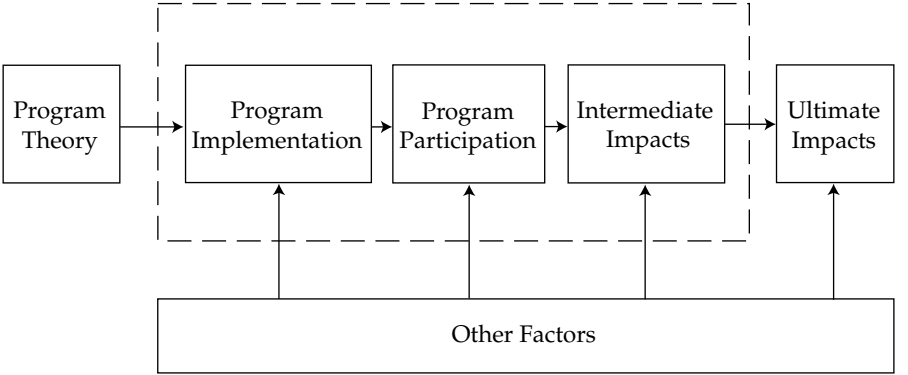
Figure 1.1 How Programs Create Impacts



Source: Author's compilation.

Table 2.1 Client Characteristics in the Multilevel Analysis

Client Characteristic (at Random Assignment)	Full Sample (Percentage)	Cross-Office Range (Percentage)
Was a high school graduate or had a GED	56	17 to 74
Had one child	42	30 to 56
Had two children	33	28 to 50
Had three or more children	25	11 to 39
Had a child under six years old	46	7 to 73
Was younger than twenty-five years old	19	1 to 42
Was twenty-five to thirty-four	49	23 to 57
Was thirty-five to forty-four	26	14 to 45
Was forty-five or older	6	2 to 34
Was white, non-Hispanic	41	1 to 87
Was black, non-Hispanic	41	0 to 98
Was Hispanic	14	0 to 92
Was Native American	2	0 to 21
Was Asian	2	0 to 23
Was some other race or ethnicity	<1	0 to 5
Was a welfare applicant	17	0 to 99
Had received welfare continuously for the past twelve months	44	0 to 96
Had no earnings in the past year	56	29 to 81
Had earned $1 to $2,499	21	10 to 30
Had earned $2,500 to $7,499	14	6 to 26
Had earned $7,500 or more	9	2 to 27
Sample size	69,399	

Source: Authors' calculations based on GAIN, PI, and NEWWS administrative records data and baseline survey data.

Table 2.2 Program Characteristics in the Multilevel Analysis

Program Characteristic	Mean	Cross-Office Range
Implementation		
Emphasis on quick job entry	0.0	–1.7 to 2.5
Emphasis on personalized attention	0.0	–2.0 to 2.3
Closeness of monitoring	0.0	–2.8 to 1.9
Staff caseload size	136	70 to 367
Staff disagreement	0.0	–2.1 to 4.5
Staff-supervisor disagreement	0.0	–1.5 to 3.2
Activity differential		
Basic education	11	–11 to 50
Job-search assistance	17	–13 to 47
Vocational training	5	–21 to 35
Economic environment		
Unemployment rate	7.4	3.5 to 14.3

Source: Authors' calculations based on GAIN, PI, and NEWWS staff survey data and follow-up survey data.

Table 2.3 Staff Survey Questions for the Program Implementation Scales

Scale and Questions	Response Scale		
Emphasis on moving clients into jobs quickly			
Based on the practices in your unit, what would you say is the more important goal of your unit: to help clients get jobs as quickly as possible or to raise the education or skill levels of clients so that they can get jobs in the future?	1 skills	. . . . .	7 jobs
In your opinion, which should be the more important goal of your unit: to help clients get jobs as quickly as possible or to raise the education or skill levels of clients so that they can get jobs in the future?	1 skills	. . . . .	7 jobs
After a short time in the program, an average welfare mother is offered a low-skill, low-paying job that would make her slightly better off financially. Assume she has two choices: either to take the job and leave welfare or to stay on welfare and wait for a better opportunity. If you were asked, what would your personal advice to this client be?	1 welfare	. . . . .	7 jobs
What advice would your supervisor want you to give to a client of this type?	1 welfare	. . . . .	7 jobs
Emphasis on personalized client attention			
In our program, there is more emphasis on the number of clients served than on the quality of services.	1 strongly agree	. . . . .	7 strongly disagree
Do you feel that in your unit not enough time or enough time is being spent with clients during the intake process?	1 not enough	. . . . .	7 enough

Table 2.3 *Continued*

Scale and Questions	Response Scale		
During intake, how much effort does the staff make to learn about the client's family problems in depth?	1 very little	. . . . .	7 a great deal
During intake, how much effort does the staff make to learn about the client's goals and motivation to work in depth?	1 very little	. . . . .	7 a great deal
In your opinion, how well is the program tailoring the educational, training, and work experience services that clients receive to their particular needs, circumstances, and goals?	1 very poorly	. . . . .	7 very well
Closeness of client monitoring			
How closely would you say the staff of your unit is monitoring clients?	1 not very	. . . . .	7 very
Suppose a client has been assigned to basic education but has not attended it at all. How long would it usually take for staff to learn about this situation from the service provider?	1 1 or fewer weeks	. . . . .	5 5 or more weeks
Suppose a client has been assigned to vocational education but has not attended it at all. How long would it usually take for staff to learn about this situation from the service provider?	1 1 or fewer weeks	. . . . .	5 5 or more weeks
Suppose a client has a part-time job that deferred her from other program obligations. How closely would you say your agency is monitoring whether clients quit or lose part-time jobs?	1 not very	. . . . .	7 very
Once your agency learned that a client lost or quit a part-time job, how long on average would it take before the client was assigned to another program component?	1 1 or fewer weeks	. . . . .	8 8 or more weeks

Source: GAIN, PI, and NEWWS staff surveys.

