Contract No.: K-4279-3-00-80-30
MPR Reference No.: 8140-510

NATIONAL JOB CORPS STUDY: METHODOLOGICAL APPENDIXES ON SAMPLE IMPLEMENTATION AND BASELINE INTERVIEWING

January 12, 1998

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INTRODUCTION

This report discusses methodological issues related to the implementation of random assignment and baseline interviewing for the National Job Corps Study. The appendixes are intended to complement the National Job Corps Study reports entitled (1) "Report on Study Implementation," (2) "Characteristics of Youths Served by Job Corps," and (3) "Eligible Applicants' Perspectives on Job Corps Outreach and Admissions."

The report contains the following four appendixes:

1. **"Completeness and Accuracy of Study Data Collected by Outreach and Admissions Staff."** This appendix examines the completeness of data in the Job Corps program intake (ETA-652) forms that were used to randomly assign eligible applicants during the sample intake period. In addition, it summarizes anticipated program enrollment, arrest, and locating information obtained from a special program intake form--the ETA-652 Supplemental form--developed for the study. Finally, it examines the accuracy of the anticipated program enrollment information by comparing actual to predicted enrollment information for sample members who enrolled in centers. This analysis is important because the anticipated program enrollment information will be used to estimate program impacts for those designated for specific program components and types of centers.

2. **"Did Randomization Produce Equivalent Groups? A Comparison of Program and Control Group Characteristics."** In this appendix, we compare the characteristics of program research and control group members prior to random assignment to examine whether the random assignment process produced equivalent groups. Program intake and baseline interview data are used for the analysis.

3. **"The Baseline Interview."** In this appendix, we provide a detailed discussion of the design of the baseline interview, response rates to the interview, and item nonresponse.

4. **"Construction of Sample Weights and Standard Errors for Analyses Using Baseline Interview and Program Intake Data."** This appendix discusses how we calculated sample weights so that estimates based on baseline interview and program intake data can be generalized to the study population. It also discusses the construction of standard errors of variable means and differences in means between two groups.

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APPENDIX A

COMPLETENESS AND ACCURACY OF STUDY DATA COLLECTED BY OUTREACH AND ADMISSIONS STAFF

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A. INTRODUCTION

During the sample intake period for the National Job Corps Study, MPR received three program intake forms on each youth sent for random assignment: (1) the Job Corps intake form--the ETA-652, (2) an ETA-652 Supplement developed for study, and (3) a consent form developed for the study. These forms were completed by outreach and admissions (OA) staff and program applicants as part of the application process, and OA staff sent the forms to MPR for those youths determined to be eligible for the program. MPR entered information in these forms into the computer and used this information to check whether youths had been sent for random assignment previously. If they had not been sent, MPR randomly assigned those in the study population to a research status. The information will also be important for the impact analysis.

The purpose of this appendix is to analyze the program intake data. First, we briefly describe the program intake forms and their use in the analysis. Second, we summarize the data items and describe the quality and accuracy of the data. We focus our discussion on the ETA-652 Supplement data because these data are particularly important for the impact analysis.

B. PROGRAM INTAKE FORMS

In this section, we briefly describe the three program intake forms MPR received during the sample intake period and explain how the information has been and will be used in the evaluation.[1] The three study forms are displayed at the end of this appendix.

[1]The report entitled, "National Job Corps Study: Report on Study Implementation," contains a more detailed discussion of these forms.

1. ETA-652 Form

The ETA-652 application form is the standard program intake form OA staff use to collect basic demographic information on all Job Corps applicants. The primary use of these data for the Job Corps study was to perform and monitor random assignment. Key ETA-652 information needed for these purposes was entered into the computer for all youths sent for random assignment. Identifying information on the applicant (name, social security number, gender, date of birth) was used to determine whether the youth had been previously sent for random assignment. Additional information (date of interview, whether the applicant was a new applicant or a readmit, and address) was used to check that the applicant was in the study population. The ETA-652 information was used also in the random assignment process to determine the appropriate sampling rate to apply for eligible applicants in the study population.

The remaining data items in the ETA-652 forms were entered into the computer for only those youths assigned to the control or program research groups. This information serves three main purposes for the analysis. First, the data will be used to assess the effects of interview nonresponse on estimates obtained from follow-up interview data by comparing the characteristics of interview respondents and nonrespondents, and have been used to assess the effects of nonresponse on estimates obtained from baseline data (see Appendixes C and D in this report).

Second, the data were used along with baseline interview data to examine the difference in the characteristics of program research and control group members (see Appendix B in this report). The ETA-652 data were used for this analysis because they were collected prior to random assignment, so item responses should not differ by research status.

Finally, the data will be used to gather earnings data collected by the Internal Revenue Service (IRS) and used by the Social Security Administration (SSA) to determine eligibility for social

security. To protect confidentiality, SSA usually releases earnings data only for groups of 10 or more people. Hence, key ETA-652 information will be used to define 10-person groups.

2. Consent Form

For ethical reasons, informed consent must be obtained from all persons who participate in experimental studies, including social policy studies based on random assignment. In the National Job Corps Study, all applicants during the sample intake period were informed of the study and asked whether they would agree to sign a study consent form to participate in the study. From the applicant's perspective, participation in the study involved (1) the possibility of being randomly assigned to the control group and prohibited from enrolling in Job Corps for three years, and (2) being asked to complete a baseline interview and two or three additional interviews. Applicants were required only to acknowledge that they were told about the study and what it implied; they were not required either to agree to enroll in Job Corps if they were in the program research group or to respond to interviews in the study.

Applicants who refused to give their consent on the form were not allowed to enter Job Corps until random assignment was over (about one year later).

We also asked all applicants in the sample frame for their consent to access, collect, and use information for the study from records collected by public agencies, such as public assistance programs (AFDC, Medicaid, and the Food Stamp Program, for example), the Unemployment Insurance program, child-support enforcement, and the criminal justice system. Applicants who refused consent for this data collection but agreed to participate in the study were still allowed to enroll in Job Corps and were randomly assigned in the same way as other applicants.

3. ETA-652 Supplemental Form

A special supplement to the ETA-652 form was developed for the study. This form, which OA counselors and program applicants completed at the same time as the ETA-652 form, was used to collect four types of information. First, applicants were asked to provide detailed information on up to four people who could help locate sample members for the baseline and follow-up interviews.

Second, OA counselors were asked for their best guess as to whether the applicant would be assigned to a residential or nonresidential slot, whether the applicant would be assigned to a Civilian Conservation Center (CCC) or contract center, and the name of the center to which the applicant would probably be assigned. This anticipated program enrollment information is available for both program research *and* control group members because it was collected prior to random assignment. Hence, by comparing the outcomes of program research and control group members with the same designations, we will estimate program impacts for those who enroll in residential slots, nonresidential slots, CCC centers, contract centers, and centers with various other attributes (for example, size and performance level).

Third, OA counselors were asked to provide information that will be used to estimate the impacts of Job Corps on those who enroll in centers. Random assignment occurred when youths were determined to be eligible for Job Corps, not when they enrolled in centers. Thus, the comparison of the outcomes of control and program group members will yield estimated program impacts on both program participants (a 70 percent subgroup) and nonparticipants. However, we will also estimate impacts on program enrollees only. Our initial estimates of these impacts will be obtained by dividing the impacts on eligible applicants by the proportion of those who enroll in centers. This procedure, however, assumes that the program has no impacts on program no-shows. If this assumption appears to be violated, then we will instead use statistical models to predict who

enrolls in centers and apply results from these models to obtain impact estimates on program enrollees. The ETA-652 Supplement was used to collect two "instrumental" variables that will be used to help predict enrollment status: (1) the OA counselor's assessment of the likelihood that an applicant would arrive on center, and (2) the OA counselor's assessment of the number of weeks an applicant would have to wait until assignment to a center.

Finally, OA counselors were asked to obtain additional arrest information on each applicant because responses to the baseline interview on these questions could differ by research status (as discussed in Appendix C) and because an important evaluation objective is to obtain impact estimates on those with criminal backgrounds.

All information in the ETA-652 Supplement forms was entered into the computer for control group and program research group members. ETA-652 Supplement information on residential designation status, however, was entered into the computer for all youths sent for random assignment, because it was needed to determine the appropriate sampling rate to apply.

C. ANALYSIS RESULTS

In this section, we summarize data in the program intake forms and assess data quality. We perform the analysis using a pooled sample of program research and control group members because the data items do not differ, on average, by research status, and because the larger sample will produce estimates more precise than would be obtained using data on one group only. Variable means and distributions are calculated for the full sample, as well as by gender and age subgroups. The summary statistics are calculated using sample weights so that estimates can be generalized to those in the study population. The figures pertaining to the proportion of data items that are missing, however, are unweighted.

1. Data from ETA-652 Forms

The descriptive statistics based on data in the ETA-652 forms are similar to the corresponding statistics based on baseline interview data presented in the report entitled, "National Job Corps Study: Characteristics of Youths Served by Job Corps," and thus are not discussed. We note, however, that the proportion of youths who reported that they were ever convicted or adjudged delinquent is much lower based on ETA-652 data than on baseline interview data (6 percent, compared to 17 percent). Furthermore, the same pattern holds by gender and age. For example, the conviction rate for males is 8 percent using ETA-652 data but 22.5 percent using baseline interview data. These findings suggest that, during the application interviews, youths are underreporting their involvement with the law.

Missing ETA-652 data items are rare (not shown). Almost none of the key data items needed for random assignment are missing (for example, name, social security number, zip code, gender, date of birth, date of interview, whether the applicant was a new applicant or a readmit). This is because MPR called OA staff to obtain incomplete or missing information needed for random assignment and because MPR would not randomly assign youths in the study population until all key information was complete.[2]

The proportion of missing values for most other variables is less than 3 percent and does not vary by gender or age. The item pertaining to whether the applicant was ever convicted or adjudged delinquent, however, is missing for about 5 percent of the cases, and the health-related variables are missing for about 13 percent of the cases. Because the ETA-652 data items are available for nearly

[2]A very small proportion of key data items are missing because OA counselors did not have information on them. MPR processed these cases using available information.

all sample members, the effects of nonresponse on estimates from analyses using ETA-652 data will be small.

2. Data from Consent Forms

All sample members signed the National Job Corps Study Agreement to Participate form. This is because, as discussed, youths in the study population could not enroll in Job Corps without acknowledging that they were told about the study and what it implied. Youths sent for random assignment were not randomly assigned until this form was completed.

About 79 percent of sample members signed the consent form to allow MPR to access, collect, and use information for the study from records collected by public agencies. This figure does not differ by gender or age.

3. Data from ETA-652 Supplement Forms

In this three-part section, we discuss data from the Supplemental ETA-652 forms, which will play an important role in the impact analysis. First, we summarize the anticipated program enrollment data and assess the accuracy of OA counselor projections. Second, we summarize the criminal activity data. Finally, we examine the information collected on addresses and telephone numbers of persons who could help locate sample members for baseline and follow-up interviews.

a. Anticipated Program Enrollment Data

Table A.1 displays the distribution of the anticipated program enrollment information in the Supplemental ETA-652. Descriptive statistics are calculated for all sample members, as well as by gender and age. In addition, the table displays the proportion of missing data items.

TABLE A.1

SUMMARY OF ANTICIPATED PROGRAM ENROLLMENT INFORMATION
IN THE ETA-652 SUPPLEMENTAL FORMS,
BY GENDER AND AGE
(Percentages)

		Gender		Age at Application		
Data Item	Full Sample	Males	Females	16 to 17	18 to 20	21 to 24
Designated for a Nonresidential Slot	13.8	6.9	23.9	8.5	15.1	22.8
(Missing)	0.0	0.0	0.0	0.0	0.0	0.0
Designated for a CCC Center	12.1	15.7	6.9	14.5	10.9	9.3
(Missing)	6.5	6.6	6.4	7.2	6.0	6.2
1995 Performance Ranking of Designated Center (Quartiles)[a]						
Lowest	27.3	28.4	25.7	28.8	26.7	25.4
Second-lowest	28.5	29.5	27.1	27.9	29.2	28.5
Second-highest	24.6	23.3	26.5	23.8	24.5	26.6
Highest	19.6	18.7	20.7	19.6	19.6	19.5
(Missing)	7.6	7.9	7.1	7.9	7.5	7.2
Size of Designated Center in 1995 (Slots)[a]						
Small (225 slots or less)	19.9	23.3	15.0	22.8	18.4	16.9
Medium small (225 to 495 slots)	45.3	43.3	48.2	47.4	44.0	43.8
Medium large (496 to 735 slots)	19.6	15.7	25.3	16.4	21.2	23.3
Large (more than 735 slots)	15.2	17.7	11.5	13.5	16.5	16.1
(Missing)	7.1	7.4	6.7	7.4	6.9	6.8
Estimated Number of Weeks from Application Interview Until Arrival at Center						
Less than 2	11.7	10.0	14.2	11.2	11.8	12.7
2 to 3	11.7	10.4	13.5	11.9	11.3	12.2
3 to 4	36.8	37.2	36.1	36.6	37.2	36.3
4 to 8	29.8	31.7	27.0	31.2	28.9	28.5
8 or more	10.0	10.6	9.1	9.1	10.8	10.3
(Average weeks until arrival)	5.7	5.9	5.5	5.7	5.8	5.7
(Missing)	8.2	8.1	8.4	8.5	7.7	8.5
Likelihood of Enrolling in a Center						
Very likely	83.1	82.3	84.3	82.3	83.2	84.9
Somewhat likely	15.5	16.1	14.7	16.3	15.6	13.6
Somewhat unlikely	1.0	1.2	0.9	1.1	1.0	1.1
Very unlikely	0.3	0.4	0.2	0.4	0.2	0.4
(Missing)	4.7	4.8	4.5	5.0	4.3	4.9
Sample Size	**15,386**	**9,327**	**6,059**	**6,201**	**6,425**	**2,747**

SOURCE: Data from ETA-652 Supplemental forms.

NOTE: The variable means and distributions are calculated using sample weights. The missing value figures, however, are unweighted.

[a]Figures are obtained using data on OA counselor projections about the centers that youths were likely to attend.

A summary of these data items is as follows:

- ***About 14 percent of eligible applicants were designated for nonresidential slots.*** The figure, however, is 24 percent for females and 7 percent for males and is much higher for older applicants than younger applicants. The residential designation status data item is available for all sample members because it was a key data item needed for random assignment.

- ***About 12 percent of youths were designated for CCC centers.*** However, about 16.5 percent of males were designated for CCC centers, compared to only 7 percent of females. In addition, younger applicants were more likely than older applicants to be designated for CCC slots. This data item is missing for about 6.5 percent of cases; the proportion of cases with missing values differs only slightly by gender or age.

- ***Similar numbers of eligible applicants were likely to be assigned to high, medium high, medium low, and low performing centers.***[3] This distribution does not differ by gender or age. This data item is missing for 7.5 percent of cases.

- ***About 45 percent of youths were likely to be assigned to medium small centers (with 225 to 495 slots).***[4] About 18 percent of youths were likely to be assigned to small (225 slots or less), medium large (496 to 735 slots), and large centers (more than 735 slots) each. Males were more likely than females to be assigned to small and large centers. In addition, younger applicants were more likely than older applicants to be assigned to small and medium small centers. The center size variable is missing for about 7 percent of cases.[5]

- ***OA counselors predicted that sample members would need to wait an average of 5.7 weeks from their application dates until they would arrive on a Job Corps center***. About 12 percent needed to wait less than two weeks, 60 percent needed to wait less than four weeks, and 10 percent needed to wait more than two months. Males typically needed to wait longer than did females. However, the distribution of the waiting times does not differ by age. The waiting time variable is missing for about 8 percent of cases.

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[3]This designation was created for a youth by matching the center to which the youth was likely to be assigned (from the ETA-652 Supplement) with the 1995 overall performance ranking of that center.

[4]This data item was created for a youth by matching the center to which the youth was likely to be assigned with the number of 1995 slots in that center.

[5]The center size variable is missing for fewer cases than the center performance variable because center size information was available for one satellite Job Corps center, although performance ranking information was not available for this center.

- ***OA counselors believed that more than 83 percent of applicants were very likely to enroll in a center, and that more than 15 percent were somewhat likely to enroll***. Only about 1 percent of applicants were predicted to be somewhat or very unlikely to enroll in centers. Furthermore, the figures do not differ by gender or age. Thus, this variable is not likely to be a good predictor of whether or not an eligible Job Corps applicant enrolls in a center.

In sum, the Supplemental ETA-652 data will generate precise estimates of the impacts of Job Corps on those designated for residential slots, nonresidential slots, CCC centers, contract centers, and centers grouped by size and performance rank.[6] This is because these data items are available for over 92 percent of the research sample and because sufficient numbers of youths were designated for each subgroup. However, the variable on the OA counselors' assessment of the likelihood that the applicant will enroll in a center is not likely to be useful for impact analysis, because OA counselors predicted that nearly all youths were likely to enroll.

