

# Evaluating the Upward Bound Program Using Data from the National Educational Longitudinal Survey (NELS 88:2000)



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## Upward Bound

Upward Bound is a federally funded program that was created to provide the resources for students, whose parents have not graduated from college and/or are financially disadvantaged, that are needed to pursue a post-secondary education. However, these resources come at a price. According to the US Department of Education, the average cost for a student to participate in this program is \$4,890.00, a price not everyone is willing to pay to have students succeed.

While there has been support for Upward Bound, the program has not been without opposition. Questions remain as to whether or not the program is a sound investment of funding in achieving its desired results: every student having the opportunity to pursue post-secondary education.

Since 1965, Upward Bound has been subject to federal evaluations of various types to attempt to determine whether or not the program has been effective or simply another waste of resources on a program funded by the government.

Effectiveness of Upward Bound has frequently been defined as the extent to which the programs were meeting the national objectives: (a) increasing the high school retention rate of Upward Bound participants, (b) increasing their entry into post-secondary education, and (c) generating skills and motivation necessary for success in education beyond high school.

## Previous Evaluations

### ➤ Pre and Post Tests (Hunt, 1967)

- First evaluation of Upward Bound
- Process Evaluation
  - Attempted to understand
    - Initiatives by multiple chapters
    - Impact on students
- Participants were given an test instrument measuring student performance, motivation and self-esteem at beginning and end of summer program.

### ➤ Interviews and Questionnaires (McCalley, 1969)

- First Upward Bound federally funded evaluation
- Counselors, Administrators, teachers
  - 44 districts were interviewed
  - 400 districts were sent surveys

### ➤ Comparing Upward Bound Students and "Control" Group (Seftor, Mamun, & Schirm, 2009)

- Students who applied to join Upward Bound were randomly assigned to either Upward Bound or a control group
- Data about student performance, motivation, rate of post-secondary enrollment, and self-esteem were investigated.

## Previous Findings

- Positive Effects of Upward Bound
  - Participation increased motivation to attend a post-secondary educational institution.
  - Participation increases student self-esteem.
  - Participation increases student enrollment into a post-secondary educational institution.
- Lack of Significant Impact
  - Students in Upward Bound did not demonstrate significant academic achievement
    - Academic curriculum not specific across chapters
    - Each chapter serves differing student needs
- Concerns about Evaluations
  - Ethicality of Design
    - Denying services could impact student livelihood
    - 15% of students in control group indicated they were part of Classic or Math/Science Upward Bound
  - No study of matriculation from a post-secondary institution.

## Framework

- Upward Bound programs are evaluated from an Effectiveness and Impact Approach
  - Government programs have strict Budgets and limited funding
  - Policymakers want to fund greatest impact

## Objective

- Determine effectiveness of program in terms of increasing percentage of targeted high school students who successfully pursue post-secondary educational opportunities.
  - Does years of participation in Upward Bound predict rate of high school graduation, post-secondary education application and enrollment, financial aid application, and/or matriculation from a post-secondary educational institution?
  - After controlling for parent/guardian level of education, family income, gender, ethnicity, and remedial course participation, I hypothesize that participation in Upward Bound will increase likelihood of above outcomes.

## Methodology

- Data collected from nearly 11,000 students interviewed in 1988 and followed up over the next 12 years
  - 154 indicated participation in Upward Bound (6 did not indicate years of participation)
- Logistic regression to predict membership in Upward Bound (29% prediction)
- Comparison group created using probabilities as propensity score (closest neighbor)
- Logistic regressions conducted on each outcome

