.57	17.78	13.64	4.13	0.34		
4T	NSCT / SFA	None	7.97	7.22	0.74	0.61	6.48	8.72	-2.24	0.63	17.08	13.64	3.44	0.41		
5A	Survey / NSCF / SFA	Set to 0	11.05	8.51	2.54	0.19	8.11	9.63	-1.52	0.76	21.27	15.56	5.72	0.19		
5AT	Survey / NSCT / SFA	Set to 0	10.27	8.26	2.01	0.28	8.05	9.54	-1.49	0.76	20.57	15.56	5.01	0.24		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	11.06	8.85	2.21	0.27	8.27	9.71	-1.43	0.78	21.55	16.05	5.51	0.22		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	10.27	8.55	1.72	0.37	8.16	9.78	-1.62	0.76	20.91	16.14	4.77	0.28		
5C	Survey / NSCF / SFA	Set to Missing Value	12.00	10.08	1.92	0.42	8.48	10.59	-2.10	0.70	23.10	17.19	5.92	0.24		
5CT	Survey / NSCT / SFA	Set to Missing Value	11.17	9.78	1.39	0.55	8.37	10.69	-2.31	0.68	22.47	17.31	5.16	0.30		
6A	Survey / SFA	Set to 0	9.79	7.42	2.37	0.21	7.92	8.48	-0.56	0.88	19.69	15.34	4.35	0.30		
6B	Survey / SFA	Set to 0 if no aid app	10.05	7.85	2.20	0.27	8.33	8.92	-0.60	0.88	20.97	16.07	4.90	0.27		
6C	Survey / SFA	Set to Missing Value	11.04	9.22	1.81	0.45	8.56	9.86	-1.30	0.75	22.77	17.27	5.50	0.28		
7A	Survey / NSCF	Set to 0	10.78	8.27	2.51	0.19	8.17	9.39	-1.21	0.81	16.15	10.44	5.72	0.19		
7AT	Survey / NSCT	Set to 0	10.00	8.02	1.98	0.29	8.10	9.29	-1.19	0.81	15.45	10.44	5.01	0.24		
7C	Survey / NSCF	Set to Missing Value	11.99	10.23	1.76	0.46	8.46	11.03	-2.57	0.68	17.67	12.25	5.42	0.31		
7CT	Survey / NSCT	Set to Missing Value	11.19	9.99	1.19	0.62	8.29	11.13	-2.84	0.66	16.99	12.38	4.61	0.39		
8	Survey then NSCF / SFA	Set to 0	11.05	8.51	2.54	0.19	8.11	9.63	-1.52	0.76	21.27	15.56	5.72	0.19		
8T	Survey then NSCT / SFA	Set to 0	10.27	8.26	2.01	0.28	8.05	9.54	-1.49	0.76	20.57	15.56	5.01	0.24		

Table I.34

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure(ITT)

Outcome / Data Source	Uncoded	Most Likely				Somewhat Likely				Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
1 Pell receipt (Survey)	Set to Missing Value	75.94	67.10	8.84	0.14	62.16	60.75	1.41	0.66	61.35	49.42	11.92	0.13	
2 Pell receipt (Survey)	Set to 0	61.57	54.14	7.43	0.14	57.96	51.42	6.54 **	0.03	48.66	35.03	13.63 **	0.04	
3 Pell receipt (SFA)	None	58.44	56.03	2.41	0.58	58.68	53.33	5.35 **	0.04	56.92	55.33	1.60	0.74	
Applied for aid (SFA)	None	73.04	69.21	3.83 *	0.09	73.14	70.85	2.28	0.36	73.68	70.78	2.91	0.55	
1 Aid receipt (Survey)	Set to Missing Value	89.40	82.07	7.33	0.12	82.07	81.38	0.68	0.77	86.94	82.29	4.65	0.46	
2 Aid receipt (Survey)	Set to 0	73.77	66.83	6.94	0.11	76.23	69.47	6.76 **	0.04	65.86	61.11	4.74	0.58	

Table I.35

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Project Director's Rating on Likelihood of UB Admission under Normal Selection Procedure (ITT)

Outcome / Data Source	Uncoded	Most Likely					Somewhat Likely					Least Likely				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																
1	Survey	Set to Missing Value	49.05	43.83	5.22	0.20	58.57	41.57	17.00 *	0.08	42.46	30.15	12.31	0.12		
2	NSCF	None	21.61	18.39	3.22	0.30	13.41	16.79	-3.39	0.46	25.82	15.42	10.40 *	0.08		
2T	NSCT	None	17.28	16.10	1.18	0.68	12.15	14.21	-2.06	0.64	18.10	8.02	10.08 **	0.03		
7A	Survey / NSCF	Set to 0	36.64	31.05	5.59	0.15	36.37	35.06	1.30	0.58	33.75	24.85	8.90	0.17		
7AT	Survey / NSCT	Set to 0	32.29	29.17	3.12	0.30	35.30	32.85	2.45	0.36	26.71	17.76	8.95	0.12		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	37.71	33.26	4.46	0.24	39.27	37.39	1.88	0.44	35.63	28.19	7.44	0.27		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	33.50	31.56	1.94	0.54	37.85	35.62	2.23	0.47	27.77	20.04	7.73	0.19		
7C	Survey / NSCF	Set to Missing Value	40.64	37.39	3.25	0.40	43.11	40.61	2.50	0.27	38.01	29.87	8.14	0.25		
7CT	Survey / NSCT	Set to Missing Value	37.46	35.54	1.92	0.62	41.88	38.85	3.04	0.27	29.28	20.98	8.30	0.18		
<i>Highest Degree Completed: Four-year Degree</i>																
1	Survey	Set to Missing Value	30.14	25.02	5.12	0.27	24.50	23.94	0.55	0.85	21.42	10.52	10.90 **	0.04		
2	NSCF	None	15.92	13.00	2.92	0.27	10.57	12.63	-2.06	0.63	13.22	7.29	5.93	0.22		
2T	NSCT	None	13.32	11.38	1.94	0.46	9.42	11.97	-2.56	0.53	10.88	4.90	5.98 *	0.08		
7A	Survey / NSCF	Set to 0	21.89	19.04	2.86	0.27	20.31	22.92	-2.61	0.50	16.08	9.52	6.55	0.19		
7AT	Survey / NSCT	Set to 0	19.71	17.42	2.29	0.39	19.23	22.26	-3.03	0.40	14.07	7.44	6.64 *	0.10		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	22.69	20.49	2.19	0.40	21.62	24.66	-3.04	0.48	16.38	10.58	5.80	0.28		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.46	18.92	1.53	0.59	20.31	24.34	-4.03	0.36	14.43	8.23	6.20	0.14		
7C	Survey / NSCF	Set to Missing Value	24.93	23.14	1.79	0.56	23.10	26.80	-3.70	0.42	16.56	10.91	5.65	0.31		
7CT	Survey / NSCT	Set to Missing Value	22.49	21.43	1.07	0.74	21.76	26.51	-4.75	0.31	14.57	8.60	5.97	0.17		

Table I.35 (continued)

Outcome / Data Source		Uncoded	Most Likely				Somewhat Likely				Least Likely				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Highest Degree Completed: Two-year Degree</i>															
1	Survey	Set to Missing Value	8.24	10.62	-2.38	0.36	11.82	11.32	0.50	0.85	11.34	13.88	-2.54	0.60	
2	NSCF	None	4.64	5.01	-0.37	0.73	1.96	3.39	-1.43	0.50	8.68	8.13	0.55	0.87	
2T	NSCT	None	3.92	4.38	-0.46	0.66	2.39	1.74	0.65	0.52	2.85	3.12	-0.27	0.93	
7A	Survey / NSCF	Set to 0	6.82	8.02	-1.20	0.39	6.68	8.22	-1.53	0.51	14.40	12.64	1.77	0.71	
7AT	Survey / NSCT	Set to 0	6.55	7.61	-1.06	0.50	7.41	6.73	0.68	0.66	8.64	7.63	1.01	0.82	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.14	8.48	-1.34	0.36	7.18	8.68	-1.50	0.55	16.02	14.56	1.46	0.77	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.85	8.12	-1.26	0.45	7.99	7.23	0.75	0.65	9.41	8.71	0.70	0.88	
7C	Survey / NSCF	Set to Missing Value	8.10	9.52	-1.42	0.35	7.40	9.41	-2.01	0.44	17.22	15.77	1.45	0.78	
7CT	Survey / NSCT	Set to Missing Value	7.92	9.08	-1.17	0.50	8.31	7.93	0.38	0.83	9.85	9.08	0.76	0.87	
<i>Highest Degree Completed: Other Degree</i>															
1	Survey	Set to Missing Value	7.89	8.19	-0.30	0.89	16.77	6.31	10.46 *	0.08	6.70	5.76	0.95	0.88	
2	NSCF	None	0.40	0.38	0.02	0.95	0.44	0.76	-0.33	0.43	5.85	0.00	5.85 ***	0.00	
2T	NSCT	None	0.14	0.33	-0.20	0.41	0.53	0.50	0.03	0.93	5.85	0.00	5.85 ***	0.00	
7A	Survey / NSCF	Set to 0	5.82	4.00	1.82	0.27	10.19	3.92	6.26 *	0.08	3.84	2.69	1.15	0.76	
7AT	Survey / NSCT	Set to 0	5.73	4.14	1.59	0.35	10.29	3.86	6.43 *	0.07	3.84	2.69	1.15	0.76	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.03	4.29	1.75	0.29	10.83	4.05	6.78 *	0.08	3.95	3.05	0.90	0.82	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.98	4.52	1.46	0.38	10.81	4.04	6.77 *	0.09	3.91	3.10	0.81	0.84	
7C	Survey / NSCF	Set to Missing Value	5.27	4.73	0.54	0.65	11.39	4.40	6.98 *	0.10	4.98	3.19	1.79	0.68	
7CT	Survey / NSCT	Set to Missing Value	5.21	5.03	0.19	0.88	11.52	4.41	7.12 *	0.10	4.85	3.30	1.55	0.72	
<i>Currently In School</i>															
1	Currently in school (Survey)	Set to Missing Value	7.95	6.55	1.39	0.45	5.85	7.45	-1.60	0.71	9.58	4.21	5.37	0.16	
1	In school or completed degree (Survey)	Set to Missing Value	57.74	51.08	6.66	0.11	63.91	49.24	14.67 **	0.01	51.68	34.66	17.02 *	0.05	

Table I.36

## Impact of Upward Bound on Any Postsecondary Enrollment by Type of Host Institution (ITT)

Data Source	Uncoded	Two-Year College					Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	79.65	81.65	-1.99	0.56	83.70	81.08	2.62	0.54		
2 NSC through 05-06 ( <i>NSCF</i> )	None	63.50	58.64	4.87	0.15	56.39	60.07	-3.68	0.56		
2T NSC through 03-04 ( <i>NSCT</i> )	None	58.22	55.02	3.20	0.30	55.14	57.39	-2.25	0.70		
3 Pell Receipt ( <i>SFA</i> )	None	56.57	54.25	2.32	0.49	57.28	54.83	2.45	0.48		
4 NSCF / SFA	None	73.75	72.21	1.55	0.63	69.48	69.93	-0.45	0.93		
4T NSCT / SFA	None	70.96	69.62	1.34	0.68	69.42	68.51	0.91	0.84		
5A Survey / NSCF / SFA	Set to 0	80.89	81.15	-0.26	0.92	79.52	76.65	2.88	0.41		
5AT Survey / NSCT / SFA	Set to 0	78.39	78.99	-0.61	0.80	79.41	75.58	3.82	0.19		
5B Survey / NSCF / SFA	Set to 0 if no aid app	82.00	82.74	-0.75	0.76	80.62	78.37	2.25	0.52		
5BT Survey / NSCT / SFA	Set to 0 if no aid app	79.66	81.29	-1.63	0.49	80.31	77.87	2.43	0.48		
5C Survey / NSCF / SFA	Set to Missing Value	88.05	90.62	-2.57	0.17	88.48	85.73	2.76	0.44		
5CT Survey / NSCT / SFA	Set to Missing Value	86.68	89.35	-2.68	0.16	88.26	85.31	2.94	0.41		
6A Survey / SFA	Set to 0	72.93	73.99	-1.06	0.72	75.62	72.64	2.98	0.31		
6B Survey / SFA	Set to 0 if no aid app	75.73	77.89	-2.16	0.45	78.71	76.37	2.34	0.51		
6C Survey / SFA	Set to Missing Value	84.14	87.14	-3.00	0.22	86.96	84.44	2.52	0.50		
7A Survey / NSCF	Set to 0	77.47	75.83	1.64	0.52	74.74	72.36	2.38	0.45		
7AT Survey / NSCT	Set to 0	74.68	72.97	1.70	0.51	74.33	70.98	3.35	0.21		
7C Survey / NSCF	Set to Missing Value	87.29	89.74	-2.45	0.25	87.02	84.94	2.09	0.57		
7CT Survey / NSCT	Set to Missing Value	85.43	88.07	-2.64	0.23	86.82	84.36	2.45	0.51		
8 Survey then NSCF / SFA	Set to 0	77.30	77.51	-0.20	0.94	77.41	75.21	2.20	0.52		
8T Survey then NSCT / SFA	Set to 0	75.75	76.37	-0.62	0.83	77.51	74.46	3.06	0.28		
9A Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	83.02	84.60	-1.59	0.46	81.83	79.71	2.12	0.58		
9AT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	80.49	82.78	-2.29	0.28	81.42	79.15	2.27	0.56		
9B Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	83.84	85.32	-1.48	0.46	82.20	80.32	1.89	0.62		
9BT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	81.45	84.17	-2.72	0.20	81.82	79.90	1.92	0.62		
9C Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	85.99	87.66	-1.67	0.39	84.41	82.70	1.71	0.64		
9CT Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	83.40	86.46	-3.06	0.12	84.03	82.25	1.78	0.63		

Table I.37

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Type of Host Institution (ITT)

Data Source	Uncoded	Two-Year College				Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	44.07	38.58	5.49	0.33	60.34	54.80	5.53 **	0.02
2	NSC through 05-06 ( <i>NSCF</i> )	None	30.95	26.85	4.10	0.25	37.56	38.31	-0.75	0.90
2T	NSC through 03-04 ( <i>NSCT</i> )	None	30.01	26.79	3.21	0.40	36.47	36.06	0.42	0.95
3	Pell Receipt ( <i>SFA</i> )	None	28.87	24.48	4.40	0.18	37.50	36.85	0.66	0.89
4	NSCF / SFA	None	36.33	32.55	3.79	0.31	46.84	45.65	1.18	0.82
4T	NSCT / SFA	None	35.40	32.55	2.85	0.47	46.04	43.92	2.11	0.66
5A	Survey / NSCF / SFA	Set to 0	42.02	38.56	3.46	0.34	54.72	53.02	1.70	0.68
5AT	Survey / NSCT / SFA	Set to 0	41.09	38.56	2.53	0.51	53.95	51.70	2.26	0.55
5B	Survey / NSCF / SFA	Set to 0 if no aid app	42.49	39.36	3.14	0.39	55.34	54.24	1.10	0.79
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	41.66	39.53	2.13	0.58	54.49	53.31	1.19	0.77
5C	Survey / NSCF / SFA	Set to Missing Value	44.86	43.08	1.78	0.64	60.58	59.38	1.20	0.78
5CT	Survey / NSCT / SFA	Set to Missing Value	44.48	43.41	1.08	0.79	59.77	58.44	1.33	0.75
6A	Survey / SFA	Set to 0	39.89	35.54	4.35	0.30	52.07	50.41	1.66	0.65
6B	Survey / SFA	Set to 0 if no aid app	41.22	37.14	4.08	0.34	53.94	53.07	0.87	0.83
6C	Survey / SFA	Set to Missing Value	44.90	41.92	2.97	0.52	59.28	58.73	0.55	0.90
7A	Survey / NSCF	Set to 0	40.21	36.33	3.88	0.30	52.31	49.40	2.92	0.41
7AT	Survey / NSCT	Set to 0	39.28	36.27	3.00	0.45	51.42	47.97	3.45	0.27
7C	Survey / NSCF	Set to Missing Value	44.40	42.66	1.74	0.66	60.46	58.11	2.35	0.55
7CT	Survey / NSCT	Set to Missing Value	44.01	43.11	0.90	0.84	59.66	57.17	2.49	0.51
8	Survey then NSCF / SFA	Set to 0	42.02	38.56	3.46	0.34	54.72	53.02	1.70	0.68
8T	Survey then NSCT / SFA	Set to 0	41.09	38.56	2.53	0.51	53.95	51.70	2.26	0.55
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	42.71	39.03	3.68	0.31	55.83	54.14	1.69	0.70
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	41.77	39.03	2.74	0.47	55.06	52.81	2.25	0.57
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	43.26	39.34	3.92	0.29	56.01	54.58	1.43	0.74
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	42.41	39.45	2.96	0.45	55.30	53.35	1.95	0.62
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	43.89	40.47	3.42	0.35	57.24	56.20	1.05	0.82
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	43.04	40.58	2.46	0.53	56.53	54.93	1.60	0.69



Table I.38

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Type of Host Institution (ITT)

Data Source	Uncoded	Two-Year College					Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	32.28	38.04	-5.76	0.22	12.99	22.47	-9.48	0.22	
2	NSC through 05-06 ( <i>NSCF</i> )	None	29.29	28.08	1.20	0.70	10.54	13.95	-3.41	0.11	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	25.68	26.10	-0.42	0.88	9.99	14.37	-4.38 *	0.05	
3	Pell Receipt ( <i>SFA</i> )	None	24.10	24.00	0.10	0.97	13.50	14.37	-0.87	0.63	
4	NSCF / SFA	None	33.39	33.70	-0.31	0.93	14.85	18.33	-3.48 **	0.02	
4T	NSCT / SFA	None	31.83	32.11	-0.28	0.94	15.29	18.91	-3.62 **	0.01	
5A	Survey / NSCF / SFA	Set to 0	34.83	36.80	-1.98	0.58	16.28	19.25	-2.97	0.30	
5AT	Survey / NSCT / SFA	Set to 0	33.55	35.38	-1.83	0.64	16.85	19.65	-2.80	0.33	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	35.36	37.31	-1.95	0.57	16.58	19.65	-3.08	0.29	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	34.09	36.41	-2.32	0.56	17.17	20.21	-3.05	0.31	
5C	Survey / NSCF / SFA	Set to Missing Value	38.57	40.67	-2.10	0.51	17.68	21.49	-3.81	0.27	
5CT	Survey / NSCT / SFA	Set to Missing Value	37.70	39.87	-2.17	0.53	18.39	22.15	-3.76	0.29	
6A	Survey / SFA	Set to 0	29.56	33.40	-3.85	0.31	15.93	18.00	-2.07	0.40	
6B	Survey / SFA	Set to 0 if no aid app	30.72	35.24	-4.52	0.25	16.52	18.87	-2.35	0.39	
6C	Survey / SFA	Set to Missing Value	34.65	38.86	-4.20	0.25	17.79	20.86	-3.07	0.35	
7A	Survey / NSCF	Set to 0	34.28	34.94	-0.66	0.86	12.67	17.44	-4.77	0.26	
7AT	Survey / NSCT	Set to 0	32.83	33.13	-0.31	0.94	12.96	17.94	-4.99	0.23	
7C	Survey / NSCF	Set to Missing Value	39.30	41.06	-1.76	0.59	13.64	20.28	-6.65	0.25	
7CT	Survey / NSCT	Set to Missing Value	38.16	39.92	-1.76	0.63	13.97	21.14	-7.16	0.22	
8	Survey then NSCF / SFA	Set to 0	34.83	36.80	-1.98	0.58	16.28	19.25	-2.97	0.30	
8T	Survey then NSCT / SFA	Set to 0	33.55	35.38	-1.83	0.64	16.85	19.65	-2.80	0.33	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	35.58	38.48	-2.90	0.46	16.64	19.80	-3.16	0.27	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	34.32	37.40	-3.07	0.46	17.22	20.21	-2.99	0.30	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	35.85	38.73	-2.89	0.45	16.79	19.92	-3.13	0.28	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	34.58	38.20	-3.62	0.40	17.33	20.35	-3.02	0.30	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	37.12	39.65	-2.52	0.48	16.96	20.48	-3.51	0.24	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	35.71	39.12	-3.40	0.40	17.56	20.92	-3.37	0.26	

Table I.39

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Type of Host Institution (ITT)

Data Source	Uncoded	Two-Year College					Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	2.70	4.23	-1.53	0.26	9.35	3.18	6.17	0.16	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.83	1.15	-0.32	0.69	0.65	0.25	0.39	0.24	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.61	0.89	-0.28	0.67	0.63	0.07	0.56 *	0.09	
3	Pell Receipt ( <i>SFA</i> )	None	3.62	5.95	-2.33 *	0.10	5.27	3.54	1.74 *	0.06	#
4	NSCF / SFA	None	3.23	5.02	-1.79	0.23	4.88	3.18	1.71 **	0.04	#
4T	NSCT / SFA	None	3.23	5.02	-1.79	0.23	5.00	3.18	1.83 **	0.02	#
5A	Survey / NSCF / SFA	Set to 0	3.61	4.71	-1.10	0.49	7.50	3.65	3.85	0.14	
5AT	Survey / NSCT / SFA	Set to 0	3.61	4.71	-1.10	0.49	7.53	3.69	3.85	0.14	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	3.71	4.97	-1.26	0.45	7.60	3.73	3.87	0.14	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.69	4.98	-1.29	0.44	7.59	3.79	3.80	0.14	
5C	Survey / NSCF / SFA	Set to Missing Value	4.29	5.65	-1.35	0.47	8.33	4.05	4.28	0.17	
5CT	Survey / NSCT / SFA	Set to Missing Value	4.36	5.66	-1.30	0.50	8.35	4.12	4.23	0.17	
6A	Survey / SFA	Set to 0	3.69	4.81	-1.13	0.47	7.78	3.91	3.87	0.15	
6B	Survey / SFA	Set to 0 if no aid app	3.86	5.24	-1.38	0.40	8.12	4.11	4.01	0.14	
6C	Survey / SFA	Set to Missing Value	4.66	6.02	-1.36	0.48	9.02	4.51	4.50	0.17	
7A	Survey / NSCF	Set to 0	2.35	3.34	-1.00	0.42	5.61	2.10	3.52	0.19	
7AT	Survey / NSCT	Set to 0	2.15	3.08	-0.94	0.39	5.74	2.14	3.60	0.18	
7C	Survey / NSCF	Set to Missing Value	3.26	4.60	-1.34	0.42	6.65	2.45	4.20	0.21	
7CT	Survey / NSCT	Set to Missing Value	3.08	4.47	-1.39	0.37	6.83	2.51	4.31	0.20	
8	Survey then NSCF / SFA	Set to 0	3.61	4.71	-1.10	0.49	7.50	3.65	3.85	0.14	
8T	Survey then NSCT / SFA	Set to 0	3.61	4.71	-1.10	0.49	7.53	3.69	3.85	0.14	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	4.13	5.17	-1.04	0.52	8.18	4.73	3.46	0.14	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	4.13	5.17	-1.04	0.52	8.21	4.77	3.45	0.14	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	4.16	5.32	-1.16	0.49	8.22	4.76	3.46	0.14	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	4.14	5.33	-1.18	0.48	8.26	4.81	3.45	0.14	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	4.47	5.53	-1.05	0.55	8.67	4.92	3.74	0.15	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	4.46	5.54	-1.08	0.54	8.71	4.98	3.73	0.15	

Table I.40

## Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Type of Host Institution (ITT)

Data Source	Uncoded	Two-Year College					Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	8.08	8.62	-0.54	0.79	11.31	10.82	0.49	0.89	
2	NSC through 05-06 ( <i>NSCF</i> )	None	4.82	5.28	-0.46	0.65	9.25	7.81	1.43	0.37	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	4.56	5.28	-0.71	0.47	8.68	7.44	1.24	0.43	
3	Pell Receipt ( <i>SFA</i> )	None	5.39	4.87	0.52	0.68	6.98	4.45	2.53 **	0.04	
4	NSCF / SFA	None	6.91	6.25	0.65	0.62	9.80	9.23	0.57	0.80	
4T	NSCT / SFA	None	6.66	6.25	0.40	0.75	9.29	8.86	0.43	0.84	
5A	Survey / NSCF / SFA	Set to 0	7.84	7.15	0.69	0.59	12.04	10.09	1.95	0.45	
5AT	Survey / NSCT / SFA	Set to 0	7.71	7.15	0.56	0.67	11.54	9.90	1.64	0.52	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	7.97	7.25	0.72	0.58	12.10	10.34	1.76	0.50	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.87	7.31	0.56	0.67	11.60	10.20	1.39	0.59	
5C	Survey / NSCF / SFA	Set to Missing Value	8.69	8.11	0.58	0.68	13.05	11.46	1.59	0.56	
5CT	Survey / NSCT / SFA	Set to Missing Value	8.69	8.20	0.49	0.73	12.52	11.34	1.18	0.67	
6A	Survey / SFA	Set to 0	7.30	7.04	0.26	0.84	10.68	8.86	1.82	0.44	
6B	Survey / SFA	Set to 0 if no aid app	7.54	7.35	0.18	0.90	10.67	9.36	1.32	0.67	
6C	Survey / SFA	Set to Missing Value	8.37	8.47	-0.10	0.95	11.23	10.56	0.67	0.84	
7A	Survey / NSCF	Set to 0	7.62	6.98	0.63	0.62	12.38	9.34	3.04	0.14	
7AT	Survey / NSCT	Set to 0	7.49	6.98	0.51	0.69	11.87	9.15	2.72	0.18	
7C	Survey / NSCF	Set to Missing Value	8.57	8.40	0.17	0.91	13.60	11.22	2.38	0.33	
7CT	Survey / NSCT	Set to Missing Value	8.64	8.50	0.15	0.92	13.04	11.13	1.91	0.44	
8	Survey then NSCF / SFA	Set to 0	7.84	7.15	0.69	0.59	12.04	10.09	1.95	0.45	
8T	Survey then NSCT / SFA	Set to 0	7.71	7.15	0.56	0.67	11.54	9.90	1.64	0.52	

Table I.41

## Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Type of Host Institution (ITT)

Outcome / Data Source	Uncoded	Two-Year College					Four-Year College or University				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	74.94	58.30	16.64	***	0.00	64.72	63.48	1.24	0.75	#
2 Pell receipt (Survey)	Set to 0	59.98	46.51	13.48	***	0.00	56.19	52.16	4.03	0.36	#
3 Pell receipt (SFA)	None	56.57	54.25	2.32		0.49	57.28	54.83	2.45	0.48	
Applied for aid (SFA)	None	71.39	71.58	-0.19		0.94	71.44	69.72	1.72	0.55	
1 Aid receipt (Survey)	Set to Missing Value	92.50	81.59	10.91	***	0.00	84.52	81.84	2.69	0.39	#
2 Aid receipt (Survey)	Set to 0	73.70	66.97	6.73	*	0.07	73.18	67.74	5.44	0.18	