Table 2.4 Effects of Program Characteristics on Program Impacts

Program Characteristic	Regression Coefficient (Dollars)	Partially Standardized Regression Coefficient (Dollars)	Statistical Significance (p-value)	Standard Error (Dollars)	Conditional Impact Interval (Dollars)
Implementation					
Emphasis on quick job entry	720***	720***	0.000002	$134	$397 to 1,361
Emphasis on personalized attention	428***	428***	0.0002	107	592 to 1,166
Closeness of monitoring	–197	–197	0.110	121	1,011 to 747
Staff caseload size	–4***	–268***	0.003	1	1,058 to 700
Staff disagreement	124	124	0.141	83	796 to 962
Staff-supervisor disagreement	–159*	–159*	0.102	96	986 to 772
Activities					
Basic education	–16**	–208**	0.017	6	1,017 to 741
Job-search assistance	1	12	0.899	9	871 to 887
Vocational training	7	71	0.503	11	831 to 927
Economic environment					
Unemployment rate	–94***	–291***	0.004	30	1,074 to 684

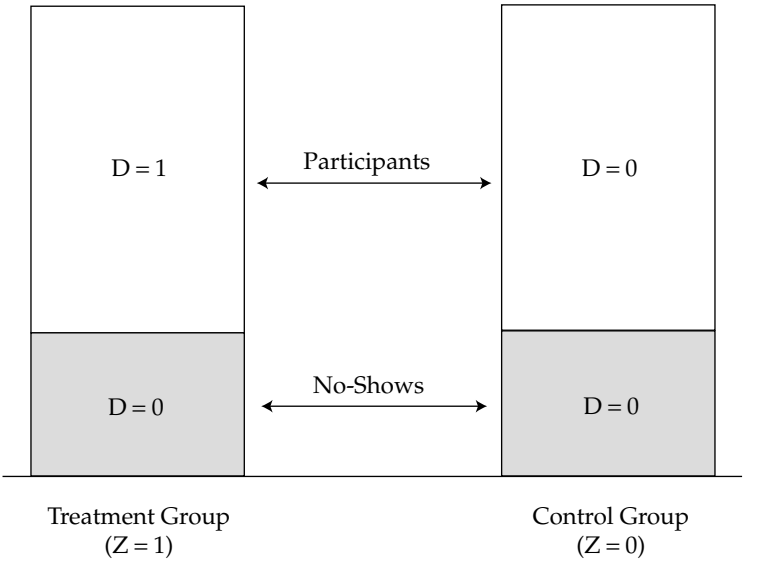
Source: Authors' calculations based on GAIN, PI, and NEWWS administrative records data, staff survey data, and follow-up survey data.
Notes: Regression coefficients are reported in 1996 dollars per unit change in each independent variable. Partially standardized regression coefficients are reported in 1996 dollars per standard deviation change in each independent variable. These coefficients are estimated simultaneously with those reported in table 2.5. The grand mean impact is $879, or 18 percent of the counterfactual. Two-tailed statistical significance is indicated as * for the 0.10 level, ** for the 0.05 level, and *** for the 0.01 level.

Table 2.5 Effects of Client Characteristics on Program Impacts

Client Characteristic at Random Assignment	Regression Coefficient (Dollars)	Statistical Significance (p-value)	Standard Error (Dollars)
Was a high school graduate or had a GED	653***	0.001	187
Had two children	301	0.160	214
Had three or more children	591***	0.003	199
Had a child under six years old	34	0.841	171
Was younger than twenty-five	206	0.557	351
Was twenty-five to thirty-four	105	0.707	281
Was thirty-five to forty-four	305	0.376	345
Was black, non-Hispanic	–178	0.369	199
Was Hispanic	–213	0.527	337
Was Native American	–696	0.115	442
Was Asian	353	0.560	606
Was some other race or ethnicity	726	0.487	1,044
Was a welfare applicant	–145	0.532	232
Had received welfare continuously for the past twelve months	444*	0.085	258
Had earned $1 to $2,499	–186	0.222	152
Had earned $2,500 to $7,499	72	0.787	267
Had earned $7,500 or more	22	0.965	501