## Demographics (NELS:88/2000)

	Upward Bound		Non-Upward Bound		National Comparison*	
	N	%	N	%	N	%
	N = 148		N = 9752		N = 11,914,000	
First-generation						
Yes (1)	131	88.51	6648	68.17	9,110,000	76.46
No (0)	17	11.49	3104	31.83	2,804,000	23.54
Low-income						
Yes (1)	99	66.89	1643	16.85	4,920,482	41.30
No (0)	49	33.11	8109	83.15	6,993,518	58.70
Male						
Yes (1)	53	35.81	4606	47.23	6,116,647	51.34
No (0)	95	64.19	5146	52.77	5,797,353	48.66
Afr. American						
Yes (1)	125	84.46	814	8.35	1,505,929	12.64
No (0)	23	15.64	8938	91.65	10,408,070	87.36
Rem. Courses						
Yes (1)	124	83.78	3171	32.52	2,096,864	17.60
No (0)	24	16.22	6581	67.48	9,817,136	82.40

## Upward Bound vs. Comparison

	Upward Bound		Comparison Group	
	N	%	N	%
	N = 148		N = 148	
First-generation				
Yes (1)	131	88.51	132	89.19
No (0)	17	11.49	16	10.81
Low-income				
Yes (1)	99	66.89	101	68.24
No (0)	49	33.11	47	31.76
Male				
Yes (1)	53	35.81	54	36.49
No (0)	95	64.19	94	63.51
African American				
Yes (1)	125	84.46	126	85.14
No (0)	23	15.64	22	14.86
Remedial Courses				
Yes (1)	124	83.78	120	81.08
No (0)	24	16.22	28	18.92

## UB Participation

Outcome	$\chi^2$	p	Odds Ratio	Increased Probability (%)
High School Graduation	1.769	.211		
PSE* Application	21.010	**	2.694	9.42
PSE* Enrollment	11.460	**	2.372	14.74
PSE* Financial Aid	25.347	**	3.488	58.01
PSE*	7.301	**	1.873	26.95
Graduation/Retention				

## Years of Enrollment

Outcome	$\chi^2$	p	Odds Ratio	Increased Probability (%)
PSE* Application	32.005	**	1.897	.66
PSE* Enrollment	23.250	**	3.109	10.29
PSE* Financial Aid	30.949	**	1.447	38.98

\*Note. \*\* = Post-Secondary Education, \*\* p < .05

## Discussion

- Participation in Upward Bound Overall
  - Significant effect, similar to previous findings
  - Overall twice as likely to complete as comparison (at least 8% higher probability)
  - Target population tends to have lower education outcomes (Orfield et al, 2004)
- Years of Enrollment in Upward Bound
  - Overall significant effect, twice as likely to achieve outcomes (between 3 and 76% probability)
  - not a predictor of post-secondary education graduation
- Implication of findings
  - One year of Upward Bound is not enough
    - Highly unlikely barriers to PSE will be removed
      - (low income or first generation)
    - Hard to determine which year is most crucial
    - Socio-economic effects, program provides structure for students
- Limitations of the study
  - Quasi-experimental study
    - Unknown location of data set
    - Students must demonstrate "will to achieve" to enroll
      - Possible selection bias
  - Students initially sampled in 1988
    - Possible mortality effect as less students respond each follow-up
    - Different educational policies today
      - More critical focus on Education since *A Nation at Risk*
      - No Child Left Behind Act and Standardized Testing
      - Higher accountability for Upward Bound chapters to be effective to remain funded
  - Future Studies
    - Examine objectives using de-identified student data submitted to Department of Education
    - Investigate why programs like Upward Bound show no significant high school academic achievement effects
      - Most students graduate from high school?
      - Most chapters have tutoring initiatives for students
      - Upward Bound focuses on getting students into Post-Secondary Education

## Bibliography

- Hunt, D. E. (1967). *Characterization of the 1966 upward bound summer programs*. New York: Syracuse University.
- McCalley, H. S. (1969). *Upward Bound: A study of impact on the secondary school and the community*. New York: Greenleigh Associates.
- Seftor, N. S., Mamun, A., & Schirm, A. (2009, January). *The impacts of regular upward bound on postsecondary outcomes 7-9 years after scheduled high school graduation*. Princeton, NJ: Mathematica Policy Research.