Table I.42

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Type of Host Institution (ITT)

Outcome / Data Source		Uncoded	Two-Year College				Four-Year College or University					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>												
1	Survey	Set to Missing Value	46.10	47.79	-1.69	0.73	56.59	40.72	15.86	***	0.01	#
2	NSCF	None	18.38	16.91	1.47	0.64	17.72	17.57	0.15		0.96	
2T	NSCT	None	14.70	15.22	-0.52	0.88	15.44	14.51	0.93		0.75	
7A	Survey / NSCF	Set to 0	35.54	33.58	1.96	0.57	35.39	32.15	3.24	*	0.10	
7AT	Survey / NSCT	Set to 0	33.33	32.33	1.00	0.78	33.73	29.45	4.28	**	0.04	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	37.32	36.21	1.11	0.78	36.97	34.50	2.47		0.27	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	35.19	35.59	-0.40	0.92	35.28	31.94	3.33		0.17	
7C	Survey / NSCF	Set to Missing Value	40.22	39.90	0.32	0.94	40.73	38.02	2.72		0.25	
7CT	Survey / NSCT	Set to Missing Value	38.61	39.31	-0.70	0.88	39.30	35.30	4.00		0.11	
<i>Highest Degree Completed: Four-year Degree</i>												
1	Survey	Set to Missing Value	17.43	22.15	-4.72	0.18	29.29	23.66	5.63	*	0.06	#
2	NSCF	None	9.58	10.96	-1.38	0.54	14.19	12.60	1.59		0.60	
2T	NSCT	None	7.98	10.33	-2.36	0.27	12.34	11.22	1.12		0.70	
7A	Survey / NSCF	Set to 0	14.95	16.72	-1.77	0.49	21.93	20.55	1.37		0.65	
7AT	Survey / NSCT	Set to 0	13.80	16.26	-2.47	0.30	20.34	19.17	1.17		0.70	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	15.55	18.16	-2.62	0.37	22.75	22.20	0.55		0.87	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	14.58	17.95	-3.37	0.23	21.13	20.95	0.18		0.96	
7C	Survey / NSCF	Set to Missing Value	16.74	19.92	-3.18	0.30	24.31	24.55	-0.24		0.95	
7CT	Survey / NSCT	Set to Missing Value	15.96	19.72	-3.76	0.21	22.63	23.25	-0.61		0.88	

Table I.42 (continued)

Outcome / Data Source		Uncoded	Two-Year College				Four-Year College or University				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>											
1	Survey	Set to Missing Value	13.85	11.38	2.47	0.35	9.69	11.31	-1.62	0.68	
2	NSCF	None	8.28	5.96	2.32	0.22	2.09	4.36	-2.27 *	0.08	#
2T	NSCT	None	6.31	4.89	1.41	0.35	2.44	2.84	-0.40	0.59	
7A	Survey / NSCF	Set to 0	12.21	9.53	2.68	0.21	5.40	8.40	-2.99 **	0.03	#
7AT	Survey / NSCT	Set to 0	10.88	8.46	2.42	0.17	5.93	7.08	-1.15	0.39	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	12.80	9.89	2.91	0.18	5.62	8.98	-3.37 **	0.04	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.40	8.83	2.56	0.16	6.26	7.67	-1.41	0.33	#
7C	Survey / NSCF	Set to Missing Value	13.55	10.98	2.57	0.26	5.82	9.87	-4.05 **	0.04	#
7CT	Survey / NSCT	Set to Missing Value	12.27	9.84	2.42	0.24	6.55	8.41	-1.86	0.24	
<i>Highest Degree Completed: Other Degree</i>											
1	Survey	Set to Missing Value	15.38	14.25	1.12	0.71	14.94	5.76	9.19	0.13	
2	NSCF	None	0.81	0.00	0.81 ***	0.00	0.71	0.61	0.10	0.84	
2T	NSCT	None	0.81	0.00	0.81 ***	0.00	0.54	0.45	0.09	0.81	
7A	Survey / NSCF	Set to 0	8.57	7.33	1.24	0.45	8.26	3.20	5.07 *	0.07	
7AT	Survey / NSCT	Set to 0	8.92	7.60	1.32	0.44	8.22	3.19	5.02 *	0.08	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	9.28	8.16	1.12	0.49	8.70	3.31	5.38 *	0.07	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	9.69	8.80	0.88	0.60	8.62	3.33	5.29 *	0.08	
7C	Survey / NSCF	Set to Missing Value	10.26	9.00	1.25	0.47	9.74	3.60	6.13 *	0.08	
7CT	Survey / NSCT	Set to Missing Value	10.93	9.75	1.18	0.52	9.66	3.64	6.02 *	0.09	
<i>Currently In School</i>											
1	Currently in school (Survey)	Set to Missing Value	13.84	8.35	5.49 **	0.02	5.92	6.46	-0.54	0.75	#
1	In school or completed degree (Survey)	Set to Missing Value	59.18	56.89	2.29	0.69	62.42	47.60	14.82 ***	0.00	#

Table I.43

## Impact of Upward Bound on Any Postsecondary Enrollment by Project Location (ITT)

Data Source	Uncoded	Urban					Rural					
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	84.67	86.97	-2.31	0.59	75.83	67.71	8.12	***	0.00	#
2	NSC through 05-06 ( <i>NSCF</i> )	None	56.54	62.31	-5.77	0.41	59.27	54.12	5.15	*	0.07	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	54.99	59.23	-4.23	0.52	56.53	51.89	4.64		0.10	
3	Pell Receipt ( <i>SFA</i> )	None	58.40	58.61	-0.21	0.95	53.92	45.77	8.14	***	0.00	#
4	NSCF / SFA	None	71.45	74.36	-2.91	0.58	66.04	60.86	5.18	**	0.03	
4T	NSCT / SFA	None	71.19	72.70	-1.51	0.75	64.91	59.38	5.53	**	0.03	
5A	Survey / NSCF / SFA	Set to 0	81.47	81.01	0.46	0.90	74.30	68.89	5.42	**	0.01	
5AT	Survey / NSCT / SFA	Set to 0	81.21	79.84	1.38	0.63	73.24	67.50	5.74	**	0.01	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	82.83	83.11	-0.29	0.93	74.92	69.66	5.26	**	0.02	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	82.28	82.67	-0.39	0.91	73.90	68.52	5.38	**	0.02	
5C	Survey / NSCF / SFA	Set to Missing Value	90.74	91.67	-0.93	0.78	80.23	74.49	5.73	**	0.04	
5CT	Survey / NSCT / SFA	Set to Missing Value	90.41	91.33	-0.93	0.78	79.46	73.46	6.01	**	0.02	#
6A	Survey / SFA	Set to 0	76.83	76.63	0.20	0.94	70.17	64.07	6.10	**	0.01	
6B	Survey / SFA	Set to 0 if no aid app	80.58	81.32	-0.74	0.83	71.26	65.69	5.57	**	0.03	
6C	Survey / SFA	Set to Missing Value	88.95	90.63	-1.68	0.63	77.73	71.49	6.24	**	0.03	#
7A	Survey / NSCF	Set to 0	76.09	75.44	0.65	0.84	72.34	67.04	5.30	**	0.02	
7AT	Survey / NSCT	Set to 0	75.48	73.81	1.67	0.52	71.13	65.45	5.69	**	0.01	
7C	Survey / NSCF	Set to Missing Value	89.04	90.72	-1.67	0.62	79.78	74.03	5.74	**	0.04	#
7CT	Survey / NSCT	Set to Missing Value	88.68	90.12	-1.44	0.68	78.94	72.96	5.99	**	0.02	#
8	Survey then NSCF / SFA	Set to 0	79.13	79.88	-0.75	0.82	71.99	65.56	6.44	***	0.00	#
8T	Survey then NSCT / SFA	Set to 0	79.16	78.96	0.20	0.94	71.46	65.02	6.44	***	0.01	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	84.29	85.04	-0.75	0.85	75.26	69.89	5.37	**	0.01	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	83.59	84.56	-0.97	0.80	74.20	68.50	5.69	**	0.01	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	84.72	85.81	-1.09	0.77	75.75	70.19	5.56	***	0.01	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	84.09	85.52	-1.43	0.70	74.73	69.09	5.64	**	0.01	#
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	87.16	88.37	-1.20	0.74	76.96	72.15	4.82	**	0.03	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	86.52	88.06	-1.54	0.67	75.87	70.99	4.89	**	0.03	

Table I.44

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Project Location (ITT)

Data Source	Uncoded	Urban					Rural					
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	60.70	57.37	3.33	0.13	49.76	40.35	9.41	***	0.01	
2	NSC through 05-06 ( <i>NSCF</i> )	None	35.61	39.46	-3.85	0.56	37.51	29.62	7.89	**	0.02	#
2T	NSC through 03-04 ( <i>NSCT</i> )	None	34.40	36.83	-2.43	0.70	36.77	29.41	7.35	**	0.03	
3	Pell Receipt ( <i>SFA</i> )	None	37.45	39.36	-1.91	0.67	33.66	24.53	9.13	***	0.00	#
4	NSCF / SFA	None	46.15	48.30	-2.15	0.67	42.19	32.64	9.55	***	0.01	#
4T	NSCT / SFA	None	45.24	46.30	-1.06	0.82	41.58	32.44	9.14	**	0.01	#
5A	Survey / NSCF / SFA	Set to 0	54.38	55.16	-0.79	0.85	48.28	40.46	7.81	***	0.01	#
5AT	Survey / NSCT / SFA	Set to 0	53.47	53.66	-0.19	0.96	47.65	40.26	7.39	**	0.02	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	55.11	56.65	-1.53	0.71	48.55	40.86	7.69	**	0.01	#
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	54.09	55.63	-1.54	0.69	47.96	40.68	7.28	**	0.02	#
5C	Survey / NSCF / SFA	Set to Missing Value	60.63	62.55	-1.92	0.63	51.23	43.46	7.77	**	0.02	#
5CT	Survey / NSCT / SFA	Set to Missing Value	59.75	61.53	-1.78	0.64	50.77	43.38	7.39	**	0.03	#
6A	Survey / SFA	Set to 0	51.83	52.46	-0.63	0.86	45.95	37.86	8.09	**	0.01	#
6B	Survey / SFA	Set to 0 if no aid app	54.08	55.71	-1.64	0.68	46.56	38.57	7.99	**	0.02	#
6C	Survey / SFA	Set to Missing Value	59.78	62.18	-2.40	0.56	49.94	41.90	8.04	**	0.03	#
7A	Survey / NSCF	Set to 0	51.32	50.72	0.60	0.86	47.71	39.48	8.23	***	0.01	#
7AT	Survey / NSCT	Set to 0	50.25	49.08	1.17	0.69	47.08	39.27	7.81	**	0.01	
7C	Survey / NSCF	Set to Missing Value	60.02	61.10	-1.09	0.76	51.85	43.06	8.79	**	0.01	#
7CT	Survey / NSCT	Set to Missing Value	59.12	60.07	-0.95	0.78	51.44	43.08	8.37	**	0.02	#
8	Survey then NSCF / SFA	Set to 0	54.38	55.16	-0.79	0.85	48.28	40.46	7.81	***	0.01	#
8T	Survey then NSCT / SFA	Set to 0	53.47	53.66	-0.19	0.96	47.65	40.26	7.39	**	0.02	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	55.90	56.54	-0.64	0.88	48.30	40.65	7.65	**	0.01	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	54.98	55.03	-0.05	0.99	47.67	40.45	7.23	**	0.02	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	56.12	57.09	-0.97	0.82	48.56	40.77	7.79	***	0.01	#
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	55.28	55.70	-0.42	0.91	47.97	40.60	7.37	**	0.02	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	57.38	58.83	-1.45	0.75	49.25	41.85	7.40	**	0.01	#
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	56.55	57.40	-0.84	0.83	48.65	41.67	6.98	**	0.03	



Table I.45

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Project Location (ITT)

Data Source	Uncoded	Urban					Rural				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	13.06	24.95	-11.89	0.21	21.99	24.87	-2.87	0.25		
2 NSC through 05-06 ( <i>NSCF</i> )	None	10.78	13.79	-3.01	0.28	20.47	21.73	-1.26	0.54		
2T NSC through 03-04 ( <i>NSCT</i> )	None	9.68	14.18	-4.51	0.13	18.80	20.95	-2.15	0.30		
3 Pell Receipt ( <i>SFA</i> )	None	13.95	14.53	-0.58	0.76	18.28	19.03	-0.74	0.78		
4 NSCF / SFA	None	16.04	18.85	-2.81	0.13	22.05	25.18	-3.12	0.13		
4T NSCT / SFA	None	16.22	19.43	-3.21 *	0.09	21.65	24.60	-2.95	0.19		
5A Survey / NSCF / SFA	Set to 0	17.20	20.80	-3.61	0.33	23.45	24.84	-1.40	0.49		
5AT Survey / NSCT / SFA	Set to 0	17.75	21.18	-3.43	0.36	23.14	24.36	-1.22	0.57		
5B Survey / NSCF / SFA	Set to 0 if no aid app	17.55	21.29	-3.75	0.32	23.72	25.10	-1.38	0.48		
5BT Survey / NSCT / SFA	Set to 0 if no aid app	18.13	21.88	-3.75	0.33	23.41	24.83	-1.42	0.51		
5C Survey / NSCF / SFA	Set to Missing Value	18.39	23.43	-5.03	0.26	26.30	27.04	-0.75	0.72		
5CT Survey / NSCT / SFA	Set to Missing Value	19.11	24.14	-5.03	0.27	26.20	26.83	-0.63	0.77		
6A Survey / SFA	Set to 0	16.49	19.03	-2.53	0.40	21.72	23.69	-1.97	0.42		
6B Survey / SFA	Set to 0 if no aid app	17.28	20.17	-2.89	0.39	22.13	24.44	-2.31	0.36		
6C Survey / SFA	Set to Missing Value	18.40	22.42	-4.02	0.32	24.98	26.68	-1.69	0.49		
7A Survey / NSCF	Set to 0	13.09	18.53	-5.44	0.33	22.66	24.08	-1.41	0.47		
7AT Survey / NSCT	Set to 0	13.40	19.03	-5.63	0.29	22.05	23.39	-1.33	0.53		
7C Survey / NSCF	Set to Missing Value	13.86	22.14	-8.29	0.26	25.92	26.85	-0.94	0.65		
7CT Survey / NSCT	Set to Missing Value	14.22	23.09	-8.86	0.23	25.48	26.45	-0.98	0.65		
8 Survey then NSCF / SFA	Set to 0	17.20	20.80	-3.61	0.33	23.45	24.84	-1.40	0.49		
8T Survey then NSCT / SFA	Set to 0	17.75	21.18	-3.43	0.36	23.14	24.36	-1.22	0.57		
9A Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	17.44	21.62	-4.17	0.26	24.15	25.38	-1.22	0.55		
9AT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	17.99	22.07	-4.08	0.27	23.85	24.89	-1.05	0.64		
9B Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	17.59	21.76	-4.17	0.26	24.38	25.50	-1.12	0.58		
9BT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	18.10	22.27	-4.17	0.26	24.07	25.27	-1.20	0.59		
9C Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	17.83	22.32	-4.49	0.25	24.89	26.25	-1.36	0.49		
9CT Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	18.40	22.83	-4.44	0.25	24.52	26.02	-1.50	0.49		

Table I.46

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Project Location (ITT)

Data Source	Uncoded	Urban					Rural						
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value		
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	9.63	4.09	5.54	0.27	3.52	1.63	1.89	**	0.03		
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.97	0.19	0.78	**	0.04	-0.38	0.88	-1.26	***	0.01	#
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.86	0.13	0.73	***	0.01	-0.19	0.35	-0.54		0.20	#
3	Pell Receipt ( <i>SFA</i> )	None	5.84	4.65	1.19		0.28	2.32	2.21	0.11		0.88	
4	NSCF / SFA	None	5.53	4.02	1.51	*	0.07	1.68	2.18	-0.49		0.48	#
4T	NSCT / SFA	None	5.70	4.11	1.59	*	0.06	1.81	1.97	-0.16		0.81	
5A	Survey / NSCF / SFA	Set to 0	8.45	4.45	4.00		0.19	2.50	2.33	0.18		0.83	
5AT	Survey / NSCT / SFA	Set to 0	8.64	4.59	4.05		0.22	2.59	2.12	0.47		0.55	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	8.64	4.57	4.07		0.19	2.57	2.43	0.13		0.87	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.76	4.73	4.03		0.22	2.66	2.23	0.43		0.59	
5C	Survey / NSCF / SFA	Set to Missing Value	9.46	5.03	4.43		0.20	2.69	2.61	0.08		0.93	
5CT	Survey / NSCT / SFA	Set to Missing Value	9.63	5.21	4.42		0.22	2.82	2.40	0.41		0.65	
6A	Survey / SFA	Set to 0	8.79	4.88	3.91		0.25	2.91	2.13	0.77		0.33	
6B	Survey / SFA	Set to 0 if no aid app	9.28	5.15	4.12		0.23	2.97	2.28	0.70		0.39	
6C	Survey / SFA	Set to Missing Value	10.28	5.73	4.55		0.25	3.28	2.49	0.79		0.41	
7A	Survey / NSCF	Set to 0	6.16	2.52	3.63		0.23	1.81	1.75	0.05		0.94	
7AT	Survey / NSCT	Set to 0	6.35	2.60	3.75		0.25	2.07	1.55	0.52		0.37	
7C	Survey / NSCF	Set to Missing Value	7.96	3.05	4.91		0.25	2.05	2.18	-0.13		0.87	
7CT	Survey / NSCT	Set to Missing Value	8.22	3.16	5.06		0.27	2.36	2.04	0.33		0.66	
8	Survey then NSCF / SFA	Set to 0	8.45	4.45	4.00		0.19	2.50	2.33	0.18		0.83	
8T	Survey then NSCT / SFA	Set to 0	8.64	4.59	4.05		0.22	2.59	2.12	0.47		0.55	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	9.37	5.86	3.51		0.21	2.62	2.33	0.30		0.73	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	9.51	6.00	3.52		0.24	2.70	2.12	0.58		0.48	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	9.45	5.91	3.53		0.21	2.66	2.37	0.29		0.74	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	9.61	6.07	3.54		0.24	2.74	2.16	0.58		0.48	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	10.02	6.14	3.88		0.21	2.66	2.42	0.24		0.80	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	10.19	6.30	3.89		0.24	2.74	2.20	0.53		0.54	

Table I.47

## Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Project Location (ITT)

Data Source	Uncoded	Urban				Rural					
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	9.91	12.59	-2.68	0.50	10.19	5.57	4.62	0.13	
2	NSC through 05-06 ( <i>NSCF</i> )	None	9.80	9.32	0.48	0.79	5.85	2.98	2.87	**	0.05
2T	NSC through 03-04 ( <i>NSCT</i> )	None	9.50	8.87	0.64	0.73	4.70	2.98	1.72		0.20
3	Pell Receipt ( <i>SFA</i> )	None	7.66	5.46	2.21	0.11	4.70	2.34	2.36		0.17
4	NSCF / SFA	None	10.08	10.95	-0.87	0.73	7.89	3.69	4.20	**	0.02
4T	NSCT / SFA	None	9.88	10.50	-0.62	0.81	6.85	3.69	3.16	*	0.06
5A	Survey / NSCF / SFA	Set to 0	11.39	11.71	-0.32	0.91	10.99	4.78	6.21	**	0.02
5AT	Survey / NSCT / SFA	Set to 0	11.07	11.48	-0.41	0.88	10.31	4.78	5.53	**	0.04
5B	Survey / NSCF / SFA	Set to 0 if no aid app	11.46	12.02	-0.57	0.84	11.07	4.80	6.27	**	0.02
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.13	11.88	-0.75	0.79	10.38	4.80	5.58	**	0.03
5C	Survey / NSCF / SFA	Set to Missing Value	12.50	13.39	-0.89	0.75	11.51	5.21	6.30	**	0.03
5CT	Survey / NSCT / SFA	Set to Missing Value	12.17	13.26	-1.08	0.71	10.80	5.25	5.55	*	0.06
6A	Survey / SFA	Set to 0	10.00	10.30	-0.31	0.91	9.85	4.57	5.28	**	0.03
6B	Survey / SFA	Set to 0 if no aid app	9.76	10.94	-1.18	0.73	10.02	4.62	5.40	**	0.03
6C	Survey / SFA	Set to Missing Value	10.39	12.41	-2.02	0.60	10.56	5.16	5.40	*	0.05
7A	Survey / NSCF	Set to 0	11.92	10.81	1.11	0.60	10.81	4.69	6.12	**	0.02
7AT	Survey / NSCT	Set to 0	11.58	10.58	1.00	0.63	10.14	4.69	5.45	**	0.04
7C	Survey / NSCF	Set to Missing Value	13.05	13.17	-0.12	0.96	11.59	5.21	6.37	**	0.03
7CT	Survey / NSCT	Set to Missing Value	12.73	13.07	-0.34	0.90	10.89	5.26	5.64	*	0.05
8	Survey then NSCF / SFA	Set to 0	11.39	11.71	-0.32	0.91	10.99	4.78	6.21	**	0.02
8T	Survey then NSCT / SFA	Set to 0	11.07	11.48	-0.41	0.88	10.31	4.78	5.53	**	0.04

Table I.48

## Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Project Location (ITT)

Outcome / Data Source	Uncoded	Urban				Rural					
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	65.22	63.69	1.53	0.74	68.07	60.28	7.78	**	0.02	
2 Pell receipt (Survey)	Set to 0	57.87	55.17	2.70	0.58	53.86	42.21	11.65	***	0.00	
3 Pell receipt (SFA)	None	58.40	58.61	-0.21	0.95	53.92	45.77	8.14	***	0.00	#
Applied for aid (SFA)	None	72.61	73.07	-0.46	0.87	68.32	62.91	5.40	**	0.01	#
1 Aid receipt (Survey)	Set to Missing Value	85.94	84.40	1.53	0.58	82.48	75.74	6.73	***	0.01	
2 Aid receipt (Survey)	Set to 0	75.57	73.04	2.52	0.50	66.21	55.03	11.19	***	0.00	#

Table I.49

## Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Project Location (ITT)

Outcome / Data Source		Uncoded	Urban				Rural					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>												
1	Survey	Set to Missing Value	56.65	45.31	11.33	0.15	46.32	33.77	12.55	***	0.00	
2	NSCF	None	16.00	19.25	-3.26	0.28	21.26	13.32	7.93	***	0.00	#
2T	NSCT	None	13.22	16.05	-2.83	0.32	19.42	11.31	8.11	***	0.01	#
7A	Survey / NSCF	Set to 0	35.45	35.49	-0.04	0.98	34.96	25.14	9.82	***	0.00	#
7AT	Survey / NSCT	Set to 0	33.61	32.73	0.88	0.67	33.61	23.36	10.25	***	0.00	#
7B	Survey / NSCF / SFA	Set to 0 if no aid app	37.25	38.51	-1.26	0.51	35.92	26.09	9.82	***	0.00	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	35.42	35.95	-0.53	0.81	34.53	24.56	9.97	***	0.00	#
7C	Survey / NSCF	Set to Missing Value	41.08	42.85	-1.77	0.41	38.51	27.80	10.71	***	0.00	#
7CT	Survey / NSCT	Set to Missing Value	39.69	40.12	-0.43	0.86	37.31	26.21	11.10	***	0.00	#
<i>Highest Degree Completed: Four-year Degree</i>												
1	Survey	Set to Missing Value	28.86	27.87	1.00	0.72	23.93	13.10	10.83	**	0.01	#
2	NSCF	None	13.15	13.90	-0.75	0.81	14.18	8.71	5.47	**	0.02	
2T	NSCT	None	10.68	12.42	-1.75	0.56	13.57	7.97	5.60	**	0.02	#
7A	Survey / NSCF	Set to 0	21.57	23.32	-1.75	0.55	19.89	12.12	7.77	***	0.00	#
7AT	Survey / NSCT	Set to 0	19.59	21.84	-2.25	0.42	19.43	11.46	7.97	***	0.00	#
7B	Survey / NSCF / SFA	Set to 0 if no aid app	22.52	25.41	-2.89	0.38	20.35	12.64	7.71	***	0.01	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.53	24.10	-3.57	0.28	19.92	12.06	7.86	***	0.01	#
7C	Survey / NSCF	Set to Missing Value	24.19	28.29	-4.10	0.29	21.47	13.43	8.04	***	0.01	#
7CT	Survey / NSCT	Set to Missing Value	22.20	26.93	-4.74	0.22	21.16	12.84	8.32	***	0.01	#

Table I.49 (continued)

Outcome / Data Source		Uncoded	Urban				Rural				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>											
1	Survey	Set to Missing Value	13.61	12.02	1.59	0.72	12.15	9.70	2.45	0.30	
2	NSCF	None	1.76	4.99	-3.23 **	0.04	5.23	3.73	1.49	0.20	#
2T	NSCT	None	2.33	3.40	-1.07	0.17	4.23	2.61	1.61	0.12	#
7A	Survey / NSCF	Set to 0	4.39	9.15	-4.76 ***	0.00	9.56	7.23	2.33	0.10	#
7AT	Survey / NSCT	Set to 0	5.22	7.81	-2.59	0.11	8.91	6.11	2.79 **	0.02	#
7B	Survey / NSCF / SFA	Set to 0 if no aid app	4.53	9.89	-5.36 ***	0.01	9.87	7.36	2.52 *	0.08	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.56	8.55	-2.99 *	0.09	9.18	6.23	2.95 **	0.02	#
7C	Survey / NSCF	Set to Missing Value	4.48	10.96	-6.48 ***	0.01	10.48	7.91	2.57 *	0.09	#
7CT	Survey / NSCT	Set to Missing Value	5.72	9.48	-3.76 *	0.05	9.80	6.70	3.11 **	0.02	#
<i>Highest Degree Completed: Other Degree</i>											
1	Survey	Set to Missing Value	16.90	5.43	11.47	0.13	10.95	10.97	-0.02	0.99	
2	NSCF	None	-0.14	0.36	-0.49	0.15	1.67	0.88	0.79	0.45	
2T	NSCT	None	-0.07	0.23	-0.30	0.22	1.37	0.73	0.64	0.52	
7A	Survey / NSCF	Set to 0	9.55	3.01	6.53 *	0.05	5.96	5.79	0.17	0.93	
7AT	Survey / NSCT	Set to 0	9.62	3.07	6.55 *	0.06	5.75	5.78	-0.03	0.99	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	10.14	3.21	6.93 *	0.05	6.14	6.10	0.04	0.98	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	10.18	3.30	6.88 *	0.06	5.91	6.27	-0.36	0.85	
7C	Survey / NSCF	Set to Missing Value	11.23	3.59	7.63 *	0.08	7.09	6.46	0.64	0.76	
7CT	Survey / NSCT	Set to Missing Value	11.32	3.71	7.60 *	0.08	6.92	6.67	0.25	0.90	
<i>Currently In School</i>											
1	Currently in school (Survey)	Set to Missing Value	7.31	6.53	0.78	0.72	7.63	7.29	0.34	0.81	
1	In school or completed degree (Survey)	Set to Missing Value	62.97	52.23	10.74 **	0.04	54.73	41.73	13.00 ***	0.00	