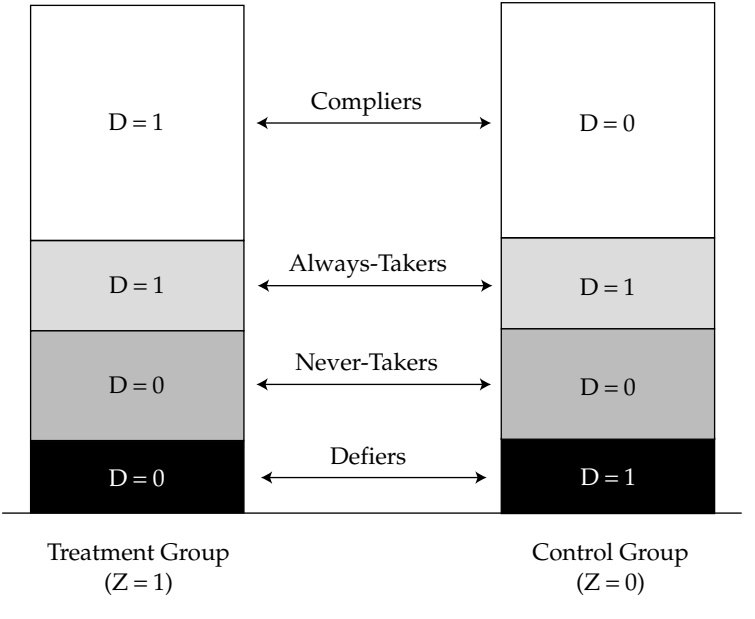
Source: Authors' calculations based on GAIN, PI, and NEWWS administrative records data and baseline survey data.
Notes: Each regression coefficient represents the change in mean impacts on earnings for the category specified, relative to the implied omitted category (and conditional on all other variables in the model). These coefficients are estimated simultaneously with those reported in table 2.4. The grand mean impact is $879, or 18 percent of the counterfactual. Two-tailed statistical significance is indicated as * for the 0.10 level, ** for the 0.05 level, and *** for the 0.01 level.

Figure 3.1 A Hypothetical Experiment Including No-Shows



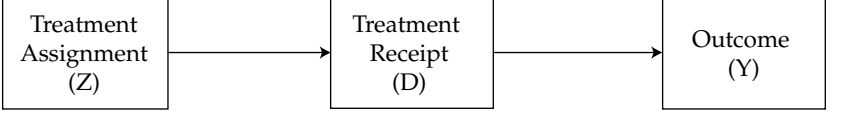
Source: Authors' compilation.
Note: D equals 1 if the treatment would be received and 0 otherwise.

Figure 3.2 A Hypothetical Experiment Including No-Shows and Crossovers



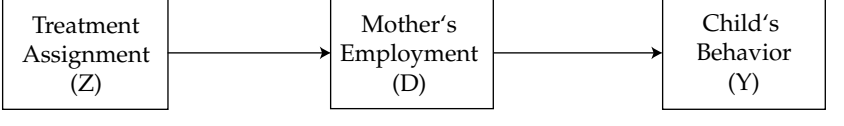
Source: Authors' compilation.
Note: D equals 1 if the treatment would be received and 0 otherwise.

Figure 3.3 A Causal Model Underlying an Instrumental-Variables Analysis with One Mediator



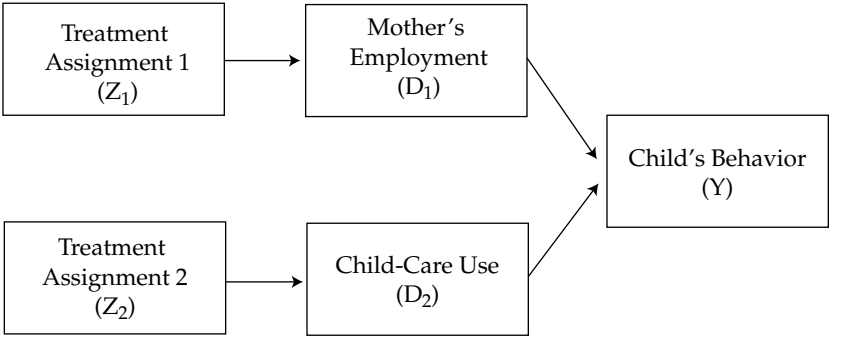
Source: Authors' compilation.

Figure 3.4 A Causal Model for Estimating the Effects of Maternal Employment on Child Behavior



Source: Authors' compilation.

Figure 3.5 A Causal Model for Estimating the Effects of Multiple Mediators on Child Behavior



Source: Authors' compilation.

Table 3.1 First-Stage Regression Estimates for the Minnesota Family Investment Program: Effects of Treatment Assignment on Mother's Employment and Income During the Year After Random Assignment

	Mediator	
Instrument	Employment (Probability)	Income (Thousands of Dollars)
Full MFIP	0.20***	1.40***
	(0.04)	(0.29)
MFIP incentives only	0.09**	1.32***
	(0.04)	(0.29)

Source: Morris and Gennetian (2003). Copyrighted 2003 by the National Council on Family Relations, 3989 Central Ave. NE, Suite 550, Minneapolis, MN 55421. Reprinted by permission.

Notes: The sample includes 879 female single-parent long-term welfare recipients. A mother's employment equals 1 if she was employed at any point and 0 otherwise. A mother's income comprises earnings, welfare payments, and food stamps. Each first-stage regression also includes the following baseline covariates: number of children in the family, earnings in the preceding year, and 0 or 1 indicator variables for mother is black, mother is a member of another racial or ethnic minority, mother was a teen at child's birth, family includes a child aged six or under, mother has no high school diploma or equivalent, mother has never been married, mother has received welfare for at least five years in her lifetime; and a 0 or 1 indicator for which quarter in 1994 the mother was randomly assigned. Standard errors appear in parentheses. Two-tailed statistical significance is indicated as * for the 0.10 level, ** for the 0.05 level, and *** for the 0.01 level.

Table 3.2 Second-Stage Regression Estimates for the Minnesota Family Investment Program: Effects of Mother's Income and Employment on Child's School Achievement and Engagement

	Outcome	
Mediator	School Achievement	School Engagement
Instrumental variables		
Income (thousands of dollars)	0.16	0.47*
	(0.14)	(0.27)
Employment (probability)	–0.17	–1.05
	(1.08)	(1.86)
Ordinary least squares		
Income (thousands of dollars)	–0.02	–0.01
	(0.01)	(0.02)
Employment (probability)	–0.02	0.13
	(0.09)	(0.16)

Source: Morris and Gennetian (2003). Copyrighted 2003 by the National Council on Family Relations, 3989 Central Ave. NE, Suite 550, Minneapolis, MN 55421. Reprinted by permission.

