

EXECUTIVE SUMMARY

Job Corps plays a central role in federal efforts to provide employment assistance to disadvantaged youths ages 16 to 24. The program's goal is to help these individuals become "more responsible, employable, and productive citizens" by providing them with comprehensive services that include basic education, vocational skills training, counseling, and residential support. Each year, Job Corps serves more than 60,000 new enrollees at a cost of more than \$1 billion. The National Job Corps Study is expected to provide Congress and program managers with the information they need to assess how well Job Corps is attaining its goal.

This report is one of a series presenting findings from the National Job Corps Study. The main impact analysis results based on the experimental design are presented in a companion report. The impact analysis report focuses on the average impacts of the program on post-program earnings and other outcomes. The analysis reported here goes beyond simple average impacts in order to provide program operators and others with information about how specific programmatic achievements contribute to observed average impacts. We apply non-experimental statistical methods to estimate the impacts on quarterly earnings during the 48-month period after application for eligible applicants who attain key program milestones, as well as for those who do not achieve those milestones. The specific milestones we examine include completion of a vocational training program and attainment of a GED while enrolled in Job Corps. The results derived from an examination of the achievement of these two milestone address key policy relevant questions because the Workforce Investment Act of 1998 directs Job Corps to focus on the outcomes of graduates, and defines graduation as either completion of a vocational training program or attainment of a GED.

To estimate the impacts of Job Corps for participants who complete vocational training or earn a GED (as well as for those participants who do not attain these milestones), one needs a way to determine what the earnings would have been for similar individuals who did not attain these milestones. The findings summarized below are based on comparisons with youths who were part of the study's randomly assigned control group of eligible applicants who were not permitted to enroll in Job Corps. We used several different econometric models and different matching approaches to develop comparison groups from within the study's control group whose experiences can serve as a benchmark for measuring impacts. An extensive literature has applied econometric models to derive non-experimental impact estimates for many programs similar to Job Corps. However, these types of models consistently failed traditional specification checks designed to test whether key underlying assumptions were met. Consequently, the findings summarized below are based entirely on matching methods, which have recently become the methodology of choice for the estimation of impacts in non-experimental settings. Matching methods have often been criticized for not being able to develop comparison groups that are matched to program group members on observed and unobserved characteristics. However, a control group created by random assignment assures that the pool of individuals from which matches will be selected include individuals with similar observed and unobserved characteristics to those of vocational completers and GED recipients, which is a key advantage in this analysis.

The results summarized below use propensity scores as a basis for developing kernel matches. A kernel matching process was performed separately by gender to ensure that the groups were equivalent on this key characteristic. Essentially, the kernel matching method identified the control group member(s) who were best matched to each program group member based on characteristics associated with the likelihood of achieving key program milestones. Individuals in the control group with propensity scores more similar to the propensity scores of each program group member were given a greater weight in establishing the benchmark for that program group member and those in the control group with dissimilar propensity scores were given lesser weight. The outcomes of the control group members matched to each program group member in this way provides our measure of the earnings each program group member would have earned if the program had not been available.

Using the kernel matches we estimated the impacts on long-term earnings for Job Corps participants who did and did not achieve two key milestones: (1) vocational completion; and (2) GED attainment. In addition, to help assess the fit of the matching methods, we also present impact estimates for program participants and members of the program group who did not participate in Job Corps. The highlights of our findings are summarized below:

- The overall impact estimates developed from the kernel matches closely track the experimental impacts of approximately \$15-\$20 per week for all applicants for quarters 11-16 after random assignment. Despite this similarity to the experimental impact estimates, it should not be interpreted as strong evidence of the validity of the matching methodology since the comparison group is drawn from the entire control group and essentially involves only a re-weighting of the outcomes of control group members.
- The kernel matches yield impact estimates for those who enroll in the program (i.e., participants) that are slightly lower than the experimental results. Specifically, the experimental findings correspond to a \$20-\$25 per week impact for participants over these quarters, as compared to an estimated \$15-\$20 per week impact using the kernel matches. This indicates that the overall impact estimate based on the kernel matches for non-participants is approximately \$5 per week.
- Among participants, we find that nearly all of the positive program impacts on earnings accrue to those who accomplish one of the two major milestones – completing a vocation or attaining a GED. In contrast, students who participate but fail to complete a vocation or earn a GED derive no benefit from Job Corps. This important finding lends support to the recent emphasis the Job Corps program has placed on ensuring that students graduate, in response to the Workforce Investment Act of 1998. At the same time, however, the finding that students who enroll in Job Corps but do not complete their vocational training have smaller impacts than non-participants raises questions about the reliability of the estimates based on the kernel matches.
- The estimated impact for students who complete their vocational programs becomes positive after the sixth quarter, reaches \$40 per week by quarter 11 and remains between \$40-\$50 per week through quarter 16. Students who do not complete their vocations are estimated to have slightly lower earnings than their matched comparison group during the period they are most

likely enrolled in Job Corps and then have earnings that are nearly identical to their matched comparison group throughout the remainder of the observation period.

- Similar to the findings for vocational completion, nearly all of the positive impacts for students who did not have a GED at entry are estimated to accrue to participants who earned a GED. Among students without a GED at entry, non-recipients are estimated to have an initial negative impact during the period they are most likely enrolled in Job Corps and then have earnings that are nearly identical to their matched comparison group. Among students without a GED at entry, the estimated impact for GED recipients becomes positive in the fifth quarter, reaches about \$60 per week during quarter 11 and remains between \$60-\$70 per quarter through quarter 16.
- We also estimated the impacts of achieving specific program milestones separately by age and found that the general conclusions described above hold for each of the age groups (16-17, 18-19, 20+). Although this result might appear to be inconsistent with the differences across age groups found in the experimental impact estimates for participants, the consistency of the patterns across age groups of the estimated earnings impacts for participants who achieve a program milestone provides some additional confidence in these non-experimental findings. Specifically, combining the non-experimental estimates for non-participants and participants who do not achieve a milestone with the estimates for those achieving the milestone yield the same age pattern in overall earnings impacts as obtained from the experimental design.

In interpreting the policy implications of these findings, it is important to recognize the questions these findings address and those they do not. For example, although the results indicate no impacts for non-graduates, this should not be interpreted as evidence that Job Corps should not serve students who do not complete the program. This is because of the inherent difficulty of determining a priori which students will complete the program and graduate and which students will not. For example, although the propensity score models help distinguish participants that achieve program milestones from those who do not, these models are not well suited to identifying whether a specific individual student will succeed or fail in the program. In addition, although we believe the findings provide reasonable evidence of the effects of Job Corps for those students who completed their vocational training and those who did not, they cannot be interpreted as representing what would happen if more students were turned from non-completers into completers.

In understanding the policy implications, it is also important to recognize the uncertainty surrounding the specific impact estimates. Impact findings based on non-experimental methods – such as those necessary to measure impacts for students who did or did not achieve key milestones – are forced to rely on inherently untestable assumptions about the relationships of observed and unobserved factors to program participation and post-program earnings. This inherent shortcoming of non-experimental methods always raises the possibility that the findings may not present an accurate or reliable estimate of a program's impact because key assumptions underlying these methods may or may not be satisfied.

It is also important to recognize that these findings do not disentangle the variety of mechanisms through which Job Corps can improve the outcomes for participants. Specifically, because students

who complete key milestones typically remain in the program for a long time and receive extensive residential services (including social skills training), the impacts we have attributed to completing a vocation or receiving a GED may also simply result from more time in the program and greater exposure to the other experiences that Job Corps offers. Also, by estimating impacts separately for vocational completion and for GED attainment, we have not examined the effects of achieving one milestone but not the other or the effects of achieving both. Yet, our inability to fully disentangle the effects of completing the program from the effects of greater exposure to the program does not materially affect the importance of the main finding: Job Corps program practices that promote longer retention to facilitate achieving completion of vocational training or attainment of a GED or high school diploma are likely to be beneficial.