

# THE PELL INSTITUTE

for the Study of Opportunity in Higher Education

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## **Issues Related to the Report of Mathematica Policy Research, Inc., Entitled Final Report of the National Upward Bound Evaluation (April 1999)**

In 1992, the Department of Education entered into a contract with Mathematica Policy Research, Inc. to conduct a six-year longitudinal evaluation of the Upward Bound program using a random-assignment methodology. The report compared the educational progress of 1,500 students who were admitted (though not necessarily served) by 67 of 563 Upward Bound projects and compared that progress to that made by 1,300 students who had applied to these same projects, but on the basis of the random assignment methodology, could not be served.

Mathematica is a well-respected research firm that frequently contracts with the Department of Education. Its researchers are well respected and their work is generally of a high caliber. However, after consulting with a number of researchers and analysts, a number of methodological issues has been raised which, in the view of The Pell Institute, cloud the interim findings from this study.

### **Discussion Point I. Contamination of the Comparison Group**

On the surface, the use of a two-stage, randomly-assigned treatment group is an appropriate method for this study. However, as in any true- or quasi-experimental research study, the selection of the treatment and comparison group is critical to the validity of the study. In this case, we feel that the selection of the comparison group is problematic and contaminates the data, thus constraining the findings presented in the report.

The major problem with the comparison group comes as a result of the universe from which the subjects were chosen. As stated by Mathematica in their 1999 Upward Bound report, Upward Bound students are mostly self-selected. A student's decision to apply to Upward Bound is an indication of their interest and motivation toward postsecondary study. This is reflected by Myers and Schirm in the report: "Most of the students who currently apply for Upward Bound are educationally motivated, have few behavioral or disciplinary problems, and earn mostly B's or C's in school" (1999, p. 3). Thus, the control group was randomly selected from students who had already self-selected themselves for the program, therefore, for the study. These students, just like those who ended up participating in the program, were equally motivated for postsecondary education. While they may not have received the same benefits as the treatment group, there is little doubt that they received services similar to those of Upward Bound students. In fact, the report states that 25 percent of students in the control group actually received services from other TRIO programs, including Upward Bound Math/Science (13 percent), Talent Search (11 percent), and even Upward Bound (1 percent). The fact that any students in the control group actually attended another Upward Bound program provides further evidence of the corruption of the control/comparison group comparison.

To further underscore this problem, a significantly higher proportion of comparison group students received *other* supplemental services during the academic year than Upward Bound students (54 vs. 39 percent). There are two possible and probable reasons for this result. First, inherent in the disposition of the Upward Bound professionals/staff is the need and ability to help students with need and potential. Eligible students from the universe not chosen for the treatment group, many of whom were known by Upward Bound staff, were given advice and/or led to other services by Upward Bound and associated staff. Thus, although those students were not able to have ‘direct’ support from the program, they received important steering from UB professionals, including participation in other TRIO programs.

This final point illustrates the problems associated with the selection of a comparison group from within participating Upward Bound schools. It is our contention that these schools provide similar or alternative services to other students because of their association with Upward Bound. That is, there may be a significant impact on the college-bound mission of a school simply by osmosis—resulting in a major difference in the college-going attitude of ALL students, not just those who apply and participate in the program. As well, Upward Bound project staff make special efforts to provide additional services to those students who are unable to benefit from direct involvement in the program.

This is an important finding and methodological error that clouds many of the findings in the report. It is our belief that this study is not representative of a true experimental A versus B comparative study. More accurately, it is an A vs. A<sup>1</sup> quasi-experimental approach, where both groups are inherently similar, before, during, and after the evaluation. Evaluation theory suggests that special efforts must be taken to isolate the treatment of students. Even though we fully understand the complexity of field-based research and its limitations, we feel a more justifiable approach would have been to select similar students for the comparison group from schools where Upward Bound was not available, thus reducing the bias of Upward Bound on school and student behaviors. As it stands, the study is severely limited in its internal validity, let alone its generalizability to a broader audience or population.

### **Discussion Point II. The Relative Impact of Upward Bound**

Even if we accept or dismiss these complications, a number of positive findings still rise to the surface that were made less conspicuous in the interim report. For instance, the report states that Upward Bound students were more likely to have higher educational expectations and complete more credits hours in college-path courses than students in the control group. At the postsecondary level, UB graduates were more likely to be actively engaged in college activities and receive financial aid than their comparison group, although these findings are premature given the percentage of the sample that had reached that plateau.

Perhaps the most important finding is the impact of the program on certain subgroups, most notably low-income, first-generation students. These are the primary targets of all Upward Bound projects. Thus, these findings suggest that the Upward Bound program does meet its political mandate of improving the readiness for college for this group of students. Unfortunately, the interim timing of the study does not allow for a definitive analysis of college-going and college completion rates, which is the ultimate purpose of Upward Bound. Those data will be forthcoming.

ing in a report prepared by Mathematica and to be released by the U.S. Department of Education this spring.

But the study also found that other subgroups fared better than the comparison group, including students with lower initial educational expectations, boys, Hispanic and White youth, and low-performing students. As in all these findings, these are the statistically-significant impacts from the study. Following the logic of our original thesis of treatment vs. comparison group bias, we expect that any between-group variances would be larger than illustrated if we could control or restructure the comparison group, and that other, seemingly neutral findings in the report, would show a positive difference for Upward Bound students. In each case, we would expect to see significant differences in high school graduation, extracurricular patterns, and other academically-oriented variables.

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In conclusion, it is important to note that this was an interim report and not a “Final” report as indicated by Mathematica. A small percentage of students had not yet completed high school at the time of the report writing, limiting the usefulness of the partial analysis of high school graduation and postsecondary enrollment and activities. This has been misleading to both the public and to Congress. The authors themselves caution readers in the executive summary: “[M]ore definite results concerning college access and retention need to wait until data are collected again in late 1998 and 1999” (Myers and Schirm, 1999, p. xvi). Given that the goal of Upward Bound is to increase the number of students earning college degrees, this is advice worth taking.