Notes: The sample includes 879 children of female single-parent long-term welfare recipients. A mother's employment equals 1 if she was employed at any point and 0 otherwise. A mother's income comprises earnings, welfare payments, and food stamps. Each second-stage regression also includes the following baseline covariates: number of children in the family, earnings in the preceding year, and 0 or 1 indicator variables for mother is black, mother is a member of another racial or ethnic minority, mother was a teen at child's birth, family includes a child aged six or under, mother has no high school degree or equivalent, mother has never been married, mother has received welfare for at least five years in her lifetime; and a 0 or 1 indicator for which quarter in 1994 a mother was randomly assigned. Standard errors appear in parentheses. Two-tailed statistical significance is indicated as *for the 0.10 level, **for the 0.05 level, and ***for the 0.01 level.

Table 3.3 First-Stage Regression Estimates for NEWWS: Effects of Treatment Assignment, by Site, on Mother's Education and Employment During the Two Years After Random Assignment

	Mediator	
Instrument	Education (Number of Months)	Employment (Number of Quarters)
Atlanta HCD	2.36***	0.25
	(0.34)	(0.17)
Atlanta LFA	0.60*	0.43**
	(0.34)	(0.17)
Grand Rapids HCD	0.96*	0.00
	(0.50)	(0.25)
Grand Rapids LFA	–0.98*	0.96***
	(0.50)	(0.25)
Riverside HCD	2.94***	0.68***
	(0.43)	(0.21)
Riverside LFA	–0.36	1.22***
	(0.44)	(0.22)

Source: Magnuson (2003).
Notes: The sample includes female single-parent long-term welfare recipients from Atlanta (1,422), Riverside (950), and Grand Rapids (646). Each first-stage regression also includes the following baseline covariates: educational attainment, participation in education activities, prior earnings, prior welfare receipt, literacy, numeracy, depressive symptoms, age, race, marital status, number of baseline risk factors, family barriers to employment, number of children, locus of control, sources of social support, child's age, child's gender, and site indicators. Standard errors appear in parentheses. Two-tailed statistical significance is indicated as *for the 0.10 level, **for the 0.05 level, and ***for the 0.01 level.

Table 3.4 Second-Stage Regression Results for the National Evaluation of Welfare-to-Work Strategies: Effects of Mother's Education and Employment on Child's Academic School Readiness

Mediator	Instrumental Variables	Ordinary Least Squares
Education (number of months)	0.31*	0.10***
	(0.17)	(0.04)
Employment (number of quarters)	0.67	0.13*
	(0.49)	(0.07)

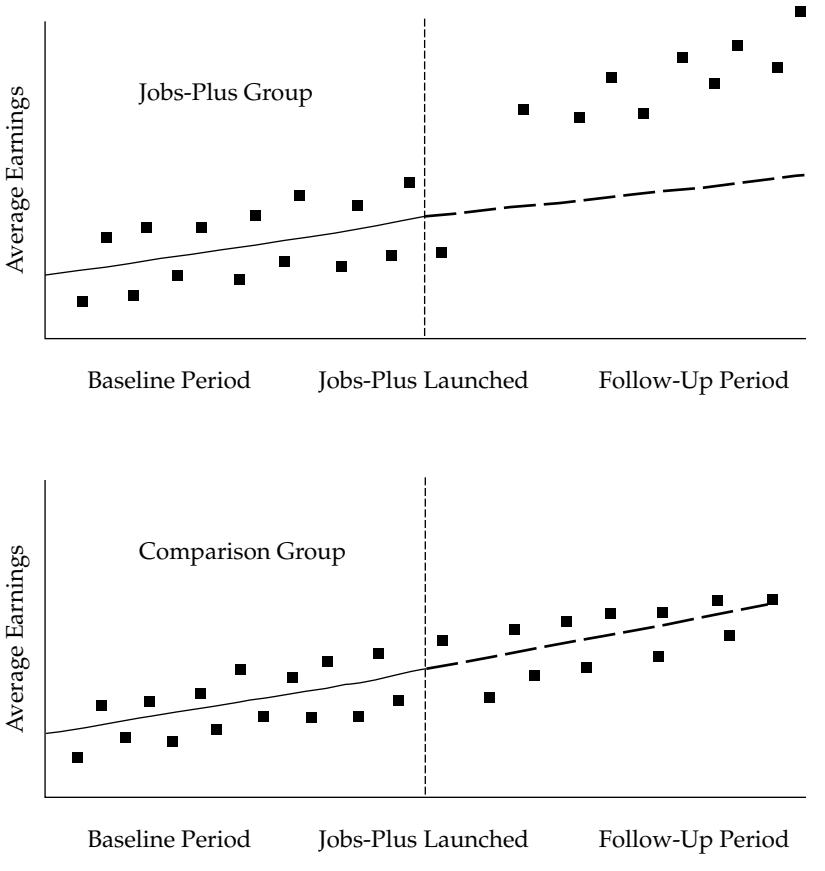
Source: Magnuson (2003).
Notes: The sample includes female single-parent long-term welfare recipients from Atlanta (1,422), Riverside (950), and Grand Rapids (646). Each second-stage regression also includes the following baseline covariates: education attainment, participation in education activities, prior earnings, prior welfare receipt, literacy, numeracy, depressive symptoms, age, race, marital status, number of baseline risk factors, family barriers to employment, number of children, locus of control, sources of social support, child's age, child's gender, and site indicators. Standard errors appear in parentheses. Two-tailed statistical significance is indicated as *for the 0.10 level, **for the 0.05 level, and ***for the 0.01 level.