Table I.50

## Impact of Upward Bound on Any Postsecondary Enrollment by Project Size (ITT)

Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	86.48	83.20	3.28	0.30	80.81	80.11	0.70	0.87	89.84	89.89	-0.06	0.99		
2	NSC through 05-06 ( <i>NSCF</i> )	None	61.48	60.69	0.79	0.84	55.86	59.73	-3.86	0.58	60.15	57.74	2.40	0.69		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	57.92	56.59	1.33	0.73	54.51	57.27	-2.75	0.67	57.30	54.72	2.58	0.63		
3	Pell Receipt ( <i>SFA</i> )	None	67.34	64.35	2.99	0.44	54.47	52.18	2.29	0.53	53.64	52.77	0.86	0.88		
4	NSCF / SFA	None	77.43	76.40	1.04	0.73	67.95	68.70	-0.75	0.89	67.22	68.39	-1.17	0.81		
4T	NSCT / SFA	None	76.05	73.85	2.20	0.50	67.76	67.32	0.44	0.93	65.62	67.36	-1.75	0.71		
5A	Survey / NSCF / SFA	Set to 0	84.36	82.52	1.84	0.46	77.95	76.18	1.77	0.61	77.74	72.85	4.89	0.15		
5AT	Survey / NSCT / SFA	Set to 0	82.98	80.74	2.24	0.44	77.78	75.08	2.70	0.35	76.37	71.83	4.54	0.17		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	86.35	84.38	1.96	0.42	78.81	77.69	1.11	0.75	80.00	77.03	2.97	0.42		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	85.22	83.49	1.72	0.53	78.37	77.08	1.29	0.71	78.60	76.86	1.74	0.61		
5C	Survey / NSCF / SFA	Set to Missing Value	91.52	90.64	0.88	0.72	86.55	85.01	1.54	0.68	96.53	92.42	4.11	0.31		
5CT	Survey / NSCT / SFA	Set to Missing Value	91.21	89.68	1.53	0.60	86.11	84.55	1.56	0.67	95.78	92.35	3.44	0.46		
6A	Survey / SFA	Set to 0	79.59	79.27	0.33	0.91	73.70	71.40	2.30	0.45	71.76	66.80	4.96	0.22		
6B	Survey / SFA	Set to 0 if no aid app	83.22	83.05	0.17	0.95	76.31	75.02	1.29	0.72	77.61	73.02	4.59	0.21		
6C	Survey / SFA	Set to Missing Value	89.91	89.37	0.54	0.85	84.45	83.30	1.15	0.76	95.56	90.45	5.11	0.25		
7A	Survey / NSCF	Set to 0	78.57	77.56	1.01	0.69	73.68	71.87	1.80	0.58	73.75	68.25	5.50	0.20		
7AT	Survey / NSCT	Set to 0	76.54	75.44	1.10	0.68	73.32	70.45	2.87	0.29	71.57	65.66	5.91	0.15		
7C	Survey / NSCF	Set to Missing Value	90.22	89.04	1.18	0.62	85.17	84.42	0.75	0.85	94.49	91.77	2.71	0.42		
7CT	Survey / NSCT	Set to Missing Value	89.69	87.64	2.04	0.45	84.74	83.84	0.90	0.81	92.87	91.29	1.58	0.69		
8	Survey then NSCF / SFA	Set to 0	83.13	80.45	2.68	0.32	75.35	74.46	0.89	0.80	75.60	71.14	4.46	0.16		
8T	Survey then NSCT / SFA	Set to 0	81.80	79.42	2.39	0.39	75.55	73.73	1.83	0.52	74.74	70.11	4.63	0.17		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	86.89	85.04	1.85	0.42	79.90	79.24	0.66	0.86	83.74	79.97	3.76	0.31		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	85.51	83.26	2.25	0.39	79.39	78.76	0.63	0.87	82.68	79.38	3.31	0.38		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	87.91	85.90	2.01	0.41	80.24	79.63	0.62	0.87	85.04	83.62	1.43	0.73		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	86.79	85.06	1.73	0.54	79.73	79.15	0.58	0.88	83.47	83.53	-0.07	0.99		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	90.29	88.19	2.10	0.32	82.10	81.85	0.24	0.95	92.56	89.07	3.50	0.49		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	89.04	87.30	1.75	0.49	81.57	81.35	0.22	0.95	91.04	88.98	2.06	0.68		

Table I.51

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Project Size (ITT)

Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	57.74	50.62	7.12	0.15	57.63	52.49	5.14 **	0.02	62.88	55.89	6.99	0.39		
2	NSC through 05-06 ( <i>NSCF</i> )	None	43.82	40.88	2.93	0.40	34.03	35.61	-1.57	0.82	37.07	30.64	6.42 *	0.10		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	41.52	37.99	3.53	0.29	33.19	33.94	-0.76	0.91	36.90	29.38	7.53 **	0.05		
3	Pell Receipt ( <i>SFA</i> )	None	45.78	41.68	4.10	0.27	33.80	33.58	0.22	0.97	30.71	24.65	6.07	0.17		
4	NSCF / SFA	None	53.22	50.51	2.71	0.42	43.14	42.23	0.90	0.87	37.89	33.28	4.61	0.25		
4T	NSCT / SFA	None	51.94	48.90	3.04	0.35	42.35	40.80	1.55	0.77	37.74	32.22	5.52	0.15		
5A	Survey / NSCF / SFA	Set to 0	59.56	54.82	4.74	0.19	50.68	50.29	0.39	0.93	46.45	38.50	7.96 *	0.06		
5AT	Survey / NSCT / SFA	Set to 0	58.29	53.87	4.43	0.22	49.95	49.07	0.89	0.81	46.45	38.50	7.96 *	0.06		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	61.08	56.18	4.91	0.19	51.05	51.29	-0.24	0.95	47.19	41.35	5.83	0.18		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	60.33	55.67	4.66	0.20	50.15	50.40	-0.24	0.95	47.07	41.76	5.32	0.22		
5C	Survey / NSCF / SFA	Set to Missing Value	63.99	59.58	4.41	0.26	55.89	56.32	-0.43	0.92	57.52	51.66	5.86	0.29		
5CT	Survey / NSCT / SFA	Set to Missing Value	63.56	59.09	4.47	0.25	55.00	55.44	-0.44	0.91	57.56	52.17	5.39	0.32		
6A	Survey / SFA	Set to 0	56.49	52.76	3.74	0.31	48.54	47.32	1.22	0.76	42.56	38.07	4.49	0.28		
6B	Survey / SFA	Set to 0 if no aid app	59.36	55.21	4.16	0.26	49.99	49.74	0.25	0.95	44.84	41.97	2.87	0.46		
6C	Survey / SFA	Set to Missing Value	63.02	58.76	4.26	0.28	55.01	55.45	-0.44	0.92	55.07	53.92	1.14	0.83		
7A	Survey / NSCF	Set to 0	55.08	49.88	5.20	0.16	48.71	47.20	1.51	0.66	46.55	37.10	9.45 **	0.03		
7AT	Survey / NSCT	Set to 0	53.37	48.53	4.83	0.17	47.97	45.98	2.00	0.51	46.53	36.89	9.64 **	0.02		
7C	Survey / NSCF	Set to Missing Value	62.19	56.91	5.28	0.17	55.87	55.53	0.34	0.93	60.07	52.08	7.99	0.17		
7CT	Survey / NSCT	Set to Missing Value	61.50	55.97	5.53	0.14	55.08	54.76	0.32	0.93	59.84	53.30	6.54	0.22		
8	Survey then NSCF / SFA	Set to 0	59.56	54.82	4.74	0.19	50.68	50.29	0.39	0.93	46.45	38.50	7.96 *	0.06		
8T	Survey then NSCT / SFA	Set to 0	58.29	53.87	4.43	0.22	49.95	49.07	0.89	0.81	46.45	38.50	7.96 *	0.06		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	61.14	55.33	5.82	0.11	51.43	51.37	0.07	0.99	49.80	41.00	8.79 *	0.09		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	59.87	54.38	5.49	0.13	50.70	50.14	0.56	0.89	49.80	41.00	8.79 *	0.09		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	61.70	55.93	5.78	0.13	51.58	51.61	-0.02	1.00	49.89	43.77	6.12	0.28		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	60.93	55.41	5.53	0.13	50.85	50.38	0.47	0.90	49.88	43.95	5.93	0.30		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	62.77	57.19	5.59	0.13	52.39	53.08	-0.69	0.88	54.17	47.73	6.44	0.26		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	62.01	56.67	5.34	0.14	51.65	51.81	-0.17	0.97	54.25	47.92	6.33	0.27		



Table I.52

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Project Size (ITT)

Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	20.63	25.22	-4.59	0.35	12.99	24.65	-11.66	0.19	23.84	28.34	-4.50	0.45		
2	NSC through 05-06 ( <i>NSCF</i> )	None	11.70	12.20	-0.50	0.83	13.65	17.22	-3.57	0.16	16.77	17.52	-0.75	0.90		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	10.71	12.36	-1.65	0.51	12.59	17.28	-4.69 *	0.08	15.22	16.49	-1.28	0.78		
3	Pell Receipt ( <i>SFA</i> )	None	12.53	16.15	-3.62	0.13	15.63	15.58	0.05	0.98	22.49	20.05	2.44	0.63		
4	NSCF / SFA	None	15.02	18.21	-3.20	0.12	17.99	21.24	-3.25 *	0.08	26.64	24.73	1.91	0.76		
4T	NSCT / SFA	None	14.84	18.37	-3.53 *	0.07	18.33	21.51	-3.18 *	0.10	25.67	24.76	0.91	0.86		
5A	Survey / NSCF / SFA	Set to 0	16.75	20.40	-3.66	0.19	19.16	22.19	-3.03	0.38	28.74	27.00	1.74	0.71		
5AT	Survey / NSCT / SFA	Set to 0	16.91	20.16	-3.25	0.22	19.60	22.47	-2.87	0.42	27.60	25.97	1.63	0.69		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	17.05	20.77	-3.72	0.20	19.48	22.60	-3.12	0.38	29.08	27.87	1.21	0.78		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	17.02	20.93	-3.92	0.16	19.96	23.03	-3.07	0.40	27.90	27.22	0.68	0.87		
5C	Survey / NSCF / SFA	Set to Missing Value	18.49	22.80	-4.31	0.18	20.97	24.56	-3.59	0.40	33.48	32.16	1.31	0.79		
5CT	Survey / NSCT / SFA	Set to Missing Value	18.71	22.99	-4.28	0.16	21.55	25.13	-3.57	0.41	33.15	31.49	1.66	0.73		
6A	Survey / SFA	Set to 0	15.71	19.26	-3.55	0.15	17.83	20.55	-2.71	0.36	27.28	24.11	3.17	0.41		
6B	Survey / SFA	Set to 0 if no aid app	16.35	20.34	-4.00	0.16	18.35	21.51	-3.16	0.33	29.68	25.97	3.72	0.34	#	
6C	Survey / SFA	Set to Missing Value	18.22	22.38	-4.16	0.17	19.96	23.68	-3.71	0.33	35.73	30.68	5.05	0.30		
7A	Survey / NSCF	Set to 0	16.99	20.09	-3.10	0.31	15.13	20.09	-4.96	0.34	21.37	22.67	-1.30	0.79		
7AT	Survey / NSCT	Set to 0	16.84	20.25	-3.41	0.22	15.35	20.29	-4.94	0.33	20.32	21.64	-1.33	0.76		
7C	Survey / NSCF	Set to Missing Value	20.20	23.08	-2.88	0.45	16.29	23.38	-7.09	0.30	23.90	29.17	-5.27	0.26		
7CT	Survey / NSCT	Set to Missing Value	20.39	23.71	-3.32	0.34	16.44	23.94	-7.49	0.29	23.99	28.87	-4.88	0.28		
8	Survey then NSCF / SFA	Set to 0	16.75	20.40	-3.66	0.19	19.16	22.19	-3.03	0.38	28.74	27.00	1.74	0.71		
8T	Survey then NSCT / SFA	Set to 0	16.91	20.16	-3.25	0.22	19.60	22.47	-2.87	0.42	27.60	25.97	1.63	0.69		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	17.27	21.31	-4.04	0.18	19.53	22.74	-3.21	0.36	29.12	29.95	-0.83	0.84		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	17.44	21.07	-3.63	0.19	19.97	23.07	-3.10	0.38	28.01	29.35	-1.35	0.72		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	17.51	21.46	-3.95	0.19	19.70	22.85	-3.15	0.37	29.42	30.55	-1.13	0.78		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	17.53	21.69	-4.15	0.15	20.13	23.18	-3.05	0.39	28.05	30.24	-2.19	0.56		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	18.30	22.09	-3.79	0.22	19.97	23.44	-3.47	0.34	30.75	31.67	-0.92	0.83		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	18.25	22.32	-4.07	0.17	20.44	23.78	-3.33	0.36	29.39	31.36	-1.98	0.63		

Table I.53

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Project Size (ITT)

Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	8.03	7.36	0.67	0.68	7.87	2.10	5.78	0.19	2.11	5.67	-3.56 **	0.04	#	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.98	0.26	0.72 ***	0.00	0.33	0.44	-0.11	0.84	1.72	0.21	1.51	0.20		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.75	0.26	0.49 **	0.04	0.52	0.18	0.34	0.49	1.72	0.21	1.51	0.20		
3	Pell Receipt ( <i>SFA</i> )	None	8.04	6.18	1.86	0.16	4.00	3.05	0.94	0.29	1.51	8.07	-6.57 *	0.06	#	
4	NSCF / SFA	None	7.03	4.96	2.07 **	0.04	3.73	2.81	0.91	0.28	1.50	7.64	-6.14 *	0.10	#	
4T	NSCT / SFA	None	7.45	4.96	2.49 **	0.01	3.70	2.81	0.89	0.27	1.50	7.64	-6.14 *	0.10	#	
5A	Survey / NSCF / SFA	Set to 0	6.82	6.18	0.64	0.48	6.79	3.11	3.68	0.15	1.86	4.62	-2.75	0.34		
5AT	Survey / NSCT / SFA	Set to 0	7.01	6.34	0.66	0.49	6.77	3.11	3.66	0.15	1.86	4.62	-2.75	0.34		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	6.99	6.31	0.67	0.46	6.88	3.20	3.68	0.15	2.28	4.93	-2.65	0.37		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.24	6.52	0.72	0.45	6.81	3.21	3.60	0.16	2.28	4.97	-2.69	0.36		
5C	Survey / NSCF / SFA	Set to Missing Value	7.73	6.95	0.78	0.46	7.54	3.49	4.06	0.19	2.17	5.60	-3.43	0.27		
5CT	Survey / NSCT / SFA	Set to Missing Value	8.12	7.16	0.95	0.39	7.50	3.51	3.98	0.20	2.16	5.67	-3.51	0.25	#	
6A	Survey / SFA	Set to 0	7.30	7.25	0.06	0.95	6.99	3.13	3.86	0.13	1.86	4.62	-2.75	0.34		
6B	Survey / SFA	Set to 0 if no aid app	7.75	7.51	0.24	0.80	7.28	3.35	3.94	0.13	2.42	5.08	-2.66	0.38		
6C	Survey / SFA	Set to Missing Value	8.76	8.23	0.53	0.64	8.10	3.72	4.39	0.17	2.41	5.85	-3.44	0.28		
7A	Survey / NSCF	Set to 0	5.00	4.18	0.81	0.52	4.84	1.68	3.17	0.22	1.12	3.87	-2.75	0.22	#	
7AT	Survey / NSCT	Set to 0	5.09	4.34	0.75	0.57	4.90	1.62	3.27	0.20	1.12	3.87	-2.75	0.22		
7C	Survey / NSCF	Set to Missing Value	6.10	5.04	1.06	0.51	5.77	2.02	3.75	0.25	1.42	5.20	-3.79	0.20	#	
7CT	Survey / NSCT	Set to Missing Value	6.33	5.23	1.10	0.49	5.88	2.00	3.88	0.24	1.60	5.51	-3.91	0.17	#	
8	Survey then NSCF / SFA	Set to 0	6.82	6.18	0.64	0.48	6.79	3.11	3.68	0.15	1.86	4.62	-2.75	0.34		
8T	Survey then NSCT / SFA	Set to 0	7.01	6.34	0.66	0.49	6.77	3.11	3.66	0.15	1.86	4.62	-2.75	0.34		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	7.30	6.78	0.52	0.60	7.43	4.08	3.35	0.13	4.68	7.64	-2.96 *	0.07	#	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	7.47	6.94	0.53	0.61	7.41	4.08	3.32	0.13	4.68	7.64	-2.96 *	0.07	#	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	7.43	6.87	0.56	0.57	7.46	4.11	3.35	0.13	4.85	7.87	-3.01 *	0.08	#	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	7.66	7.06	0.59	0.57	7.44	4.11	3.32	0.13	4.89	7.91	-3.02 *	0.08	#	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	7.79	7.15	0.64	0.55	7.85	4.24	3.61	0.14	4.40	8.23	-3.83 **	0.04	#	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	8.03	7.35	0.68	0.54	7.83	4.25	3.59	0.14	4.46	8.27	-3.82 **	0.04	#	

Table I.54

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Project Size (ITT)

Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	10.22	9.98	0.24	0.93	11.28	9.71	1.57	0.69	15.61	26.40	-10.78	0.22		
2	NSC through 05-06 ( <i>NSCF</i> )	None	11.99	7.13	4.86 ***	0.00	7.19	7.31	-0.13	0.94 #	9.49	10.56	-1.07	0.73	#	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	10.60	7.13	3.47 **	0.02	6.96	6.89	0.07	0.96	9.09	10.56	-1.47	0.61		
3	Pell Receipt ( <i>SFA</i> )	None	7.37	6.83	0.54	0.80	6.75	3.58	3.16 **	0.02	7.41	9.70	-2.29	0.28		
4	NSCF / SFA	None	12.22	8.80	3.43 **	0.04	8.29	8.65	-0.37	0.88	9.49	10.56	-1.07	0.73		
4T	NSCT / SFA	None	10.80	8.80	2.00	0.22	8.12	8.23	-0.11	0.97	9.09	10.56	-1.47	0.61		
5A	Survey / NSCF / SFA	Set to 0	13.39	9.37	4.02 ***	0.01	10.66	9.50	1.16	0.69	10.62	13.13	-2.51	0.47	#	
5AT	Survey / NSCT / SFA	Set to 0	12.14	9.37	2.78 **	0.05	10.49	9.28	1.21	0.68	10.17	13.13	-2.96	0.36	#	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	13.70	9.52	4.17 ***	0.01	10.69	9.70	0.99	0.73	10.84	14.13	-3.29	0.39	#	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	12.56	9.55	3.01 **	0.04	10.49	9.54	0.95	0.75	10.32	14.38	-4.06	0.25	#	
5C	Survey / NSCF / SFA	Set to Missing Value	14.35	10.40	3.95 **	0.02	11.52	10.65	0.87	0.78	14.63	18.51	-3.88	0.42		
5CT	Survey / NSCT / SFA	Set to Missing Value	13.20	10.43	2.77 *	0.09	11.31	10.51	0.80	0.80	14.10	18.83	-4.74	0.31	#	
6A	Survey / SFA	Set to 0	10.42	9.37	1.05	0.49	10.09	8.12	1.97	0.48	9.50	12.70	-3.20	0.30		
6B	Survey / SFA	Set to 0 if no aid app	11.20	9.71	1.48	0.38	9.72	8.56	1.16	0.73	9.91	14.21	-4.30	0.21	#	
6C	Survey / SFA	Set to Missing Value	11.95	10.66	1.29	0.50	10.21	9.61	0.60	0.87	13.70	18.90	-5.20	0.26		
7A	Survey / NSCF	Set to 0	13.46	8.82	4.64 ***	0.01	11.00	8.77	2.23	0.33	10.62	13.13	-2.51	0.47	#	
7AT	Survey / NSCT	Set to 0	12.21	8.82	3.39 **	0.03	10.83	8.56	2.27	0.32	10.17	13.13	-2.96	0.36	#	
7C	Survey / NSCF	Set to Missing Value	15.24	10.41	4.83 **	0.01	11.81	10.39	1.41	0.60	14.66	19.28	-4.62	0.34	#	
7CT	Survey / NSCT	Set to Missing Value	14.11	10.41	3.71 **	0.03	11.63	10.28	1.35	0.63	14.23	20.03	-5.80	0.22	#	
8	Survey then NSCF / SFA	Set to 0	13.39	9.37	4.02 ***	0.01	10.66	9.50	1.16	0.69	10.62	13.13	-2.51	0.47	#	
8T	Survey then NSCT / SFA	Set to 0	12.14	9.37	2.78 **	0.05	10.49	9.28	1.21	0.68	10.17	13.13	-2.96	0.36	#	

Table I.55

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Project Size (ITT)

Outcome / Data Source	Uncoded	Large (100 or more students)					Medium (61-99 students)					Small (60 or fewer students)				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	78.01	64.10	13.91 **	0.03	64.60	62.44	2.17	0.58	#	48.93	59.59	-10.66	0.20	#	
2 Pell receipt (Survey)	Set to 0	67.46	52.83	14.62 **	0.01	54.48	50.59	3.89	0.39		43.42	55.46	-12.04	0.14	#	
3 Pell receipt (SFA)	None	67.34	64.35	2.99	0.44	54.47	52.18	2.29	0.53		53.64	52.77	0.86	0.88		
Applied for aid (SFA)	None	82.10	80.83	1.27	0.65	68.34	66.99	1.35	0.65		70.49	70.23	0.27	0.95		
1 Aid receipt (Survey)	Set to Missing Value	92.57	85.80	6.77 *	0.06	83.95	80.73	3.23	0.30		83.89	80.95	2.94	0.75		
2 Aid receipt (Survey)	Set to 0	81.22	71.12	10.09 **	0.03	70.63	66.30	4.32	0.27		75.32	73.58	1.74	0.84		

Table I.56

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Project Size (ITT)

Outcome / Data Source		Uncoded	Large (100 or more students)				Medium (61-99 students)				Small (60 or fewer students)					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Any Postsecondary Degree</i>																
1	Survey	Set to Missing Value	45.47	45.03	0.45	0.93	58.19	40.20	17.99 ***	0.01	#	52.73	55.01	-2.28	0.81	
2	NSCF	None	19.71	19.92	-0.21	0.93	17.00	16.65	0.35	0.92		22.60	19.77	2.83	0.50	
2T	NSCT	None	16.79	16.24	0.55	0.81	14.63	14.00	0.63	0.86		18.12	17.62	0.50	0.89	
7A	Survey / NSCF	Set to 0	36.63	36.44	0.19	0.95	34.57	31.26	3.31	0.13		41.71	32.05	9.66	0.18	
7AT	Survey / NSCT	Set to 0	34.56	33.68	0.89	0.80	32.94	28.79	4.15 *	0.07		38.36	30.98	7.38	0.29	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	39.87	38.85	1.03	0.75	35.75	33.59	2.16	0.38		44.39	35.46	8.93	0.25	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	37.92	36.22	1.70	0.64	34.03	31.31	2.72	0.31		40.93	35.59	5.34	0.50	
7C	Survey / NSCF	Set to Missing Value	42.11	41.87	0.23	0.95	39.56	37.06	2.49	0.34		50.72	42.91	7.80	0.26	
7CT	Survey / NSCT	Set to Missing Value	40.41	39.08	1.34	0.74	38.21	34.66	3.54	0.20		47.00	42.88	4.12	0.56	
<i>Highest Degree Completed: Four-year Degree</i>																
1	Survey	Set to Missing Value	27.44	21.26	6.18	0.11	27.57	23.66	3.91	0.21		31.14	29.87	1.28	0.91	
2	NSCF	None	16.36	14.53	1.83	0.33	12.17	11.71	0.46	0.89		19.31	12.72	6.59	0.15	
2T	NSCT	None	13.71	12.97	0.74	0.75	10.72	10.46	0.26	0.94		15.41	12.72	2.70	0.47	
7A	Survey / NSCF	Set to 0	23.70	20.41	3.29 *	0.09	19.39	20.04	-0.65	0.83		26.31	16.06	10.25 **	0.02	
7AT	Survey / NSCT	Set to 0	21.55	18.85	2.69	0.22	18.15	18.83	-0.67	0.82		23.60	16.06	7.54 *	0.06	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	25.76	22.06	3.70 *	0.05	19.85	21.64	-1.79	0.60		27.83	17.84	9.99 **	0.03	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	23.69	20.52	3.17	0.15	18.58	20.58	-2.00	0.58		24.80	18.53	6.27	0.18	
7C	Survey / NSCF	Set to Missing Value	26.90	23.70	3.19	0.12	21.29	23.94	-2.65	0.50		32.39	22.29	10.10	0.18	
7CT	Survey / NSCT	Set to Missing Value	24.83	22.05	2.78	0.25	20.05	22.84	-2.80	0.49		28.96	23.14	5.82	0.41	

Table I.56 (continued)