Although the anticipated program enrollment information is available for most youths, it will not be useful for the impact analysis unless anticipated program enrollment information matches actual program assignments for a large number of youths.[7] In order to assess the accuracy of OA counselor predictions, we compare the actual and anticipated program enrollment information for those program research group members who enrolled in centers. Information on actual program experiences is obtained using data from the Job Corps Student Pay and Allotment Management Information System (SPAMIS). SPAMIS is used to maintain records on all students and contains extensive data on Job Corps enrollees. We use SPAMIS data on center enrollment dates, whether

[6]The minimum detectable impact on annual earnings gains is $937 for nonresidential slot designees, $1,165 for CCC center designees, and $883 for an 18.5 percent subgroup (where missing values are taken into account). These figures are below or near our benchmark impact of $985.

[7]We will use additional program intake and baseline data to predict in which program component youths enroll. However, the main "instruments" for this analysis will be constructed from the anticipated program enrollment data.

the youths were in residential or nonresidential slots, and the name of the centers in which the youths enrolled (to determine center performance, center size, and whether the center is a CCC or a contract center).[8,9]

Table A.2 displays center enrollment (show) rates and summary statistics measuring the accuracy of the anticipated program enrollment data for the full sample, as well as by gender and age. Table A.3 displays key measures by region. To assess the accuracy of the data, we display in the tables the proportion of cases with a designated assignment who were classified correctly. This condition must hold for a large number of cases to ensure that impact estimates based on those designated for a particular program component represent uncontaminated impacts on those actually assigned to that component. It is important also that the reverse holds (that is, that a large proportion of those who are actually given an assignment were designated for that assignment). This condition is necessary to ensure that youths designated for an assignment are representative of all those who were actually given that assignment. These figures are not displayed in the tables, although we discuss them in the text.

A summary of our findings is as follows:

- ***About 73 percent of eligible program applicants in our sample universe enrolled in centers.*** The show rate is higher for males than females (75.5 percent, compared to 69.2 percent), and is higher for younger applicants than older applicants (79.5 percent for those 16 or 17, compared to 66.5 percent for those 21 or older). The overall show rates are similar to what we expected, so overall impacts on those who enroll in centers will be estimated with the targeted precision levels.

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[8]The analysis was performed using SPAMIS data through the end of April 1997. Because sample intake ended in February 1996, it is unlikely that many program research group members who had not enrolled by April 1997 will enroll after that time. Thus, the sample used for the analysis represents nearly all program group members who will have enrolled in centers.

[9]We use only information on the *first* center in which the youth enrolled. Thus, we do not use information on additional centers in which youths enroll because of transfers or other reasons.

TABLE A.2

ACCURACY OF ANTICIPATED PROGRAM ENROLLMENT INFORMATION
IN THE ETA-652 SUPPLEMENTAL FORMS, BY GENDER AND AGE

Data Item	Full Sample	Gender		Age		
		Males	Females	16 to 17	18 to 20	21 to 24
Proportion of Program Research Group Members Who Enrolled in a Center (Show Rate)	72.9	75.5	69.2	79.5	69.2	66.5
Residential/Nonresidential Designation Status (Percentage Correctly Classified)						
Residential Designees Who Enrolled as Residents	97.7	98.2	96.9	97.7	97.9	97.3
Nonresidential Designees Who Enrolled as Nonresidents	87.8	77.2	92.5	82.0	89.6	91.2
CCC/Contract Center Designation Status (Percentage Correctly Classified)						
CCC Center Designees Who Enrolled in CCC Centers	85.0	88.7	70.1	87.3	83.0	82.3
Contract Center Designees Who Enrolled in Contract Centers	94.4	92.6	97.0	93.2	94.9	96.3
Center Characteristics Based on the Likely Assigned Center (Percentage Correctly Classified)						
Enrolled in Likely Center	90.3	89.2	92.2	89.8	90.3	91.8
Enrolled in Center with the Same Performance Measure Quartile as the Likely Center						
Low performing center designees	94.2	93.8	95.0	94.0	94.1	94.7
Medium low performing center designees	93.8	92.9	95.2	92.8	94.3	95.3
Medium high performing center designees	93.1	92.0	94.6	93.6	92.6	92.8
High performing center designees	92.1	91.2	93.3	91.1	92.6	92.9

TABLE A.2 *(continued)*

Data Item	Full Sample	Gender		Age		
		Males	Females	16 to 17	18 to 20	21 to 24
Enrolled in Center Whose Size Group Is the Same as That of the Likely Center						
Small center designees	93.3	93.4	93.1	93.7	92.1	94.9
Medium small center designees	94.7	94.0	95.6	94.6	94.4	95.4
Medium large center designees	91.9	89.3	94.5	90.3	93.1	92.3
Large center designees	95.8	95.6	96.4	96.4	95.5	95.2
Enrolled in Center with the Same CCC/Contract Status as That of the Likely Center						
CCC center designees	93.6	94.2	90.9	94.0	92.9	93.8
Contract center designees	98.3	97.8	98.9	98.0	98.3	99.0
Variables to Predict Whether a Youth Enrolls in a Center (Percentage)						
Difference Between Actual and Expected Waiting Times Until Arrival at a Center (Weeks)						
Less than -3	10.8	11.3	10.0	10.3	11.1	11.5
-3 to -1	14.0	13.9	14.2	13.2	14.1	15.9
-1 to 1	26.8	25.7	28.4	25.7	28.3	25.9
1 to 3	19.5	19.5	19.6	20.8	18.6	18.3
3 or more	28.9	29.6	27.8	30.1	28.0	28.3
Show Rate by Weeks from Application Until Arrival at Center						
Less than 2	72.3	76.8	67.5	78.7	68.4	67.5
2 to 3	72.2	74.5	69.7	82.4	67.1	59.2
3 to 4	73.1	75.9	68.8	79.7	70.4	64.4
4 to 8	74.6	76.7	71.0	79.7	70.8	70.6
8 or more	71.3	72.2	69.7	75.6	66.8	73.6
Show Rate by the Likelihood Applicant Will Enroll at Center						
Very likely	73.6	76.6	69.4	79.7	70.0	68.5
Somewhat likely	70.5	72.0	68.1	79.9	65.5	57.8
Somewhat unlikely	65.3	65.1	65.8	69.0	62.1	63.0
Very unlikely	54.6	50.0	67.6	67.3	45.3	40.5
Sample Size	**9,409**	**5,405**	**4,004**	**3,736**	**3,938**	**1,735**

SOURCE: ETA-652 Supplemental forms.

NOTE: The data pertain to only those program research group members who enrolled in Job Corps. All figures are calculated using sample weights.

TABLE A.3

ACCURACY OF KEY ANTICIPATED PROGRAM ENROLLMENT INFORMATION IN THE ETA-652 SUPPLEMENTAL FORMS, BY REGION

Region	Show Rate	Percentage Classified Correctly				
		Residential Designees	Nonresidential Designees	Enrolled in Designated Center	CCC Center Designees[a]	Contract Center Designees[a]
1	77.6	99.6	90.0	86.7	na	100.0
2	77.3	99.4	65.7	92.1	88.4	98.0
3	72.1	98.3	86.8	87.6	94.0	99.2
4	71.7	97.8	81.7	89.5	92.7	98.1
5	70.4	94.9	83.2	93.6	98.7	98.9
6	74.4	98.2	89.1	93.4	91.3	99.1
7/8	67.9	98.8	91.0	92.4	95.3	96.2
9	74.9	94.0	96.2	91.7	89.8	100.0
10	80.8	99.1	85.6	80.0	92.8	87.6

SOURCE: Data from ETA-652 Supplemental forms.

NOTE: The data pertain to those program research members who enrolled in Job Corps. All figures are calculated using sample weights.

[a]CCC and contract center designations are made on the basis of the CCC/contract center status of the centers to which youths are likely to be assigned.

na = not applicable because there are no CCC enters in Region 1.

- ***The show rate is 74.5 percent for residential designees but only 63 percent for nonresidential designees (not shown).*** When nonresidential designees (who are predominantly female) did not show up, it was probably for family reasons. Because we did not expect this difference in show rates by residential/nonresidential status, impacts on participants in the nonresidential component will be less precise than we anticipated.[10]

- ***The show rate differs somewhat by region.*** The show rate is highest in Region 10 (81 percent), lowest in Region 7/8 (68 percent), and between 70 and 78 percent in other regions.

- ***Nearly 98 percent of enrollees designated for residential slots actually enrolled in residential slots.*** Furthermore, the percentage classified correctly is similar by gender, age, and region. More than 98 percent of all enrollees in residential slots were designated for these slots. Thus, the Supplemental ETA-652 data will be extremely effective for estimating the impacts of the residential program component.

- ***About 88 percent of enrollees designated for nonresidential slots actually enrolled in nonresidential slots.*** However, the figure is 92.5 percent for females and 77.2 percent for males. About 84 percent of those in nonresidential slots were designated for nonresidential slots. Thus, although a higher proportion of nonresidential than residential designees were misclassified, we believe that the use of data on nonresidential designees will still generate credible impact estimates for the nonresidential program component.[11]

- ***About 85 percent of those designated for CCC centers on the basis of the data item pertaining to the "likely center type" were classified correctly.*** A higher proportion of males than females were classified correctly (88.7 percent, compared to 70.1 percent). About 70 percent of all those in CCC centers were designated for CCC centers.

- ***About 95 percent of those designated for contract centers on the basis of the data item pertaining to the "likely center type" were classified correctly.*** The figure is more than 92.5 percent for all subgroups. In addition, about 98 percent of all contract center enrollees were designated for contract centers.

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[10]We expected that the minimum detectable impact on annual earnings gains for nonresidential students would be about $900 for the available sample at 30 months. Because the no-show rate was larger than expected, the minimum detectable impact is $1,013. However, this impact is still near our benchmark impact of $985.

[11]As discussed, we will use additional program intake and baseline data to predict who enrolls in nonresidential slots. Hence, we will be able to predict nonresidential students more accurately than if predictions were made using the nonresidential designation variable only.

- ***About 90 percent of program participants enrolled in their designated centers.*** The predictive accuracy does not differ by gender or age. Furthermore, the figure is similar across regions, except that it is only 80 percent in Region 10.

- ***Overall, the actual and designated center performance ranking and center size measures matched for nearly 94 percent of enrollees.*** Predictions were very accurate for those designated for centers in each category.

- ***Nearly 94 percent of those designated for CCC centers on the basis of the name of the likely center were classified correctly.*** This figure is larger than the predictive accuracy of CCC designations using the direct data item on whether the applicant would enroll in a CCC center. This is because some OA counselors did not know whether the center to which they believed an applicant would be assigned was a CCC or a contract center.

- ***The predictive accuracy of those designated for contract centers on the basis of the name of the likely center was over 98 percent.*** However, it is only about 88 percent in Region 10.

- ***OA counselors tended to predict that applicants would arrive on center more quickly than they actually did.*** For example, about 30 percent of enrollees arrived on center more than three weeks after their predicted enrollment dates. However, only 10 percent arrived more than three weeks earlier than predicted. This pattern holds for males and females, as well as for younger and older applicants.

- ***The show rate does not differ by anticipated waiting times until center arrival.*** Thus, OA counselor predictions on waiting times is not a good predictor of who enrolls in centers.

- ***The show rate is somewhat higher for those youths predicted by OA counselors to be likely to show up on center than for those predicted to be unlikely to show up.*** For example, the show rate was 73.5 percent for those predicted to be very likely to show up, compared to 55 percent for those predicted to be very unlikely to show up. However, as discussed, almost all applicants were predicted to be likely to enroll in centers. Thus, less than 3 percent of program no-shows were predicted to be unlikely or somewhat unlikely to enroll. Hence, this variable is not a good predictor of enrollment status.

In sum, we believe that the anticipated program enrollment data can be used to generate credible estimates of program impacts for those who enroll in residential slots, nonresidential slots, CCC centers, contract centers, and centers grouped by size and performance rank. OA counselors were able to predict these assignments well but were less successful in predicting whether a youth was

likely to enroll in a center and in estimating the expected waiting time until center assignment. Therefore, these data items will not be useful for predicting no-show status and hence will not be useful for obtaining overall and subgroup impact estimates on program enrollees.

b. Criminal Activities

Summary statistics for ETA-652 Supplement data on criminal activities are displayed in Table A.4. About 12 percent of youths in our sample frame (15.7 percent for males and 6.5 percent for females) reported that they had been arrested in the past three years. In addition, the arrest rate is higher for younger applicants than older applicants. The data item is missing for about 5 percent of cases.

Data on the number of times sample members were put on probation or incarcerated in the three years before application to Job Corps are missing for a large number of cases. The data on probations are missing for more than 60 percent of those who reported having been arrested, and the data on incarcerations are missing for more than 80 percent of those arrested. It is likely that OA counselors left these data items blank for those who were not put on probation or incarcerated, even though Job Corps staff were instructed to indicate that these cases had zero probations and zero incarcerations. However, we cannot identify those cases whose data items should have been coded as zeroes. Because these data items have a large number of missing values, we will not use them in the impact analysis.

The arrest rates in the ETA-652 Supplement data are much *lower* than the three-year arrest rates obtained from baseline interview data. For example, the three-year arrest rate from the baseline interview is nearly 23 percent, compared to 12 percent from the ETA-652 Supplement data, and the

TABLE A.4

SUMMARY OF CRIMINAL ACTIVITY INFORMATION IN THE ETA-652 SUPPLEMENTAL FORMS, BY GENDER AND AGE
(Percentages)

		Gender		Age		
Data Item	Full Sample	Males	Females	16 to 17	18 to 20	21 to 24
Ever Arrested in Past Three Years	12.0	15.7	6.5	13.7	10.9	10.7
(Missing)	4.9	5.0	4.9	5.4	4.4	5.1
Number of Arrests in Past Three Years[a]						
1	69.8	68.5	75.3	68.0	72.2	69.0
2	17.5	17.8	16.4	18.6	15.1	20.5
3 or more	12.7	13.8	8.3	13.4	12.7	10.5
(Missing)	12.6	11.0	19.0	15.3	10.0	11.2
On Probation in Past Three Years[a]	38.1	39.4	33.4	44.1	32.6	33.6
(Missing)	62.0	60.7	67.2	56.1	67.6	65.8
Incarcerated in Past Three Years[a]	17.5	18.5	13.8	13.4	20.3	22.8
(Missing)	82.4	81.4	86.5	86.6	79.6	77.1
Sample Size	**15,386**	**9,327**	**6,059**	**6,201**	**6,425**	**2,747**

SOURCE: Data from ETA-652 Supplemental forms.

NOTE: The variable means and distributions are calculated using sample weights. The missing value figures, however, are unweighted.

[a]Data pertain to those arrested in past three years.

same pattern holds by gender and age. Furthermore, despite our fears, there are no differences in the arrest rates between program and control group members (as discussed in Appendix B). Thus, we believe that the baseline data provide a more accurate source of arrest information than the ETA-652 Supplement information for both program and control group members. Consequently, our analysis will primarily use arrest measures from the baseline interview.[12]

c. Locating Information

In this section, we describe contact information in the ETA-652 and ETA-652 Supplement forms. The ETA-652 form is used by Job Corps to collect information on an applicant's address and telephone number, as well as on a telephone number of one contact for the applicant. The ETA-652 Supplement was used during the sample intake period to collect telephone and address information on up to four more contacts.

We obtained at least one piece of contact information for all sample members and an average of nearly three distinct contacts per youth (see Table A.5). All youths provided information on a contact on the ETA-652 form, and about 90 percent provided at least one additional contact on the ETA-652 Supplement. About 90 percent of the youths provided contact information on their mothers, more than two-thirds on relatives, and more than two-thirds on friends. The figures are similar for the gender and age subgroups, although younger applicants were more likely than older applicants to provide information on their parents and relatives.

[12]As discussed in the report on the characteristics of youths served by Job Corps, however, there is some evidence that youths underreported their involvement with the criminal justice system during the baseline interview.