Table 3.5 First-Stage Regression Results Based on Four Welfare-to-Work Experiments: Effects of Individual Programs on the Employment and Income of Mothers with Young Children During the Two Years After Random Assignment

	Mediator	
Instrument	Employment (Percentage of Quarters)	Mean Income Per Year (Dollars)
Work-first programs		
NEWWS, Atlanta LFA	4.7**	340
	(1.9)	(240)
NEWWS, Grand Rapids LFA	10.4***	70
	(2.2)	(380)
NEWWS, Riverside LFA	12.0***	100
	(2.3)	(430)
Los Angeles Jobs-First GAIN	–0.4	–1,050
	(6.2)	(880)
Earnings supplement programs		
SSP, British Columbia	7.6***	1,620***
	(1.9)	(270)
SSP, New Brunswick	13.4***	1,910***
	(1.9)	(220)
SSP-Plus, New Brunswick	11.3***	2,200***
	(4.0)	(370)
Connecticut Jobs First	5.3***	810**
	(2.1)	(360)

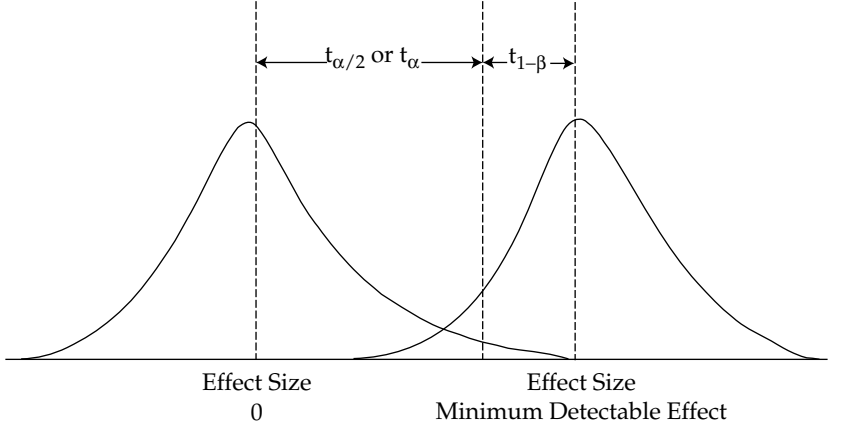
Source: Morris, Duncan, and Rodrigues (2004).
Notes: The sample includes 11,814 observations of children's outcomes from 5,806 children (in 5,253 families) who were between the ages of 2 and 5 at random assignment. Each first-stage regression also includes the following baseline covariates: earnings and earnings squared during the preceding year, number of children, age of youngest child, a three-point scale measuring length of prior welfare receipt, and 0 or 1 indicator variables for mother was employed during the preceding year, mother had high school degree or equivalent, mother was under 18 when child was born, mother was never married, mother was separated or divorced, mother was black, mother was white, mother was Latino, length of time to follow-up survey in months, child was between 6 and 9 years old, and child was over 9 years old. Standard errors appear in parentheses. Two-tailed statistical significance is indicated as *for the 0.10 level, **for the 0.05 level, and ***for the 0.01 level.

Figure 4.1 A Comparative Interrupted Time-Series Analysis of the Impacts of Jobs-Plus on Earnings



Source: Author's compilation.

Figure 4A.1 The Minimum Detectable Effect Multiplier



One-Tailed Multiplier = $t_{\alpha} + t_{1-\beta}$
Two-Tailed Multiplier = $t_{\alpha/2} + t_{1-\beta}$

Source: Illustration by the author.

Table 4.1 The Cluster Effect Multiplier

	Cluster Size (n)					
Intraclass Correlation (ρ)	10	20	50	100	200	500
0.00	1.00	1.00	1.00	1.00	1.00	1.00
0.01	1.04	1.09	1.22	1.41	1.73	2.48
0.02	1.09	1.17	1.41	1.73	2.23	3.31
0.03	1.13	1.25	1.57	1.99	2.64	4.00
0.04	1.17	1.33	1.72	2.23	2.99	4.58
0.05	1.20	1.40	1.86	2.44	3.31	5.09
0.06	1.24	1.46	1.98	2.63	3.60	5.56
0.07	1.28	1.53	2.10	2.82	3.86	5.99
0.08	1.31	1.59	2.22	2.99	4.11	6.40
0.09	1.35	1.65	2.33	3.15	4.35	6.78
0.10	1.38	1.70	2.43	3.30	4.57	7.13
0.20	1.67	2.19	3.29	4.56	6.39	10.04

Source: Computations by the author.
Note: The cluster effect multiplier equals $\sqrt{1 + (n - 1)\rho}$.

Table 4.2 The Minimum Detectable Effect Expressed as a Multiple of the Standard Error

	Multiplier	
Total Number of Clusters (J)	Two-Tailed Test	One-Tailed Test
4	5.36	3.98
6	3.72	3.07
8	3.35	2.85
10	3.19	2.75
12	3.11	2.69
14	3.05	2.65
16	3.01	2.63
18	2.98	2.61
20	2.96	2.60
30	2.90	2.56
40	2.88	2.54
60	2.85	2.52
120	2.82	2.50
Infinite	2.80	2.49

Source: Computations by the author.
Note: The cluster effect multipliers shown here are for the difference between the mean program-group outcome and the mean control-group outcome, assuming equal variances for the groups, a significance level of .05, and a power level of .80.