Outcome / Data Source		Uncoded	Large (100 or more students)				Medium (61-99 students)				Small (60 or fewer students)					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>																
1	Survey	Set to Missing Value	7.57	12.27	-4.70	0.25	12.21	10.97	1.24	0.63	4.25	12.88	-8.62	0.12		
2	NSCF	None	3.16	4.38	-1.22	0.36	3.25	4.54	-1.29	0.40	2.89	7.05	-4.16 *	0.07		
2T	NSCT	None	2.79	2.81	-0.02	0.99	3.21	3.16	0.05	0.95	2.98	4.91	-1.93	0.12		
7A	Survey / NSCF	Set to 0	6.23	9.58	-3.34	0.20	7.03	8.23	-1.20	0.44	6.04	9.72	-3.68	0.33		
7AT	Survey / NSCT	Set to 0	6.25	8.50	-2.25	0.51	7.19	6.95	0.24	0.84	5.90	7.57	-1.67	0.63		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.78	10.00	-3.22	0.23	7.26	8.79	-1.53	0.39	7.00	10.74	-3.74	0.34		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.79	8.90	-2.11	0.56	7.48	7.50	-0.02	0.99	7.00	8.83	-1.83	0.62		
7C	Survey / NSCF	Set to Missing Value	7.30	10.72	-3.42	0.20	7.44	9.70	-2.26	0.31	6.73	12.74	-6.02	0.18		
7CT	Survey / NSCT	Set to Missing Value	7.48	9.47	-1.99	0.58	7.74	8.31	-0.57	0.70	6.83	10.44	-3.61	0.42		
<i>Highest Degree Completed: Other Degree</i>																
1	Survey	Set to Missing Value	9.81	11.50	-1.69	0.60	16.20	5.58	10.62	0.12	16.33	12.27	4.06	0.68		
2	NSCF	None	0.41	1.01	-0.60	0.40	0.84	0.41	0.44	0.36	1.49	0.00	1.49 ***	0.00	#	
2T	NSCT	None	0.35	0.46	-0.10	0.81	0.67	0.38	0.29	0.50	1.49	0.00	1.49 ***	0.00	#	
7A	Survey / NSCF	Set to 0	6.57	6.46	0.11	0.94	8.71	2.99	5.72 *	0.07	8.91	6.27	2.64	0.58		
7AT	Survey / NSCT	Set to 0	6.42	6.32	0.10	0.95	8.78	3.02	5.76 *	0.07	9.11	7.35	1.76	0.74		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.15	6.79	0.36	0.81	9.09	3.17	5.93 *	0.09	8.99	6.88	2.12	0.67		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.07	6.80	0.27	0.88	9.11	3.24	5.88 *	0.09	9.22	8.23	0.99	0.86		
7C	Survey / NSCF	Set to Missing Value	7.74	7.45	0.29	0.86	10.23	3.43	6.80 *	0.09	10.07	7.88	2.20	0.68		
7CT	Survey / NSCT	Set to Missing Value	7.77	7.56	0.21	0.91	10.26	3.51	6.74 *	0.09	10.48	9.30	1.18	0.85		
<i>Currently In School</i>																
1	Currently in school (Survey)	Set to Missing Value	11.21	10.37	0.85	0.64	6.10	5.65	0.44	0.82	11.92	8.44	3.47	0.42		
1	In school or completed degree (Survey)	Set to Missing Value	56.99	55.39	1.61	0.73	63.85	46.62	17.23 ***	0.00	#	65.39	61.17	4.22	0.69	

Table I.57

Impact of Upward Bound on Any Postsecondary Enrollment by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	68.99	65.04	3.95	0.32	84.44	81.99	2.45	0.25	81.77	87.31	-5.55	0.43		
2	NSC through 05-06 ( <i>NSCF</i> )	None	49.99	44.81	5.18 *	0.09	66.37	66.23	0.15	0.94	49.70	60.76	-11.06	0.24	#	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	45.68	43.28	2.40	0.48	64.45	62.98	1.47	0.43	48.95	57.74	-8.80	0.34		
3	Pell Receipt ( <i>SFA</i> )	None	45.49	40.38	5.11	0.14	63.45	59.00	4.45 *	0.08	54.40	57.19	-2.80	0.41	#	
4	NSCF / SFA	None	58.15	53.50	4.64 *	0.07	77.14	74.74	2.40	0.30	65.73	73.61	-7.89	0.16	#	
4T	NSCT / SFA	None	56.99	52.28	4.71 *	0.07	76.37	73.06	3.31	0.13	65.90	71.90	-6.00	0.24	#	
5A	Survey / NSCF / SFA	Set to 0	66.56	60.43	6.14 **	0.02	83.13	81.40	1.73	0.34	78.41	81.08	-2.67	0.54	#	
5AT	Survey / NSCT / SFA	Set to 0	65.36	59.20	6.16 **	0.02	82.42	80.62	1.80	0.33	78.79	79.45	-0.66	0.86		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	67.18	62.66	4.52 *	0.07	84.86	83.40	1.47	0.39	79.32	82.30	-2.99	0.49		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	65.96	61.44	4.52	0.13	84.22	82.96	1.27	0.47	79.06	81.73	-2.67	0.54		
5C	Survey / NSCF / SFA	Set to Missing Value	73.59	68.72	4.87	0.14	90.24	89.43	0.80	0.62	88.20	91.53	-3.32	0.50		
5CT	Survey / NSCT / SFA	Set to Missing Value	72.16	67.73	4.43	0.23	89.98	89.06	0.92	0.58	88.24	91.02	-2.78	0.59		
6A	Survey / SFA	Set to 0	61.54	56.31	5.23 *	0.09	78.61	76.30	2.31	0.30	74.53	76.91	-2.38	0.47	#	
6B	Survey / SFA	Set to 0 if no aid app	64.18	59.15	5.02	0.11	82.02	80.17	1.85	0.35	76.91	80.98	-4.07	0.36	#	
6C	Survey / SFA	Set to Missing Value	70.47	65.87	4.60	0.22	88.47	87.38	1.09	0.56	86.36	90.77	-4.42	0.40		
7A	Survey / NSCF	Set to 0	63.61	57.84	5.78 **	0.03	79.96	78.51	1.46	0.39	72.74	74.51	-1.78	0.68		
7AT	Survey / NSCT	Set to 0	62.15	56.30	5.84 **	0.04	79.02	77.03	1.99	0.25	72.62	72.74	-0.12	0.97		
7C	Survey / NSCF	Set to Missing Value	72.70	67.89	4.81	0.15	88.96	88.68	0.28	0.84	86.62	90.68	-4.07	0.46		
7CT	Survey / NSCT	Set to Missing Value	71.20	66.79	4.41	0.25	88.78	87.89	0.89	0.52	86.44	90.13	-3.70	0.51		
8	Survey then NSCF / SFA	Set to 0	63.80	57.52	6.28 **	0.02	80.23	78.91	1.32	0.51	76.71	80.37	-3.66	0.40	#	
8T	Survey then NSCT / SFA	Set to 0	63.83	57.07	6.76 **	0.02	79.61	78.47	1.14	0.58	#	77.24	79.09	-1.85	0.58	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	68.32	63.14	5.18 **	0.02	85.61	84.16	1.45	0.45	80.49	84.68	-4.19	0.38	#	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	67.10	61.92	5.18 *	0.06	84.92	83.52	1.40	0.48	80.03	84.04	-4.01	0.43		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	68.57	63.78	4.79 **	0.03	86.64	85.16	1.48	0.42	80.57	84.99	-4.41	0.33	#	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	67.36	62.55	4.81 *	0.08	86.02	84.81	1.21	0.52	80.17	84.59	-4.41	0.34		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	70.11	65.66	4.45 **	0.05	88.28	87.17	1.11	0.53	83.33	87.89	-4.55	0.34		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	68.88	64.39	4.49 *	0.10	87.63	86.80	0.83	0.65	82.88	87.45	-4.57	0.35		

Table I.58

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	48.63	44.99	3.64	0.44	56.43	51.84	4.59	0.16	61.84	55.66	6.18 **	0.03		
2	NSC through 05-06 ( <i>NSCF</i> )	None	32.25	24.66	7.60 *	0.07	45.76	40.21	5.55 **	0.01	27.57	38.35	-10.78	0.16	#	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	30.81	24.09	6.72	0.14	44.68	38.47	6.21 ***	0.00	26.50	35.74	-9.24	0.24	#	
3	Pell Receipt ( <i>SFA</i> )	None	30.18	21.66	8.52 ***	0.01	40.12	36.32	3.80	0.12	34.22	39.29	-5.06	0.32	#	
4	NSCF / SFA	None	38.91	29.03	9.88 **	0.02	51.67	46.90	4.77 **	0.03	40.30	46.91	-6.62	0.22	#	
4T	NSCT / SFA	None	37.44	28.46	8.99 **	0.05	50.91	45.66	5.24 **	0.02	39.70	44.90	-5.20	0.30	#	
5A	Survey / NSCF / SFA	Set to 0	44.95	38.00	6.95 **	0.05	57.28	54.47	2.82	0.19	50.38	52.95	-2.57	0.62		
5AT	Survey / NSCT / SFA	Set to 0	43.82	37.67	6.15 *	0.09	56.50	53.60	2.90	0.18	49.63	51.29	-1.66	0.72		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	45.26	39.38	5.88	0.10	58.27	55.95	2.33	0.25	50.89	53.73	-2.83	0.60		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	44.12	39.05	5.07	0.18	57.60	55.31	2.29	0.27	49.87	52.68	-2.82	0.58		
5C	Survey / NSCF / SFA	Set to Missing Value	49.46	43.19	6.27	0.18	61.58	59.85	1.74	0.46	57.28	59.97	-2.69	0.62		
5CT	Survey / NSCT / SFA	Set to Missing Value	48.07	43.05	5.03	0.30	61.14	59.21	1.92	0.43	56.39	58.90	-2.51	0.63		
6A	Survey / SFA	Set to 0	41.51	36.14	5.37	0.11	53.88	50.96	2.92	0.25	49.08	50.65	-1.56	0.74		
6B	Survey / SFA	Set to 0 if no aid app	43.30	37.91	5.38	0.13	56.04	53.62	2.42	0.29	50.55	53.29	-2.74	0.62		
6C	Survey / SFA	Set to Missing Value	47.22	42.26	4.96	0.29	60.15	58.39	1.76	0.52	57.15	59.95	-2.81	0.63		
7A	Survey / NSCF	Set to 0	43.44	36.73	6.71 *	0.07	55.45	51.81	3.64 *	0.08	47.35	48.01	-0.66	0.88		
7AT	Survey / NSCT	Set to 0	42.31	36.40	5.91	0.12	54.39	50.69	3.70 *	0.08	46.63	46.35	0.28	0.94		
7C	Survey / NSCF	Set to Missing Value	49.88	43.10	6.78	0.16	61.13	58.51	2.62	0.27	56.97	58.57	-1.60	0.74		
7CT	Survey / NSCT	Set to Missing Value	48.58	43.16	5.41	0.29	60.58	57.89	2.69	0.27	56.24	57.45	-1.20	0.79		
8	Survey then NSCF / SFA	Set to 0	44.95	38.00	6.95 **	0.05	57.28	54.47	2.82	0.19	50.38	52.95	-2.57	0.62		
8T	Survey then NSCT / SFA	Set to 0	43.82	37.67	6.15 *	0.09	56.50	53.60	2.90	0.18	49.63	51.29	-1.66	0.72		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	45.23	38.94	6.29 *	0.06	58.59	55.25	3.34	0.12	51.32	54.20	-2.88	0.60		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	44.10	38.61	5.49	0.13	57.81	54.38	3.43	0.11	50.58	52.54	-1.96	0.69		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	45.47	39.34	6.14 *	0.07	59.16	55.95	3.20	0.14	51.35	54.39	-3.04	0.57		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	44.34	39.00	5.34	0.14	58.50	55.29	3.21	0.14	50.62	52.77	-2.15	0.65		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	46.72	40.49	6.23 *	0.08	60.08	57.20	2.88	0.19	52.79	56.34	-3.56	0.53		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	45.57	40.14	5.43	0.15	59.43	56.53	2.91	0.20	52.06	54.67	-2.61	0.60		



Table I.59

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	15.87	16.61	-0.74	0.78	21.67	24.31	-2.65	0.28	3.20	28.97	-25.77 *	0.09	#	
2	NSC through 05-06 ( <i>NSCF</i> )	None	14.60	17.09	-2.49	0.31	18.29	22.26	-3.97 **	0.05	8.13	10.60	-2.47	0.63		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	12.78	16.73	-3.95 **	0.04	17.84	22.16	-4.32 **	0.04	6.90	10.93	-4.03	0.47		
3	Pell Receipt ( <i>SFA</i> )	None	14.16	14.25	-0.10	0.97	17.06	18.20	-1.14	0.57	13.13	14.61	-1.48	0.60		
4	NSCF / SFA	None	16.38	19.33	-2.95	0.36	19.92	23.85	-3.94 *	0.05	15.13	18.71	-3.58	0.15		
4T	NSCT / SFA	None	17.02	19.21	-2.19	0.50	19.84	23.76	-3.92 **	0.03	15.11	19.38	-4.27 *	0.10		
5A	Survey / NSCF / SFA	Set to 0	17.96	17.81	0.16	0.96	20.74	21.97	-1.24	0.50	14.94	23.85	-8.90 *	0.09	#	
5AT	Survey / NSCT / SFA	Set to 0	18.20	17.44	0.75	0.80	20.89	22.10	-1.21	0.54	15.63	24.16	-8.53 *	0.10	#	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	18.06	18.45	-0.39	0.90	21.31	22.35	-1.04	0.57	15.03	24.20	-9.17 *	0.08	#	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	18.30	18.08	0.22	0.95	21.43	22.57	-1.15	0.55	15.77	24.93	-9.15 *	0.08	#	
5C	Survey / NSCF / SFA	Set to Missing Value	20.13	20.10	0.03	0.99	22.97	24.14	-1.17	0.54	15.73	26.71	-10.98 *	0.07	#	
5CT	Survey / NSCT / SFA	Set to Missing Value	20.32	19.82	0.50	0.87	23.28	24.40	-1.12	0.57	16.62	27.59	-10.97 *	0.07	#	
6A	Survey / SFA	Set to 0	17.03	16.34	0.68	0.80	19.58	20.09	-0.51	0.80	13.30	22.45	-9.15 **	0.01	#	
6B	Survey / SFA	Set to 0 if no aid app	17.87	17.14	0.74	0.81	20.49	20.96	-0.46	0.82	13.58	23.71	-10.13 **	0.01	#	
6C	Survey / SFA	Set to Missing Value	20.08	18.95	1.13	0.69	22.39	22.92	-0.54	0.79	14.42	26.38	-11.97 **	0.02	#	
7A	Survey / NSCF	Set to 0	16.63	17.17	-0.54	0.84	20.71	21.73	-1.02	0.59	7.42	20.18	-12.76	0.14	#	
7AT	Survey / NSCT	Set to 0	16.30	16.81	-0.50	0.85	20.77	22.08	-1.30	0.51	8.05	20.35	-12.30	0.13	#	
7C	Survey / NSCF	Set to Missing Value	18.54	19.96	-1.42	0.64	23.40	24.53	-1.13	0.57	6.86	24.27	-17.40	0.12	#	
7CT	Survey / NSCT	Set to Missing Value	18.25	19.75	-1.50	0.61	23.74	25.15	-1.41	0.50	7.39	25.05	-17.66	0.11	#	
8	Survey then NSCF / SFA	Set to 0	17.96	17.81	0.16	0.96	20.74	21.97	-1.24	0.50	14.94	23.85	-8.90 *	0.09	#	
8T	Survey then NSCT / SFA	Set to 0	18.20	17.44	0.75	0.80	20.89	22.10	-1.21	0.54	15.63	24.16	-8.53 *	0.10	#	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	18.94	18.71	0.24	0.93	21.17	22.91	-1.74	0.39	15.15	24.32	-9.18 *	0.08	#	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	19.17	18.34	0.82	0.77	21.33	23.18	-1.86	0.38	15.83	24.63	-8.80 *	0.09	#	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	18.95	18.87	0.08	0.98	21.54	23.12	-1.58	0.43	15.11	24.40	-9.29 *	0.08	#	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	19.18	18.50	0.68	0.81	21.64	23.45	-1.81	0.39	15.75	24.91	-9.16 *	0.08	#	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	19.29	19.36	-0.07	0.98	21.98	23.71	-1.73	0.39	15.38	25.08	-9.70 *	0.08	#	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	19.53	19.00	0.52	0.85	22.08	24.04	-1.96	0.35	16.06	25.62	-9.56 *	0.07	#	

Table I.60

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.11	3.12	0.99	0.47	5.77	4.24	1.53	0.30		10.46	2.68	7.78	0.25	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.46	0.33	0.13	0.89	0.06	0.35	-0.29	0.11		1.22	0.46	0.75	0.35	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.85	0.00	0.85 ***	0.00	0.12	0.24	-0.12	0.38	#	1.25	0.24	1.01	0.15	
3	Pell Receipt ( <i>SFA</i> )	None	-0.08	4.47	-4.55 **	0.02	5.89	4.36	1.52	0.22	#	5.86	3.30	2.56 **	0.04	#
4	NSCF / SFA	None	0.44	4.54	-4.11 **	0.03	4.70	2.99	1.71 *	0.08	#	5.67	3.42	2.25 *	0.08	#
4T	NSCT / SFA	None	0.17	4.21	-4.04 **	0.03	5.06	3.16	1.91 **	0.05	#	5.83	3.42	2.41 *	0.06	#
5A	Survey / NSCF / SFA	Set to 0	3.36	3.82	-0.47	0.76	4.57	3.84	0.73	0.44		10.76	3.79	6.97	0.11	
5AT	Survey / NSCT / SFA	Set to 0	3.19	3.49	-0.30	0.82	4.69	4.01	0.68	0.49		11.17	3.87	7.31	0.11	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	3.41	4.00	-0.59	0.71	4.69	3.94	0.75	0.44		10.90	3.88	7.02	0.11	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	3.27	3.67	-0.40	0.77	4.82	4.13	0.68	0.50		11.24	3.97	7.26	0.12	
5C	Survey / NSCF / SFA	Set to Missing Value	3.55	4.47	-0.92	0.61	5.00	4.26	0.74	0.49		11.91	4.26	7.65	0.11	
5CT	Survey / NSCT / SFA	Set to Missing Value	3.48	4.14	-0.66	0.68	5.16	4.48	0.68	0.54		12.31	4.37	7.94	0.12	
6A	Survey / SFA	Set to 0	3.14	3.63	-0.49	0.72	4.92	4.54	0.38	0.71		11.47	3.81	7.66 *	0.10	
6B	Survey / SFA	Set to 0 if no aid app	3.30	3.87	-0.57	0.71	5.21	4.85	0.36	0.75		11.86	3.98	7.88 *	0.09	
6C	Survey / SFA	Set to Missing Value	3.55	4.37	-0.82	0.63	5.65	5.31	0.34	0.79		13.16	4.43	8.72 *	0.09	
7A	Survey / NSCF	Set to 0	2.52	2.84	-0.32	0.81	3.22	2.70	0.52	0.55		6.88	1.72	5.17	0.16	
7AT	Survey / NSCT	Set to 0	2.82	2.50	0.31	0.76	3.35	2.75	0.60	0.50		7.28	1.79	5.49	0.17	
7C	Survey / NSCF	Set to Missing Value	2.61	3.44	-0.83	0.59	3.67	3.13	0.55	0.58		9.59	2.22	7.36	0.25	
7CT	Survey / NSCT	Set to Missing Value	3.12	3.15	-0.02	0.99	3.84	3.22	0.62	0.54		9.54	2.35	7.19	0.23	
8	Survey then NSCF / SFA	Set to 0	3.36	3.82	-0.47	0.76	4.57	3.84	0.73	0.44		10.76	3.79	6.97	0.11	
8T	Survey then NSCT / SFA	Set to 0	3.19	3.49	-0.30	0.82	4.69	4.01	0.68	0.49		11.17	3.87	7.31	0.11	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	3.70	4.46	-0.76	0.66	4.82	4.02	0.79	0.42		11.78	5.60	6.18 *	0.10	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	3.55	4.13	-0.58	0.71	4.94	4.19	0.75	0.47		12.14	5.67	6.46	0.10	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	3.73	4.53	-0.80	0.65	4.88	4.08	0.80	0.42		11.84	5.63	6.21	0.10	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	3.59	4.20	-0.62	0.70	5.01	4.27	0.74	0.48		12.22	5.71	6.50	0.11	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	3.76	4.73	-0.97	0.61	5.06	4.20	0.86	0.41		12.56	5.84	6.72	0.11	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	3.61	4.39	-0.77	0.65	5.19	4.40	0.79	0.47		12.95	5.92	7.02	0.11	

Table I.61

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	10.79	8.69	2.10	0.57	11.28	9.63	1.66	0.55	6.51	11.95	-5.44	0.40		
2	NSC through 05-06 ( <i>NSCF</i> )	None	4.29	4.17	0.12	0.96	8.65	7.04	1.60	0.39	9.95	9.10	0.84	0.74		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	3.52	4.17	-0.65	0.77	8.03	6.77	1.26	0.48	9.62	8.62	1.00	0.69		
3	Pell Receipt ( <i>SFA</i> )	None	4.38	3.16	1.22	0.56	6.97	6.10	0.88	0.51	8.69	3.75	4.94 **	0.02		
4	NSCF / SFA	None	5.73	4.81	0.92	0.70	10.33	8.99	1.34	0.48	9.56	10.24	-0.68	0.87		
4T	NSCT / SFA	None	4.96	4.81	0.15	0.95	9.79	8.72	1.07	0.56	9.38	9.75	-0.38	0.92		
5A	Survey / NSCF / SFA	Set to 0	9.29	6.92	2.36	0.43	12.10	10.24	1.86	0.33	11.04	10.24	0.80	0.87		
5AT	Survey / NSCT / SFA	Set to 0	8.74	6.92	1.82	0.53	11.56	9.97	1.59	0.40	10.67	10.11	0.56	0.90		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	9.40	7.22	2.18	0.47	12.11	10.52	1.59	0.39	11.13	10.39	0.74	0.88		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.83	7.22	1.61	0.58	11.61	10.28	1.34	0.46	10.72	10.37	0.35	0.94		
5C	Survey / NSCF / SFA	Set to Missing Value	10.37	8.08	2.29	0.53	12.89	11.43	1.46	0.50	12.03	11.71	0.33	0.94		
5CT	Survey / NSCT / SFA	Set to Missing Value	9.69	8.17	1.52	0.67	12.39	11.17	1.22	0.57	11.65	11.71	-0.06	0.99		
6A	Survey / SFA	Set to 0	8.81	6.62	2.19	0.45	10.33	9.30	1.03	0.56	9.97	8.79	1.18	0.79		
6B	Survey / SFA	Set to 0 if no aid app	9.18	7.01	2.16	0.45	10.67	9.85	0.82	0.63	8.94	9.21	-0.27	0.96		
6C	Survey / SFA	Set to Missing Value	10.06	8.01	2.05	0.56	11.55	10.97	0.59	0.77	9.09	10.53	-1.45	0.83		
7A	Survey / NSCF	Set to 0	9.08	6.78	2.30	0.44	11.88	9.72	2.17	0.27	12.34	9.25	3.09	0.37		
7AT	Survey / NSCT	Set to 0	8.54	6.78	1.76	0.54	11.34	9.44	1.90	0.32	11.94	9.12	2.82	0.40		
7C	Survey / NSCF	Set to Missing Value	10.67	8.28	2.39	0.51	12.87	11.24	1.64	0.46	13.21	11.44	1.77	0.66		
7CT	Survey / NSCT	Set to Missing Value	10.02	8.47	1.55	0.67	12.34	11.02	1.33	0.56	12.92	11.42	1.51	0.72		
8	Survey then NSCF / SFA	Set to 0	9.29	6.92	2.36	0.43	12.10	10.24	1.86	0.33	11.04	10.24	0.80	0.87		
8T	Survey then NSCT / SFA	Set to 0	8.74	6.92	1.82	0.53	11.56	9.97	1.59	0.40	10.67	10.11	0.56	0.90		

Table I.62

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Outcome / Data Source	Uncoded	No Courses					1-15 Courses					16 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	60.35	55.76	4.59	0.27	72.98	64.24	8.74 ***	0.01	62.20	64.24	-2.04	0.70			
2 Pell receipt (Survey)	Set to 0	44.98	39.79	5.19	0.25	61.77	51.84	9.93 ***	0.00	54.17	55.64	-1.47	0.81			
3 Pell receipt (SFA)	None	45.49	40.38	5.11	0.14	63.45	59.00	4.45 *	0.08	54.40	57.19	-2.80	0.41 #			
Applied for aid (SFA)	None	60.92	59.71	1.21	0.65	79.68	75.93	3.75 *	0.08	66.73	69.33	-2.60	0.34			
1 Aid receipt (Survey)	Set to Missing Value	79.23	72.10	7.13	0.13	90.87	85.05	5.82	0.17	83.54	83.13	0.41	0.87			
2 Aid receipt (Survey)	Set to 0	58.82	53.55	5.27	0.27	76.82	68.99	7.83 **	0.01	72.27	72.41	-0.14	0.98			

Table I.63

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Number of Courses Offered by Projects During the 1992-1993 Academic Year (ITT)

Outcome / Data Source		Uncoded	No Courses					1-15 Courses					16 or More Courses				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																	
1	Survey	Set to Missing Value	40.47	34.54	5.93	0.53	50.03	40.59	9.44 **	0.02		64.37	46.00	18.37 *	0.06		
2	NSCF	None	17.20	12.42	4.78	0.22	20.48	19.54	0.94	0.61		14.29	17.84	-3.54	0.49		
2T	NSCT	None	14.62	10.68	3.94	0.34	17.82	16.18	1.64	0.41		12.40	14.96	-2.55	0.61		
7A	Survey / NSCF	Set to 0	27.72	23.58	4.14	0.34	37.22	34.45	2.77	0.27		35.96	34.33	1.64	0.53		
7AT	Survey / NSCT	Set to 0	26.07	22.23	3.84	0.43	35.13	31.67	3.46	0.21		34.67	31.65	3.02	0.28		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	29.21	25.63	3.58	0.45	38.54	36.28	2.25	0.36		37.73	37.35	0.38	0.90		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	27.54	24.43	3.12	0.58	36.54	33.58	2.96	0.29		36.44	35.04	1.40	0.67		
7C	Survey / NSCF	Set to Missing Value	32.49	28.55	3.95	0.49	41.08	39.02	2.06	0.45		42.38	41.86	0.52	0.86		
7CT	Survey / NSCT	Set to Missing Value	30.42	27.28	3.14	0.62	39.13	36.21	2.92	0.36		41.94	39.36	2.58	0.43		
<i>Highest Degree Completed: Four-year Degree</i>																	
1	Survey	Set to Missing Value	13.86	16.51	-2.65	0.66	30.71	20.36	10.34 ***	0.00	#	28.65	28.96	-0.31	0.92		
2	NSCF	None	12.08	8.04	4.03	0.28	15.60	13.35	2.25	0.24		11.36	13.30	-1.94	0.68		
2T	NSCT	None	10.78	7.32	3.46	0.34	14.07	11.92	2.16	0.31		8.93	11.96	-3.03	0.49		
7A	Survey / NSCF	Set to 0	14.84	12.57	2.27	0.63	22.88	19.96	2.92	0.12		21.15	23.07	-1.91	0.63		
7AT	Survey / NSCT	Set to 0	14.14	11.84	2.30	0.61	21.52	18.60	2.92	0.15		19.13	21.73	-2.60	0.47		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	15.50	13.83	1.67	0.73	23.74	21.11	2.63	0.15		21.92	25.23	-3.31	0.46		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	14.71	13.07	1.64	0.73	22.48	19.82	2.65	0.20		19.84	24.18	-4.34	0.32		
7C	Survey / NSCF	Set to Missing Value	17.28	15.33	1.95	0.72	25.17	22.71	2.46	0.26		23.34	28.36	-5.02	0.31		
7CT	Survey / NSCT	Set to Missing Value	16.19	14.57	1.62	0.75	23.93	21.42	2.51	0.30		21.35	27.22	-5.86	0.22		