TABLE A.5

QUALITY OF TRACKING INFORMATION IN THE ETA-652 AND ETA-652 SUPPLEMENTAL FORMS, BY GENDER AND AGE
(Percentages)

		Gender		Age at Application		
Data Item	Full Sample	Males	Females	16 to 17	18 to 20	21 to 24
Number of Contacts with Distinct Home Addresses or Phone Numbers (Percentage)						
0	0.0	0.0	0.0	0.0	0.0	0.0
1[a]	10.7	11.9	8.7	10.1	10.9	11.3
2	26.9	28.4	24.7	26.6	27.3	26.8
3	39.9	39.5	40.6	41.8	39.3	37.3
4	19.2	17.5	21.8	19.1	19.1	19.5
5	3.3	2.7	4.2	2.4	3.4	5.2
(Average number of contacts)	2.8	2.7	2.9	2.8	2.8	2.8
Telephone Contact Information						
Percentage who provided a telephone number	100.0	100.0	100.0	100.0	100.0	100.0
(Average number of phone numbers provided)	2.7	2.7	2.8	2.7	2.7	2.7
Address Information						
Percentage who provided a complete address[b]	100.0	100.0	100.0	100.0	100.0	100.0
(Average number of addresses provided)	2.9	2.9	3.0	3.0	2.9	2.9
Contact Person						
Mother	89.3	89.0	89.7	92.4	88.1	85.3
Father (with an address different from mother's)	30.0	29.8	30.3	30.3	29.6	29.9
Relative (with an address different from either parent's)	67.2	66.2	68.7	70.0	66.3	62.7
Friend	68.0	65.7	71.5	67.6	68.2	68.5
Unknown (with an address different from that of any person listed above)[c]	25.0	22.1	29.6	18.7	26.6	35.7
Sample Size	**15,386**	**9,327**	**6,059**	**6,201**	**6,425**	**2,747**

TABLE A.5 *(continued)*

SOURCE: Data from the ETA-652 and ETA-652 Supplemental forms.

NOTE: All figures are unweighted.

[a] Data pertain to those who provided contact information on the ETA-652 form but not on the ETA-652 Supplement form.

[b] An address is defined as complete if the sample member provided a street address, city, and state.

[c] This category includes those whose contact information on the ETA-652 does not match any contact information on the ETA-652 Supplement and those who provided ETA-652 contact information but no additional information. We do not know the contact person for these cases, because although the ETA-652 contains the telephone number of a contact person, it contains no information on the relationship of the contact person to the applicant.

U.S. DEPARTMENT OF LABOR JOB CORPS DATA SHEET GOES HERE

NATIONAL JOB CORPS STUDY SUPPLEMENT TO ETA-652 FORM GOES HERE

NATIONAL JOB CORPS STUDY AGREEMENT TO PARTICIPATE GOES HERE

APPENDIX B

DID RANDOMIZATION PRODUCE EQUIVALENT GROUPS? A COMPARISON OF PROGRAM AND CONTROL GROUP CHARACTERISTICS

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A. INTRODUCTION

In theory, randomized experimental designs ensure that observed differences in outcomes between program and control groups can be attributed to the intervention under investigation, up to a known degree of statistical sampling error. This rigor is possible, however, only if the random assignment process generates program and control groups with similar characteristics at the time of random assignment. Thus, the benefits of a randomized design can be realized only if the random assignment process is implemented correctly.

We believe that the process used in the National Job Corps Study to randomly assign youths in the sample universe to the program or control groups was implemented correctly. MPR staff controlled the random assignment process, and random numbers generated from a computer were used to assign the youths.

In this appendix, we compare the characteristics of program and control group members to check that the random assignment process was implemented properly. Ideally, we would like to compare both observable and unobservable characteristics of sample members at random assignment. However, it is clearly not possible to compare unobservable characteristics. Thus, we will use data on a set of the observable measures and assume that if program and control group members are similar along observable dimensions, then they are also similar along unobservable dimensions.

Next, we discuss the data sources and methods used for the analysis. Finally, we discuss analysis results.

1. Data Sources and Methods

We use two data sources for the analysis. First, we use baseline interview data, which contain a rich set of variables for analysis. The disadvantage of using the baseline data, however, is that

interview responses to certain questions could have differed for program research and control group members, because the baseline interview was sometimes conducted *after* OA staff contacted youths about their research status.[1] Consequently, we also use data from the ETA-652 and ETA-652 Supplement forms. These data were collected *prior* to random assignment, so neither the quality of the data nor item responses should differ by research status if random assignment was implemented correctly.

We use standard statistical tests to assess the similarity of program research and control group members and examine the magnitude and patterns of any differences that exist. We use univariate t-tests to compare variable means for binary and continuous variables and chi-squared tests to compare distributions of categorical variables. All figures are calculated using sample weights, and the test statistics incorporate design effects due to unequal weighting of the data.[2]

In addition, we conduct a more formal multivariate analysis to test the hypothesis that key variable means and distributions are *jointly* similar. For this analysis, we estimate logit regression models where the probability an individual is a program research group member is regressed on a set of individual characteristics, and we use chi-squared tests to assess whether the coefficients on these explanatory variables are jointly significant.

This joint analysis is a more rigorous procedure than the univariate analysis for two main reasons. First, the univariate analysis is expected to produce significant test statistics for some of the large number of hypotheses by chance, even when the program research and control groups are identical. For example, if the hypothesis tests are conducted at the 10 percent level of significance,

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[1]As discussed in Appendix C, it is likely that about one-quarter of respondents completed the baseline interview after they knew their research status.

[2]The test statistics using baseline interview data also incorporate design effects due to clustering caused by the selection of areas slated for in-person interviewing.

then we would expect that 10 percent of independent tests would be falsely rejected. The multivariate analysis avoids this multiple comparisons problem. Second, the joint test accounts for correlations across measures, whereas the univariate tests assume that the measures are independent.

It is common to specify a 5 percent significance level (Type I error) when conducting a statistical test for the hypothesis that a mean characteristic is the same for two independent samples. This implies that there is only a 5 percent chance that the null hypothesis will be rejected erroneously (that is, that the test will find a statistical difference when in fact there is none). This standard implies, however, that the researcher should assume that no differences between the two groups exist, unless there is strong evidence to the contrary. Consequently, this framework assumes that rejecting the hypothesis when it is true (the Type I error) is more serious than accepting the hypothesis when it is false (Type II error).

While this framework is appropriate when estimating program impacts using follow-up data, it is less appropriate when assessing the success of random assignment using baseline data. We believe that in our context, it is more appropriate to assume that differences across research groups do exist, unless there is strong evidence to the contrary (that is, when in doubt, we should assume random assignment was *not* properly implemented). Hence, in our case the Type II error is more serious than the Type I error.

Unfortunately, it is not possible to construct a formal test for the null hypothesis that a measure *differs* across the two research groups. Hence, our approach is to perform standard hypothesis tests, but to *increase* the Type I error, which thereby reduces the Type II error. Consequently, we use a 15 percent significance level to identify variables that differ by research status. Using this standard, if the true population proportion is 50 percent, we will report a significant difference at the 15 percent level if the difference between the sample proportions for program and control group

members exceeds 1.2 percentage points.[3] For a 10 percent proportion, the figure is .7 percentage points.

2. Analysis Results

Tables B.1 to B.12 display analysis results. The tables display variable distributions and means for control and program research group members, as well as p-values for testing differences across the two groups.

The program research and control groups have similar characteristics using statistics based on either program intake or baseline interview data. Only a small number of univariate tests are rejected at the 15 percent level of significance (that is, whose p-values are below .15), and there are only small differences across the two groups in those few variables for which significant differences exist. In addition, no patterns across the variables appear to differ. The multivariate regression analysis yields similar results (not shown). Finally, the joint tests from the regression models yield p-values of more than .70, using either baseline interview or ETA-652 data.

It is particularly important to note that the crime and drug use measures are similar by research status. As discussed in Appendix C, we were concerned in the design phase of the evaluation that the quality of these data items might differ for program and control group members. For example, we feared that program group members may have been more reluctant than control group members to report their criminal activities or drug use (which they did not report to OA counselors) for fear that this information would threaten their Job Corps eligibility. For this reason, the Supplemental ETA-652 forms included several questions on criminal involvement. However, we find few differences in the distribution of the measures by research status and no pattern in the reporting differences between the two groups. Thus, our analysis indicates that comparable baseline measures on crime and drug use can be obtained for both research groups through baseline interview data.

[3] The cutoff level would be 1.7 percentage points at the 5 percent level of significance.

TABLE B.1

COMPARISON OF THE DEMOGRAPHIC CHARACTERISTICS OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	Control Group	Program Group	P-Value for Testing Differences
Male	59.7	59.3	.56
Age at Application			.80
16 to 17	39.9	39.5	
18 to 19	32.3	32.2	
20 to 21	16.9	16.9	
22 to 24	10.9	11.4	
(Average age)	18.9	19.0	.43
Race/Ethnicity			.62
White, non-Hispanic	29.1	29.4	
Black, non-Hispanic	50.4	50.5	
Hispanic	15.1	14.8	
American Indian or Alaskan Native	3.6	3.2	
Asian or Pacific Islander	1.8	2.1	
Job Corps Region of Residence			.58
1	4.5	4.4	
2	7.7	7.2	
3	13.1	13.0	
4	22.7	23.4	
5	10.5	10.4	
6	14.7	15.2	
7/8	12.0	12.7	
9	9.6	8.9	
10	5.1	4.8	
Size of City of Residence			.79
Less than 2,500	8.3	8.8	
2,500 to 10,000	11.5	11.2	
10,000 to 50,000	19.2	19.7	
50,000 to 250,000	17.7	17.4	
250,000 or more	43.3	42.9	
PMSA or MSA Residence Status			.46
In PMSA	32.7	31.7	
In MSA	45.1	45.8	
In neither	22.2	22.5	
Legal Resident	98.9	98.6	.21
U.S Citizen[a]	94.1	94.4	.44

TABLE B.1 *(continued)*

Variable	Control Group	Program Group	P-Value for Testing Differences
Native Language[a]			.63
English	85.7	85.9	
Spanish	9.3	8.9	
Other	5.0	5.2	
Job Corps Application Date			.92
11/94 to 2/95	22.2	22.6	
3/95 to 6/95	29.2	29.1	
7/95 to 9/95	28.1	27.7	
10/95 to 12/95	20.5	20.6	
Random Assignment Date			.94
11/94 to 2/95	16.6	17.0	
3/95 to 6/95	29.2	29.2	
7/95 to 10/95	35.9	35.6	
11/95 to 2/96	18.3	18.3	
ETA-652/Baseline Interview Sample Size	**5,977/5,514**	**9,409/8,813**	

SOURCE: Data from ETA-652 forms and baseline interviews.

NOTE: All figures are calculated using sample weights.

[a]Data item comes from the baseline interview.

*Significantly different from zero at the .15 level, two-tailed test.

TABLE B.2

COMPARISON OF THE CHILDHOOD EXPERIENCES AND BACKGROUNDS OF PARENTS OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	Control Group	Program Research Group	P-Value for Testing Differences
Head of Household[a]			.93
Father	33.4	33.6	
Stepfather	5.2	5.3	
Mother	49.0	48.3	
Grandparent, aunt, or uncle	8.3	8.6	
Other	4.1	4.3	
Family Was on Welfare When Youth Was Growing Up			.48
Never	45.9	47.0	
Occasionally	21.8	21.1	
Half the time	11.6	11.1	
Most or all of the time	20.7	20.7	
Mother Had a High School Diploma[a]	67.3	66.3	.29
Father Had a High School Diploma[a]	70.5	69.4	.24
Sample Size	**5,514**	**8,813**	

SOURCE: Baseline interview data.

NOTE: All figures are calculated using sample weights.

[a]Data pertain to when the sample member was 14 years old.

*Significantly different from zero at the .15 level, two-tailed test.

TABLE B.3

COMPARISON OF FERTILITY AND LIVING ARRANGEMENTS OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	ETA-652 Data			Baseline Interview Data		
	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Has Dependents (from 652 Data)/ Natural Children (from Baseline Data)	15.5	14.9	.34	17.9	18.1	.71
Number of Dependents/Natural Children[a]			.71			.85
1	63.8	65.4		70.0	68.6	
2	23.8	22.4		22.2	22.4	
3 or more	12.4	12.2		7.9	9.0	
Needs Child Care Plan If Enrolls in Job Corps	12.5	12.5	.89			
Household Membership						.46
Living with both parents				17.5	17.2	
Living with mother only				42.2	41.5	
Living with father only				5.9	6.0	
Living with another adult relative				12.2	11.8	
Living with adult nonrelatives				4.9	4.8	
Living with no other adults				17.3	18.7	
Family Status			.45			
Family head	13.1	13.8				
Family member	61.3	60.5				
Unrelated individual	25.6	25.8				
Average Family Size	3.2	3.2	.58			
In Public or Rent-Subsidized Housing				19.8	20.4	.40
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 forms and baseline interviews.

NOTE: All figures are calculated using sample weights.

[a] Data pertain to those with dependents/natural children.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.4

COMPARISON OF THE SCHOOLING AND TRAINING EXPERIENCES
OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

	ETA-652 Data			Baseline Interview Data		
Variable	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Highest Grade Completed			.68			.87
Below 9	14.9	15.6		14.1	14.6	
9 to 11	63.2	62.9		64.9	64.4	
12	21.2	20.8		18.7	18.7	
Above 12	0.8	0.8		2.3	2.3	
(Average grade)	10.1	10.0	.24	10.1	10.1	.62
Degrees, Diplomas, and Certificates						
High school diploma				18.2	17.8	.54
GED certificate				5.5	4.7	.03*
Vocational, technical, or trade diploma				2.0	2.2	.38
Other				3.5	3.7	.52
In School or Training in the Month Prior to Application to Job Corps				25.6	25.1	.50
Attended Any Education Program in Past Year				66.4	65.6	.30
Average Number of Months Enrolled in Education Programs in Past Year[a]				6.87	6.85	.84
Type of Most Recent Education Program[a]						.40
Elementary or middle school				3.0	2.6	
High school				60.2	58.9	
ABE program				3.8	3.5	
GED program				10.9	11.5	
Vocational, technical, or trade school				8.7	8.9	
Other				13.4	14.5	
Served in Military	1.2	1.0	.40			
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 forms and baseline interviews.

NOTE: All figures are calculated using sample weights.

[a] Data pertain to those who attended an education program in the year prior to random assignment.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.5

COMPARISON OF THE EMPLOYMENT AND EARNINGS OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	Control Group	Program Research Group	P-Value for Testing Differences
Ever Had a Full-Time or Part-Time Job	78.8	80.0	.09*
Had a Job in the Past Year	64.0	64.9	.26
Number of Full-Time or Part-Time Jobs in the Past Year[a]			.68
1	51.8	51.2	
2	29.5	29.5	
3 or more	18.6	19.4	
(Average number)	1.7	1.8	.38
Months Employed in the Past Year[a]			.63
Less than 1	11.0	10.3	
1 to 3	23.2	23.7	
3 to 6	24.8	25.6	
6 to 9	18.7	18.9	
9 to 11	13.8	12.7	
12	8.6	8.8	
(Average number)	5.6	5.5	.41
Had a Job at Random Assignment	20.7	21.4	.32
Usual Weekly Hours of Work on Most Recent Job[a]			.64
1 to 19	13.5	13.1	
20 to 29	20.3	19.7	
30 or more	66.2	67.2	
(Average hours)	35.3	35.6	.32
Hourly Wage on Most Recent Job[a]			.75
Less than $4.25	9.1	9.5	
$4.25	19.9	20.3	
$4.25 to $5.00	21.5	20.8	
$5.00 to $6.50	37.3	36.6	
$6.50 or more	12.2	12.9	
(Average hourly wage in dollars)	5.1	5.1	.75
Earnings in the Past Year[a]			.59
Less than $1,000	19.6	18.5	
$1,000 to $2,500	22.5	23.6	
$2,500 to $5,000	22.7	23.3	
$5,000 to $10,000	23.9	23.6	
$10,000 or more	11.4	11.0	
(Average earnings in dollars)	4,626.2	4,584.6	.58
Sample Size	**5,514**	**8,813**	

TABLE B.5 *(continued)*

SOURCE: Baseline interview data.

NOTE: All figures are calculated using sample weights.

[a]Data pertain to those who had a job lasting more than two weeks during the year prior to random assignment.

*Significantly different from zero at the .15 level, two-tailed [or one-tailed] test.

TABLE B.6

COMPARISON OF THE WELFARE DEPENDENCE OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

	ETA-652 Data			Baseline Interview Data		
Variable	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Received AFDC in the Past Year				31.6	31.5	.92
Received Food Stamps in the Past Year				44.6	43.7	.30
Received Other Public Assistance in the Past Year[a]				26.7	26.8	.90
Received Any Public Assistance in the Past Year				58.5	57.8	.45
Type of Welfare Received			.90			
AFDC	26.4	26.7				
Other types	16.4	16.6				
None	57.2	56.8				
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 forms and baseline interviews.

NOTE: All figures are calculated using sample weights. The welfare recipiency items on the baseline interview refer to income received either by the sample member or by the sample member's family in the year prior to random assignment.

[a]This assistance includes General Assistance, Supplementary Security Income (SSI), and Social Security Retirement, Disability, and Survivors Benefits (SSA).

*Significantly different from zero at the .15 level, two-tailed test.