Table 4.3 The Minimum Detectable Effect Size for Alternate Sample Sizes and Intraclass Correlations

	Clusters Size (n)					
Total Number of Clusters (J)	10	20	50	100	200	500
When Intraclass Correlation (ρ) = 0.01						
4	1.77	1.31	0.93	0.76	0.66	0.59
6	1.00	0.74	0.52	0.43	0.37	0.33
8	0.78	0.58	0.41	0.33	0.29	0.26
10	0.67	0.49	0.35	0.29	0.25	0.22
20	0.44	0.32	0.23	0.19	0.16	0.15
30	0.35	0.26	0.18	0.15	0.13	0.12
40	0.30	0.22	0.16	0.13	0.11	0.10
60	0.24	0.18	0.13	0.10	0.09	0.08
120	0.17	0.13	0.09	0.07	0.06	0.06
When Intraclass Correlation (ρ) = 0.05						
4	2.04	1.67	1.41	1.31	1.26	1.22
6	1.16	0.95	0.80	0.74	0.71	0.69
8	0.90	0.74	0.62	0.58	0.55	0.54
10	0.77	0.63	0.53	0.49	0.47	0.46
20	0.50	0.41	0.35	0.32	0.31	0.30
30	0.40	0.33	0.28	0.26	0.25	0.24
40	0.35	0.28	0.24	0.22	0.21	0.21
60	0.28	0.23	0.19	0.18	0.17	0.17
120	0.20	0.16	0.14	0.13	0.12	0.12
When Intraclass Correlation (ρ) = 0.10						
4	2.34	2.04	1.84	1.77	1.73	1.71
6	1.32	1.16	1.04	1.00	0.98	0.97
8	1.03	0.90	0.81	0.78	0.77	0.76
10	0.88	0.77	0.69	0.67	0.65	0.64
20	0.58	0.50	0.46	0.44	0.43	0.42
30	0.46	0.40	0.36	0.35	0.34	0.34
40	0.40	0.35	0.31	0.30	0.29	0.29
60	0.32	0.28	0.25	0.24	0.24	0.23
120	0.22	0.20	0.18	0.17	0.17	0.16

Source: Computations by the author.
Note: The minimum detectable effect sizes shown here are for a two-tailed hypothesis test, assuming a significance level of .05, a power level of .80, and randomization of half the clusters to the program.

Table 4.4 The Minimum Detectable Effect Size, by Sample Allocation

Proportion of Clusters Allocated to the Program (P)	Example 1	Example 2	Ratio to Balanced Allocation
.10	0.91	0.29	1.67
.20	0.68	0.22	1.25
.30	0.59	0.19	1.09
.40	0.55	0.18	1.02
.50 (balanced)	0.54	0.17	1.00
.60	0.55	0.18	1.02
.70	0.59	0.19	1.09
.80	0.68	0.22	1.25
.90	0.91	0.29	1.67

Source: Computations by the author.
Notes: Example 1 is for $n = 20$, $J = 10$, $\rho = 0.05$, and a one-tailed hypothesis test. Example 2 is for $n = 80$, $J = 20$, $\rho = 0.01$, and a one-tailed hypothesis test. Both examples assume that the variances are the same for the program group and the control group.

Table 4.5 Estimated School and Student Variances for Standardized-Test Scores

Type of Covariate	Reading		Math		Mean
	Third Grade	Sixth Grade	Third Grade	Sixth Grade	
No covariate					
School variance (τ^2)	19.7	12.9	18.0	21.5	18.0
Student variance (σ^2)	103.7	100.0	82.2	96.6	95.6
School pretest					
School variance (τ^2_*)	5.1	3.6	3.3	5.7	4.4
Student variance (σ^2)	105.5	100.5	83.2	97.4	96.7
Student pretest					
School variance (τ^2_*)	5.4	1.6	13.9	5.2	6.5
Student variance (σ^2_*)	50.1	41.2	56.3	53.6	50.3

Source: Computation by the author using data from Bloom, Bos, and Lee (1999).
Notes: The results shown are based on individual standardized test scores for 3,299 third-graders and 2,517 sixth-graders in twenty-five elementary schools in Rochester, New York, in 1991 and 1992 (Bloom, Bos, and Lee 1999). The student pretest was each student's score in the same subject in the preceding grade. The school pretest was each school's mean score in the same subject and grade in the preceding year.

Table 4.6 Minimum Detectable Effect Sizes for a Balanced Allocation of Sixty Schools, Each with Sixty Students per Grade

	Reading		Math		
Covariate	Third Grade	Sixth Grade	Third Grade	Sixth Grade	Mean
No covariate	0.27	0.23	0.28	0.29	0.27
School pretest	0.15	0.14	0.14	0.16	0.15
Student pretest	0.15	0.09	0.25	0.15	0.16