Table I.63 (continued)

Outcome / Data Source		Uncoded	No Courses				1-15 Courses					16 or More Courses			
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Highest Degree Completed: Two-year Degree</i>															
1	Survey	Set to Missing Value	12.11	9.88	2.24	0.59	9.03	4.90	4.13 **	0.01		18.97	10.13	8.84 *	0.06
2	NSCF	None	3.74	4.26	-0.52	0.74	5.50	13.42	-7.92 ***	0.00	#	0.77	3.88	-3.11	0.29
2T	NSCT	None	2.43	3.36	-0.93	0.56	4.18	5.64	-1.46	0.31		4.41	2.34	2.08	0.17
7A	Survey / NSCF	Set to 0	7.58	7.35	0.23	0.89	3.29	4.03	-0.74	0.55		6.37	7.81	-1.44	0.63
7AT	Survey / NSCT	Set to 0	6.47	6.85	-0.38	0.85	5.93	10.07	-4.15 **	0.04	#	10.17	6.27	3.90 *	0.09
7B	Survey / NSCF / SFA	Set to 0 if no aid app	8.02	7.98	0.04	0.98	5.27	8.73	-3.46 *	0.09		6.54	8.37	-1.83	0.62
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.89	7.61	-0.72	0.76	6.05	10.58	-4.53 **	0.03	#	10.99	6.78	4.21	0.11
7C	Survey / NSCF	Set to Missing Value	8.61	8.90	-0.29	0.88	5.36	9.22	-3.86 *	0.06		6.06	9.40	-3.34	0.49
7CT	Survey / NSCT	Set to Missing Value	7.46	8.42	-0.96	0.71	6.41	11.36	-4.95 **	0.02	#	11.03	7.66	3.37	0.31
<i>Highest Degree Completed: Other Degree</i>															
1	Survey	Set to Missing Value	12.58	8.15	4.43 *	0.10	13.12	6.80	6.31 **	0.02		17.05	6.91	10.15	0.36
2	NSCF	None	0.45	0.12	0.33 *	0.10	0.53	0.55	-0.02	0.96		0.20	0.66	-0.46	0.54
2T	NSCT	None	0.31	0.00	0.31 ***	0.00	0.30	0.24	0.06	0.73		0.13	0.66	-0.53	0.39
7A	Survey / NSCF	Set to 0	5.42	3.66	1.76	0.13	8.06	4.42	3.64 ***	0.01		9.52	3.45	6.07	0.21
7AT	Survey / NSCT	Set to 0	5.51	3.55	1.96	0.11	8.03	4.35	3.68 **	0.01		9.38	3.65	5.74	0.25
7B	Survey / NSCF / SFA	Set to 0 if no aid app	5.72	3.82	1.90	0.15	8.33	4.60	3.73 ***	0.01		10.24	3.75	6.50	0.23
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.85	3.75	2.10	0.14	8.33	4.54	3.79 **	0.01		10.03	4.08	5.95	0.28
7C	Survey / NSCF	Set to Missing Value	6.69	4.32	2.37	0.12	9.00	4.94	4.06 ***	0.01		11.41	4.09	7.32	0.24
7CT	Survey / NSCT	Set to Missing Value	6.74	4.28	2.46	0.12						11.26	4.49	6.77	0.29
<i>Currently In School</i>															
1	Currently in school (Survey)	Set to Missing Value	9.12	6.22	2.90	0.24	10.67	7.79	2.88 *	0.06		3.10	6.10	-3.00	0.33
1	In school or completed degree (Survey)	Set to Missing Value	50.89	42.23	8.66	0.38	61.24	48.93	12.31 ***	0.00		66.98	52.07	14.91 **	0.03

Table I.64

Impact of Upward Bound on Any Postsecondary Enrollment by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	82.10	83.47	-1.37	0.66	81.76	80.47	1.29	0.80	85.30	81.89	3.41	0.33		
2	NSC through 05-06 ( <i>NSCF</i> )	None	61.03	62.50	-1.47	0.67	54.88	59.23	-4.35	0.58	62.77	59.92	2.85	0.42		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	59.12	59.67	-0.54	0.88	53.29	56.83	-3.54	0.63	59.59	55.45	4.14	0.24		
3	Pell Receipt ( <i>SFA</i> )	None	59.88	62.14	-2.26	0.44	54.80	52.27	2.53	0.54	64.26	57.90	6.36	0.17		
4	NSCF / SFA	None	74.47	74.90	-0.43	0.87	67.48	68.56	-1.08	0.86	75.68	72.99	2.69	0.41		
4T	NSCT / SFA	None	73.45	73.21	0.24	0.92	67.30	67.35	-0.05	0.99	74.35	69.93	4.42	0.25		
5A	Survey / NSCF / SFA	Set to 0	82.48	79.96	2.52	0.29	78.38	76.50	1.88	0.64	81.10	78.44	2.66	0.43		
5AT	Survey / NSCT / SFA	Set to 0	81.48	79.12	2.36	0.37	78.30	75.39	2.91	0.39	79.70	76.37	3.33	0.37		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	83.65	82.22	1.43	0.57	79.15	78.33	0.83	0.84	83.12	79.16	3.96	0.21		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	83.07	81.37	1.70	0.54	78.70	77.95	0.74	0.85	81.92	77.63	4.29	0.22		
5C	Survey / NSCF / SFA	Set to Missing Value	89.51	90.21	-0.70	0.76	86.97	84.80	2.17	0.62	90.72	89.84	0.89	0.71		
5CT	Survey / NSCT / SFA	Set to Missing Value	89.17	89.52	-0.36	0.87	86.59	84.57	2.02	0.64	89.96	88.19	1.77	0.54		
6A	Survey / SFA	Set to 0	76.07	75.12	0.96	0.77	74.91	71.84	3.07	0.40	74.98	74.77	0.21	0.96		
6B	Survey / SFA	Set to 0 if no aid app	79.98	79.27	0.71	0.81	77.14	75.88	1.26	0.76	79.51	77.15	2.37	0.54		
6C	Survey / SFA	Set to Missing Value	87.11	88.70	-1.60	0.57	85.34	83.24	2.10	0.64	88.43	87.83	0.60	0.85		
7A	Survey / NSCF	Set to 0	77.46	74.42	3.04	0.28	74.30	72.36	1.94	0.60	75.28	73.72	1.56	0.60		
7AT	Survey / NSCT	Set to 0	76.65	72.66	3.99	0.17	73.78	71.10	2.68	0.38	73.65	70.85	2.80	0.40		
7C	Survey / NSCF	Set to Missing Value	87.89	89.17	-1.28	0.57	85.56	84.15	1.41	0.76	89.79	88.66	1.14	0.61		
7CT	Survey / NSCT	Set to Missing Value	87.56	87.80	-0.24	0.91	85.13	83.81	1.32	0.77	88.69	86.88	1.80	0.51		
8	Survey then NSCF / SFA	Set to 0	79.59	78.14	1.45	0.54	75.87	74.87	1.01	0.80	79.80	76.06	3.74	0.26		
8T	Survey then NSCT / SFA	Set to 0	78.83	77.91	0.92	0.71	76.18	73.91	2.28	0.50	78.70	75.34	3.36	0.33		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	85.68	83.62	2.06	0.35	80.23	79.23	1.01	0.82	84.01	82.59	1.42	0.66		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	84.66	83.00	1.67	0.49	79.78	78.79	0.99	0.83	82.62	80.52	2.10	0.55		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	86.17	84.77	1.40	0.56	80.61	79.76	0.85	0.85	84.84	83.15	1.69	0.57		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	85.58	84.15	1.44	0.57	80.07	79.48	0.59	0.89	83.66	81.70	1.96	0.56		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	88.21	87.30	0.91	0.69	82.69	81.77	0.91	0.83	87.54	86.77	0.77	0.77		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	87.60	86.65	0.95	0.66	82.15	81.49	0.66	0.88	86.10	85.20	0.91	0.76		

Table I.65

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	51.79	54.02	-2.23	0.68		58.98	52.92	6.06 **	0.01		55.58	48.10	7.48	0.10	
2 NSC through 05-06 ( <i>NSCF</i> )	None	38.36	38.50	-0.14	0.97		35.10	37.05	-1.95	0.80		38.10	32.66	5.44 *	0.06	
2T NSC through 03-04 ( <i>NSCT</i> )	None	37.07	36.79	0.28	0.94		33.95	34.77	-0.82	0.91		37.36	32.04	5.32 *	0.06	
3 Pell Receipt ( <i>SFA</i> )	None	33.66	35.44	-1.78	0.63		35.27	34.79	0.49	0.93		41.59	34.84	6.75 **	0.04	#
4 NSCF / SFA	None	43.81	45.12	-1.31	0.69		44.18	43.57	0.61	0.92		48.79	42.30	6.49 **	0.03	#
4T NSCT / SFA	None	42.73	44.03	-1.30	0.72		43.25	41.65	1.60	0.79		48.49	42.30	6.19 **	0.04	
5A Survey / NSCF / SFA	Set to 0	51.81	52.20	-0.39	0.90		52.47	51.48	0.99	0.84		52.89	46.62	6.26 *	0.05	
5AT Survey / NSCT / SFA	Set to 0	50.74	51.78	-1.03	0.76		51.59	49.92	1.67	0.71		52.58	46.62	5.96 *	0.07	
5B Survey / NSCF / SFA	Set to 0 if no aid app	52.15	53.72	-1.57	0.59		52.92	52.71	0.21	0.97		54.41	47.16	7.25 **	0.03	#
5BT Survey / NSCT / SFA	Set to 0 if no aid app	51.39	53.25	-1.85	0.55		51.82	51.66	0.16	0.97		54.13	47.27	6.87 **	0.04	#
5C Survey / NSCF / SFA	Set to Missing Value	56.60	58.69	-2.09	0.55		58.03	57.21	0.82	0.87		58.75	53.61	5.14	0.15	
5CT Survey / NSCT / SFA	Set to Missing Value	55.86	58.28	-2.42	0.52		56.99	56.17	0.81	0.87		58.64	53.75	4.89	0.18	
6A Survey / SFA	Set to 0	48.52	49.51	-0.99	0.74		50.32	48.28	2.04	0.66		50.04	46.01	4.03	0.29	
6B Survey / SFA	Set to 0 if no aid app	50.36	52.29	-1.93	0.49		51.68	51.00	0.68	0.89		53.06	47.32	5.74	0.11	#
6C Survey / SFA	Set to Missing Value	55.17	58.37	-3.20	0.33		56.86	56.11	0.75	0.89		58.21	53.97	4.23	0.29	
7A Survey / NSCF	Set to 0	49.16	48.28	0.88	0.80		50.89	48.48	2.40	0.57		48.03	42.09	5.94	0.11	
7AT Survey / NSCT	Set to 0	47.99	47.24	0.75	0.85		49.86	46.92	2.93	0.43		47.73	42.09	5.64	0.13	
7C Survey / NSCF	Set to Missing Value	55.94	57.54	-1.60	0.71		58.25	56.39	1.85	0.69		56.88	51.28	5.61	0.14	
7CT Survey / NSCT	Set to Missing Value	54.81	56.64	-1.83	0.69		57.29	55.33	1.96	0.66		56.79	52.07	4.71	0.24	
8 Survey then NSCF / SFA	Set to 0	51.81	52.20	-0.39	0.90		52.47	51.48	0.99	0.84		52.89	46.62	6.26 *	0.05	
8T Survey then NSCT / SFA	Set to 0	50.74	51.78	-1.03	0.76		51.59	49.92	1.67	0.71		52.58	46.62	5.96 *	0.07	
9A Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	53.95	52.49	1.46	0.63		52.93	52.48	0.45	0.93		54.78	48.34	6.44 *	0.05	
9AT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	52.87	52.06	0.81	0.81		52.04	50.92	1.12	0.81		54.47	48.34	6.14 *	0.07	
9B Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	54.07	53.21	0.86	0.77		53.14	52.82	0.33	0.95		55.41	48.83	6.58 *	0.06	
9BT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	53.33	52.76	0.57	0.86		52.23	51.37	0.86	0.85		55.14	48.93	6.21 *	0.08	
9C Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	55.67	54.70	0.97	0.77		54.10	54.22	-0.11	0.98		57.08	50.93	6.15 *	0.08	
9CT Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	54.95	54.25	0.70	0.85		53.18	52.73	0.45	0.92		56.78	51.04	5.74	0.11	



Table I.66

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	24.16	23.91	0.24	0.94	11.45	24.16	-12.71	0.21		22.52	28.76	-6.24	0.22	
2	NSC through 05-06 ( <i>NSCF</i> )	None	18.09	17.56	0.53	0.84	11.26	14.67	-3.42	0.20		18.64	20.81	-2.17	0.54	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	17.85	17.14	0.72	0.76	9.81	15.27	-5.45 *	0.06	#	17.56	19.10	-1.54	0.66	
3	Pell Receipt ( <i>SFA</i> )	None	20.32	19.74	0.58	0.86	14.29	14.28	0.02	0.99		15.65	18.78	-3.13	0.17	
4	NSCF / SFA	None	22.96	22.92	0.05	0.99	16.21	19.27	-3.06 *	0.08		19.97	24.63	-4.65	0.16	
4T	NSCT / SFA	None	23.66	22.79	0.87	0.81	16.38	20.09	-3.71 *	0.05		19.05	22.91	-3.86	0.23	
5A	Survey / NSCF / SFA	Set to 0	24.35	21.80	2.55	0.37	17.11	21.11	-4.00	0.27		22.31	25.73	-3.42	0.36	
5AT	Survey / NSCT / SFA	Set to 0	25.01	21.38	3.64	0.25	17.69	21.61	-3.92	0.29		21.30	24.82	-3.52	0.34	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	25.02	22.32	2.70	0.36	17.26	21.57	-4.30	0.24		22.68	25.90	-3.22	0.38	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	25.68	21.94	3.74	0.26	17.85	22.27	-4.42	0.24	#	21.82	25.41	-3.59	0.33	
5C	Survey / NSCF / SFA	Set to Missing Value	26.31	24.70	1.60	0.58	18.35	23.25	-4.90	0.27		24.86	29.23	-4.37	0.26	
5CT	Survey / NSCT / SFA	Set to Missing Value	27.24	24.43	2.81	0.39	19.05	24.08	-5.02	0.28		24.33	28.75	-4.42	0.25	
6A	Survey / SFA	Set to 0	21.61	19.64	1.97	0.49	16.65	19.82	-3.17	0.32		19.90	23.46	-3.56	0.34	
6B	Survey / SFA	Set to 0 if no aid app	23.12	20.57	2.55	0.38	16.86	20.89	-4.03	0.24		20.92	24.39	-3.47	0.38	
6C	Survey / SFA	Set to Missing Value	25.35	23.17	2.17	0.47	18.06	22.80	-4.74	0.26		23.60	27.63	-4.03	0.28	
7A	Survey / NSCF	Set to 0	23.83	20.10	3.73	0.12	12.24	18.98	-6.74	0.22	#	22.71	24.98	-2.27	0.58	
7AT	Survey / NSCT	Set to 0	24.51	20.24	4.28	0.14	12.41	19.39	-6.99	0.19	#	21.67	24.07	-2.40	0.55	
7C	Survey / NSCF	Set to Missing Value	26.98	24.28	2.70	0.36	12.51	21.91	-9.40	0.20	#	27.04	29.31	-2.26	0.62	
7CT	Survey / NSCT	Set to Missing Value	27.92	24.75	3.17	0.36	12.63	22.67	-10.04	0.18	#	26.56	29.05	-2.48	0.59	
8	Survey then NSCF / SFA	Set to 0	24.35	21.80	2.55	0.37	17.11	21.11	-4.00	0.27		22.31	25.73	-3.42	0.36	
8T	Survey then NSCT / SFA	Set to 0	25.01	21.38	3.64	0.25	17.69	21.61	-3.92	0.29		21.30	24.82	-3.52	0.34	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	24.34	24.29	0.05	0.99	17.65	21.41	-3.76	0.32		22.90	26.58	-3.68	0.34	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	25.03	24.10	0.93	0.77	18.22	21.94	-3.72	0.33		21.89	25.67	-3.78	0.32	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	24.63	24.60	0.03	0.99	17.77	21.54	-3.76	0.32		23.07	26.62	-3.55	0.35	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	25.29	24.43	0.86	0.79	18.30	22.10	-3.79	0.32		22.23	26.21	-3.98	0.30	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	24.86	25.38	-0.52	0.85	17.95	22.01	-4.06	0.30		23.57	27.64	-4.07	0.28	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	25.48	25.18	0.31	0.92	18.54	22.59	-4.05	0.31		22.60	27.23	-4.63	0.23	

Table I.67

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.47	5.15	0.32	0.89	9.29	2.51	6.79	0.21	5.98	5.04	0.94	0.68			
2 NSC through 05-06 ( <i>NSCF</i> )	None	0.49	0.06	0.44	0.16	0.27	0.49	-0.23	0.74	1.04	0.31	0.73 **	0.01			
2T NSC through 03-04 ( <i>NSCT</i> )	None	0.49	0.06	0.44	0.16	0.46	0.20	0.27	0.56	0.75	0.31	0.44 *	0.09			
3 Pell Receipt ( <i>SFA</i> )	None	5.44	6.50	-1.06	0.61	4.33	3.25	1.08	0.31	5.77	4.27	1.49	0.30			
4 NSCF / SFA	None	5.56	5.92	-0.36	0.85	3.87	2.97	0.90	0.41	4.90	3.28	1.62	0.12			
4T NSCT / SFA	None	5.56	5.92	-0.36	0.85	4.08	2.97	1.11	0.30	4.90	3.28	1.62	0.12			
5A Survey / NSCF / SFA	Set to 0	5.89	5.72	0.17	0.91	7.31	3.24	4.07	0.15	4.46	4.38	0.07	0.96			
5AT Survey / NSCT / SFA	Set to 0	5.89	5.72	0.17	0.91	7.34	3.24	4.10	0.15	4.51	4.58	-0.07	0.96			
5B Survey / NSCF / SFA	Set to 0 if no aid app	6.11	5.93	0.18	0.92	7.39	3.35	4.04	0.16	4.56	4.40	0.16	0.90			
5BT Survey / NSCT / SFA	Set to 0 if no aid app	6.15	5.93	0.21	0.90	7.37	3.38	3.99	0.17	4.59	4.60	-0.01	0.99			
5C Survey / NSCF / SFA	Set to Missing Value	6.42	6.51	-0.09	0.96	8.10	3.61	4.49	0.19	5.53	5.07	0.45	0.80			
5CT Survey / NSCT / SFA	Set to Missing Value	6.41	6.51	-0.10	0.95	8.13	3.65	4.48	0.20	5.66	5.28	0.38	0.84			
6A Survey / SFA	Set to 0	5.89	5.72	0.17	0.91	7.68	3.36	4.32	0.14	4.63	5.30	-0.67	0.64			
6B Survey / SFA	Set to 0 if no aid app	6.45	6.12	0.34	0.85	7.89	3.58	4.31	0.15	4.97	5.43	-0.46	0.74			
6C Survey / SFA	Set to Missing Value	6.76	6.80	-0.04	0.98	8.80	3.91	4.89	0.18	6.06	6.22	-0.16	0.93			
7A Survey / NSCF	Set to 0	3.83	3.49	0.34	0.80	5.58	1.85	3.73	0.22	3.11	2.95	0.16	0.92			
7AT Survey / NSCT	Set to 0	3.83	3.49	0.34	0.80	5.72	1.79	3.93	0.20	3.02	3.14	-0.12	0.94			
7C Survey / NSCF	Set to Missing Value	4.40	4.36	0.04	0.98	6.53	2.19	4.34	0.26	4.44	3.74	0.70	0.76			
7CT Survey / NSCT	Set to Missing Value	4.50	4.45	0.05	0.98	6.76	2.17	4.59	0.25	4.31	3.93	0.37	0.87			
8 Survey then NSCF / SFA	Set to 0	5.89	5.72	0.17	0.91	7.31	3.24	4.07	0.15	4.46	4.38	0.07	0.96			
8T Survey then NSCT / SFA	Set to 0	5.89	5.72	0.17	0.91	7.34	3.24	4.10	0.15	4.51	4.58	-0.07	0.96			
9A Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	6.27	6.57	-0.30	0.86	8.09	4.32	3.77	0.13	4.81	5.10	-0.29	0.84			
9AT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	6.27	6.57	-0.30	0.86	8.13	4.32	3.81	0.12	4.84	5.29	-0.45	0.76			
9B Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	6.37	6.72	-0.34	0.84	8.12	4.36	3.77	0.13	4.87	5.12	-0.25	0.86			
9BT Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	6.41	6.72	-0.30	0.86	8.16	4.37	3.79	0.13	4.89	5.33	-0.43	0.76			
9C Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	6.63	6.95	-0.32	0.84	8.60	4.48	4.12	0.13	5.26	5.43	-0.17	0.91			
9CT Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	6.68	6.95	-0.28	0.87	8.65	4.50	4.15	0.13	5.26	5.63	-0.38	0.80			

Table I.68

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	13.67	13.22	0.45	0.85	9.66	8.74	0.92	0.82	8.77	14.81	-6.04	0.18			
2 NSC through 05-06 ( <i>NSCF</i> )	None	9.86	8.55	1.31	0.23	7.23	6.53	0.69	0.66	10.81	9.82	0.99	0.72			
2T NSC through 03-04 ( <i>NSCT</i> )	None	9.21	8.28	0.93	0.41	6.80	6.12	0.68	0.66	10.22	9.82	0.40	0.88			
3 Pell Receipt ( <i>SFA</i> )	None	8.70	8.63	0.07	0.97	6.02	3.24	2.79 *	0.06	8.17	5.93	2.25	0.26			
4 NSCF / SFA	None	12.24	10.62	1.62	0.22	7.70	7.89	-0.19	0.94	11.74	10.52	1.22	0.67			
4T NSCT / SFA	None	11.73	10.35	1.38	0.34	7.30	7.48	-0.18	0.94	11.14	10.52	0.62	0.82			
5A Survey / NSCF / SFA	Set to 0	14.79	13.36	1.43	0.39	9.77	8.47	1.30	0.67	12.77	10.83	1.94	0.52			
5AT Survey / NSCT / SFA	Set to 0	14.28	13.10	1.18	0.50	9.39	8.30	1.09	0.71	12.32	10.83	1.50	0.60			
5B Survey / NSCF / SFA	Set to 0 if no aid app	14.62	14.00	0.62	0.72	9.87	8.62	1.25	0.68	13.13	11.02	2.11	0.50			
5BT Survey / NSCT / SFA	Set to 0 if no aid app	14.18	13.74	0.44	0.81	9.46	8.52	0.94	0.76	12.63	11.05	1.57	0.59			
5C Survey / NSCF / SFA	Set to Missing Value	16.32	15.34	0.98	0.60	10.72	9.40	1.32	0.68	13.74	13.02	0.72	0.84			
5CT Survey / NSCT / SFA	Set to Missing Value	15.85	15.07	0.78	0.69	10.29	9.33	0.96	0.76	13.28	13.08	0.21	0.95			
6A Survey / SFA	Set to 0	12.83	11.93	0.90	0.64	8.98	7.24	1.73	0.55	11.14	10.83	0.31	0.91			
6B Survey / SFA	Set to 0 if no aid app	13.02	12.95	0.07	0.97	8.57	7.60	0.97	0.79	11.86	11.23	0.63	0.83			
6C Survey / SFA	Set to Missing Value	14.68	14.54	0.14	0.95	8.99	8.46	0.53	0.90	12.71	13.32	-0.61	0.86			
7A Survey / NSCF	Set to 0	14.12	12.82	1.30	0.42	10.42	7.66	2.76	0.25	12.58	10.67	1.91	0.53			
7AT Survey / NSCT	Set to 0	13.61	12.55	1.06	0.54	10.02	7.48	2.53	0.27	12.13	10.67	1.46	0.61			
7C Survey / NSCF	Set to Missing Value	16.24	15.71	0.53	0.77	11.17	8.93	2.23	0.43	14.64	13.61	1.03	0.77			
7CT Survey / NSCT	Set to Missing Value	15.65	15.55	0.10	0.96	10.75	8.83	1.92	0.50	14.09	13.81	0.28	0.94			
8 Survey then NSCF / SFA	Set to 0	14.79	13.36	1.43	0.39	9.77	8.47	1.30	0.67	12.77	10.83	1.94	0.52			
8T Survey then NSCT / SFA	Set to 0	14.28	13.10	1.18	0.50	9.39	8.30	1.09	0.71	12.32	10.83	1.50	0.60			

Table I.69

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Outcome / Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	64.82	65.99	-1.17	0.81	64.38	62.39	1.99	0.64	77.12	60.87	16.26 **	0.01	#		
2 Pell receipt (Survey)	Set to 0	54.45	54.26	0.18	0.96	54.94	50.98	3.97	0.44	66.12	49.81	16.31 ***	0.01	#		
3 Pell receipt (SFA)	None	59.88	62.14	-2.26	0.44	54.80	52.27	2.53	0.54	64.26	57.90	6.36	0.17			
Applied for aid (SFA)	None	78.37	74.89	3.48	0.21	67.65	68.06	-0.41	0.88	79.37	73.36	6.01 *	0.09			
1 Aid receipt (Survey)	Set to Missing Value	86.78	86.46	0.31	0.93	84.43	79.71	4.72	0.19	90.42	85.83	4.60	0.26			
2 Aid receipt (Survey)	Set to 0	72.35	71.81	0.54	0.90	71.68	66.49	5.20	0.26	78.77	68.36	10.41 **	0.02	#		

Table I.70

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Number of Courses Offered by Projects During the 1993 Summer Session (ITT)