TABLE B.7

COMPARISON OF TOTAL HOUSEHOLD AND PERSONAL INCOME OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS IN THE LAST CALENDAR YEAR
(Percentages)

Variable	Control Group	Program Research Group	P-Value for Testing Differences
Total Household Income			.66
Less than $3,000	25.4	25.9	
$3,000 to $6,000	20.8	19.5	
$6,000 to $9,000	10.8	11.3	
$9,000 to $18,000	24.4	24.6	
$18,000 or more	18.6	18.6	
(Average income in dollars)	8,969.4	8,986.8	.75
Total Personal Income			.06*
Less than $3,000	79.0	78.6	
$3,000 to $6,000	12.9	12.6	
$6,000 to $9,000	4.4	5.4	
$9,000 or more	3.7	3.5	
(Average income in dollars)	2,479.7	2,512.3	.37
Sample Size	**5,514**	**8,813**	

SOURCE: Baseline interview data.

NOTE: All figures are calculated using sample weights. Total household income includes the total income of all members of the respondent's household before taxes and other deductions and includes all sources of income. Total personal income includes the total income of the respondent before taxes and other deductions.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.8

COMPARISON OF THE HEALTH STATUS OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

	ETA-652 Data			Baseline Interview Data		
Variable	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Ever Had Any Serious Illnesses or Injuries	2.2	2.6	.12			
Ever Been Under the Care of Any Physical or Mental Health Care Provider in the Past Year	3.9	4.3	.24			
Have Any Health Conditions That Are Being Treated	3.4	3.3	.77			
Health Status						.39
Excellent				46.5	46.8	
Good				40.2	40.7	
Fair or Poor				13.3	12.5	
Has Physical or Emotional Problems That Limited the Amount of Work That Could Be Done				5.4	4.7	.04**
Covered by Health Insurance or Eligible for Medicaid	37.4	37.2	.89			
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 forms and baseline interviews.

NOTE: All figures are calculated using sample weights.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.9

COMPARISON OF THE TOBACCO, ALCOHOL, AND ILLEGAL DRUG USE, AND DRUG TREATMENT OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	Control Group	Program Research Group	P-Value for Testing Differences
Smoked Cigarettes			
Ever	54.4	54.4	.97
In the past year	52.6	52.6	.93
Consumed Alcoholic Beverages			
Ever	57.7	59.7	.01*
In the past year	52.8	54.4	.05*
Smoked Marijuana or Hashish			
Ever	36.6	37.7	.18
In the past year	29.7	31.0	.07*
Summary of Drugs Ever Used			.31
Did not use drugs	62.4	61.4	
Used marijuana but not other drugs	28.7	29.0	
Used other drugs but not marijuana	0.9	0.9	
Used marijuana and other drugs	7.9	8.7	
Ever in a Drug or Alcohol Treatment Program	5.5	4.7	.10*
Sample Size	**5,514**	**8,813**	

SOURCE: Baseline interview data.

NOTE: All figures are calculated using sample weights.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.10

COMPARISON OF THE ARREST EXPERIENCES OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	ETA-652 Supplemental Data			Baseline Interview Data		
	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Arrested in Past Three Years, Other than for Minor Traffic Violations	12.1	11.9	.80	22.9	22.7	.71
Ever Arrested or Charged with a Delinquency or Criminal Complaint				27.0	25.9	.79
Number of Times Ever Arrested[a]						.69
1				61.5	60.5	
2				20.8	22.2	
3				8.6	8.9	
4 or more				9.2	8.4	
Number of Months Since Most Recently Arrested[a]						.95
Less than 12				48.9	48.4	
12 to 24				24.0	24.5	
24 or more				27.1	27.1	
Most Serious Charge for Which Arrested[a]						.01*
Murder or assault				8.3	10.0	
Robbery				3.3	2.7	
Burglary				8.2	8.4	
Larceny, vehicle theft, or other property crimes				29.7	33.6	
Drug law violations				8.0	7.3	
Other personal crimes[b]				14.4	2.9	
Other miscellaneous crimes[c]				28.0	27.4	
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 Supplemental forms and baseline interviews.

NOTE: All figures are calculated using sample weights.

TABLE B.10 *(continued)*

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[a] Data pertain to those who were ever arrested.

[b] "Other personal crimes" include simple assault, family offenses, sex offenses other than rape, and fighting.

[c] "Other miscellaneous crimes" include disorderly conduct, liquor law violations, gambling, loitering, being a Peeping Tom, trespassing, having an outstanding warrant, pornography-related offenses, obstruction of justice, truancy, and motor vehicle violations.

* Significantly different from zero at the .15 level, two-tailed test.

TABLE B.11

COMPARISON OF THE CONVICTION EXPERIENCES OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

	ETA-652 Data			Baseline Interview Data		
Variable	Control Group	Program Research Group	P-Value for Testing Differences	Control Group	Program Research Group	P-Value for Testing Differences
Ever Convicted or Adjudged Delinquent[a]	6.1	5.9	.69	17.0	16.3	.84
Number of Times Convicted[b]						.33
1				54.5	57.5	
2				29.5	26.6	
3 or more				15.9	15.8	
Ever Made a Deal or Copped a Plea				6.3	5.3	.02**
Ever Served Time in Jail				8.3	7.7	.39
Ever Put on Probation or Parole				12.0	11.5	.99
Currently on Probation or Parole				3.9	4.0	.46
Sample Size	**5,977**	**9,409**		**5,514**	**8,813**	

SOURCE: Data from ETA-652 forms and the baseline interview.

NOTE: All figures are calculated using sample weights.

[a]The data item for the baseline interview also includes those who ever pled guilty.

[b]Data pertain to those who were ever convicted, pled guilty, or adjudged delinquent.

*Significantly different from zero at the .15 level, two-tailed test.

TABLE B.12

COMPARISON OF THE ANTICIPATED PROGRAM ENROLLMENT INFORMATION
OF CONTROL AND PROGRAM RESEARCH GROUP MEMBERS
(Percentages)

Variable	Control Group	Program Research Group	P-Value for Testing Differences
Designated for a Nonresidential Slot	13 9	13 7	0 78
Designated for a CCC Center	14 7	15 1	0 53
1995 Performance Ranking of Designated Center (Quartlies)[a]			0 85
Lowest	27 2	27 4	
Second-lowest	28 2	28 7	
Second-highest	24 9	24 4	
Highest	19 7	19 5	
Size of Designated Center in 1995 (Slots)[a]			0 62
Small (225 slots or less)	19 8	20	
Medium small (225 to 495 slots)	45 4	45 3	
Medium large (496 to 735 slots)	20	19 3	
Large (more than 735 slots)	14 8	15 4	
Estimated Number of Weeks from Application Interview Until Arrival at Center			0 23
Less than 2	11 4	11 9	
2 to 3	11 5	11 8	
3 to 4	37 2	36 5	
4 to 8	30 4	29 4	
8 or more	9 4	10 4	
(Average weeks)	5 8	5 8	0 5
Likelihood of Enrolling in a Center			0 46
Very likely	83 3	83	
Somewhat likely	15 5	15 6	
Somewhat unlikely	1	1 1	
Very unlikely	0 2	0 4	
Sample Size	**5977**	**9409**	

SOURCE: Data from ETA-652 Supplemental forms.

NOTE: All figures are calculated using sample weights.

[a]Figures are obtained using data on OA counselor projections about the centers that youths were likely to attend.

*Significantly different from zero at the .15 level, two-tailed test.

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APPENDIX C

THE BASELINE INTERVIEW

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A. INTRODUCTION

During the design stage of the study, the evaluation team investigated whether objectives could be met if baseline data on sample members were obtained from expanded program application (ETA-652) forms rather than from a baseline interview. The team concluded that the use of the intake data would substantially compromise the richness of the baseline data available to conduct subgroup analyses because only a limited number of questions could be asked on an expanded intake form. The team was also concerned that providing the minimum baseline information necessary to meet evaluation objectives would impose additional burden on OA counselors. Finally, they found that the cost savings from forgoing the baseline interview would be modest. Because of the risks of collecting baseline data using program intake data, DOL decided to fund the baseline interview.

This three-part appendix discusses in detail the design and implementation of the baseline interview. First, we discuss the baseline interview design. Second, we discuss response rates to the interview. Finally, we discuss item nonresponse.

1. Design of the Baseline Interview

Baseline interviewing took place between mid-November 1994 and July 1996. The detailed locating information in the ETA-652 and the ETA-652 Supplemental forms was used to help locate youths. OMB approved the use of a $10 incentive fee offered to control group members and hard-to-locate program research group members to induce them to complete the baseline interview.

All sample members were contacted by telephone soon after they had been randomly assigned (usually the same day). Telephone interviews were attempted as soon as possible after random assignment to increase the proportion of interview respondents who did not know their research status prior to the interview. We promised OA counselors that after MPR received complete random assignment materials, they would be notified of random assignment results within 24 hours for

expedited cases and 48 hours for regular cases. MPR staff were typically able to process materials more quickly than promised. However, if possible and if results were not needed urgently, MPR staff waited close to the full 24- or 48-hour period to return results to Job Corps staff. This allowed telephone interviewers time to contact the sample members before they learned whether or not they could enroll in Job Corps.[1] This was an important design feature to minimize the extent to which survey responses would differ by research status.

We believe that, for two main reasons, most interview respondents did not know their research status at the time of the interview. First, interviewers reported that more than 83 percent of sample members did not know their research status at the time of the interview (85.1 percent of program research group members and 80.3 percent of control group members).[2] Second, as discussed below, more than three-quarters of interview respondents completed their interview within seven days after random assignment, and this percentage is identical for program group and control group members. This information cannot be used to determine the exact proportion of interview respondents who did not know their research status at the time of the interview, because we do not know how long it took Job Corps staff to inform randomized youths of their research status. However, these results suggest that baseline interviews were conducted with most sample members before they knew whether they were assigned to the program or control groups.

At the end of May 1995, we began attempting in-person interviews with sample members not reachable by telephone. We waited until May to conduct these interviews so that enough sample members had been released into the field to make it cost-effective to hire field interviewers. In-

[1]Telephone interviewers did not know the research status of sample members except the ones interviewed in a Job Corps center. Hence, interviewers could not tell youths whether they were assigned to the program research or control groups.

[2]Interviewers reported that they did not know whether the respondents knew their research status for an additional 15 percent of the respondents.

person interviews were attempted only with sample members who lived in randomly selected areas when they applied to Job Corps, because it would have been extremely expensive to conduct in-person interviews nationwide.[3] About two-thirds of randomized youths in the study population lived in areas selected for in-person interviewing when they applied to Job Corps.[4]

Sample members in the selected areas were released into the field for in-person interviewing if they could not be reached by telephone within 45 days after random assignment. During the post-45-day period, in-person and continued telephone interviews were attempted for these youths. However, during the post-45-day period, *neither* telephone nor in-person interviews were attempted for youths who lived in the nonselected areas. Consequently, the within-45-day sample is a nationally representative random sample of eligible applicants who could be reached by telephone within 45 days. The post-45-day sample, however, is a nationally representative *clustered* sample of those who could be reached after 45 days. Both groups combined represent all those in the study population.[5]

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[3]In order to define areas for in-person interviewing, we divided the country into three types of areas, on the basis of adjoining groups of counties: (1) those in which about 1,000 Job Corps students resided in 1993 (*superdense* areas), (2) those in which about 600 Job Corps students resided in 1993 (*dense* areas), and (3) those in which about 300 students resided in 1993 (*nondense* areas). The "optimal" number of each type of area to select was calculated to maximize the precision of the impact estimates, subject to the cost of conducting interviews in each type of area and a fixed interview budget. On the basis of this procedure, we randomly selected all 16 superdense areas, 18 of the 29 dense areas, and 29 of the 75 nondense areas for in-person interviewing. All control group members designated for nonresidential slots on the Supplemental ETA-652 form, however, were eligible for in-person interviews to increase the precision of impact estimates for the small nonresidential program component.

[4]The figures for control group members (72 percent) and for program research group members (66.5 percent) differ because sampling rates to the research sample differed for various population subgroups.

[5]The 45-day cutoff was chosen because telephone response rates increased slowly after this period for the early cohort of randomized youths.

Baseline interviews were no longer attempted for sample members in the selected areas if they did not complete the interview within nine months. These youths, however, were eligible for 12-month follow-up interviews, and they were administered an abbreviated baseline supplement if they were located for the 12-month interview.

2. Response Rates to the Baseline Interview

The (unweighted) response rate to the baseline interview for sample members in all areas was 93.1 percent (see Table C.1). Interviews were completed with 14,327 of the 15,386 youths in the research sample. Furthermore, the difference in completion rates for the program research and control group is only 1.4 percentage points (93.7 percent for program research group members and 92.3 percent for control group members). Hence, the effects of nonresponse bias to the baseline interview by research status will be small. The response rate for sample members in the areas selected for in-person interviewing--the *effective* response rate--was 95.2 percent (95.8 percent for program group members and 94.2 percent for control group members).

Response rates to the baseline interview were high for key subgroups (see Table C.1). These response rates were calculated using ETA-652 and ETA-652 Supplement data available for *both* interview respondents and nonrespondents. Response rates were similar by gender, race, high school graduation status, and residential designation status. Response rates were slightly higher for younger sample members than older ones, and for those who lived in urban areas (PMSAs and superdense areas) than for those in less populated areas. In addition, response rates were slightly larger for those never arrested or convicted than those who had problems with the law. These differences in response rates, however, are small, indicating that interview respondents and nonrespondents have similar characteristics (as discussed in more detail in Appendix D).

TABLE C.1

TOTAL AND EFFECTIVE RESPONSE RATES TO THE BASELINE INTERVIEW, BY RESEARCH STATUS AND KEY SUBGROUP
(Percentages)

	Total Response Rate (in All Areas)			Effective Response Rate (in Intensive Areas)		
	Program Group	Control Group	Combined Sample	Program Group	Control Group	Combined Sample
Full Sample	93.7	92.3	93.1	95.8	94.2	95.1
Gender						
Male	93.2	92.0	92.7	95.4	94.1	94.9
Female	94.3	92.7	93.8	96.2	94.3	95.5
Age at Application						
16 to 17	95.3	93.7	94.6	96.8	95.7	96.4
18 to 19	93.5	91.9	92.9	96.2	93.6	95.1
20 to 21	92.3	92.1	92.2	94.5	94.7	94.6
22 to 24	90.8	88.4	89.9	93.1	89.8	91.8
Race/Ethnicity						
White, non-Hispanic	93.5	91.6	92.8	95.9	94.0	95.2
Black, non-Hispanic	94.5	93.3	94.0	95.8	94.6	95.3
Hispanic	93.9	92.9	93.5	96.1	94.6	95.5
Other	86.2	84.6	85.6	92.5	88.0	90.6
Region of Residence						
1	95.6	93.9	94.9	94.9	93.8	94.4
2	96.8	92.3	94.9	97.2	93.6	95.7
3	94.1	94.9	94.4	95.6	95.5	95.6
4	94.1	93.8	94.0	95.8	94.7	95.4
5	90.7	89.0	90.0	93.1	93.9	93.4
6	93.6	90.2	92.3	96.8	92.8	95.3
7/8	93.6	91.1	92.6	96.4	93.4	95.3
9	92.3	91.5	92.0	96.0	94.4	95.4
10	94.0	93.7	93.9	94.7	95.2	94.9
Size of City of Residence						
Less than 2,500	93.0	90.9	92.2	96.2	94.1	95.3
2,500 to 10,000	94.4	92.5	93.7	97.0	95.6	96.4
10,000 to 50,000	92.5	92.2	92.4	95.4	94.4	95.0
50,000 to 250,000	92.9	91.6	92.4	95.4	94.7	95.2
250,000 or more	94.6	92.7	93.9	95.9	93.8	95.0
PMSA or MSA Residence Status						
In PMSA	95.5	92.9	94.5	95.9	93.6	94.9
In MSA	93.1	92.2	92.7	95.4	94.6	95.1
In neither	92.2	91.4	91.9	96.6	95.0	95.9
Size of Area of Residence						
Superdense	96.0	94.3	95.3	96.0	94.3	95.3
Dense	92.9	91.6	92.4	95.4	94.3	95.0
Nondense	92.0	90.7	91.5	95.5	93.9	94.9
Date of Random Assignment						
11/94 to 2/95	96.1	92.2	94.6	97.4	94.7	96.3
3/95 to 6/95	94.0	93.9	94.0	95.6	95.0	95.4
7/95 to 10/95	92.9	91.5	92.4	95.4	93.9	94.8
11/95 to 2/96	92.5	91.3	92.0	95.3	93.0	94.3

TABLE C.1 *(continued)*

	Total Response Rate (in All Areas)			Effective Response Rate (in Intensive Areas)		
	Program Group	Control Group	Combined Sample	Program Group	Control Group	Combined Sample
Fertility						
Has dependents	93.8	92.6	93.4	96.0	94.4	95.3
Has no dependents	93.8	92.2	93.1	95.8	94.1	95.1
Education						
Completed 12th grade	93.9	93.0	93.5	95.6	94.8	95.3
Did not complete 12th grade	93.7	92.1	93.1	95.9	94.1	95.2
Public Assistance						
Receiving AFDC	94.1	92.8	93.6	95.8	94.5	95.3
Receiving other assistance	93.0	91.3	92.4	96.0	93.3	94.9
Not receiving	93.7	92.3	93.2	95.8	94.2	95.1
Crime						
Arrested in past three years	91.7	89.1	90.7	94.8	92.6	93.9
Not arrested in past three years	94.0	92.7	93.5	96.0	94.4	95.4
Ever convicted or adjudged delinquent	91.2	87.3	89.6	94.7	89.1	92.4
Never convicted or adjudged delinquent	93.8	92.6	93.3	95.8	94.5	95.3
Residential Designation Status						
Resident	93.5	91.7	92.8	95.7	93.9	95.0
Nonresident	94.2	95.4	94.6	96.1	95.4	95.8
CCC/Contract Center Designation						
CCC center	93.5	92.3	93.3	95.2	94.2	94.8
Contract center	94.0	92.2	93.0	95.8	94.2	95.1
Sample Size	**9,409**	**5,977**	**15,386**	**6,254**	**4,286**	**10,540**

SOURCE: ETA-652 and ETA-652 Supplemental forms.