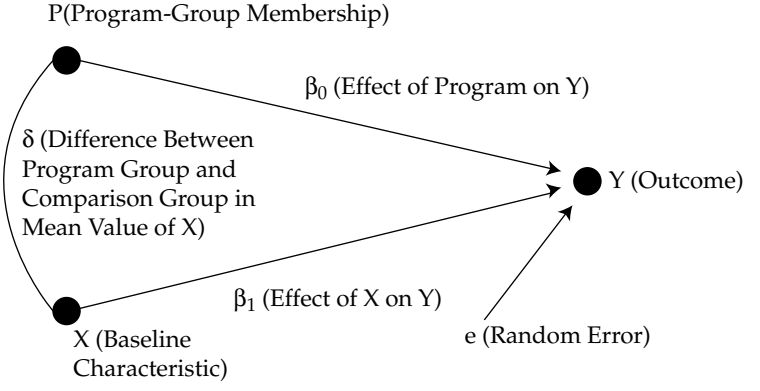
Source: Computations by the author using data from Bloom, Bos, and Lee (1999).
Notes: The results shown are based on individual standardized test scores for 3,299 third-graders and 2,517 sixth-graders in twenty-five elementary schools in Rochester, New York, in 1991 and 1992 (Bloom, Bos, and Lee 1999). The student pretest was each student's score in the same subject in the preceding grade. The school pretest was each school's mean score in the same subject and grade in the preceding year.

Table 4.7 The Predictive Power Required to Justify Pairwise Matching

	Required Predictive Power (incremental R^2)	
Total Number of Clusters J	Two-Tailed Test	One-Tailed Test
4	0.85	0.73
6	0.52	0.40
8	0.35	0.27
10	0.26	0.20
12	0.21	0.16
14	0.17	0.13
16	0.15	0.11
18	0.13	0.10
20	0.11	0.09
30	0.07	0.05
40	0.05	0.05
60	0.03	0.03
120	0.02	0.01
Infinite	0.00	0.00

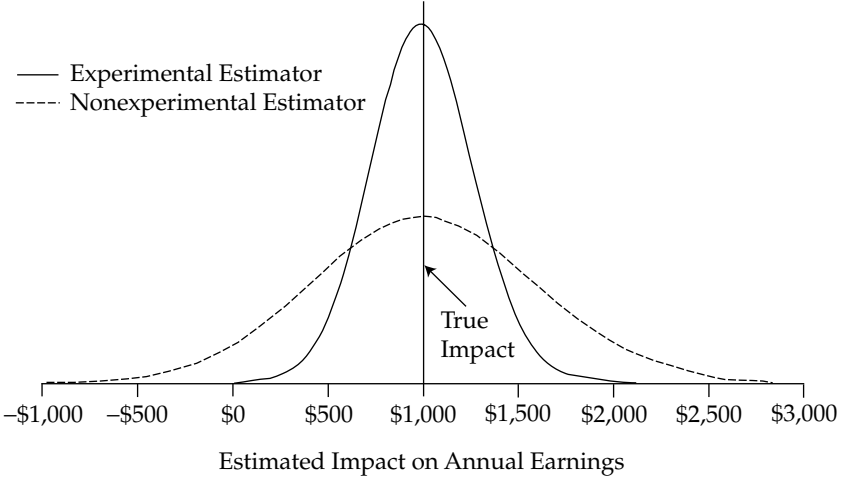
Source: Computations by the author.

Figure 5.1 Selection Bias in a Comparison-Group Design



Source: Authors' compilation.

Figure 5.2 Sampling Distributions of Impact Estimators for a Hypothetical Program



Source: Authors' illustration.

Table 5.1 In-State Control and Comparison Groups

	Control Group		Comparison Group	
In-State Comparison	Offices	Sample Size	Offices	Sample Size
Oklahoma City	Cleveland Pottawatomie	831	Southwest City Southeast City Central City	3,184
Detroit	Fullerton	955	Hamtramck	1,187
Riverside	Riverside	1,459	Hemet, Rancho, Elsinore	1,501
Michigan	Grand Rapids	1,390	Detroit (Fullerton and Hamtramck)	2,142
Portland, Ore.	West Office	328	East Office North Office	1,019

Source: Calculations by the authors from National Evaluation of Welfare-to-Work Strategies data.

Table 5.2 Selected Sample Characteristics for In-State Comparison Groups

	Oklahoma City		Detroit	
Outcome or Characteristic	Control	Comparison	Control	Comparison
Earnings and employment				
Mean annual earnings in the two years before random assignment (1996 dollars)	1,314	1,707	1,074	972
Mean number of quarters employed in the two years before random assignment	1.78	2.13	1.41	1.40
Mean annual earnings in the two years after random assignment (1996 dollars)	1,742	1,888	2,080	2,008
Mean annual earnings in the third, fourth, and fifth years after random assignment (1996 dollars)	3,164	3,081	5,042	5,631
Baseline characteristics				
Average age (in years)	28.3	27.6	29.2	30.3
Race or ethnicity (percentage)				
White, non-Hispanic	77.2	52.6	0.7	18.0
Black, non-Hispanic	8.0	35.8	98.1	80.1
Hispanic	2.2	5.3	0.9	0.8
Other	12.7	6.3	0.2	1.1
Percentage with high school diploma or GED	55.5	54.0	58.8	54.4
Percentage never married	22.6	39.9	74.8	64.8
Number of children (percentage)				
One child	47.2	51.8	46.2	40.9
Two children	34.0	29.2	30.0	29.9
Three or more children	18.9	19.0	23.8	29.2
Percentage with a child younger than five years old	65.4	66.7	68.0	63.0
Sample size	831	3,184	955	1,187

Source: Authors' calculations from information collected by welfare staff and earnings reported to state unemployment insurance systems.