Outcome / Data Source	Uncoded	0-12 Courses					13-19 Courses					20 or More Courses				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																
1 Survey	Set to Missing Value	54.07	47.84	6.23	0.31	57.02	39.04	17.97 ***	0.01	45.11	47.44	-2.33	0.62			
2 NSCF	None	23.58	22.49	1.09	0.76	15.66	15.88	-0.22	0.95	20.59	19.25	1.34	0.66			
2T NSCT	None	20.23	19.49	0.75	0.80	13.49	12.92	0.57	0.87	17.82	16.97	0.85	0.77			
7A Survey / NSCF	Set to 0	41.59	38.82	2.76	0.47	33.81	30.70	3.11	0.19	35.24	33.29	1.95	0.50			
7AT Survey / NSCT	Set to 0	38.53	35.95	2.58	0.49	32.40	28.14	4.27 *	0.08	33.24	31.51	1.73	0.53			
7B Survey / NSCF / SFA	Set to 0 if no aid app	43.21	42.23	0.98	0.80	34.84	32.93	1.91	0.47	38.70	35.44	3.25	0.29			
7BT Survey / NSCT / SFA	Set to 0 if no aid app	40.15	39.34	0.81	0.84	33.43	30.58	2.84	0.32	36.69	34.09	2.60	0.39			
7C Survey / NSCF	Set to Missing Value	46.98	46.55	0.43	0.93	38.55	35.99	2.56	0.38	41.74	40.20	1.54	0.63			
7CT Survey / NSCT	Set to Missing Value	43.70	43.45	0.25	0.96	37.59	33.49	4.10	0.16	39.79	38.85	0.93	0.79			
<i>Highest Degree Completed: Four-year Degree</i>																
1 Survey	Set to Missing Value	30.88	25.96	4.92	0.21	26.12	21.64	4.48	0.17	25.59	28.11	-2.52	0.56			
2 NSCF	None	17.40	14.57	2.82	0.36	11.86	10.73	1.13	0.74	15.10	16.64	-1.54	0.52			
2T NSCT	None	15.10	14.32	0.78	0.77	10.19	9.14	1.05	0.75	13.68	15.77	-2.09	0.42			
7A Survey / NSCF	Set to 0	25.02	22.41	2.61	0.44	19.54	18.89	0.65	0.85	20.76	21.91	-1.15	0.63			
7AT Survey / NSCT	Set to 0	23.06	22.15	0.91	0.75	18.08	17.34	0.73	0.83	19.91	21.04	-1.13	0.65			
7B Survey / NSCF / SFA	Set to 0 if no aid app	26.00	24.37	1.63	0.64	19.96	20.40	-0.44	0.91	22.93	23.61	-0.68	0.78			
7BT Survey / NSCT / SFA	Set to 0 if no aid app	23.82	24.21	-0.38	0.89	18.56	19.01	-0.45	0.91	21.97	22.92	-0.95	0.72			
7C Survey / NSCF	Set to Missing Value	28.70	26.57	2.13	0.64	21.27	22.44	-1.17	0.79	24.24	26.75	-2.52	0.36			
7CT Survey / NSCT	Set to Missing Value	26.39	26.39	-0.01	1.00	19.89	20.99	-1.10	0.81	23.10	26.05	-2.96	0.34			

Table I.70 (continued)

Outcome / Data Source		Uncoded	0-12 Courses				13-19 Courses				20 or More Courses					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>																
1	Survey	Set to Missing Value	6.27	14.42	-8.15 *	0.06	11.68	11.78	-0.10	0.97	#	10.20	6.86	3.33	0.29	#
2	NSCF	None	5.68	7.27	-1.59	0.27	1.69	4.68	-2.99 *	0.05		5.27	2.06	3.21 *	0.09	
2T	NSCT	None	4.90	5.00	-0.09	0.94	1.93	3.40	-1.47	0.16		3.66	0.66	3.01 **	0.02	
7A	Survey / NSCF	Set to 0	7.73	11.91	-4.18 *	0.06	5.77	8.68	-2.92 *	0.09		8.14	5.29	2.85	0.21	#
7AT	Survey / NSCT	Set to 0	7.20	9.76	-2.56	0.20	6.39	7.64	-1.25	0.46		7.18	3.88	3.30 *	0.05	#
7B	Survey / NSCF / SFA	Set to 0 if no aid app	8.05	12.98	-4.92 *	0.05	5.84	9.22	-3.38 *	0.09		8.78	5.43	3.36	0.16	#
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.67	10.71	-3.04	0.17	6.56	8.20	-1.65	0.36		7.85	4.03	3.82 **	0.03	#
7C	Survey / NSCF	Set to Missing Value	8.37	14.50	-6.13 **	0.03	5.91	10.06	-4.15 *	0.10		9.44	6.15	3.29	0.18	#
7CT	Survey / NSCT	Set to Missing Value	7.87	12.00	-4.13	0.10	6.78	8.93	-2.16	0.28		8.49	4.61	3.88 **	0.04	#
<i>Highest Degree Completed: Other Degree</i>																
1	Survey	Set to Missing Value	14.40	7.46	6.94 *	0.09	16.17	5.62	10.55	0.16		9.84	12.47	-2.63	0.56	
2	NSCF	None	0.69	0.64	0.05	0.95	0.82	0.48	0.34	0.52		0.50	0.54	-0.04	0.93	
2T	NSCT	None	0.12	0.17	-0.06	0.57	0.77	0.38	0.39	0.44		0.41	0.54	-0.13	0.68	
7A	Survey / NSCF	Set to 0	8.38	4.51	3.87 **	0.04	8.78	3.12	5.66	0.10		6.41	6.09	0.32	0.86	
7AT	Survey / NSCT	Set to 0	7.82	4.04	3.78 *	0.05	9.03	3.16	5.87 *	0.10		6.37	6.59	-0.22	0.91	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	8.72	4.88	3.84 *	0.05	9.17	3.30	5.87	0.12		6.93	6.40	0.52	0.78	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.27	4.43	3.84 *	0.07	9.37	3.37	6.00	0.11		6.98	7.15	-0.16	0.94	
7C	Survey / NSCF	Set to Missing Value	9.23	5.48	3.75	0.10	10.27	3.49	6.78	0.12		7.93	7.29	0.64	0.76	
7CT	Survey / NSCT	Set to Missing Value	8.74	5.06	3.68	0.12	10.53	3.57	6.96	0.12		8.18	8.19	-0.01	1.00	
<i>Currently In School</i>																
1	Currently in school (Survey)	Set to Missing Value	7.96	7.55	0.41	0.84	6.02	6.19	-0.17	0.94		11.07	8.24	2.84	0.15	
1	In school or completed degree (Survey)	Set to Missing Value	62.25	56.31	5.95	0.30	62.67	45.98	16.69 ***	0.00		57.64	54.71	2.93	0.57	

Table I.71  
Impact of Upward Bound on Any Postsecondary Enrollment by Project Age (ITT)

Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	81.29	73.18	8.11 ***	0.00	81.87	86.86	-4.99	0.38 #	82.20	85.28	-3.08	0.42 #		
2	NSC through 05-06 ( <i>NSCF</i> )	None	57.39	54.59	2.80	0.25	54.80	63.78	-8.98	0.30	64.58	61.48	3.10	0.54		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	55.05	51.54	3.51	0.13	53.30	61.26	-7.96	0.32	62.32	57.98	4.34	0.38		
3	Pell Receipt ( <i>SFA</i> )	None	59.29	52.62	6.67 **	0.02	55.16	56.07	-0.91	0.82	53.34	56.80	-3.46	0.49 #		
4	NSCF / SFA	None	69.05	65.14	3.92 *	0.06	69.05	73.72	-4.67	0.47	74.02	74.22	-0.20	0.97		
4T	NSCT / SFA	None	68.71	63.42	5.28 **	0.02	68.77	72.32	-3.55	0.53	72.02	72.00	0.02	1.00		
5A	Survey / NSCF / SFA	Set to 0	77.27	70.77	6.50 ***	0.00	79.21	82.14	-2.93	0.43 #	83.46	80.24	3.22	0.48		
5AT	Survey / NSCT / SFA	Set to 0	76.76	69.80	6.96 ***	0.00	79.07	80.87	-1.79	0.52 #	81.57	78.03	3.54	0.44		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	78.75	72.31	6.44 ***	0.00	79.92	83.98	-4.07	0.22 #	85.11	81.88	3.23	0.46		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	78.31	71.61	6.70 ***	0.00	79.15	83.60	-4.45	0.16 #	83.31	80.06	3.25	0.48		
5C	Survey / NSCF / SFA	Set to Missing Value	84.88	79.34	5.54 **	0.02	88.60	91.38	-2.78	0.48 #	91.47	91.31	0.16	0.96		
5CT	Survey / NSCT / SFA	Set to Missing Value	84.60	78.68	5.92 **	0.02	87.98	91.11	-3.13	0.42 #	90.63	89.75	0.88	0.77		
6A	Survey / SFA	Set to 0	74.16	67.68	6.49 ***	0.00	75.01	76.96	-1.95	0.56 #	71.83	73.20	-1.37	0.80		
6B	Survey / SFA	Set to 0 if no aid app	77.01	70.41	6.60 ***	0.00	77.10	81.52	-4.42	0.25 #	77.91	77.12	0.79	0.88		
6C	Survey / SFA	Set to Missing Value	83.77	78.01	5.77 **	0.03	86.59	89.78	-3.19	0.48 #	86.70	88.21	-1.50	0.71		
7A	Survey / NSCF	Set to 0	73.01	67.61	5.40 ***	0.01	74.75	76.97	-2.22	0.52 #	79.25	74.06	5.19	0.30		
7AT	Survey / NSCT	Set to 0	72.17	66.11	6.06 ***	0.00	74.21	75.50	-1.29	0.62 #	77.39	71.13	6.26	0.21		
7C	Survey / NSCF	Set to Missing Value	84.10	78.38	5.73 **	0.02	86.76	90.82	-4.07	0.34 #	89.87	89.87	0.00	1.00		
7CT	Survey / NSCT	Set to Missing Value	83.85	77.44	6.40 ***	0.01	85.93	90.43	-4.50	0.28 #	88.89	88.07	0.82	0.80		
8	Survey then NSCF / SFA	Set to 0	76.07	68.78	7.29 ***	0.00	76.09	80.89	-4.80	0.18 #	78.94	76.41	2.53	0.52		
8T	Survey then NSCT / SFA	Set to 0	75.74	68.34	7.40 ***	0.00	76.52	79.79	-3.27	0.22 #	77.75	75.57	2.18	0.61		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	79.44	72.99	6.45 ***	0.00	81.55	85.83	-4.28	0.26 #	87.01	84.24	2.77	0.53		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	78.92	72.01	6.90 ***	0.00	80.67	85.42	-4.74	0.22 #	85.26	82.60	2.66	0.54		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	79.97	73.85	6.12 ***	0.00	81.72	86.29	-4.57	0.20 #	87.95	84.74	3.22	0.42		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	79.52	73.15	6.38 ***	0.00	80.82	86.05	-5.23	0.14 #	86.20	83.33	2.88	0.48		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	81.56	76.47	5.09 ***	0.01	84.55	88.31	-3.77	0.34 #	89.99	87.93	2.05	0.64		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	81.11	75.73	5.38 ***	0.01	83.59	88.07	-4.48	0.26 #	88.07	86.43	1.65	0.69		

Table I.72

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Project Age (ITT)

Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	55.78	49.71	6.08 *	0.07	62.02	55.14	6.88 **	0.02	46.19	47.60	-1.42	0.80		
2	NSC through 05-06 ( <i>NSCF</i> )	None	41.46	34.09	7.37 ***	0.01	31.71	39.70	-7.99	0.33 #	33.25	29.68	3.56	0.33		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	40.24	32.60	7.64 ***	0.00	30.90	37.33	-6.43	0.43 #	32.72	28.49	4.23	0.29		
3	Pell Receipt ( <i>SFA</i> )	None	40.47	32.84	7.64 ***	0.01	34.53	37.63	-3.10	0.60 #	26.45	29.04	-2.59	0.63	#	
4	NSCF / SFA	None	48.68	40.56	8.11 ***	0.00	43.29	47.33	-4.03	0.54 #	36.10	36.49	-0.38	0.92	#	
4T	NSCT / SFA	None	48.10	39.68	8.43 ***	0.00	42.60	45.23	-2.63	0.67 #	35.58	36.00	-0.42	0.92	#	
5A	Survey / NSCF / SFA	Set to 0	54.76	48.37	6.40 **	0.02	52.63	54.01	-1.38	0.80	43.92	43.38	0.54	0.89		
5AT	Survey / NSCT / SFA	Set to 0	54.12	47.62	6.50 **	0.02	51.88	52.39	-0.51	0.92	43.33	43.38	-0.05	0.99		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	55.63	49.53	6.10 **	0.03	52.95	55.18	-2.23	0.68	44.93	44.37	0.56	0.88		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	55.12	48.97	6.15 **	0.03	51.91	54.09	-2.18	0.68	44.29	44.55	-0.26	0.94		
5C	Survey / NSCF / SFA	Set to Missing Value	59.74	54.27	5.47 *	0.09	58.86	60.26	-1.40	0.80	48.34	49.15	-0.82	0.84		
5CT	Survey / NSCT / SFA	Set to Missing Value	59.25	53.73	5.52 *	0.10	57.96	59.15	-1.19	0.83	48.01	49.58	-1.57	0.72		
6A	Survey / SFA	Set to 0	52.27	46.53	5.74 *	0.06	50.74	50.64	0.10	0.99	39.87	40.84	-0.97	0.79		
6B	Survey / SFA	Set to 0 if no aid app	54.10	48.51	5.59 *	0.06	52.21	53.57	-1.37	0.81	43.29	43.11	0.18	0.96		
6C	Survey / SFA	Set to Missing Value	58.50	53.73	4.76	0.19	58.38	59.28	-0.90	0.88	47.63	48.95	-1.32	0.74		
7A	Survey / NSCF	Set to 0	52.04	45.39	6.65 **	0.01	50.14	50.18	-0.04	0.99	43.41	40.40	3.02	0.48		
7AT	Survey / NSCT	Set to 0	51.13	44.44	6.69 **	0.01	49.40	48.56	0.84	0.83	42.81	40.30	2.51	0.57		
7C	Survey / NSCF	Set to Missing Value	59.52	52.84	6.68 **	0.03	57.97	59.17	-1.19	0.80	49.10	49.09	0.01	1.00		
7CT	Survey / NSCT	Set to Missing Value	58.94	52.34	6.60 **	0.04	57.23	58.01	-0.78	0.86	48.42	49.84	-1.42	0.77		
8	Survey then NSCF / SFA	Set to 0	54.76	48.37	6.40 **	0.02	52.63	54.01	-1.38	0.80	43.92	43.38	0.54	0.89		
8T	Survey then NSCT / SFA	Set to 0	54.12	47.62	6.50 **	0.02	51.88	52.39	-0.51	0.92	43.33	43.38	-0.05	0.99		
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	56.09	49.15	6.94 **	0.01	53.22	55.28	-2.06	0.71	46.49	44.04	2.45	0.50		
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	55.45	48.40	7.04 **	0.01	52.47	53.66	-1.19	0.81	45.90	44.04	1.86	0.62		
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	56.30	49.81	6.49 **	0.02	53.32	55.55	-2.22	0.69	46.84	44.29	2.56	0.48		
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	55.79	49.24	6.55 **	0.02	52.59	53.95	-1.35	0.78	46.20	44.37	1.83	0.62		
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	57.56	51.51	6.05 **	0.03	54.51	56.95	-2.44	0.68	48.50	45.78	2.72	0.50		
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	57.06	50.94	6.12 **	0.03	53.78	55.31	-1.52	0.78	47.86	45.86	1.99	0.63		



Table I.73

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Project Age (ITT)

Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	19.47	18.43	1.03	0.68	6.52	28.50	-21.98 *	0.08	#	31.10	33.94	-2.84	0.58	
2	NSC through 05-06 ( <i>NSCF</i> )	None	12.48	15.56	-3.08 *	0.05	10.95	14.66	-3.72	0.38		26.35	27.13	-0.79	0.87	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	12.04	15.28	-3.24 **	0.04	8.55	15.10	-6.55	0.15		25.29	26.39	-1.09	0.82	
3	Pell Receipt ( <i>SFA</i> )	None	13.35	15.41	-2.06	0.35	14.36	15.33	-0.97	0.71		22.24	21.04	1.20	0.78	
4	NSCF / SFA	None	14.93	19.39	-4.47 ***	0.01	16.43	19.99	-3.55	0.13		32.29	30.89	1.40	0.78	
4T	NSCT / SFA	None	15.16	19.12	-3.96 **	0.02	16.23	20.83	-4.60 *	0.08		31.44	30.02	1.43	0.77	
5A	Survey / NSCF / SFA	Set to 0	16.93	17.13	-0.20	0.91	15.56	24.35	-8.78 *	0.05	#	34.28	30.80	3.48	0.45	
5AT	Survey / NSCT / SFA	Set to 0	17.24	17.20	0.04	0.98	15.90	24.77	-8.86 **	0.05	#	33.71	29.44	4.27	0.40	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	17.32	17.40	-0.08	0.96	15.55	24.87	-9.32 **	0.04	#	34.86	31.27	3.60	0.43	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	17.57	17.54	0.04	0.98	15.88	25.64	-9.76 **	0.03	#	34.36	30.08	4.28	0.40	
5C	Survey / NSCF / SFA	Set to Missing Value	18.76	19.14	-0.37	0.84	16.62	26.90	-10.28 *	0.06	#	37.44	35.12	2.32	0.57	
5CT	Survey / NSCT / SFA	Set to Missing Value	19.14	19.33	-0.20	0.91	17.07	27.81	-10.74 *	0.05	#	37.41	34.00	3.41	0.42	
6A	Survey / SFA	Set to 0	16.86	16.17	0.69	0.71	14.67	22.59	-7.92 **	0.03	#	27.28	27.34	-0.06	0.99	
6B	Survey / SFA	Set to 0 if no aid app	17.57	16.69	0.89	0.66	14.59	23.99	-9.40 **	0.01	#	29.39	28.54	0.85	0.88	
6C	Survey / SFA	Set to Missing Value	19.26	18.51	0.74	0.71	15.90	26.18	-10.28 **	0.03	#	33.27	32.93	0.34	0.95	
7A	Survey / NSCF	Set to 0	16.74	16.49	0.25	0.89	9.26	21.53	-12.27	0.11	#	32.17	29.21	2.96	0.51	
7AT	Survey / NSCT	Set to 0	16.89	16.77	0.12	0.95	9.32	21.83	-12.51 *	0.08	#	31.61	27.85	3.76	0.46	
7C	Survey / NSCF	Set to Missing Value	19.44	18.78	0.65	0.77	8.79	25.26	-16.47 *	0.10	#	36.43	35.24	1.19	0.77	
7CT	Survey / NSCT	Set to Missing Value	19.80	19.32	0.48	0.82	8.61	26.09	-17.48 *	0.08	#	36.37	34.24	2.13	0.62	
8	Survey then NSCF / SFA	Set to 0	16.93	17.13	-0.20	0.91	15.56	24.35	-8.78 *	0.05	#	34.28	30.80	3.48	0.45	
8T	Survey then NSCT / SFA	Set to 0	17.24	17.20	0.04	0.98	15.90	24.77	-8.86 **	0.05	#	33.71	29.44	4.27	0.40	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	17.37	17.76	-0.39	0.82	15.97	24.81	-8.85 *	0.06	#	34.29	33.38	0.91	0.84	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	17.68	17.83	-0.15	0.93	16.31	25.24	-8.93 *	0.06	#	33.78	32.59	1.19	0.80	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	17.57	17.90	-0.33	0.85	15.91	24.94	-9.04 *	0.05	#	34.89	33.56	1.33	0.76	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	17.81	18.03	-0.22	0.90	16.15	25.52	-9.37 **	0.04	#	34.37	32.90	1.47	0.75	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	17.71	18.52	-0.82	0.65	16.38	25.41	-9.03 *	0.07	#	34.88	34.96	-0.08	0.98	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	17.96	18.66	-0.70	0.69	16.67	26.00	-9.33 *	0.06	#	34.31	34.26	0.05	0.99	

Table I.74

Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Project Age (ITT)

Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	5.62	5.04	0.58	0.70	8.34	2.03	6.31	0.23	4.70	3.08	1.61	0.54		
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.39	0.53	-0.14	0.69	1.39	0.34	1.05	0.24	-0.05	0.09	-0.15	***	0.00	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.35	0.14	0.22	0.45	1.18	0.26	0.91	0.22	-0.05	0.09	-0.15	***	0.00	
3	Pell Receipt ( <i>SFA</i> )	None	5.35	4.21	1.15	0.34	4.44	3.17	1.28	0.30	5.60	6.72	-1.13		0.68	
4	NSCF / SFA	None	4.64	3.66	0.98	0.39	4.61	2.88	1.73	0.16	4.44	5.78	-1.35		0.62	
4T	NSCT / SFA	None	5.00	3.66	1.34	0.19	4.45	2.88	1.57	0.19	4.44	5.78	-1.35		0.62	
5A	Survey / NSCF / SFA	Set to 0	4.94	4.58	0.36	0.76	7.74	3.05	4.69	0.10	5.06	4.62	0.44		0.82	
5AT	Survey / NSCT / SFA	Set to 0	5.12	4.66	0.46	0.68	7.56	3.05	4.51	0.11	5.06	4.62	0.44		0.82	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	5.03	4.66	0.37	0.75	7.89	3.17	4.71	0.11	5.19	4.79	0.40		0.85	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.21	4.77	0.45	0.69	7.67	3.19	4.48	0.12	5.16	4.80	0.36		0.87	
5C	Survey / NSCF / SFA	Set to Missing Value	5.40	5.10	0.29	0.83	8.72	3.44	5.27	0.10	5.56	5.44	0.13		0.95	
5CT	Survey / NSCT / SFA	Set to Missing Value	5.61	5.24	0.37	0.77	8.56	3.46	5.10	0.11	5.56	5.46	0.10		0.96	
6A	Survey / SFA	Set to 0	5.18	4.98	0.20	0.86	7.90	3.21	4.69	0.12	5.55	4.62	0.93		0.63	
6B	Survey / SFA	Set to 0 if no aid app	5.37	5.21	0.16	0.89	8.20	3.41	4.79	0.11	5.80	5.00	0.80		0.71	
6C	Survey / SFA	Set to Missing Value	5.81	5.76	0.05	0.97	9.21	3.75	5.46	0.11	6.37	5.75	0.62		0.78	
7A	Survey / NSCF	Set to 0	3.36	3.50	-0.14	0.91	5.70	1.35	4.35	0.14	2.53	2.16	0.37		0.85	
7AT	Survey / NSCT	Set to 0	3.69	3.58	0.11	0.92	5.21	1.27	3.94	0.13	2.53	2.16	0.37		0.85	
7C	Survey / NSCF	Set to Missing Value	3.88	4.12	-0.24	0.86	7.46	1.70	5.77	0.24	3.00	2.87	0.13		0.96	
7CT	Survey / NSCT	Set to Missing Value	4.29	4.23	0.06	0.96	7.01	1.65	5.36	0.26	3.07	3.01	0.06		0.98	
8	Survey then NSCF / SFA	Set to 0	4.94	4.58	0.36	0.76	7.74	3.05	4.69	0.10	5.06	4.62	0.44		0.82	
8T	Survey then NSCT / SFA	Set to 0	5.12	4.66	0.46	0.68	7.56	3.05	4.51	0.11	5.06	4.62	0.44		0.82	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	5.12	4.88	0.24	0.84	9.03	4.63	4.40 *	0.09	5.61	5.34	0.27		0.89	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	5.31	4.96	0.34	0.77	8.85	4.63	4.22 *	0.09	5.61	5.34	0.27		0.89	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	5.15	4.92	0.23	0.85	9.09	4.68	4.42 *	0.09	5.70	5.44	0.26		0.90	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	5.34	5.03	0.31	0.79	8.93	4.68	4.26 *	0.09	5.71	5.46	0.25		0.90	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	5.29	5.14	0.15	0.91	9.71	4.81	4.91 *	0.08	5.79	5.65	0.14		0.94	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	5.48	5.25	0.23	0.85	9.55	4.81	4.74 *	0.09	5.80	5.67	0.14		0.95	

Table I.75

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Project Age (ITT)

Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	12.14	10.37	1.76	0.55	6.58	10.04	-3.47	0.49	13.60	13.24	0.36	0.92		
2	NSC through 05-06 ( <i>NSCF</i> )	None	8.02	7.23	0.79	0.57	7.27	7.04	0.23	0.89	13.71	10.25	3.47 *	0.08		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	7.29	6.98	0.31	0.82	7.03	6.72	0.31	0.86	13.45	9.64	3.82 *	0.08		
3	Pell Receipt ( <i>SFA</i> )	None	6.42	5.50	0.91	0.54	6.71	3.23	3.49 **	0.01	9.03	7.22	1.81	0.36		
4	NSCF / SFA	None	9.09	8.51	0.58	0.70	7.71	8.57	-0.85	0.77	14.47	10.94	3.54	0.11		
4T	NSCT / SFA	None	8.37	8.25	0.11	0.94	7.50	8.26	-0.75	0.80	14.51	10.33	4.18 *	0.08		
5A	Survey / NSCF / SFA	Set to 0	12.43	9.50	2.93	0.16	8.28	9.17	-0.88	0.77	16.09	12.62	3.47	0.15		
5AT	Survey / NSCT / SFA	Set to 0	11.86	9.25	2.62	0.20	7.97	9.17	-1.19	0.69	16.13	12.01	4.12	0.11		
5B	Survey / NSCF / SFA	Set to 0 if no aid app	12.47	9.78	2.70	0.20	8.45	9.33	-0.88	0.78	16.33	12.99	3.34	0.20		
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	11.95	9.54	2.42	0.24	8.12	9.41	-1.29	0.68	16.30	12.49	3.81	0.16		
5C	Survey / NSCF / SFA	Set to Missing Value	13.40	11.09	2.32	0.32	9.41	10.16	-0.74	0.82	17.32	14.42	2.90	0.27		
5CT	Survey / NSCT / SFA	Set to Missing Value	12.87	10.86	2.01	0.38	9.08	10.28	-1.19	0.71	17.30	13.90	3.40	0.22		
6A	Survey / SFA	Set to 0	11.26	9.02	2.24	0.27	7.18	7.92	-0.74	0.81	14.19	10.21	3.97	0.12		
6B	Survey / SFA	Set to 0 if no aid app	11.62	9.51	2.11	0.30	6.48	8.32	-1.84	0.67	14.78	10.93	3.85	0.17		
6C	Survey / SFA	Set to Missing Value	12.59	10.97	1.62	0.48	6.88	9.21	-2.33	0.63	15.99	12.47	3.52	0.23		
7A	Survey / NSCF	Set to 0	12.23	8.95	3.28	0.12	9.07	8.30	0.77	0.72	15.69	12.62	3.07	0.18		
7AT	Survey / NSCT	Set to 0	11.66	8.70	2.96	0.15	8.74	8.30	0.43	0.84	15.74	12.01	3.73	0.13		
7C	Survey / NSCF	Set to Missing Value	13.93	10.88	3.06	0.19	9.69	9.77	-0.08	0.98	17.22	15.77	1.45	0.54		
7CT	Survey / NSCT	Set to Missing Value	13.34	10.69	2.65	0.26	9.37	9.88	-0.51	0.85	17.29	15.34	1.95	0.46		
8	Survey then NSCF / SFA	Set to 0	12.43	9.50	2.93	0.16	8.28	9.17	-0.88	0.77	16.09	12.62	3.47	0.15		
8T	Survey then NSCT / SFA	Set to 0	11.86	9.25	2.62	0.20	7.97	9.17	-1.19	0.69	16.13	12.01	4.12	0.11		

Table I.76

Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Project Age (ITT)