NOTE: The effective response rate to the baseline interview is the response rate for sample members eligible for interviews after 45 days after random assignment. These are youths who lived in randomly selected areas at application to Job Corps. These youths were eligible for both in-person and continued telephone interviewing after the 45-day period.

The telephone response rate within the 45-day period after random assignment was about 89 percent for both program research and control group members and was similar for those in the in-person and non-in-person areas (see Table C.2). An additional 6.6 percent of program group members and 5.9 percent of control group members living in the in-person areas completed baseline interviews more than 45 days after they were randomly assigned. About 80 percent of these post-45-day interviews were completed by telephone, and 20 percent were completed in person.[6]

Most interview respondents completed the baseline interview soon after random assignment (see Table C.3). Nearly 30 percent of interview respondents completed their interview on the same day they were randomly assigned, more than 50 percent completed their interview within one day after random assignment, and more than 75 percent completed their interviews within seven days after random assignment. Only 10 percent of interviews were completed more than one month after random assignment. The distributions of completion times are similar for program research and control group members. The fact that most interviews were conducted quickly suggests that a majority of sample members did not know their research status prior to the interview and that recall error did not have a large effect on item responses.

We attribute the high response rates to three main factors. First, we obtained detailed locating information (addresses and telephone numbers) from the study forms. As discussed in Appendix A, we obtained at least one piece of contact information for all sample members and an average of nearly three distinct contacts per youth. Second, sample members were contacted soon after random assignment (and, thus, soon after they provided the contact information). Finally, we believe that the use of respondent incentive payments increased response rates. All control group respondents

[6]Two hundred ninety-seven interviews were completed while the respondent was living in a Job Corps center, 35 interviews were completed while the respondent was in a jail or penitentiary, and 173 interviews were completed while the respondent was in a halfway house or a group home. Ninety respondents were homeless.

TABLE C.2

PERCENTAGE COMPLETING THE BASELINE INTERVIEW BEFORE AND AFTER THE 45-DAY PERIOD, BY RESEARCH STATUS, TYPE OF AREA, KEY SUBGROUP, AND TYPE OF INTERVIEW

Subgroup	Completed Interview by Telephone Within 45 Days After Random Assignment		Completed Interview After 45 Days After Random Assignment					
			By Telephone		In Person		Total	
	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group
In-Person Areas								
Full Sample	89.2	88.3	5.1	4.9	1.4	0.9	6.6	5.9
Gender								
Male	89.2	87.9	4.7	5.5	1.5	0.7	6.2	6.2
Female	89.2	89.0	5.7	4.1	1.3	1.3	7.0	5.4
Age at Application								
16 to 17	91.1	90.8	4.4	4.2	1.3	0.8	5.7	4.9
18 to 19	89.9	87.3	4.9	5.5	1.4	0.8	6.2	6.3
20 to 21	87.8	88.2	5.5	5.1	1.3	1.4	6.7	6.5
22 to 24	83.4	82.6	7.5	6.0	2.2	1.2	9.7	7.2
Residential Status								
Residents	89.3	87.7	5.2	5.4	1.2	0.8	6.4	6.2
Nonresidents	88.9	90.6	4.9	3.4	2.3	1.3	7.2	4.8
Number of Completes	5,579	3,785	322	212	88	40	410	252
Sample Size	**6,254**	**4,286**	**6,254**	**4,286**	**6,254**	**4,286**	**6,254**	**4,286**

TABLE C.2 *(continued)*

Subgroup	Completed Interview by Telephone Within 45 Days After Random Assignment		Completed Interview After 45 Days After Random Assignment					
			By Telephone		In Person		Total	
	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group
Non-In-Person Areas								
Full Sample	89.5	87.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gender								
Male	88.9	87.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Female	90.4	87.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Age at Application								
16 to 17	92.2	88.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
18 to 19	88.4	87.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
20 to 21	88.2	85.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
22 to 24	85.6	84.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Residential Status								
Residents	89.5	87.3[a]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nonresidents	89.6		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Number of Completes	2,824	1,477	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sample Size	**3,155**	**1,691**						

TABLE C.2 *(continued)*

Subgroup	Completed Interview by Telephone Within 45 Days After Random Assignment		Completed Interview After 45 Days After Random Assignment					
			By Telephone		In Person		Total	
	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group	Program Group	Control Group
All Areas								
Full Sample	89.3	88.0	3.4	3.5	0.9	0.7	4.4	4.2
Gender								
Male	89.1	87.8	3.1	3.8	1.0	0.5	4.1	4.3
Female	89.6	88.5	3.9	3.2	0.9	1.0	4.8	4.1
Age at Application								
16 to 17	91.5	90.2	3.0	3.0	0.9	0.5	3.8	3.5
18 to 19	89.4	87.4	3.2	3.9	0.9	0.6	4.1	4.5
20 to 21	87.9	87.4	3.5	3.7	0.8	1.0	4.3	4.7
22 to 24	84.1	83.0	5.3	4.6	1.5	0.9	6.8	5.5
Residential Status								
Residents	89.4	87.6	3.4	3.6	0.8	0.6	4.2	4.1
Nonresidents	89.1	90.6	3.5	3.4	1.6	1.3	5.1	4.8
Number of Completes	8,403	5,262	322	212	88	40	410	252
Sample Size	**9,409**	**5,977**	**9,409**	**5,977**	**9,409**	**5,977**	**9,409**	**5,977**

SOURCE: Data from the ETA-652 and ETA-652 Supplemental forms.

NOTE: In-person areas are randomly selected areas in which youths were eligible for telephone and in-person interviewing after 45 days after random assignment.

[a] All control group members designated for nonresidential slots were eligible for post-45-day interviews regardless of the areas in which they resided. These youths are counted in the table as being in intensive areas.

n.a.= not applicable.

TABLE C.3

CUMULATIVE DISTRIBUTION OF THE NUMBER OF DAYS BETWEEN RANDOM ASSIGNMENT AND COMPLETION OF THE BASELINE INTERVIEW FOR THOSE IN THE INTENSIVE AREAS, BY RESEARCH STATUS
(Percentages)

Number of Days	Program Group	Control Group	Combined Sample
0	29.3	28.9	29.1
1	51.2	51.1	51.2
2	57.7	58.2	57.9
3 to 7	76.3	76.1	76.2
8 to 14	84.0	83.7	83.9
15 to 21	87.7	87.7	87.7
22 to 30	90.4	90.7	90.6
31 to 45	93.2	93.8	93.4
46 to 60	94.7	94.9	94.8
61 to 90	97.2	97.5	97.3
91 to 120	98.2	98.5	98.3
120 to 270[a]	100.0	100.0	100.0
(Average Days)	11.1	10.7	11.0
Number of Baseline Youths Who Completed Interviews	**5,989**	**4,037**	**10,026**

SOURCE: Baseline interview data.

NOTE: The intensive areas are randomly selected areas in which youths were eligible for telephone and in-person interviewing after 45 days after random assignment.

[a]Baseline interview attempts ended nine months after random assignment.

received a $10 payment, and 10 percent of hard-to-locate program group members received the payment.[7]

The baseline interview took about 37 minutes, on average, to complete. One-quarter of interview respondents completed the interview in less than 29 minutes, and three-quarters completed the interview within 44 minutes. Over 95 percent of respondents completed the interview within one hour.

3. Item Nonresponse

Few measures tabulated in the reports on the characteristics of youths served by Job Corps and eligible applicants' perspectives on outreach and admissions are missing because youths reported that they did not know the answer to the questions or because they refused to answer the questions (see Tables C.4 and C.5). Data items about the youths' demographic characteristics, marital and fertility histories, living arrangements, educational attainment, recent schooling and training experience, employment experience, health, and knowledge of Job Corps and recruiting experiences are typically missing for less than 2 percent of respondents. More-specific questions about these topics (for example, the number of months employed in the past year, the number of months enrolled in education programs in the past year, the reasons that youths left school or training) are typically missing for about 7 percent of cases. In addition, data items pertaining to welfare receipt are missing for about 10 percent of the cases. Missing values are much more common for the data items on the education and occupations of the youths' parents (especially for the fathers) and on total household

[7]The percentage of program research group members who received respondent payments did not differ by gender, age, or residential designation status. The youths who received payment were those who did not complete the baseline interview within the first few weeks after random assignment. The median (mean) number of days between the random assignment and interview completion dates for those who did not receive payments was 1 day (4 days), compared to 36 days (52 days) for those who received payments. Respondent payments were not offered to youths interviewed while they were enrolled in Job Corps centers.

TABLE C.4

RESPONSE RATES FOR MEASURES OF THE CHARACTERISTICS OF YOUTHS SERVED BY JOB CORPS USING BASELINE INTERVIEW DATA, BY RESEARCH STATUS AND GENDER
(Percentages)

	Total Sample	Control Group	Program Group	Males	Females
Demographics					
Gender	100.0	100.0	100.0	100.0	100.0
Age at Application	100.0	100.0	100.0	100.0	100.0
Race/Ethnicity	100.0	100.0	100.0	100.0	100.0
Region of Residence	100.0	100.0	100.0	100.0	100.0
PMSA or MSA Residence Status	100.0	100.0	100.0	100.0	100.0
U.S. Citizen	99.9	99.9	99.9	99.9	99.9
Native Language	99.8	99.7	99.8	99.7	99.9
Childhood Experiences and Backgrounds of Parents					
Head of Household When Sample Member Was 14	99.1	99.1	99.1	99.0	99.3
Extent to Which Family Was on Welfare When Sample Member Was Growing up	93.7	93.3	94.0	93.0	94.8
Mother Had High School Diploma	81.0	80.3	81.4	79.7	82.9
Father Had High School Diploma	61.2	60.7	61.6	62.7	59.1
Marriage, Fertility, and Living Arrangements					
Marital Status	99.9	99.9	99.9	99.9	99.9
Has Natural Children	99.3	99.1	99.3	99.3	99.2
Number of Children[a]	100.0	100.0	100.0	100.0	100.0
Age of Eldest Child[a]	99.8	99.7	99.8	99.8	99.8
Household Membership	99.6	99.4	99.7	99.5	99.6
Number in household	99.6	99.4	99.7	99.5	99.6
Education					
Highest Grade Completed	99.8	99.8	99.8	99.8	99.9
Has GED Certificate	99.5	99.5	99.4	99.5	99.5
Attended Any Education Program in Past Year	99.2	99.3	99.1	99.1	99.3
Number of Months Enrolled in Education Programs in Past Year[b]	94.0	94.2	93.9	93.6	94.7
Type of Most Recent Education Program[b]	98.8	98.7	98.8	98.7	98.9
Reason Left Most Recent Education Program	94.1	94.3	93.9	93.5	94.8
Reason Left School or Training for Those Not in School in the Past Year	94.4	95.1	93.9	94.4	94.3

TABLE C.4 *(continued)*

	Total Sample	Control Group	Program Group	Males	Females
Employment and Earnings					
Ever Had a Full-Time or Part-Time Job	100.0	100.0	100.0	100.0	100.0
Had a Job in the Past Year	99.4	99.5	99.3	99.3	99.6
Months Employed in the Past Year[c]	93.2	93.0	93.3	92.3	94.7
Earnings in the Past Year[c]	90.1	89.7	90.2	89.4	91.1
Hourly Wage in Most Recent Job[c]	93.3	93.7	93.1	94.2	91.9
Occupation of Most Recent Job[c]	97.7	97.7	97.7	97.3	98.3
Main Reason Left Most Recent Job[c]	84.2	83.7	84.4	83.6	85.1
Welfare Dependence and Total Income					
Received AFDC	89.7	89.3	90.0	87.5	93.1
Received Food Stamps	92.8	92.6	92.9	91.4	94.9
Received Any Public Assistance	90.3	90.4	90.4	88.4	93.5
Months Received Any Public Assistance[d]	97.8	97.7	98.0	97.4	98.3
Total Household Income	63.3	63.8	63.0	62.4	64.8
Total Personal Income	93.0	93.1	93.0	93.0	93.1
Health					
Health Status	99.9	99.9	99.9	99.9	99.8
Had Physical or Emotional Problems That Limited the Amount of Work That Could Be Done	99.8	99.8	99.9	99.8	99.9
Type of Serious Health Problem[e]	98.4	98.3	98.5	97.7	99.4
Tobacco, Alcohol, and Illegal Drug Use					
Ever Smoked Cigarettes	100.0	100.0	100.0	100.0	100.0
Ever Consumed Alcoholic Beverages	100.0	100.0	100.0	100.0	100.0
Ever Smoked Marijuana or Hashish	99.9	99.9	99.8	99.8	99.9
Smoked Marijuana or Hashish in the Past Year	99.8	99.9	99.8	99.8	99.9
Ever Snorted Cocaine Powder	99.9	99.9	99.9	99.9	99.9
Ever Smoked Crack Cocaine or Freebased	99.9	99.9	99.9	99.9	99.9
Ever Used Hallucinogenic Drugs	99.9	99.9	99.9	99.9	100.0
Ever Used Heroin, Opium, Methadone, or Downers	99.9	99.9	99.9	99.9	99.9
Summary of Drugs Ever Used	99.8	99.8	99.8	99.8	99.8
Ever in a Drug or Alcohol Treatment Program	99.9	99.9	100.0	100.0	100.0
Crime					
Ever Arrested or Charged with a Delinquency or Criminal Complaint	98.5	98.4	98.6	98.0	99.3
Number of Times Arrested[f]	94.0	93.7	94.2	93.6	95.1

TABLE C.4 *(continued)*

	Total Sample	Control Group	Program Group	Males	Females
Age at First Arrest[f]	94.0	93.7	94.2	93.6	95.1
Most Serious Charge for Which Arrested[f]	89.7	89.4	89.9	89.1	91.2
Ever Convicted, Pled Guilty, or Adjudged Delinquent	97.5	97.5	97.4	96.7	98.5
Number of Youths Who Completed Baseline Interviews	**14,327**	**5,514**	**8,813**	**8,646**	**5,681**

SOURCE: Baseline interview data.

[a]Data pertain to those with natural children.

[b]Data pertain to those in education programs in the year prior to random assignment.

[c]Data pertain to those who had a job in the year prior to random assignment.

[d]Data pertain to those who received public assistance in the year prior to random assignment.

[e]Data pertain to those who had a serious health problem.

[f] Data pertain to those who were ever arrested.

TABLE C.5

RESPONSE RATES FOR MEASURES OF SAMPLE MEMBERS' PERSPECTIVES ON OUTREACH AND ADMISSIONS USING BASELINE INTERVIEW DATA, BY RESEARCH STATUS AND GENDER

	Total Sample	Control Group	Program Group	Males	Females
Sources of Information About Job Corps					
How First Heard About Job Corps	99.6	99.7	99.5	99.5	99.6
First Heard About Job Corps from an OA Counselor	99.5	99.6	99.4	99.5	99.5
Knew Anyone Who Attended Job Corps	99.2	99.3	99.2	99.2	99.4
How Obtained the Most Information About What Job Corps Would Be Like	97.5	97.7	97.4	97.6	97.3
Reasons for Joining Job Corps					
Important Reasons for Joining Job Corps (Average Response Rate)	99.5	99.5	99.7	99.5	99.6
Most Important Reason for Joining Job Corps	100.0	100.0	100.0	100.0	100.0
Program Expectations					
Ways Expected Job Corps to Help a Lot (Average Response Rate)	99.2	99.1	99.3	99.2	99.2
Knows What Center Wants to Attend	99.6	99.6	99.6	99.6	99.7
Main Reason Wants Specific Center	98.9	98.9	98.8	98.9	98.8
Knows What Type of Job Training Wanted	99.6	99.5	99.7	99.6	99.7
Type of Training Wants	97.6	97.4	97.8	98.4	96.5
Expected Earnings per Hour After Job Corps	45.9	45.3	46.3	47.4	43.7
Has Worries About What Job Corps Would Be Like	99.7	99.8	99.7	99.7	99.8
Main Type of Worry	99.8	99.9	99.8	99.8	99.9
Information on Discussions with Individuals About Going to Job Corps					
Whether Had Discussions with Specific Individuals (Average Response Rate)	99.9	99.9	99.9	99.9	99.9
Advice of Consulted Individuals Important in Youth's Decision to Enroll (Average Response Rate)	99.4	99.3	99.5	99.4	99.5
Consulted Individuals Encouraged Youth to Enroll (Average Response Rate)	97.3	97.2	97.4	97.5	97.0
OA Counselor Encouraged Youth to Enroll	98.9	99.2	98.8	98.8	99.1

TABLE C.5 *(continued)*

	Total Sample	Control Group	Program Group	Males	Females
Initial Contact and Topics Discussed with OA Counselors					
How First Spoke to OA Counselor	99.8	99.9	99.8	99.8	99.9
Mode of Telephone Contact	98.4	98.5	98.3	98.1	98.8
Place of In-Person Contact	97.6	97.4	97.8	97.6	97.7
Discussed How Long Youth Is Expected to Stay in Job Corps	90.0	90.1	90.0	90.6	89.2
Number of Months Youth Is Expected to Stay in Job Corps[a]	99.9	99.8	99.9	99.9	99.9
Discussed When First Able to Visit Family	94.9	94.8	94.9	95.1	94.6
Weeks Until First Able to Visit Family[a]	81.4	80.5	82.0	80.7	82.6
Discussed How Long Until Given Center Assignment	98.2	98.0	98.3	98.3	98.0
Weeks Until Given Center Assignment[a]	95.1	95.0	95.1	95.3	94.7
Discussed Chances of Getting Desired Trade	99.6	99.5	99.7	99.6	99.7
Chances of Getting Desired Trade[a]	86.4	86.4	86.3	86.7	85.9
Total Hours OA Counselor Spent with Youth	99.3	99.4	99.3	99.2	99.5
Number of Youths Who Completed Baseline Interviews	**14,327**	**5,514**	**8,813**	**8,646**	**5,681**

SOURCE: Baseline interview data.

[a]Data pertain to those who discussed the indicated topic with the OA counselor.

income (35 percent of cases have missing values). Data quality does not differ for program and control group members or by gender.

Nonresponse was infrequent for sensitive questions on drug use and experiences with the criminal justice system. Nearly all sample members responded to the questions on alcohol and drug use and drug treatment. These data items are missing for less than .5 percent of the cases. Data items on arrest charges are typically missing for less than 3 percent of cases, and data items on the disposition of arrest charges are typically missing for about 5 percent of youths.

Interviewers reported that the overall data quality is high for nearly 94 percent of the respondents. In addition, they reported that over 95 percent of respondents answered the questions truthfully and that 95 percent were able to understand the questions fairly well and were cooperative.

APPENDIX D

CONSTRUCTION OF SAMPLE WEIGHTS AND STANDARD ERRORS FOR ANALYSES USING BASELINE INTERVIEW AND PROGRAM INTAKE DATA

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A. INTRODUCTION

This technical appendix describes the construction of sample weights so that statistics based on baseline interview and sample intake data can be generalized to the study population for the National Job Corps Study. In addition, it discusses procedures used to construct standard errors of the estimates.

B. CONSTRUCTION OF SAMPLE WEIGHTS

Youths in the study population had different probabilities of being assigned to the program research and control groups, because sampling probabilities differed for various population subgroups. In addition, youths in the research sample had different probabilities of being included in the baseline interview sample, because (1) baseline interview attempts continued in the post-45-day period for sample members who lived in randomly selected areas only, and (2) youths in different types of areas (superdense, dense, and nondense) had different probabilities of being eligible for post-45-day baseline interviews.

Next, we discuss how weights were constructed to account for these design features. We conclude the section with a discussion of our approach for adjusting the weights to account for the effects of nonresponse to the baseline interview.

1. Sample Design Weights

The sample design weight for a sample member was constructed to be proportional to the inverse of the probability that the youth was selected into the research sample. Table D.1 displays selection probabilities by research status for individuals in those subgroups for which sampling rates were constant. The sampling rates to the control group are displayed by gender and whether the

TABLE D.1

PROBABILITIES THAT ELIGIBLE APPLICANTS WERE SELECTED TO THE CONTROL AND PROGRAM RESEARCH GROUPS, BY SAMPLING STRATA
(Percentages)

	Sampling Probability	
	Random Assignment Date Before 8/16/95	Random Assignment Date on or After 8/16/95
Control Group		
Females in areas from which a low concentration of nonresidential Job Corps female students come	5	5
Females in 57 areas from which a high concentration of nonresidential Job Corps female students come	8	9
Males in areas from which a low concentration of nonresidential Job Corps female students come	8	8
Males in 57 areas from which a high concentration of nonresidential Job Corps female students come	8	9
Program Research Group		
Residential designees	10.7	11.1
Nonresidential designees	15.4	17.0
Number in Sample Universe	**47,288**	**33,595**

youth lived in the 57 areas sending the largest number of nonresidential students to Job Corps.[1] The sampling rates to the program research group are displayed by residential designation status obtained from the ETA-652 Supplement. The control and program research group sampling rates are displayed also for youths who were sent for random assignment before and after August 16, 1995. This is because the probabilities that youths were assigned to the research sample were increased for likely nonresidential students at that time to compensate for the lower-than-expected flow of eligible applicants and the higher-than-expected program no-show rate.

The sampling probabilities displayed in Table D.1 were adjusted for the following sample members:

- Four youths in the program research group who were also randomly assigned to the program nonresearch group.[2] The selection probabilities for each of these youths is *2p* where *p* is the relevant sampling probability from Appendix Table D.1 for each youth.

- 27 youths who were recruited by the Florida employment service office in Hialeah (FLESHI) and who were randomized to the research sample after March 27, 1995. A large proportion of youths recruited by FLESHI in early 1995 were assigned to the control group, and FLESHI staff expressed concern to Region 4 senior staff about the negative effects the evaluation was having on their reputation. To help smooth the flow of control group members who were recruited by FLESHI for the remainder of the sample intake period, all youths sent for random assignment after March 27, 1995, had the *same* probability of being assigned to the control group (and the same probability of being assigned to the program research group). Hence, all youths in a batch sent for random assignment were randomized together rather than in separate strata. The uniform sampling rates were set as the average of all the sampling probabilites of all FLESHI youths who were sent for random assignment prior to March 28, 1995. The sampling rates to the control group were set as follows: (1) 7.63 percent for those sent for random assignment between March 28, 1995, and August 15, 1995; and (2) 8.05 percent for those sent for random assignment after August 15, 1995. The sampling rates to the program research group were set as follows: (1) 11.62 percent for those sent for

[1]Sampling rates were higher in these 57 areas to meet sample size targets for nonresidential students.

[2]This occurred as the result of an error in our random assignment program, which did not check whether duplicate information on a youth was present *within* a batch of information sent to MPR for random assignment purposes.

random assignment between March 28, 1995, and August 15, 1995; and (2) 12.04 percent for those sent for random assignment after August 15, 1995.

Sample design weights were constructed by first calculating the inverse of the selection probabilities and then scaling the resulting weights so that they sum to 5,977 for control group members and 9,409 for program research group members (which are the sample sizes of the control and program research groups). These weights were applied in analyses using ETA-652 and Supplemental ETA-652 data.

2. Baseline Interview Weights

As discussed in detail in Appendix C, baseline interviews were attempted by telephone with all youths in the research sample during the first 45 days after random assignment. However, only youths in randomly selected areas who were not reachable by telephone within the 45-day period were eligible for telephone or in-person interviews during the post-45-day period.[3] To select these areas, we divided the country into 16 superdense, 29 dense, and 75 nondense areas. We then selected all 16 superdense, 18 dense, and 29 nondense areas as those where youths would be eligible for post-45-day interviewing. We selected different proportions of superdense, dense, and nondense areas for in-person interviewing to maximize the precision of the impact estimates, subject to the cost of conducting interviews in each type of area and a fixed interview budget.

The within-45-day sample is a random sample of those in the study population reachable by telephone within 45 days. The post-45-day sample, however, is a *clustered* sample of those in the study population reachable by telephone after 45 days. Thus, the post-45-day sample is

[3]Control group members designated for nonresidential slots on the Supplemental ETA-652 form, however, were eligible for post-45-day interviews regardless of where they lived. This design feature was adopted to increase the precision of impact estimates for the small nonresidential program component.

underrepresented in the baseline sample relative to their numbers in the study population, and those in superdense, dense, and nondense areas have different representations in the post-45-day sample.

For analyses using baseline interview data, the weight for a youth--the interview weight--was constructed to be proportional to the inverse of the probability that the youth was selected into the baseline interview sample. This probability was calculated by multiplying the probability the youth was selected into the research sample (as described above) by a factor *f* defined as follows:

$f = 1$	if the youth completed a baseline interview within the first 45 days after random assignment
$= 1$	if the youth lived in a superdense area at application to Job Corps
$= 1$	if the youth was in the control group and was designated for a nonresidential slot on the Supplemental ETA-652 form
$= 18/29$	if the youth completed a baseline interview after the 45-day period and lived in a dense area at application to Job Corps
$= 29/75$	if the youth completed a baseline interview after the 45-day period and lived in a nondense area at application to Job Corps

The factor *f* can be interpreted as the conditional probability that an eligible applicant was in the baseline sample given that the individual was selected into the research sample. The interview weights pertaining to the baseline interview were scaled to sum to 5,514 for control group members and to 8,813 for program research group members (which are the number of control and program research group members who completed baseline interviews).

It is important to note that the overall weighted mean of a survey data item can be computed as follows:

(1) $\bar{y} = J\bar{y}_1 + (1-J)[2_s\bar{y}_{2s} + 2_d\bar{y}_{2d} + 2_n\bar{y}_{2n}]$,

where:

$\bar{y}$ = the overall weighted mean of the variable

$\bar{y}_1$ = the weighted mean (using the sample design weights) of those in the sample who completed baseline interviews within 45 days after random assignment

$\bar{y}_{2s}$, $\bar{y}_{2d}$, $\bar{y}_{2n}$ = the weighted mean (using the sample design weights) of those who completed baseline interviews in the post-45-day period in superdense, dense, and nondense areas, respectively

2_s, 2_d, 2_n = the proportion of the post-45-day population in superdense, dense, and nondense areas, respectively

J = the proportion of all potential baseline interview completers who would complete the baseline interview within 45 days after random assignment

The procedure we use to construct the interview weights assumes that the weight, J, is the proportion of baseline interview completers in the selected in-person areas who completed the baseline interview within 45 days (which is about 93 percent). This assumes that baseline interview nonrespondents are split *proportionally* between the within-45-day and post-45-day populations. As discussed next, this is probably a reasonable assumption because the characteristics at program intake of baseline interview nonrespondents, within-45-day responders, and post-45-day responders are similar.

3. Adjustments for Nonresponse

The effective response rate to the baseline interview was over 95 percent. However, descriptive statistics estimated using baseline interview data could be slightly biased if the characteristics of interview respondents and nonrespondents differ. In this section, we assess the effects of baseline

nonresponse and discuss our approach for adjusting for these effects. First, we discuss the data and methods used in the analysis. Second, we discuss analysis results.

a. Data and Methods

Our basic approach for assessing the effects of nonresponse is to compare the characteristics of respondents and nonrespondents by using ETA-652 and ETA-652 Supplement data, which were collected at program intake and thus are available for both interview respondents and nonrespondents. For the analysis, we select data items that we believe are correlated with (1) whether a youth was a respondent, and (2) key baseline measures and outcomes.

The analysis is performed using *only* those sample members who lived in the areas selected for post-45-day followup at application to Job Corps. Youths in the nonselected areas are excluded from the analysis, because "nonrespondents" in these areas consist of both those who would and those who would not have completed interviews in the post-45-day period if given the chance. Therefore, "true" nonrespondents can be identified only in the selected areas. This sample of nonrespondents, however, is representative of nonrespondents nationwide. The analysis sample contains 10,026 respondents (4,037 control group and 5,989 program research group members) and 514 nonrespondents (249 control group and 265 program research group members).

As part of the analysis, we compare respondents in the in-person areas who completed the interview within 45 days after random assignment and those who completed the interview after 45 days. We also compare these two groups to nonrespondents. This analysis is needed to assess how statistics computed using the within-45-day and post-45-day samples should be weighted to produce overall statistics. For example, if interview nonrespondents are more similar to those in the post-45-day sample than to those in the within-45-day sample, then the statistics using the post-45-day

sample should be given a weight larger than the proportion of interview respondents in the in-person areas who completed interviews during the post-45-day period (see Section B.3.b).

We use standard statistical tests to assess the similarity of respondents and nonrespondents and of within-45-day and post-45-day respondents. We use univariate t-tests to compare variable means for binary and continuous variables and chi-squared tests to compare variable distributions for categorical variables. In addition, we conduct a more formal multivariate analysis to test the hypothesis that key variable means and distributions are *jointly* similar. For this analysis, we estimate logit regression models where the probability an individual is a respondent versus a nonrespondent is regressed on a set of youth characteristics. Chi-squared (log-likelihood) tests are used to assess whether the explanatory variables in the models are jointly statistically significant.

b. Analysis Results

There are some differences in the characteristics of baseline interview respondents and nonrespondents (see Table D.2). Younger sample members were more likely than older sample members to complete a baseline interview. In addition, response rates were higher (1) for youths who did not need a bilingual Job Corps program than for those who did, (2) for those who lived in large families than for those who lived in smaller families, (3) for those without criminal backgrounds than for those with criminal backgrounds, and (4) for those who applied to Job Corps earlier than for those who applied later. There are, however, few significant differences in the other variables between the two groups. The distributions of respondents and nonrespondents are similar by gender, race, region, size of city, PMSA or MSA residency status, the presence of dependents, education level, the receipt of welfare, and anticipated program enrollment variables. There are few

TABLE D.2

COMPARISON OF THE CHARACTERISTICS OF RESPONDENTS AND NONRESPONDENTS TO THE BASELINE INTERVIEW, BY RESEARCH STATUS
(Percentages)

	Control Group		Program Research Group	
	Respondents	Nonrespondents	Respondents	Nonrespondents
Demographics				
Male	58.0	58.3	58.0	63.2*
Age at Application				
16 to 17	40.2	29.9***	40.2	29.7***
18 to 19	31.8	35.3	32.2	29.2
20 to 21	17.0	14.5	16.1	21.3
22 to 24	11.0	20.3	11.5	19.8
(Average age)	18.9	19.6***	18.9	19.7***
Race/Ethnicity				
White, non-Hispanic	24.1	24.8***	24.3	22.7*
Black, non-Hispanic	54.8	50.8	55.6	54.4
Hispanic	16.7	15.0	15.7	14.6
American Indian or Alaskan Native	2.3	3.4	2.0	3.7
Asian or Pacific Islander	2.1	6.0	2.4	4.6
Job Corps Region of Residence				
1	5.4	5.7	5.3	6.3**
2	9.2	10.5	9.0	5.8
3	14.7	10.8	13.7	14.3
4	21.5	19.1	22.3	22.1
5	9.7	10.4	9.6	16.5
6	13.2	17.2	14.3	10.4
7/8	11.0	13.1	11.9	10.2
9	10.3	9.6	9.2	8.4
10	5.1	3.7	4.6	5.9
Size of City of Residence				
Less than 2,500	5.4	5.6	5.4	4.7
2,500 to 10,000	7.2	5.4	8.0	5.7
10,000 to 50,000	15.1	14.4	15.7	17.5
50,000 to 250,000	18.1	16.8	18.3	19.6
250,000 or more	54.1	57.8	52.6	52.5
PMSA or MSA Residence Status				
In PMSA	44.0	49.1	45.1	43.9
In MSA	43.1	40.1	41.6	45.4
In neither	12.9	10.8	13.3	10.8
Type of Area				
Superdense	49.9	49.6	51.4	48.1
Dense	26.7	26.1	25.3	27.8
Nondense	23.4	24.3	23.4	24.1
In 57 Areas Sending the Largest Number of Nonresidential Females to Job Corps	40.1	40.4	37.3	39.0
Legal Resident	98.8	99.1	98.5	98.9
Needs Bilingual Program in Job Corps	4.2	8.0***	3.9	7.7***

TABLE D.2 *(continued)*

	Control Group		Program Research Group	
	Respondents	Nonrespondents	Respondents	Nonrespondents
Job Corps Application Date				
11/94 to 2/95	22.0	18.4*	23.2	15.5**
3/95 to 6/95	30.0	28.6	28.7	33.0
7/95 to 9/95	28.4	26.6	27.8	31.4
10/95 to 12/95	19.6	26.4	20.3	20.1
Fertility and Household Composition				
Has Dependents	16.9	16.7	15.1	14.4
Family Status				
Family head	14.2	15.5***	13.6	19.5***
Family member	61.8	49.1	61.5	47.1
Unrelated individual	24.0	35.5	24.8	33.3
Average Family Size	3.2	2.6***	3.2	2.7***
Education				
Highest Grade Completed				
Below 9	14.4	12.0	15.4	13.4
9 to 11	63.7	68.7	63.7	63.9
12	21.2	18.7	20.1	22.4
Above 12	0.8	0.6	0.8	0.4
(Average grade)	10.1	10.1	10.0	10.1
Welfare Dependence				
Type of Welfare Received				
AFDC	28.1	27.3	28.0	27.8
Other types	14.5	16.5	15.3	14.3
None	57.4	56.2	56.7	57.9
Health				
Ever Had Any Serious Illnesses or Injuries	2.1	5.0***	2.9	3.7
Have Any Health Conditions That Are Being Treated	3.1	4.6	3.5	3.5
Crime				
Arrested in Past Three Years, Other than for Minor Traffic Violations	11.5	15.2*	11.5	14.7
Ever Convicted or Adjudged Delinquent	5.4	11.0***	5.7	7.2

TABLE D.2 *(continued)*

	Control Group		Program Research Group	
	Respondents	Nonrespondents	Respondents	Nonrespondents
Anticipated Program Enrollment Information				
Designated for a Nonresidential Slot	19.9	15.2*	14.8	13.5
Designated for a CCC Center[a]	12.4	12.1	12.7	14.3
Designated for a Low or Medium Low Performing Center[a]	53.3	56.2	53.4	51.9
Designated for a Small or Medium Small Center[a]	63.3	59.4	62.4	65.6
Sample Size	**4,037**	**249**	**5,989**	**265**

SOURCE: Data From ETA-652 and ETA-652 Supplemental forms.