Outcome / Data Source	Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	68.93	63.40	5.53	0.12	63.94	63.26	0.67	0.89		64.70	56.22	8.48	0.12		
2 Pell receipt (Survey)	Set to 0	58.17	48.15	10.02 ***	0.01	55.39	54.27	1.12	0.85		53.11	48.60	4.50	0.39		
3 Pell receipt (SFA)	None	59.29	52.62	6.67 **	0.02	55.16	56.07	-0.91	0.82		53.34	56.80	-3.46	0.49 #		
Applied for aid (SFA)	None	74.44	68.97	5.47 **	0.02	67.95	70.89	-2.94	0.22 #		74.62	69.83	4.79	0.34		
1 Aid receipt (Survey)	Set to Missing Value	84.34	80.59	3.76	0.25	85.19	82.82	2.37	0.43		89.32	81.52	7.80	0.12		
2 Aid receipt (Survey)	Set to 0	71.72	61.53	10.18 ***	0.01	73.21	71.98	1.23	0.78 #		73.86	70.59	3.28	0.47		

Table I.77

Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Project Age (ITT)

Outcome / Data Source		Uncoded	20 or More Years of Operation					6-19 Years of Operation					3-5 Years of Operation				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>																	
1	Survey	Set to Missing Value	46.29	38.28	8.00 *	0.09	62.66	44.12	18.55 **	0.03	48.31	45.03	3.28	0.60			
2	NSCF	None	19.00	16.95	2.05	0.35	16.48	17.74	-1.26	0.80	19.03	18.30	0.73	0.87			
2T	NSCT	None	16.53	14.18	2.35	0.26	14.05	14.82	-0.77	0.87	15.86	15.47	0.39	0.92			
7A	Survey / NSCF	Set to 0	34.01	29.25	4.76 **	0.03	36.00	34.11	1.89	0.47	37.19	36.64	0.55	0.93			
7AT	Survey / NSCT	Set to 0	32.18	26.74	5.43 **	0.02	34.40	31.74	2.66	0.31	35.24	33.81	1.43	0.78			
7B	Survey / NSCF / SFA	Set to 0 if no aid app	36.25	31.03	5.22 **	0.03	36.98	36.87	0.11	0.97	38.91	39.72	-0.82	0.88			
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	34.46	28.57	5.89 **	0.02	35.32	34.79	0.52	0.86	36.67	37.45	-0.77	0.87			
7C	Survey / NSCF	Set to Missing Value	39.16	34.25	4.91 *	0.09	41.27	40.47	0.80	0.79	42.18	44.41	-2.23	0.72			
7CT	Survey / NSCT	Set to Missing Value	37.21	31.61	5.60 *	0.06	40.37	38.27	2.10	0.50	40.13	42.17	-2.04	0.70			
<i>Highest Degree Completed: Four-year Degree</i>																	
1	Survey	Set to Missing Value	26.32	18.30	8.02 **	0.02	28.75	27.78	0.97	0.77	23.19	22.15	1.04	0.82			
2	NSCF	None	14.81	11.87	2.94	0.10	11.63	12.66	-1.04	0.80	14.87	12.63	2.23	0.54			
2T	NSCT	None	13.27	10.99	2.28	0.20	9.64	11.00	-1.36	0.73	12.81	11.94	0.87	0.78			
7A	Survey / NSCF	Set to 0	20.74	16.39	4.36 **	0.03	20.45	22.88	-2.43	0.48 #	22.69	19.63	3.06	0.49			
7AT	Survey / NSCT	Set to 0	19.50	15.50	4.00 **	0.03	18.81	21.27	-2.46	0.47 #	20.93	18.94	1.99	0.60			
7B	Survey / NSCF / SFA	Set to 0 if no aid app	22.09	17.57	4.52 **	0.02	20.63	24.78	-4.15	0.28 #	23.62	21.59	2.04	0.65			
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.86	16.75	4.10 **	0.03	18.99	23.34	-4.36	0.28 #	21.65	21.21	0.44	0.91			
7C	Survey / NSCF	Set to Missing Value	23.52	19.47	4.04 *	0.06	22.09	27.30	-5.22	0.24 #	26.16	23.91	2.25	0.70			
7CT	Survey / NSCT	Set to Missing Value	22.16	18.61	3.55 *	0.09	20.54	25.81	-5.27	0.25 #	24.15	23.61	0.54	0.91			

Table I.77 (continued)

Outcome / Data Source		Uncoded	20 or More Years of Operation				6-19 Years of Operation				3-5 Years of Operation					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Highest Degree Completed: Two-year Degree</i>																
1	Survey	Set to Missing Value	8.61	11.15	-2.55	0.37	13.63	11.46	2.17	0.61	7.52	11.27	-3.74	0.28		
2	NSCF	None	2.74	3.92	-1.18	0.32	3.36	4.98	-1.62	0.55	4.02	5.67	-1.65	0.39		
2T	NSCT	None	2.14	2.32	-0.18	0.84	4.47	3.77	0.70	0.66	2.91	3.53	-0.63	0.64		
7A	Survey / NSCF	Set to 0	6.31	7.96	-1.65	0.27	6.64	8.62	-1.98	0.48	6.46	11.04	-4.58	0.10		
7AT	Survey / NSCT	Set to 0	6.01	6.41	-0.40	0.76	7.61	7.72	-0.11	0.97	5.85	8.91	-3.06	0.19		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.80	8.42	-1.62	0.32	6.60	9.23	-2.64	0.41	6.94	11.63	-4.68	0.10		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.49	6.82	-0.33	0.83	7.87	8.35	-0.48	0.86	6.21	9.60	-3.39	0.16		
7C	Survey / NSCF	Set to Missing Value	7.32	9.26	-1.94	0.27	6.51	10.09	-3.59	0.38	7.12	13.22	-6.09 **	0.04		
7CT	Survey / NSCT	Set to Missing Value	6.99	7.49	-0.50	0.76	8.11	9.12	-1.02	0.74	6.50	11.05	-4.55 *	0.08		
<i>Highest Degree Completed: Other Degree</i>																
1	Survey	Set to Missing Value	11.14	8.83	2.31	0.44	17.06	4.87	12.19	0.19	16.51	11.61	4.90	0.25		
2	NSCF	None	1.35	1.16	0.20	0.75	0.25	0.10	0.16	0.63	0.36	0.00	0.36 ***	0.00		
2T	NSCT	None	1.06	0.87	0.19	0.72	0.24	0.05	0.19	0.33	0.36	0.00	0.36 ***	0.00		
7A	Survey / NSCF	Set to 0	6.58	4.90	1.67	0.28	9.35	2.61	6.74 *	0.09	7.70	5.96	1.73	0.34		
7AT	Survey / NSCT	Set to 0	6.29	4.83	1.46	0.38	9.74	2.75	6.99 *	0.09	8.27	5.96	2.30	0.24		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.02	5.05	1.97	0.22	9.91	2.85	7.06 *	0.10	7.96	6.51	1.46	0.45		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.78	4.99	1.78	0.30	10.26	3.10	7.16	0.11	8.65	6.63	2.02	0.33		
7C	Survey / NSCF	Set to Missing Value	7.92	5.52	2.40	0.17	11.09	3.07	8.01	0.12	8.34	7.28	1.06	0.61		
7CT	Survey / NSCT	Set to Missing Value	7.66	5.51	2.14	0.25	11.56	3.33	8.23	0.13	9.21	7.52	1.69	0.46		
<i>Currently In School</i>																
1	Currently in school (Survey)	Set to Missing Value	8.43	7.22	1.22	0.42	5.28	6.68	-1.40	0.71	13.95	5.15	8.80 ***	0.01		
1	In school or completed degree (Survey)	Set to Missing Value	54.82	45.88	8.94 *	0.08	67.16	51.28	15.87 ***	0.01	63.03	50.98	12.05 *	0.08		

Table I.78

## Impact of Upward Bound on Any Postsecondary Enrollment by Project Academic Course Requirements (ITT)

Data Source	Uncoded	Unstructured					Strong Math-Sciences				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	77.47	71.16	6.31	0.16	81.34	90.25	-8.91	0.27	
2	NSC through 05-06 ( <i>NSCF</i> )	None	58.25	55.30	2.95	0.38	45.36	63.39	-18.03 **	0.03	#
2T	NSC through 03-04 ( <i>NSCT</i> )	None	56.83	52.57	4.27	0.19	44.73	61.47	-16.74 **	0.01	#
3	Pell Receipt ( <i>SFA</i> )	None	53.60	46.03	7.57 **	0.02	52.58	57.74	-5.16 *	0.08	#
4	NSCF / SFA	None	66.85	59.78	7.07 **	0.01	62.11	75.07	-12.96 **	0.02	#
4T	NSCT / SFA	None	66.56	58.20	8.36 ***	0.00	62.59	73.68	-11.09 **	0.01	#
5A	Survey / NSCF / SFA	Set to 0	71.97	66.94	5.03 *	0.08	76.59	83.13	-6.53 *	0.10	#
5AT	Survey / NSCT / SFA	Set to 0	71.36	66.47	4.89	0.12	77.20	81.85	-4.65 *	0.09	#
5B	Survey / NSCF / SFA	Set to 0 if no aid app	73.42	68.04	5.38 *	0.08	77.67	84.35	-6.67	0.12	#
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	73.12	67.56	5.56 *	0.08	77.22	84.07	-6.85 *	0.09	#
5C	Survey / NSCF / SFA	Set to Missing Value	81.32	74.66	6.66 *	0.09	86.50	93.75	-7.25	0.14	#
5CT	Survey / NSCT / SFA	Set to Missing Value	80.91	74.14	6.76 *	0.09	86.10	93.57	-7.47	0.13	#
6A	Survey / SFA	Set to 0	67.55	64.64	2.92	0.39	74.63	78.94	-4.32	0.16	
6B	Survey / SFA	Set to 0 if no aid app	71.35	66.93	4.42	0.18	76.11	83.15	-7.04	0.11	#
6C	Survey / SFA	Set to Missing Value	79.39	73.89	5.50	0.20	85.40	92.96	-7.56	0.17	#
7A	Survey / NSCF	Set to 0	69.50	65.68	3.83	0.24	71.33	76.85	-5.52	0.14	#
7AT	Survey / NSCT	Set to 0	68.79	64.05	4.74	0.14	71.55	75.46	-3.92	0.14	#
7C	Survey / NSCF	Set to Missing Value	80.72	74.47	6.25	0.12	85.10	93.05	-7.95	0.17	#
7CT	Survey / NSCT	Set to Missing Value	80.39	73.48	6.91 *	0.08	84.46	92.73	-8.27	0.16	#
8	Survey then NSCF / SFA	Set to 0	71.13	66.14	4.99 *	0.09	75.83	82.41	-6.58	0.12	#
8T	Survey then NSCT / SFA	Set to 0	70.72	66.14	4.58	0.13	76.76	81.23	-4.46	0.13	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	74.41	69.45	4.96 *	0.09	79.07	86.72	-7.65	0.11	#
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	73.80	68.98	4.82	0.12	78.28	86.62	-8.35 *	0.07	#
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	75.02	69.88	5.14	0.10	79.48	86.94	-7.46	0.10	#
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	74.72	69.41	5.31	0.10	78.80	86.84	-8.04 *	0.08	#
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	77.38	71.77	5.61 *	0.07	81.80	89.74	-7.93 *	0.09	#
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	77.05	71.27	5.78 *	0.07	81.06	89.63	-8.57 *	0.07	#

Table I.78 (continued)

	Data Source	Uncoded	Foundational				Other Structured			
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	82.24	79.10	3.14	0.25	81.44	78.48	2.96	0.38
2	NSC through 05-06 ( <i>NSCF</i> )	None	63.93	58.38	5.55 *	0.09	63.60	60.24	3.36	0.33
2T	NSC through 03-04 ( <i>NSCT</i> )	None	61.68	54.88	6.80 *	0.06	60.20	56.27	3.93	0.22
3	Pell Receipt ( <i>SFA</i> )	None	62.50	57.89	4.61	0.18	61.89	56.67	5.22	0.23
4	NSCF / SFA	None	75.68	72.40	3.28	0.15	76.21	72.14	4.07	0.24
4T	NSCT / SFA	None	74.66	71.44	3.23	0.11	75.03	69.43	5.60	0.11
5A	Survey / NSCF / SFA	Set to 0	83.18	77.68	5.50 ***	0.00	83.72	79.03	4.69 **	0.05
5AT	Survey / NSCT / SFA	Set to 0	82.37	76.85	5.52 ***	0.00	82.55	76.49	6.06 **	0.02
5B	Survey / NSCF / SFA	Set to 0 if no aid app	83.44	80.33	3.11	0.13	85.80	81.42	4.38 *	0.06
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	82.64	79.60	3.04	0.18	84.58	79.94	4.64 *	0.08
5C	Survey / NSCF / SFA	Set to Missing Value	90.99	86.78	4.20 **	0.03	88.93	87.15	1.79	0.29
5CT	Survey / NSCT / SFA	Set to Missing Value	90.02	86.21	3.81 *	0.07	88.51	85.88	2.63	0.14
6A	Survey / SFA	Set to 0	76.72	71.82	4.90 **	0.02	78.10	72.53	5.57	0.11
6B	Survey / SFA	Set to 0 if no aid app	79.08	75.92	3.16	0.16	81.85	76.95	4.91	0.14
6C	Survey / SFA	Set to Missing Value	87.40	84.42	2.99	0.14	86.41	83.58	2.83	0.25
7A	Survey / NSCF	Set to 0	78.22	72.14	6.08 ***	0.00	79.01	75.19	3.82	0.14
7AT	Survey / NSCT	Set to 0	76.88	71.01	5.87 ***	0.00	77.31	72.66	4.65 *	0.09
7C	Survey / NSCF	Set to Missing Value	89.45	85.95	3.50 *	0.07	86.24	85.40	0.84	0.65
7CT	Survey / NSCT	Set to Missing Value	88.33	85.30	3.03	0.16	85.77	84.07	1.71	0.40
8	Survey then NSCF / SFA	Set to 0	78.35	75.87	2.47	0.25	78.84	74.00	4.84	0.19
8T	Survey then NSCT / SFA	Set to 0	78.34	75.49	2.84	0.19	77.84	72.44	5.40	0.18
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	85.18	81.03	4.14 **	0.02	85.51	81.76	3.76	0.13
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	84.36	80.48	3.88 *	0.05	84.32	79.22	5.10 *	0.06
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	85.32	82.16	3.16	0.12	86.62	82.89	3.73 *	0.10
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	84.51	81.61	2.90	0.19	85.37	81.48	3.89	0.14
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	87.76	84.32	3.44 *	0.08	87.99	85.30	2.69	0.16
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	86.96	83.71	3.24	0.11	86.66	83.84	2.82	0.23



Table I.79

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Four-Year Institution by Project Academic Course Requirements (ITT)

Data Source	Uncoded	Unstructured					Strong Math-Sciences				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	55.89	42.98	12.91 **	0.02	65.69	61.32	4.37	0.15	
2	NSC through 05-06 ( <i>NSCF</i> )	None	39.39	31.43	7.96 **	0.03	26.90	42.38	-15.48 **	0.04	#
2T	NSC through 03-04 ( <i>NSCT</i> )	None	39.23	29.68	9.56 ***	0.01	25.15	40.17	-15.02 **	0.04	#
3	Pell Receipt ( <i>SFA</i> )	None	35.71	26.07	9.64 ***	0.01	35.25	44.78	-9.53 *	0.06	#
4	NSCF / SFA	None	46.29	35.82	10.47 **	0.01	41.99	52.29	-10.30 *	0.06	#
4T	NSCT / SFA	None	46.18	34.45	11.73 ***	0.00	41.18	50.31	-9.14 *	0.06	#
5A	Survey / NSCF / SFA	Set to 0	51.59	43.36	8.23 *	0.06	53.46	59.89	-6.42	0.15	#
5AT	Survey / NSCT / SFA	Set to 0	51.36	42.75	8.61 **	0.05	52.60	57.91	-5.31	0.17	#
5B	Survey / NSCF / SFA	Set to 0 if no aid app	52.48	44.04	8.44 *	0.05	54.16	60.75	-6.59	0.16	#
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	52.57	43.43	9.14 **	0.03	52.92	59.46	-6.54	0.15	#
5C	Survey / NSCF / SFA	Set to Missing Value	57.21	48.35	8.86	0.11	61.03	67.39	-6.36	0.16	#
5CT	Survey / NSCT / SFA	Set to Missing Value	57.39	47.70	9.69 *	0.07	59.88	66.04	-6.17	0.16	#
6A	Survey / SFA	Set to 0	48.67	41.24	7.43	0.12	51.76	57.14	-5.38	0.18	#
6B	Survey / SFA	Set to 0 if no aid app	51.41	42.59	8.82 *	0.05	53.21	60.10	-6.88	0.14	#
6C	Survey / SFA	Set to Missing Value	56.42	47.06	9.36	0.11	60.00	67.13	-7.13	0.13	#
7A	Survey / NSCF	Set to 0	49.51	40.36	9.15 **	0.04	49.63	53.82	-4.19	0.27	#
7AT	Survey / NSCT	Set to 0	49.24	39.37	9.87 **	0.02	48.81	51.84	-3.04	0.35	#
7C	Survey / NSCF	Set to Missing Value	56.30	45.73	10.57 **	0.05	60.03	65.06	-5.03	0.21	#
7CT	Survey / NSCT	Set to Missing Value	56.59	45.27	11.31 **	0.03	59.01	63.58	-4.57	0.24	#
8	Survey then NSCF / SFA	Set to 0	51.59	43.36	8.23 *	0.06	53.46	59.89	-6.42	0.15	#
8T	Survey then NSCT / SFA	Set to 0	51.36	42.75	8.61 **	0.05	52.60	57.91	-5.31	0.17	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	52.76	44.31	8.45 *	0.05	54.54	61.14	-6.59	0.18	#
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	52.54	43.70	8.84 ***	0.04	53.69	59.16	-5.46	0.20	#
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	53.18	44.57	8.61 *	0.06	54.72	61.27	-6.56	0.18	#
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	53.27	43.96	9.31 **	0.04	53.93	59.29	-5.36	0.22	#
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	54.58	45.70	8.89 *	0.06	55.78	63.21	-7.43	0.14	#
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	54.70	45.07	9.63 **	0.04	54.99	61.17	-6.18	0.16	#

Table I.79 (continued)

	Data Source	Uncoded	Foundational					Other Structured					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	51.39	51.39	0.00	1.00	#	51.82	47.36	4.46		0.33	
2	NSC through 05-06 ( <i>NSCF</i> )	None	35.94	32.34	3.60	0.12		43.43	35.84	7.59	**	0.02	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	34.77	30.35	4.42	0.11		41.75	34.43	7.32	**	0.03	
3	Pell Receipt ( <i>SFA</i> )	None	34.06	28.67	5.39	*	0.06	36.97	33.41	3.56		0.33	
4	NSCF / SFA	None	42.08	38.24	3.85	0.10		48.34	42.12	6.22	*	0.07	
4T	NSCT / SFA	None	40.98	37.12	3.86	*	0.09	#	47.16	41.21	5.96	*	0.09
5A	Survey / NSCF / SFA	Set to 0	47.45	44.62	2.83	0.26		55.21	48.74	6.47	**	0.03	
5AT	Survey / NSCT / SFA	Set to 0	46.53	44.30	2.23	0.37		54.02	47.83	6.19	**	0.04	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	47.34	46.21	1.13	0.66		56.44	50.59	5.84	**	0.04	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	46.40	45.90	0.51	0.84	#	55.24	50.20	5.04	*	0.10	
5C	Survey / NSCF / SFA	Set to Missing Value	52.04	50.55	1.49	0.58		57.90	53.56	4.34		0.13	
5CT	Survey / NSCT / SFA	Set to Missing Value	51.02	50.33	0.69	0.79		57.10	53.34	3.76		0.21	
6A	Survey / SFA	Set to 0	45.04	42.55	2.49	0.35		51.63	44.92	6.71	**	0.03	
6B	Survey / SFA	Set to 0 if no aid app	46.22	45.09	1.14	0.68		53.84	47.87	5.98	*	0.06	
6C	Survey / SFA	Set to Missing Value	51.41	50.98	0.42	0.89		56.22	51.45	4.77		0.13	
7A	Survey / NSCF	Set to 0	46.13	42.90	3.23	0.20		53.81	48.18	5.63	*	0.07	
7AT	Survey / NSCT	Set to 0	45.13	42.57	2.55	0.31		52.08	47.27	4.81		0.14	
7C	Survey / NSCF	Set to Missing Value	52.89	51.24	1.65	0.51		58.09	54.68	3.40		0.31	
7CT	Survey / NSCT	Set to Missing Value	51.90	51.14	0.77	0.77	#	56.90	54.49	2.41		0.49	
8	Survey then NSCF / SFA	Set to 0	47.45	44.62	2.83	0.26		55.21	48.74	6.47	**	0.03	
8T	Survey then NSCT / SFA	Set to 0	46.53	44.30	2.23	0.37		54.02	47.83	6.19	**	0.04	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	48.28	46.00	2.27	0.33		56.08	49.03	7.05	***	0.01	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	47.34	45.68	1.67	0.49		54.89	48.12	6.77	**	0.02	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	48.30	46.76	1.54	0.53		56.65	49.86	6.79	**	0.02	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	47.37	46.42	0.95	0.70	#	55.46	49.45	6.01	**	0.04	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	49.84	48.26	1.58	0.53		57.39	51.18	6.21	**	0.03	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	48.92	47.92	1.00	0.70	#	56.18	50.76	5.41	*	0.08	

Table I.80

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Two-Year Institution by Project Academic Course Requirements (ITT)

Data Source	Uncoded	Unstructured					Strong Math-Sciences						
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value		
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	17.11	22.27	-5.16	0.12	1.27	27.60	-26.33	**	0.01	#	
2	NSC through 05-06 ( <i>NSCF</i> )	None	14.47	17.97	-3.50	0.13	3.47	8.73	-5.26		0.17		
2T	NSC through 03-04 ( <i>NSCT</i> )	None	14.10	17.89	-3.79	*	0.08	1.96	9.53	-7.57	**	0.04	
3	Pell Receipt ( <i>SFA</i> )	None	12.52	16.08	-3.56	**	0.05	11.21	10.32	0.89		0.68	#
4	NSCF / SFA	None	15.58	20.49	-4.91		0.10	11.19	15.41	-4.23	**	0.02	
4T	NSCT / SFA	None	15.67	20.60	-4.93	*	0.06	11.29	16.21	-4.92	***	0.00	
5A	Survey / NSCF / SFA	Set to 0	16.44	19.11	-2.67		0.32	10.40	20.44	-10.04	***	0.00	#
5AT	Survey / NSCT / SFA	Set to 0	16.29	19.27	-2.98		0.25	10.96	21.25	-10.28	***	0.00	#
5B	Survey / NSCF / SFA	Set to 0 if no aid app	16.81	19.42	-2.62		0.35	10.59	20.75	-10.15	***	0.00	#
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	16.64	19.58	-2.94		0.27	11.28	21.84	-10.57	***	0.00	#
5C	Survey / NSCF / SFA	Set to Missing Value	18.93	21.32	-2.39		0.43	11.27	23.13	-11.86	***	0.01	#
5CT	Survey / NSCT / SFA	Set to Missing Value	18.69	21.48	-2.79		0.33	12.01	24.40	-12.39	***	0.00	#
6A	Survey / SFA	Set to 0	15.61	18.53	-2.92		0.24	10.49	19.21	-8.72	***	0.00	#
6B	Survey / SFA	Set to 0 if no aid app	16.48	19.16	-2.68		0.33	10.60	20.33	-9.73	***	0.00	#
6C	Survey / SFA	Set to Missing Value	18.75	21.15	-2.40		0.41	11.23	22.75	-11.53	***	0.00	#
7A	Survey / NSCF	Set to 0	16.66	18.79	-2.12		0.42	1.67	17.40	-15.73	**	0.01	#
7AT	Survey / NSCT	Set to 0	16.34	19.29	-2.96		0.24	2.39	18.21	-15.81	***	0.00	#
7C	Survey / NSCF	Set to Missing Value	19.61	21.21	-1.60		0.60	0.63	21.02	-20.39	**	0.02	#
7CT	Survey / NSCT	Set to Missing Value	19.29	21.99	-2.70		0.34	1.11	22.34	-21.23	**	0.01	#
8	Survey then NSCF / SFA	Set to 0	16.44	19.11	-2.67		0.32	10.40	20.44	-10.04	***	0.00	#
8T	Survey then NSCT / SFA	Set to 0	16.29	19.27	-2.98		0.25	10.96	21.25	-10.28	***	0.00	#
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	16.64	19.50	-2.86		0.28	10.53	20.44	-9.91	***	0.01	#
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	16.49	19.66	-3.17		0.20	11.05	21.25	-10.19	***	0.00	#
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	16.73	19.61	-2.88		0.28	10.53	20.49	-9.96	***	0.01	#
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	16.56	19.77	-3.20		0.21	11.05	21.29	-10.24	***	0.00	#
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	17.21	20.17	-2.96		0.29	10.62	21.15	-10.54	***	0.01	#
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	17.05	20.33	-3.28		0.21	11.23	21.98	-10.75	***	0.00	#

Table I.80 (continued)

	Data Source	Uncoded	Foundational					Other Structured				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	27.71	21.75	5.96	0.13	#	23.32	26.37	-3.05	0.48	
2	NSC through 05-06 ( <i>NSCF</i> )	None	24.02	21.54	2.48	0.35	#	18.82	22.67	-3.85	0.18	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	23.24	21.39	1.85	0.41	#	17.53	21.60	-4.07	0.20	
3	Pell Receipt ( <i>SFA</i> )	None	23.55	23.72	-0.16	0.96		19.99	18.27	1.72	0.54	
4	NSCF / SFA	None	26.64	27.37	-0.72	0.78		23.42	24.52	-1.11	0.64	
4T	NSCT / SFA	None	27.03	27.97	-0.93	0.73		23.31	23.45	-0.14	0.96	
5A	Survey / NSCF / SFA	Set to 0	29.53	26.31	3.22	0.23		23.98	24.27	-0.29	0.93	
5AT	Survey / NSCT / SFA	Set to 0	30.02	26.26	3.76	0.16	#	24.29	23.20	1.10	0.73	
5B	Survey / NSCF / SFA	Set to 0 if no aid app	29.89	27.11	2.79	0.33		24.64	24.66	-0.02	0.99	
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	30.38	27.13	3.25	0.26		24.93	24.07	0.86	0.80	
5C	Survey / NSCF / SFA	Set to Missing Value	32.01	28.64	3.36	0.26		26.15	26.93	-0.77	0.80	
5CT	Survey / NSCT / SFA	Set to Missing Value	32.58	28.80	3.79	0.21		26.87	26.39	0.48	0.88	
6A	Survey / SFA	Set to 0	26.32	23.25	3.07	0.29		22.26	22.25	0.02	1.00	
6B	Survey / SFA	Set to 0 if no aid app	27.15	24.43	2.71	0.38		23.53	23.41	0.12	0.97	
6C	Survey / SFA	Set to Missing Value	29.56	26.41	3.15	0.33		25.42	25.93	-0.51	0.88	
7A	Survey / NSCF	Set to 0	28.30	24.26	4.04	0.14		22.38	23.15	-0.77	0.79	
7AT	Survey / NSCT	Set to 0	28.26	23.90	4.36	0.12	#	22.44	22.08	0.36	0.91	
7C	Survey / NSCF	Set to Missing Value	32.03	28.45	3.58	0.29		25.09	26.36	-1.27	0.66	
7CT	Survey / NSCT	Set to Missing Value	32.35	28.33	4.03	0.24		25.84	25.78	0.06	0.98	
8	Survey then NSCF / SFA	Set to 0	29.53	26.31	3.22	0.23		23.98	24.27	-0.29	0.93	
8T	Survey then NSCT / SFA	Set to 0	30.02	26.26	3.76	0.16	#	24.29	23.20	1.10	0.73	
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	30.57	27.75	2.82	0.29		24.80	26.09	-1.30	0.72	
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	31.08	27.96	3.12	0.26	#	25.12	25.02	0.10	0.98	
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	30.73	28.01	2.71	0.32		25.30	26.32	-1.02	0.77	
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	31.24	28.24	2.99	0.28	#	25.58	25.81	-0.22	0.95	
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	31.43	28.38	3.05	0.26		25.82	27.16	-1.34	0.70	
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	31.93	28.61	3.32	0.23	#	26.05	26.64	-0.59	0.87	

Table I.81

## Impact of Upward Bound on Highest Level of Postsecondary Enrollment: Other Institution by Project Academic Course Requirements (ITT)

Data Source	Uncoded	Unstructured					Strong Math-Sciences				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	4.55	4.58	-0.03	0.99	15.16	1.15	14.02	0.17	
2	NSC through 05-06 ( <i>NSCF</i> )	None	0.13	0.26	-0.13	0.88	0.77	0.33	0.44	0.70	
2T	NSC through 03-04 ( <i>NSCT</i> )	None	0.13	0.26	-0.13	0.88	1.03	0.22	0.81	0.28	
3	Pell Receipt ( <i>SFA</i> )	None	5.45	3.58	1.87	0.35	3.95	2.72	1.24	0.35	
4	NSCF / SFA	None	4.65	2.34	2.31	0.15	3.70	2.75	0.94	0.49	
4T	NSCT / SFA	None	4.76	2.61	2.15	0.18	3.87	2.75	1.11	0.42	
5A	Survey / NSCF / SFA	Set to 0	4.10	3.30	0.80	0.62	9.91	2.56	7.36	**	0.01
5AT	Survey / NSCT / SFA	Set to 0	4.18	3.56	0.62	0.72	10.21	2.56	7.66	**	0.01
5B	Survey / NSCF / SFA	Set to 0 if no aid app	4.19	3.40	0.80	0.64	10.01	2.59	7.42	**	0.01
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	4.30	3.66	0.64	0.72	10.29	2.61	7.67	**	0.01
5C	Survey / NSCF / SFA	Set to Missing Value	4.67	3.68	0.99	0.61	11.48	2.93	8.55	**	0.02
5CT	Survey / NSCT / SFA	Set to Missing Value	4.75	3.98	0.77	0.71	11.97	2.96	9.01	**	0.01
6A	Survey / SFA	Set to 0	4.14	4.23	-0.09	0.96	10.88	2.59	8.29	**	0.01
6B	Survey / SFA	Set to 0 if no aid app	4.33	4.50	-0.18	0.93	11.04	2.71	8.33	***	0.01
6C	Survey / SFA	Set to Missing Value	4.79	4.92	-0.14	0.95	12.66	3.08	9.58	***	0.01
7A	Survey / NSCF	Set to 0	3.09	2.92	0.18	0.90	8.55	0.99	7.56	*	0.09
7AT	Survey / NSCT	Set to 0	3.14	3.18	-0.04	0.98	8.48	0.88	7.60	*	0.08
7C	Survey / NSCF	Set to Missing Value	3.55	3.37	0.19	0.91	11.93	1.27	10.66		0.15
7CT	Survey / NSCT	Set to Missing Value	3.64	3.71	-0.07	0.97	11.91	1.14	10.77		0.15
8	Survey then NSCF / SFA	Set to 0	4.10	3.30	0.80	0.62	9.91	2.56	7.36	**	0.01
8T	Survey then NSCT / SFA	Set to 0	4.18	3.56	0.62	0.72	10.21	2.56	7.66	**	0.01
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	4.49	4.09	0.41	0.82	12.02	4.71	7.31	***	0.01
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	4.57	4.35	0.22	0.90	12.33	4.71	7.62	***	0.01
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	4.52	4.16	0.36	0.84	12.12	4.73	7.39	***	0.01
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	4.62	4.42	0.20	0.91	12.44	4.73	7.71	***	0.01
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	4.82	4.27	0.55	0.77	12.96	4.90	8.07	**	0.01
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	4.92	4.55	0.37	0.85	13.30	4.90	8.41	***	0.01

Table I.81 (continued)

	Data Source	Uncoded	Foundational				Other Structured				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	3.14	5.96	-2.82 *	0.10	4.91	3.33	1.57		0.26
2	NSC through 05-06 ( <i>NSCF</i> )	None	1.95	0.75	1.20	0.32	0.07	0.32	-0.25 ***		0.00
2T	NSC through 03-04 ( <i>NSCT</i> )	None	1.67	0.26	1.42	0.13					
3	Pell Receipt ( <i>SFA</i> )	None	5.39	5.51	-0.11	0.93	5.16	5.00	0.17		0.91
4	NSCF / SFA	None	5.94	4.80	1.14	0.41	4.21	4.86	-0.65		0.68
4T	NSCT / SFA	None	5.69	4.80	0.88	0.52	4.69	4.54	0.15		0.92
5A	Survey / NSCF / SFA	Set to 0	5.34	6.00	-0.67	0.61	4.40	4.61	-0.21		0.87
5AT	Survey / NSCT / SFA	Set to 0	5.08	6.00	-0.93	0.46	4.43	4.47	-0.04		0.97
5B	Survey / NSCF / SFA	Set to 0 if no aid app	5.47	6.28	-0.81	0.54	4.61	4.72	-0.10		0.94
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.21	6.28	-1.07	0.41	4.62	4.63	0.00		1.00
5C	Survey / NSCF / SFA	Set to Missing Value	5.84	6.73	-0.89	0.54	4.65	5.19	-0.54		0.71
5CT	Survey / NSCT / SFA	Set to Missing Value	5.57	6.73	-1.16	0.41	4.68	5.11	-0.43		0.74
6A	Survey / SFA	Set to 0	5.37	6.02	-0.65	0.60	4.42	4.61	-0.19		0.87
6B	Survey / SFA	Set to 0 if no aid app	5.67	6.40	-0.73	0.57	4.75	4.87	-0.12		0.92
6C	Survey / SFA	Set to Missing Value	6.11	7.03	-0.91	0.52	4.87	5.40	-0.54		0.69
7A	Survey / NSCF	Set to 0	2.70	3.80	-1.10	0.34	2.53	2.45	0.08		0.94
7AT	Survey / NSCT	Set to 0	2.42	3.80	-1.38	0.21	2.80	2.31	0.50		0.53
7C	Survey / NSCF	Set to Missing Value	3.10	4.82	-1.72	0.27	2.77	2.89	-0.12		0.93
7CT	Survey / NSCT	Set to Missing Value	2.72	4.93	-2.21	0.17	3.13	2.75	0.37		0.71
8	Survey then NSCF / SFA	Set to 0	5.34	6.00	-0.67	0.61	4.40	4.61	-0.21		0.87
8T	Survey then NSCT / SFA	Set to 0	5.08	6.00	-0.93	0.46	4.43	4.47	-0.04		0.97
9A	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0	5.64	6.00	-0.37	0.78	4.40	4.61	-0.21		0.87
9AT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0	5.38	6.00	-0.62	0.63	4.43	4.47	-0.04		0.97
9B	Mult Surveys (3rd-5th) / NSCF / SFA	Set to 0 if no aid app	5.66	6.10	-0.44	0.75	4.52	4.64	-0.12		0.93
9BT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to 0 if no aid app	5.41	6.10	-0.70	0.60	4.53	4.55	-0.01		0.99
9C	Mult Surveys (3rd-5th) / NSCF / SFA	Set to Missing Value	5.85	6.34	-0.49	0.74	4.49	4.84	-0.35		0.80
9CT	Mult Surveys (3rd-5th) / NSCT / SFA	Set to Missing Value	5.60	6.34	-0.74	0.59	4.49	4.73	-0.24		0.84

Table I.82

Impact of Upward Bound on Attended a Highly-Selective Four-Year Postsecondary Institution by Project Academic Course Requirements (ITT)

Data Source	Uncoded	Unstructured				Strong Math-Sciences				
		Treat	Control	Impact	Sig P-value	Treat	Control	Impact	Sig P-value	
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	8.64	8.33	0.31	0.93	0.13	8.87	-8.74	0.15
2	NSC through 05-06 ( <i>NSCF</i> )	None	6.70	6.02	0.68	0.80	6.10	7.19	-1.09	0.53
2T	NSC through 03-04 ( <i>NSCT</i> )	None	5.55	5.75	-0.21	0.93	5.90	7.19	-1.29	0.39
3	Pell Receipt ( <i>SFA</i> )	None	4.90	4.18	0.71	0.72	3.36	2.52	0.83	0.53
4	NSCF / SFA	None	7.97	6.99	0.98	0.73	5.33	8.56	-3.23	0.17
4T	NSCT / SFA	None	6.97	6.73	0.25	0.93	5.28	8.56	-3.28	0.11
5A	Survey / NSCF / SFA	Set to 0	10.10	8.19	1.91	0.58	5.64	8.61	-2.97	0.30
5AT	Survey / NSCT / SFA	Set to 0	9.14	7.93	1.21	0.71	5.52	8.61	-3.09	0.24
5B	Survey / NSCF / SFA	Set to 0 if no aid app	10.17	8.40	1.77	0.61	5.81	8.74	-2.93	0.32
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	9.25	8.14	1.11	0.74	5.66	8.85	-3.19	0.26
5C	Survey / NSCF / SFA	Set to Missing Value	10.82	9.34	1.48	0.71	6.84	9.77	-2.93	0.31
5CT	Survey / NSCT / SFA	Set to Missing Value	9.86	9.05	0.82	0.83	6.72	9.91	-3.19	0.25
6A	Survey / SFA	Set to 0	8.03	7.69	0.34	0.92	3.95	7.44	-3.49	0.24
6B	Survey / SFA	Set to 0 if no aid app	8.49	8.02	0.46	0.89	2.03	7.83	-5.80	0.24
6C	Survey / SFA	Set to Missing Value	9.12	8.95	0.17	0.97	2.09	8.79	-6.70	0.23
7A	Survey / NSCF	Set to 0	9.92	8.19	1.73	0.61	6.61	7.44	-0.82	0.69
7AT	Survey / NSCT	Set to 0	8.96	7.93	1.03	0.76	6.43	7.44	-1.01	0.60
7C	Survey / NSCF	Set to Missing Value	10.82	9.65	1.17	0.77	7.41	9.16	-1.75	0.53
7CT	Survey / NSCT	Set to Missing Value	9.78	9.52	0.26	0.95	7.19	9.30	-2.12	0.45
8	Survey then NSCF / SFA	Set to 0	10.10	8.19	1.91	0.58	5.64	8.61	-2.97	0.30
8T	Survey then NSCT / SFA	Set to 0	9.14	7.93	1.21	0.71	5.52	8.61	-3.09	0.24

Table I.82 (continued)

	Data Source	Uncoded	Foundational				Other Structured				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
1	5th Follow-Up Survey ( <i>Survey</i> )	Set to Missing Value	25.89	19.33	6.55 *	0.09		7.13	7.17	-0.05	0.98
2	NSC through 05-06 ( <i>NSCF</i> )	None	14.41	12.01	2.40	0.14		6.47	4.89	1.57	0.35
2T	NSC through 03-04 ( <i>NSCT</i> )	None	13.69	10.72	2.96 *	0.07		6.32	4.89	1.43	0.40
3	Pell Receipt ( <i>SFA</i> )	None	15.38	8.52	6.86 ***	0.00	#	3.25	4.67	-1.41	0.33
4	NSCF / SFA	None	18.72	13.70	5.02 ***	0.00		6.38	6.32	0.06	0.97
4T	NSCT / SFA	None	18.02	12.42	5.61 ***	0.00		6.23	6.32	-0.09	0.96
5A	Survey / NSCF / SFA	Set to 0	22.68	15.59	7.09 ***	0.00		7.86	7.25	0.61	0.73
5AT	Survey / NSCT / SFA	Set to 0	22.22	15.10	7.12 ***	0.00		7.71	7.25	0.47	0.79
5B	Survey / NSCF / SFA	Set to 0 if no aid app	22.75	16.16	6.60 ***	0.00		8.07	7.35	0.72	0.68
5BT	Survey / NSCT / SFA	Set to 0 if no aid app	22.27	15.69	6.59 ***	0.00		7.95	7.41	0.54	0.76
5C	Survey / NSCF / SFA	Set to Missing Value	24.38	17.80	6.58 ***	0.01		8.38	8.13	0.26	0.90
5CT	Survey / NSCT / SFA	Set to Missing Value	23.88	17.33	6.55 ***	0.01		8.25	8.27	-0.02	0.99
6A	Survey / SFA	Set to 0	21.81	14.02	7.79 ***	0.00	#	6.33	6.30	0.03	0.98
6B	Survey / SFA	Set to 0 if no aid app	22.55	14.95	7.60 ***	0.00	#	6.76	6.58	0.18	0.90
6C	Survey / SFA	Set to Missing Value	24.49	17.15	7.34 ***	0.01		7.11	7.50	-0.39	0.82
7A	Survey / NSCF	Set to 0	22.18	15.04	7.14 ***	0.00		7.98	6.66	1.32	0.47
7AT	Survey / NSCT	Set to 0	21.72	14.55	7.17 ***	0.00		7.83	6.66	1.18	0.52
7C	Survey / NSCF	Set to Missing Value	24.68	18.05	6.63 ***	0.01		8.80	7.83	0.97	0.62
7CT	Survey / NSCT	Set to Missing Value	24.28	17.54	6.74 ***	0.01		8.64	7.95	0.69	0.73
8	Survey then NSCF / SFA	Set to 0	22.68	15.59	7.09 ***	0.00		7.86	7.25	0.61	0.73
8T	Survey then NSCT / SFA	Set to 0	22.22	15.10	7.12 ***	0.00		7.71	7.25	0.47	0.79



Table I.83

## Impact of Upward Bound on Pell Grant and Any Financial Aid Receipt by Project Academic Course Requirements (ITT)

Outcome / Data Source	Uncoded	Unstructured					Strong Math-Sciences				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	61.80	55.71	6.09	0.27	62.10	64.98	-2.88	0.37		
2 Pell receipt (Survey)	Set to 0	52.84	40.43	12.41 ***	0.01	55.22	58.20	-2.98	0.58	#	
3 Pell receipt (SFA)	None	53.60	46.03	7.57 **	0.02	52.58	57.74	-5.16 *	0.08	#	
Applied for aid (SFA)	None	70.28	63.81	6.47 **	0.02	65.28	69.54	-4.26 *	0.08	#	
1 Aid receipt (Survey)	Set to Missing Value	77.20	72.97	4.23	0.32	84.65	83.95	0.70	0.61		
2 Aid receipt (Survey)	Set to 0	66.42	54.61	11.81 **	0.04	74.62	75.42	-0.79	0.85	#	
Outcome / Data Source	Uncoded	Foundational					Other Structured				
		Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
1 Pell receipt (Survey)	Set to Missing Value	69.06	65.85	3.21	0.71	74.05	63.67	10.38 **	0.04		
2 Pell receipt (Survey)	Set to 0	57.14	51.71	5.44	0.52	60.06	51.13	8.93 **	0.03		
3 Pell receipt (SFA)	None	62.50	57.89	4.61	0.18	61.89	56.67	5.22	0.23		
Applied for aid (SFA)	None	75.67	73.84	1.84	0.46	77.86	74.75	3.12	0.29		
1 Aid receipt (Survey)	Set to Missing Value	86.99	89.24	-2.25	0.59	93.01	81.11	11.90 ***	0.01	#	
2 Aid receipt (Survey)	Set to 0	72.98	70.86	2.12	0.70	76.77	65.68	11.09 ***	0.00		

Table I.84

## Impact of Upward Bound on Completed Any Credential and Highest Credential Completed by Project Academic Course Requirements (ITT)

Outcome / Data Source		Uncoded	Unstructured				Strong Math-Sciences					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Any Postsecondary Degree</i>												
1	Survey	Set to Missing Value	46.02	36.70	9.32	0.21	67.82	43.35	24.47	***	0.01	
2	NSCF	None	19.19	14.95	4.24	0.18	13.15	18.85	-5.70	0.24	#	
2T	NSCT	None	17.19	13.24	3.95	0.16	10.77	16.00	-5.23	0.26	#	
7A	Survey / NSCF	Set to 0	31.69	27.32	4.37	0.28	36.40	35.13	1.27	0.63		
7AT	Survey / NSCT	Set to 0	29.91	25.96	3.95	0.35	34.61	32.28	2.33	0.34		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	32.89	28.39	4.50	0.26	38.41	38.15	0.26	0.94		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	31.20	27.25	3.96	0.36	36.54	35.56	0.97	0.76		
7C	Survey / NSCF	Set to Missing Value	36.35	31.21	5.15	0.31	43.40	42.75	0.65	0.85		
7CT	Survey / NSCT	Set to Missing Value	34.41	29.99	4.42	0.41	42.51	39.95	2.56	0.40		
<i>Highest Degree Completed: Four-year Degree</i>												
1	Survey	Set to Missing Value	27.05	17.58	9.46	**	0.03	27.64	28.51	-0.88	0.77	#
2	NSCF	None	13.24	10.77	2.47	0.38	10.58	13.97	-3.39	0.48		
2T	NSCT	None	12.12	10.18	1.94	0.49	8.65	12.62	-3.96	0.43		
7A	Survey / NSCF	Set to 0	19.40	15.01	4.39	0.19	20.98	24.71	-3.73	0.35		
7AT	Survey / NSCT	Set to 0	18.37	14.42	3.95	0.24	19.38	23.36	-3.98	0.32		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	20.16	15.70	4.45	0.18	21.69	26.94	-5.25	0.27	#	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	19.09	15.29	3.80	0.27	20.05	25.84	-5.78	0.25	#	
7C	Survey / NSCF	Set to Missing Value	21.91	17.31	4.60	0.23	23.06	30.22	-7.16	0.18	#	
7CT	Survey / NSCT	Set to Missing Value	20.68	16.93	3.74	0.33	21.56	29.04	-7.49	0.17	#	

Table I.84 (continued)

Outcome / Data Source		Uncoded	Unstructured				Strong Math-Sciences					
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig	P-value
<i>Highest Degree Completed: Two-year Degree</i>												
1	Survey	Set to Missing Value	7.85	10.51	-2.66	0.49	14.20	11.73	2.47	0.65		
2	NSCF	None	4.67	3.63	1.04	0.53	-0.35	4.76	-5.11	0.10	#	
2T	NSCT	None	3.99	2.80	1.19	0.43	0.88	3.38	-2.51	0.11	#	
7A	Survey / NSCF	Set to 0	6.11	7.51	-1.39	0.61	3.60	8.48	-4.88	0.12		
7AT	Survey / NSCT	Set to 0	5.12	7.03	-1.90	0.54	6.07	7.11	-1.03	0.55		
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.16	7.76	-1.60	0.57	3.26	9.10	-5.84	0.19		
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	5.21	7.29	-2.08	0.51	6.51	7.74	-1.23	0.59		
7C	Survey / NSCF	Set to Missing Value	6.65	8.41	-1.76	0.55	1.89	10.23	-8.35	0.20		
7CT	Survey / NSCT	Set to Missing Value	5.70	7.84	-2.14	0.51	5.80	8.72	-2.92	0.35		
<i>Highest Degree Completed: Other Degree</i>												
1	Survey	Set to Missing Value	11.32	8.60	2.71	0.33	19.10	3.11	16.00	0.15		
2	NSCF	None	0.78	0.55	0.23	0.69	-0.65	0.12	-0.77	***	0.00	
2T	NSCT	None	0.91	0.26	0.65	0.28						
7A	Survey / NSCF	Set to 0	5.86	4.80	1.06	0.31	11.01	1.94	9.08	*	0.06	
7AT	Survey / NSCT	Set to 0	5.81	4.51	1.30	0.29	10.44	1.81	8.63	*	0.06	
7B	Survey / NSCF / SFA	Set to 0 if no aid app	6.12	4.92	1.20	0.28	12.18	2.11	10.07	*	0.06	
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	6.14	4.66	1.48	0.26	11.62	1.99	9.63	*	0.06	
7C	Survey / NSCF	Set to Missing Value	7.28	5.48	1.81	0.25	14.00	2.30	11.70	*	0.09	
7CT	Survey / NSCT	Set to Missing Value	7.32	5.22	2.11	0.25	13.65	2.18	11.47	*	0.09	
<i>Currently In School</i>												
1	Currently in school (Survey)	Set to Missing Value	7.55	3.92	3.63	**	0.01	0.56	7.17	-6.61	0.23	#
1	In school or completed degree (Survey)	Set to Missing Value	55.42	40.72	14.70	**	0.05	68.74	51.21	17.53	**	0.02

Table I.84 (continued)

Outcome / Data Source		Uncoded	Foundational				Other Structured				
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact	Sig
<i>Any Postsecondary Degree</i>											
1	Survey	Set to Missing Value	49.58	51.41	-1.82	0.79	46.55	35.61	10.94	**	0.03
2	NSCF	None	20.23	20.58	-0.35	0.93	18.12	14.80	3.32		0.26
2T	NSCT	None	16.62	17.55	-0.93	0.82	15.65	10.72	4.93		0.11
7A	Survey / NSCF	Set to 0	36.05	36.00	0.06	0.99	35.93	29.74	6.19	*	0.06
7AT	Survey / NSCT	Set to 0	34.11	33.92	0.19	0.97	34.09	26.22	7.87	**	0.02
7B	Survey / NSCF / SFA	Set to 0 if no aid app	37.23	39.52	-2.29	0.59	37.78	31.44	6.34	*	0.06
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	35.37	37.54	-2.17	0.66	36.04	28.17	7.86	**	0.02
7C	Survey / NSCF	Set to Missing Value	40.87	43.00	-2.13	0.65	39.39	33.96	5.44		0.12
7CT	Survey / NSCT	Set to Missing Value	38.82	40.93	-2.11	0.70	37.90	30.60	7.30	*	0.05
<i>Highest Degree Completed: Four-year Degree</i>											
1	Survey	Set to Missing Value	30.60	27.95	2.65	0.53	24.21	16.38	7.83	*	0.07
2	NSCF	None	15.38	13.14	2.23	0.57	13.82	10.38	3.43	*	0.10
2T	NSCT	None	12.63	12.19	0.44	0.89	12.21	8.14	4.06	*	0.09
7A	Survey / NSCF	Set to 0	22.01	20.58	1.43	0.65	19.90	16.40	3.51	*	0.07
7AT	Survey / NSCT	Set to 0	19.76	19.76	0.00	1.00	18.47	14.16	4.31	**	0.04
7B	Survey / NSCF / SFA	Set to 0 if no aid app	22.75	22.67	0.08	0.98	20.89	17.51	3.37	*	0.09
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	20.50	21.91	-1.40	0.63	19.58	15.27	4.31	**	0.05
7C	Survey / NSCF	Set to Missing Value	24.69	24.79	-0.10	0.98	21.73	18.75	2.98		0.18
7CT	Survey / NSCT	Set to Missing Value	22.28	23.94	-1.66	0.62	20.47	16.50	3.97		0.10

Table I.84 (continued)

Outcome / Data Source		Uncoded	Foundational				Other Structured			
			Treat	Control	Impact	Sig	P-value	Treat	Control	Impact
<i>Highest Degree Completed: Two-year Degree</i>										
1	Survey	Set to Missing Value	9.16	13.64	-4.48	0.28	9.72	9.18	0.54	0.83
2	NSCF	None	3.95	5.73	-1.78	0.22	3.69	4.41	-0.73	0.64
2T	NSCT	None	3.63	3.76	-0.13	0.91	2.99	2.58	0.41	0.74
7A	Survey / NSCF	Set to 0	7.11	10.29	-3.18	0.11	8.37	8.33	0.04	0.98
7AT	Survey / NSCT	Set to 0	7.52	8.69	-1.18	0.62	7.92	6.60	1.32	0.42
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.64	11.23	-3.58 *	0.10	8.81	8.72	0.08	0.97
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	8.07	9.54	-1.47	0.57	8.33	7.04	1.29	0.47
7C	Survey / NSCF	Set to Missing Value	8.51	12.20	-3.69	0.11	9.31	9.51	-0.20	0.92
7CT	Survey / NSCT	Set to Missing Value	8.91	10.38	-1.47	0.59	8.87	7.69	1.18	0.54
<i>Highest Degree Completed: Other Degree</i>										
1	Survey	Set to Missing Value	10.90	9.82	1.08	0.83	12.24	10.05	2.19	0.53
2	NSCF	None	0.55	1.71	-1.16	0.20	0.50	0.00	0.50 ***	0.00
2T	NSCT	None	0.52	1.60	-1.08 **	0.03 #	0.29	0.00	0.29 ***	0.00
7A	Survey / NSCF	Set to 0	7.54	5.13	2.41	0.39	7.03	5.01	2.02	0.29
7AT	Survey / NSCT	Set to 0	7.51	5.47	2.05	0.46	7.12	5.47	1.66	0.40
7B	Survey / NSCF / SFA	Set to 0 if no aid app	7.40	5.62	1.78	0.55	7.41	5.20	2.21	0.26
7BT	Survey / NSCT / SFA	Set to 0 if no aid app	7.42	6.10	1.32	0.66	7.51	5.86	1.65	0.43
7C	Survey / NSCF	Set to Missing Value	8.24	6.01	2.23	0.49	7.77	5.69	2.08	0.32
7CT	Survey / NSCT	Set to Missing Value	8.23	6.61	1.63	0.61	7.99	6.41	1.57	0.48
<i>Currently In School</i>										
1	Currently in school (Survey)	Set to Missing Value	8.13	6.41	1.72	0.29	11.73	9.84	1.89	0.27
1	In school or completed degree (Survey)	Set to Missing Value	58.53	58.13	0.40	0.95	60.19	46.14	14.05 ***	0.01