NOTE: The figures are calculated using only those sample members who lived in areas selected for in-person interviewing when they applied to Job Corps.

[a] Figures are obtained using data on OA counselor projections about the centers that youths were likely to attend.

*Difference between distributions for respondents and nonrespondents is significantly different from zero at the .10 level, two-tailed test.
**Difference between distributions for respondents and nonrespondents is significantly different from zero at the .05 level, two-tailed test.
***Difference between distributions for respondents and nonrespondents is significantly different from zero at the .01 level, two-tailed test.

differences in our findings by research status. The parameter estimates from the multivariate logit models yield similar results (not shown).[4]

Because the differences between the characteristics of respondents and nonrespondents are not large and do not differ by research status, we did not adjust for the effects of nonresponse in the final tabulations using baseline interview data. We did conduct the analysis, however, using adjusted weights to test the sensitivity of our estimates. The original weights were adjusted so that the weighted characteristics of interview respondents were similar, on average, to those of the full population of respondents and nonrespondents.[5] We found that the tabulations using the adjusted and unadjusted weights were almost identical. This occurred because response rates to the baseline interview were high so that adjusting for nonresponse had only a small effect on the overall estimates. In addition, the adjustments to the original sample weights were small, because our model could not accurately distinguish between respondents and nonrespondents on the basis of available youth characteristics.[6]

There are also some differences between the characteristics of respondents who completed the baseline interview within 45 days after random assignment and respondents who completed the interview during the post-45-day period, and the patterns are similar for program and control group

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[4]The explanatory variables in the logit models are jointly statistically significant at the 1 percent level of significance for both program and control group members. This result, however, is caused by the statistical significance of a small subset of variables.

[5]The basic procedure we used for constructing these weights was to (1) create a predicted probability (propensity score) for each respondent and nonrespondent using estimates from the "best" logit model (which included only variables with predictive power), (2) divide the youths into six groups on the basis of the size of their predicted probabilities, and (3) calculate the (weighted) interview response rate in each group. The adjusted weight for a youth was then constructed to be inversely proportional to the product of the original weight and the response rate in that youth's group.

[6]For example, the response rate in the group with the lowest propensity scores (that is, the group with the lowest probabilities of being interview respondents) was nearly 90 percent.

members (see Table D.3). For example, there is some evidence that older sample members, those who lived in rural areas, those who needed a bilingual program, Asians, and those who lived in smaller households were more likely than their counterparts to be in the post-45-day sample. However, there are few other differences between the two groups.

While there is some evidence that the characteristics of interview nonrespondents are more similar to those of the post-45-day respondents than to those of within-45-day respondents, the differences between the three groups are not large. Consequently, our weights using baseline interview data are constructed under the assumption that interview nonrespondents are split proportionally among the two respondent groups.

C. CONSTRUCTION OF STANDARD ERRORS

The standard errors of estimates using program intake data are straightforward to calculate, although they need to account for design effects due to unequal weighting of the sample. The standard errors of estimates using baseline interview data, however, are much more complicated to calculate, because they must also account for design effects due to the clustered post-45-day sample caused by the random selection of areas for post-45-day interviewing.

In this three-part section, we discuss how we calculated standard errors for estimates based on baseline interview data. In the first section, we discuss how we estimated standard errors for a variable mean. Second, we discuss how we estimated standard errors for the difference of means across two groups. These standard errors were used to conduct t-tests to test the hypothesis that the group means are equal. Finally, we discuss how we conducted chi-squared tests to compare distributions of categorical variables across two groups.

TABLE D.3

COMPARISON OF THE CHARACTERISTICS OF BASELINE INTERVIEW RESPONDENTS WHO COMPLETED THE INTERVIEW WITHIN AND AFTER 45 DAYS AFTER RANDOM ASSIGNMENT, BY RESEARCH STATUS
(Percentages)

	Control Group		Program Research Group	
	Within-45-Day Respondents	Post-45-Day Respondents	Within-45-Day Respondents	Post-45-Day Respondents
Demographics				
Male	57.8	64.3*	58.2	58.5
Age at Application				
16 to 17	40.7	34.8	40.7	33.1***
18 to 19	31.6	35.1	32.3	33.0
20 to 21	16.9	17.8	16.0	16.5
22 to 24	10.8	12.3	11.0	17.4
(Average age)	18.9	19.2	18.9	19.3***
Race/Ethnicity				
White, non-Hispanic	24.4	23.1***	24.5	27.4***
Black, non-Hispanic	54.6	53.5	55.8	47.5
Hispanic	16.9	13.8	15.7	15.4
American Indian or Alaskan Native	2.3	4.3	2.0	3.1
Asian or Pacific Islander	1.8	5.4	2.0	6.6
Job Corps Region of Residence				
1	5.5	5.0**	5.4	4.4***
2	9.5	3.2	9.1	5.1
3	14.9	9.6	14.1	7.1
4	21.5	26.6	22.4	24.4
5	9.5	12.1	9.3	14.1
6	13.1	13.5	14.2	15.6
7/8	10.7	13.1	11.9	12.7
9	10.1	11.8	9.1	9.7
10	5.2	5.2	4.6	6.9
Size of City of Residence				
Less than 2,500	5.6	4.1***	5.4	7.5***
2,500 to 10,000	7.2	10.9	8.2	8.0
10,000 to 50,000	15.1	17.0	15.6	22.6
50,000 to 250,000	17.7	27.0	18.6	14.4
250,000 or more	54.4	41.1	52.2	47.5
PMSA or MSA Residence Status				
In PMSA	44.2	29.8***	45.1	33.9***
In MSA	42.6	54.4	41.4	47.9
In neither	13.2	15.8	13.5	18.2
Type of Area				
Superdense	49.4	39.5***	51.1	36.9***
Dense	27.1	23.4	25.3	26.8
Nondense	23.5	37.0	23.6	36.3

TABLE D.3 *(continued)*

	Control Group		Program Research Group	
	Within-45-Day Respondents	Post-45-Day Respondents	Within-45-Day Respondents	Post-45-Day Respondents
In 57 Areas Sending the Largest Number of Nonresidential Females to Job Corps	40.2	31.1***	37.3	30.4***
Legal Resident	98.8	99.5	98.5	98.8
Needs Bilingual Program in Job Corps	3.8	9.4***	3.5	9.4***
Job Corps Application Date				
11/94 to 2/95	22.1	21.1	23.6	16.3***
3/95 to 6/95	30.0	31.3	28.5	32.0
7/95 to 9/95	28.2	29.8	27.4	34.8
10/95 to 12/95	19.6	17.8	20.6	17.0
Fertility and Household Composition				
Has Dependents	16.8	16.0	15.0	15.8
Family Status				
Family head	14.0	16.6**	13.6	14.3***
Family member	62.3	52.6	62.0	53.5
Unrelated individual	23.6	30.8	24.4	32.3
Average Family Size	3.2	2.9**	3.2	3.1
Education				
Highest Grade Completed				
Below 9	14.5	10.9	15.5	12.5
9 to 11	63.6	65.4	63.7	65.1
12	21.1	22.9	20.0	21.5
Above 12	0.7	0.7	0.8	1.0
(Average grade)	10.1	10.2	10.0	10.2*
Welfare Dependence				
Type of Welfare Received				
AFDC	28.0	26.7	28.0	26.4
Other types	14.7	15.0	15.2	17.6
None	57.4	58.3	56.8	56.0
Health				
Ever Had Any Serious Illnesses or Injuries	2.1	2.1	2.9	3.0
Have Any Health Conditions That Are Being Treated	3.0	2.8	3.5	4.6

TABLE D.3 *(continued)*

	Control Group		Program Research Group	
	Within-45-Day Respondents	Post-45-Day Respondents	Within-45-Day Respondents	Post-45-Day Respondents
Crime				
Arrested in Past Three Years, Other than for Minor Traffic Violations	11.3	13.4	11.5	11.5
Ever Convicted or Adjudged Delinquent	5.4	5.7	5.6	6.5
Anticipated Program Enrollment Information				
Designated for Nonresidential Slot	20.2	11.1***	14.7	13.7
Designated for a CCC Center[a]	12.6	14.5	62.6	61.5
Designated for a Low or Medium Low Performing Center[a]	53.2	54.0	53.6	51.4
Designated for Small or Medium Small Center[a]	63.6	60.6	53.6	51.4
Sample Size	**3,785**	**252**	**5,579**	**410**

SOURCE: Data from ETA-652 and ETA-652 Supplemental forms.

NOTE: The figures are calculated using only those sample members who lived in areas selected for in-person interviewing when they applied to Job Corps.

[a] Figures are obtained using data on OA counselor projections about the centers that youths were likely to attend.

*Difference between distributions for within-45 and post-45 day respondents is significantly different from zero at the .10 level, two-tailed test.

**Difference between distributions for within-45 and post-45 day respondents is significantly different from zero at the .05 level, two-tailed test.

***Difference between distributions for within-45 and post-45 day respondents is significantly different from zero at the .01 level, two-tailed test.

1. Standard Error of a Variable Mean

The variance of a mean measure can be written using equation (1) as follows:

$$(2) \qquad var(\bar{y}) = J^2 var(\bar{y}_1) + (1-J)^2 [2_s^2 var(\bar{y}_{2s}) + 2_d^2 var(\bar{y}_{2d}) + 2_n^2 var(\bar{y}_{2n})] .$$

Next, we discuss the calculation of each of the variance components in equation (2).

The sample that completed baseline interviews within 45 days after random assignment is a random sample. Hence, the variance of a mean measure for the within-45-day sample (the first variance component) can be written as follows:

$$(3) \qquad var(\bar{y}_1) = (1-g) deffw_1 \frac{F_1^2}{n_1} ,$$

where:

- F_1^2 = variance of the measure in the within-45-day population
- g = proportion of the population that is sampled (which is assumed in all analyses to be the average sampling rates to the research sample--7.4 percent for control group members and 11.6 percent for program group members)
- n_1 = within-45-day sample size
- $deffw_1$ = design effect due to unequal sample design weights (w) (which equals $n_1 3w^2/(3w)^2$, and that is due to the fact that various population subgroups had different probabilities of being selected to the research sample)

An unbiased estimate of the unknown F_1^2 is calculated in the usual way, and the estimate is inserted in place of F_1^2 in equation (3).

The variance of a mean measure for the post-45-day sample in superdense areas--that is, $var(\bar{y}_{2s})$--is calculated in a similar way, because all 16 superdense areas were selected as in-person areas.

The post-45-day samples in dense and nondense areas, however, are clustered samples, because subsamples of these areas were selected for baseline followup after the 45-day period. The variance of the mean measure for the post-45-day sample in dense areas can be written as follows:

$$(4) \quad var(\bar{y}_{2d}) \;'\; deffw_{2d}\left[(1\&g)\frac{(1\&D_{2d})F_{2d}^2}{n_{2d}a_d} \;\%\; (1\&f_d)\frac{D_{2d}F_{2d}^2}{a_d}\right],$$

where:

F_{2d}^2	=	variance of the measure in dense areas in the post-45-day population
D_{2d}	=	proportion of the total variance that is between-area variance
f_d	=	proportion of the 29 dense areas selected for post-45-day baseline follow-up (18/29)
n_{2d}	=	average post-45-day sample size in the dense areas
a_d	=	number of dense areas selected for post-45-day baseline followup
$deffw_{2d}$	=	design effect due to unequal sample design weights

and where g is defined as in equation (3). The variance of a mean measure for the post-45-day sample in nondense areas is computed similarly.[7,8]

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[7]Equation (4) corresponds to the variance of a mean under a design where subsampling occurs with units of equal size. This is a good approximation for the Job Corps design, because dense areas were constructed to have similar numbers of eligible Job Corps applicants, and similarly for nondense and superdense areas. The mean number of youths in our sample frame per dense area was 788, the median number was 775, and the 25th and 75th percentiles were 640 and 911, respectively. The mean number of youths in our sample frame per nondense area was 403, the median number was

(continued...)

In equation (4), the first term inside the brackets signifies the variance of the measure across youths within areas, while the second term inside the brackets signifies the variance of the mean measure across areas. If the mean measure varies little across areas (that is, if D is small), then the design effect due to clustering is small. On the other hand, if the proportion of the total variance that is between-area variance is large, then the design effect due to clustering is large. This can be seen by noting that the design effect due to clustering can be estimated by dividing the bracketed term in equation (4) by the variance of the mean measure for a random sample of the same size, which yields the following expression:

$$(5) \quad deff_{clus} = 1 + D\left[\frac{(1-f)}{(1-g)}n - 1\right],$$

where subscripts are dropped for notational simplicity. Hence, there is a one-to-one correspondence between the design effect and D for given sample sizes.

An unbiased estimate of the variance expression in equation (4) is as follows:

$$(6) \quad \hat{var}(\bar{y}) = deff_{w}\left[(1-f)\frac{s_b^2}{a} + f(1-g)\frac{s_w^2}{na}\right],$$

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[7](...continued)
403, and the 25th and 75th percentiles were 309 and 477. Because the sample sizes did not differ significantly across the dense areas and the nondense areas, we did not adjust the weights using poststratification procedures or assume that subsampling occurred with units of unequal size.

[8]Equation (4) is an approximation because the actual variance of the mean is a weighted average of the clustered variances *across the control (program research) group sampling strata*, where the weight in each stratum is the squared percentage of those in the sample universe in that stratum. We use equation (4) because there are only a very small number of post-45-day youths in most of the sampling strata.

where s_b^2 is the sample variance of the mean measure between areas, s_w^2 is the (average) sample variance of the measure across youths within areas, and other subscripts are omitted for notational simplicity.[9]

A problem with using equation (6), however, is that the response rate to the baseline interview was extremely high within the first 45 days after random assignment (89 percent) and only an additional 6 percent of the research sample in the in-person areas completed baseline interviews in the post-45-day period. Hence, the post-45-day sample is small. The sample contains only 149 sample members (97 program research and 52 control group members) who lived in the 18 selected dense areas and 138 sample members (83 program and 55 control groups members) who lived in the 29 selected nondense areas. Hence, there are very few sample members in most of the selected dense and nondense areas, and there are none in several areas. Thus, the between-area and within-area variance estimates in the dense and nondense areas (that is, s_b^2 and s_w^2) would be imprecise if the post-45-day sample were used in the calculations.

To address this problem, we calculated the variance of a mean measure in the dense (and nondense) areas using the following two steps:

1. We estimated s_b^2 and s_w^2 in dense (nondense) areas using both the *within-45-day and post-45-day* samples who lived in the selected dense (nondense) areas.

2. Using the estimated variances in step (1), we calculated equation (6) using *post-45-day* sample sizes.

This procedure assumes that the between-area and within-area variance estimates are similar for the within-45-day and post-45-day populations. This assumption cannot be reliably tested, because of small post-45-day sample sizes. However, we believe that it is sufficiently accurate and that our

[9]The design effect (and, consequently, D) can be estimated by dividing equation (6) by an unbiased estimate of the variance of a simple random sample of the same size (that is, of *na* youths).

procedure will yield more reliable variance estimates than those that would be obtained using only the post-45-day samples in the calculations.

An estimate of the total variance of a mean measure (that is, of the expression in equation (2)) can then be calculated using the estimated variances for the within-45-day and post-45-day samples. Design effects are estimated by dividing this total variance estimate by an unbiased estimate of the variance of a simple random sample of the same size.

The total design effect for most measures based on the full baseline interview sample is about 1.07. Consequently, the standard errors of the measures are about 3.4 percent larger than those produced using standard statistical software.[10]

2. Standard Error of Differences in Two Means

In this report and the companion reports, we conducted several analyses where variable means based on baseline interview data were compared across two groups. For example, in Appendix B of this report, we compared the average characteristics of program and control group members. This section discusses how we obtained standard errors for these types of analyses. The approach we use to obtain standard errors for differences in mean measures is an extension of the approach we used in the previous section to obtain standard errors for variable means.

The variance of a difference in a mean measure can be written as follows:

$$(7) \quad var(\bar{I}) = J^2 var(\bar{I}_1) + (1-J)^2 [2_s^2 var(\bar{I}_{2s}) + 2_d^2 var(\bar{I}_{2d}) + 2_n^2 var(\bar{I}_{2n})],$$

[10]The design effect due to unequal baseline interview weights is 1.057. The design effect due to unequal sample design weights is 1.03.

where $\bar{I}$ represents the difference between the group means, and where the other parameters and subscripts were defined in the previous section.

Because these two samples are independent, the variance of the difference in means in the within-45-day sample is simply the sum of the variances of each of the group means. Thus, equation (3) applied separately to each of the two groups can be used to estimate this variance component. The same procedure can be used also to estimate the variance of the difference in means in the superdense areas.

The two samples in the post-45-day sample in dense or nondense areas, however, may not be independent, because these samples were selected from the *same* areas. For example, the average characteristics of program research and control group members who live in the same areas may be correlated, because they face similar local economic conditions and because individuals with similar characteristics tend to cluster in the same geographic areas. Thus, the average measures for the two groups in the same area may be correlated.

The variance of the difference in means in dense or nondense areas can be written as follows:

$$(8) \quad var(\bar{I}_2) \;'\; \left[F^2_{2w} \left[\frac{(1-g_c)}{n_{2c}a} + \frac{(1-g_p)}{n_{2p}a} \right] + \frac{(1-f)F^2_{2b}}{a} \right] deff_{2w} \;,$$

where the subscripts *c* and *p* refer to the two groups (for example, the control and program research groups) $deff_{2w}$ is the design effect due to unequal weighting, and where the subscripts denoting dense or nondense areas have been dropped for notational simplicity.

The term F^2_{2b} in equation (8) represents the variance of $\bar{I}$ across areas. In other words, it represents the *extent to which the differences in means vary across areas.* The term captures both the between-area variance in the mean measure as well as the correlation of the group means within areas. The term F^2_{2w} represents the variance of the measure within areas.

An unbiased estimate of the variance expression in equation (8) is as follows:

$$(9) \quad \hat{var}(\bar{I}) = \left[(1-f)\frac{s_b^2}{a} + s_w^2 \left[\frac{f(1-g_c)}{n_c a} + \frac{f(1-g_p)}{n_p a} \right] \right] deff_{2w}$$

where s_b^2 is the sample variance of the difference in the group means between areas, s_w^2 is the (average) sample variance of the measure across youths within areas, and other subscripts are omitted for notational simplicity.

As described in the previous section, it is problematic to estimate the sample variance terms using post-45-day sample members only because of small sample sizes. Thus, we use the *full* within-45-day and post-45-day samples in the selected dense or nondense areas to calculate s_b^2 and s_w^2. We then calculate equation (9) *using post-45 day sample sizes*, and calculate design effects by dividing the estimated variance by an estimate of the variance of the difference between the two means, assuming a simple random sample design.

The design effect for measuring differences in the distributions of the characteristics of control group and program group members is about 1.02. These design effects are small because the differences between the group means is close to zero in all areas. Thus, the design effect for the clustered portion of the sample is less than 1 for most measures.

3. Comparison of the Distributions of Categorical Variables Across Two Groups

In this report and the companion reports, we used a modified chi-squared statistic to test whether the distribution of a categorical variable differs across two groups. This test statistic was constructed by dividing the usual chi-squared statistic (appropriately weighted) by the average design effect across each level of the categorical variable (Scott and Rao 1981). This average design effect was

calculated in two steps. First, we calculated the design effect for comparing the difference between group proportions for *each level* of the categorical variable. The methods from the previous section were used to calculate these design effects. Second, we took a weighted average of these design effects.

Formally, we used the following equations to construct the chi-squared statistic:

$$P^2_{SR} = \frac{P^2_w}{\bar{d}} \tag{10}$$

$$P^2_w = \sum_{i=1}^{2} \sum_{j=1}^{J} \frac{(n_i p_{ij} - n_i p_{.j})^2}{n_i p_{.j}} \tag{11}$$

$$p_{.j} = \frac{n_1 p_{1j} + n_2 p_{2j}}{n_1 + n_2}, \tag{12}$$

$$\bar{d} = \frac{1}{(J-1)} \sum_{j=1}^{J} (1-p_{.j}) d_j \ , \tag{13}$$

where p_{ij} is the proportion of youths in group I who are in category j, n_i is the number of youths in group I, $p_{.j}$ is the proportion of the study population in category j, and d_j is the design effect for category j as described above. Under the null hypothesis of no difference between group distributions, the chi squared statistic is distributed chi-squared with (J-1) degrees of freedom.

The modified chi-squared test statistic is intuitive. The statistic decreases as the average design effect increases. Thus, the hypothesis of no difference between group proportions is rejected less often as the average design effect (that is, the average variance across the categories) increases.

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Scott, A.J., and J.N.K. Rao. "Chi-Squared Tests for Contingency Tables with Proportions Estimated from Survey Data." In *Current Topics in Survey Sampling*, edited by D. Krewski, R. Platek, and J.N.K. Rao. New York: Academic Press, 1981.

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NATIONAL JOB CORPS STUDY AGREEMENT TO PARTICIPATE

We want to know about your experiences with the Job Corps Program. The U.S. Department of Labor has asked Mathematica Policy Research, Inc.(MPR) to find out if Job Corps helps young people find and hold good jobs. Over the next few years they will be studying the program and looking at students' experiences before, during, and after being part of the program. The purpose of this form is to ask your permission to be part of the study.

By signing this AGREEMENT, you understand that:

- Everyone who applies to Job Corps must agree to be part of the study. *If you are eligible for Job Corps, a lottery or chance drawing will decide whether or not you will be selected to enter Job Corps.* About nine out of every ten eligible applicants will be selected to enter Job Corps.
- If you are *not* selected for Job Corps, it means you have been selected for a separate group, called a "control" group.
- If you are picked by chance for the control group, you will not be allowed to enroll in Job Corps for three years.

In addition:

- MPR may ask to interview you soon after you apply to Job Corps and three more times in the next four years. This is voluntary. You can decide not to be interviewed at any time. This will not affect your participation in Job Corps.
- Information gathered by MPR from interviewing you will be kept strictly confidential, unless the law requires or you ask otherwise in writing.
- All information from interviews with you for the National Job Corps Study will be used by Mathematica Policy Research, Inc., or other research organizations for the purposes of the study only. All information will be strictly confidential. The information will be reported in a manner in which you will not be identified.

I have read (or have had read to me) and understand this AGREEMENT, and I agree to be part of the study.

_____	_____	_____
Applicant Name Printed	Applicant Signature	Date
_____	_____	
Applicant Date of Birth	Person Administering Form	

IF APPLICANT IS UNDER 18 YEARS OF AGE:

_____	_____	_____
Parent or Guardian Name Printed	Parent or Guardian Signature	Date

CONSENT FOR RECORDS RELEASE

As part of the National Job Corps Study, I give permission:

For the study team to gather and use information about me from records of public programs such as Aid to Families with Dependent Children (AFDC), public assistance, Food Stamps, the Unemployment Insurance program, and criminal justice system records. These include arrest and conviction records, court records, and juvenile arrest and conviction records. This permission covers the period beginning one year before and ending seven years after the date I sign this form.

I understand that all information gathered through the use of this form for the National Job Corps Study will be used by Mathematica Policy Research, Inc. or other research organizations for the purposes of this study only. All information will be strictly confidential, unless the law requires or I request otherwise in writing. I give permission for information about me, as described above, to be used for the National Job Corps Study.

_____	_____
Applicant Name Printed	Applicant Signature
_____	_____
Date	Person Administering Form

IF APPLICANT IS UNDER 18 YEARS OF AGE:

_____	_____	_____
Parent or Guardian Name Printed	Parent or Guardian Signature	Date

OMB # 1205-0351 Expires: October 31, 1996

Job Corps Data Sheet

U.S. Department of Labor

Employment and Training Administration

Recruited by	Telephone No.	OMB Approval No: 1205-0025 Expiration Date: 09/30/94

1. Type of Application: ☐ New ☐ Readmit
2. Applicant's Name *(Last, First, M.I.)*
3. Soc. Sec. No. or Tin
4. Street Address or RFD
5. City
6A. State Abbr.
6B. ZIP Code
7. Alternate Contact
8. Date of Birth — Month / Day / Year
9. Sex ☐ Male ☐ Female
10. Race-Ethnic Group ☐ White ☐ Black ☐ Hispanic ☐ American Indian or Alaskan Native ☐ Asian or Pacific Islander
11. Legal U.S. Resident ☐ Yes ☐ No — Alien Registration Number
12. Date of Interview — Month / Day / Year
13. Size of Place ☐ Under 2,500 ☐ 2,500 - 9,000 ☐ 10,000 - 50,000 ☐ 50,000 - 250,000 ☐ Over 250,000
14. Mos. Out-of-School
15. Highest Grade Completed
16. No. Wks. Since Employed Full Time
17. Earnings Per Hour $.
18. Family Receiving Public Assistance ☐ Yes ☐ No ☐ Yes
19A. No. of Dependents
19B. Childcare Plan ☐ Yes ☐ No
20. Family Status ☐ Family Head ☐ Family Member ☐ Unrelated Individual
21. NC. In Family
22. Estimated Annual Income $.
23. Military Service Prior to Enrollment in Job Corps ☐ Yes ☐ No

24. Have you ever been convicted or adjudged delinquent in any offenses against persons or property; such as, assault and battery, robbery, arson, burglary or homicide ☐ Yes ☐ No

25. Health Questions

a. Have you had any serious illnesses/injuries in your life? ☐ Yes ☐ No

b. Have you been under the care of any physical or mental health care provider (e.g., physician, chiropractor, mental health clinic) in the last year? ☐ Yes ☐ No

c. Do you have any health condition(s) that you are being treated for or that you know of at this time? ☐ Yes ☐ No

c. Are you or your family covered by any health insurance or eligible for Medicaid at the present time? ☐ Yes ☐ No

If "Yes" is checked for item "d" above, complete 1, 2, and 3
1. Name of Company
2. Policy No.
3. State

Any "YES" answers to questions a, b, or c, item 25, complete ETA Form 653, Job Corps Health Questionnaire.

26. Consent Record
a. Name of Applicant *(Print)*
b. Date
c. Telephone Contact for Applicant ( )

I (We), the undersigned, hereby CERTIFY all of the above information on this application to be accurate.

I (We) hereby consent to the enrollment of the above-named individual into Job Corps.

I (We) further AUTHORIZE all routine and customary physical examinations, dental work, surgical and other treatment as required by Job Corps regulations, as well as the collection of information such as education and medical records.

I (We) UNDERSTAND that any false statement or dishonest answers will be grounds for the dismissal of the above named individual and may be punishable by law.

I (We) have been SUPPLIED with a personal copy of the Job Corps Privacy Act of 1974. I (We) have READ the statement and UNDERSTAND its contents.

I (We) UNDERSTAND that failure to stay in Job Corps for more than 180 paid days may mean loss of the readjustment allowance.

I (We) UNDERSTAND that the Job Corps program offers a total educational and vocational program in residential sections, and after having explained to me (us) other employment and training programs available in my (our) community, I (We) am (are) CONVINCED that the Job Corps will best meet the needs of the above named individual.

I (We) have been PROVIDED with a copy of Your Guide to Job Corps and a list of all Job Corps vocational offerings, have had the contents of both documents explained by the screener and all of my (our) questions have been answered.

Signature of Parent/Legal Guardian | Signature of Applicant | Date

27. ELIGIBILITY FACTORS
☐ Disruptive home life
☐ Unsafe, unhealthy overcrowded dwelling
☐ Limited Job opportunities
☐ Disruptive neighborhood or community characterized by high crime rates
☐ Cultural Deprivation

28. APPLICANT NEEDS BI-LINGUAL PROGRAM
☐ Yes (Span/Eng)
☐ No
☐ Yes (Other)

29A. Is applicant eligible to make an allotment? ☐ Yes ☐ No

29B. Amount $ 0.00

30. VERIFICATION
☐ Age
☐ Juvenile Court Record
☐ School Status
☐ Public Asst.
☐ Capacity to Participate in Job Corps Program
☐ Adult Court Record

31. ELIGIBILITY STATUS
☐ Eligible for Referral ☐ Waiver Request for Criterion ☐ Not Eligible ☐ Medical ☐ Behavior ☐ Mental Health

32. REMARKS *(If additional space is needed, use separate sheet.)*

33. CERTIFICATION: *I CERTIFY that the information entered on this application is true and correct to the best of my knowledge.*

SCREENER'S NAME (Print)	SIGNATURE OF SCREENER	DATE

34. NAME AND ADDRESS OF SCREENING AGENCY (St., City, State, ZIP Code)
OFFICE ID NO.
AREA CODE AND TELE. NO. ( )

REG. OFC. USE ONLY	35. BEHAVIOR REVIEW	36. MEDICAL REVIEW	37. MENTAL HEALTH REVIEW	JOB CORPS CENTER USE ONLY	38. LOCATOR CODE	39. READING SCORE
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

DO NOT SEND THE COMPLETED FORM TO EITHER OF THESE OFFICES

ETA 6-52 July 1990

NATIONAL JOB CORPS STUDY SUPPLEMENT TO ETA-652 FORM

APPLICANT INFORMATION

1. APPLICANT'S NAME (LAST, FIRST, MIDDLE)

2. SOCIAL SECURITY NUMBER (IF NONE, WRITE "NONE")

|___|___|___| |___|___| |___|___|___|___|

3. LIKELY RESIDENTIAL STATUS
1 ☐ Residential
2 ☐ Nonresidential

4. ESTIMATED TIME FROM APPLICATION INTERVIEW UNTIL ARRIVAL AT CENTER

|___|___|___| DAYS

5. LIKELY CENTER TYPE
1 ☐ Contract
2 ☐ CCC

6. NAME OF LIKELY CENTER

7. HAS APPLICANT BEEN ARRESTED IN THE PAST THREE YEARS, OTHER THAN FOR MINOR TRAFFIC VIOLATIONS? (SELF-REPORTED; ANSWER NOT SUBJECT TO VERIFICATION)

1 ☐ Yes)
0 ☐ No

Number of Arrests . . . . . |___|___|
Number of Probations . . . . . |___|___|
Number of Incarcerations . . . . . |___|___|

8. RELATIVE TO OTHER APPLICANTS YOU HAVE INTERVIEWED, HOW LIKELY DO YOU THINK IT IS THAT THIS APPLICANT WILL ACTUALLY ARRIVE AND ENROLL AT A CENTER?

1 ☐ Very likely
2 ☐ Somewhat likely
3 ☐ Somewhat unlikely
4 ☐ Very unlikely

CONTACT INFORMATION

MOTHER OR FEMALE GUARDIAN

NAME AND ADDRESS

Last First Middle

Number Street Apt. No.

City State Zip Code

TELEPHONE: Home ( ) -
Area Code Number

Work ( ) -
Area Code Number

FATHER OR MALE GUARDIAN: If same as mother's or female guardian's address, record name and write SAME under address.

NAME AND ADDRESS

Last First Middle

Number Street Apt. No.

City State Zip Code

TELEPHONE: Home ( ) -
Area Code Number

Work ( ) -
Area Code Number

GRANDPARENT OR OTHER RELATIVE

NAME AND ADDRESS

Last First Middle

Number Street Apt. No.

City State Zip Code

Relationship to Applicant:

TELEPHONE: Home ( ) -
Area Code Number

Work ( ) -
Area Code Number

OTHER RELATIVE OR FRIEND

NAME AND ADDRESS

Last First Middle

Number Street Apt. No.

City State Zip Code

Relationship to Applicant:

TELEPHONE: Home ( ) -
Area Code Number

Work ( ) -
Area Code Number

Screener's Name *(Print)*

Screener's Signature

____ / ____ / ____
MM DD YY
(Date)

APPLICANT'S RESEARCH STATUS (CHECK APPROPRIATE BOX AND INITIAL UPON RECEIVING STATUS FROM MPR)

APPLICANT ASSIGNED TO: *(Check One Only)* ☐ Control Group ☐ Program Group Initials: _____

OMB # 1205-0351 Expires: October 31, 1996