Riverside		Michigan		Portland	
Control	Comparison	Control	Comparison	Control	Comparison
2,849	2,470	2,085	1,017	1,909	1,515
2.15	2.16	2.57	1.40	2.25	1.85
2,289	2,382	2,484	2,040	3,096	2,331
4,100	3,526	5,392	5,369	5,538	4,876
31.2	31.6	27.9	29.8	29.7	29.9
46.0	56.3	48.1	10.2	87.4	66.8
22.9	11.1	40.9	88.2	1.8	23.8
27.0	29.6	8.1	0.9	7.1	2.5
4.1	3.1	2.9	0.7	3.7	7.0
65.9	61.6	59.3	56.4	68.3	60.7
37.0	31.3	58.3	69.2	42.4	53.1
39.6	38.1	45.6	43.2	39.1	35.2
31.2	33.8	35.8	30.0	29.4	34.8
29.2	28.1	18.6	26.8	31.5	30.1
58.5	57.7	69.2	65.2	72.2	70.5
1,459	1,501	1,390	2,142	328	1,019

Table 5.3 Selected Sample Characteristics for Out-of-State Comparison Groups

Outcome or Characteristic	Oklahoma City	Detroit	Riverside	Grand Rapids	Portland	Atlanta
Earnings and employment						
Mean annual earnings in the two years before random assignment (1996 dollars)	1,626	1,017	2,657	2,085	1,611	2,063
Mean number of quarters employed in the two years before random assignment	2.05	1.40	2.15	2.57	1.95	1.98
Mean annual earnings in the two years after random assignment (1996 dollars)	1,858	2,040	2,336	2,484	2,517	2,680
Mean annual earnings in the third, fourth, and fifth years after random assignment (1996 dollars)	3,098	5,369	3,809	5,392	5,037	4,895
Baseline characteristics						
Age (in years)	27.7	29.8	31.4	27.9	29.9	32.5

(Table continues on p. 204.)

Table 5.3 *Continued*

Outcome or Characteristic	Oklahoma City	Detroit	Riverside	Grand Rapids	Portland	Atlanta
Race or ethnicity (percentage)						
White, non-Hispanic	57.7	10.2	51.2	48.1	71.8	4.1
Black, non-Hispanic	30.1	88.2	16.9	40.9	18.4	94.5
Hispanic	4.7	0.9	28.3	8.1	3.6	0.7
Other	7.6	0.7	3.6	2.9	6.2	0.7
Percentage with high school diploma or GED	54.3	56.4	63.8	59.3	62.6	61.2
Percentage never married	36.3	69.2	34.1	58.3	50.5	60.7
Number of children (percentage)						
One child	50.8	43.2	38.8	45.6	36.1	36.0
Two children	30.2	30.0	32.6	35.8	33.4	33.8
Three or more children	18.9	26.8	28.6	18.6	30.4	30.3
Percentage with a child younger than five years old	66.5	65.2	58.1	69.2	70.9	43.2
Sample size	4,015	2,142	2,960	1,390	1,347	1,875

Source: Authors' calculations from information collected by welfare staff and earnings reported to state unemployment insurance systems.
Note: Characteristics are shown only for sample members for whom at least two years of earnings data before random assignment are available.

Table 5.4 Mean Absolute Bias Estimates for Balanced Comparisons

	Short Run			Medium Run		
Nonexperimental Method	In-State Comparisons (n = 5)	Out-of-State Comparisons (n = 8)	Multistate Comparisons (n = 4)	In-State Comparisons (n = 5)	Out-of-State Comparisons (n = 8)	Multistate Comparisons (n = 4)
Mean absolute bias estimates in 1996 dollars (number of statistically significant estimates)						
Difference of means	304 (2)	285 (4)	337 (4)	387 (2)	845 (5)	1,027 (4)
OLS regression	238 (2)	400 (5)	374 (4)	671 (2)	1,350 (6)	1,066 (4)
Propensity-score subclassification	235 (2)	449 (4)	350 (4)	628 (4)	1,239 (6)	1,027 (3)
Propensity-score one-to-one matching	234 (0)	409 (2)	327 (2)	689 (2)	1,242 (3)	974 (3)
Fixed effects	272 (2)	568 (4)	446 (4)	623 (3)	1,573 (6)	1,147 (3)
Random growth	390 (2)	792 (6)	754 (2)	1,180 (2)	1,594 (4)	1,739 (3)
Fixed effects with subclassification	268 (2)	339 (2)	374 (4)	565 (2)	1,381 (4)	1,072 (3)
Fixed effects with one-to-one matching	201 (0)	287 (1)	348 (2)	679 (2)	1,249 (4)	993 (3)
Propensity score–weighted regression	239 (2)	325 (6)	360 (4)	592 (3)	1,179 (8)	1,048 (4)

Table 5.4 *Continued*

Nonexperimental Method	Short Run			Medium Run		
	In-State Comparisons (n = 5)	Out-of-State Comparisons (n = 8)	Multistate Comparisons (n = 4)	In-State Comparisons (n = 5)	Out-of-State Comparisons (n = 8)	Multistate Comparisons (n = 4)
Mean absolute bias estimates in percentages						
Difference of means	12	12	14	8	21	20
OLS regression	9	17	15	14	33	20
Propensity score subclassification	9	19	14	13	30	20
Propensity score one-to-one matching	10	17	13	15	30	19
Fixed effects	11	24	18	13	39	22
Random growth	15	34	30	24	40	34
Fixed effects with subclassification	10	14	15	12	33	21
Fixed effects with one-to-one matching	8	12	14	15	30	20
Propensity score–weighted regression	9	14	15	12	29	20

Source: Authors' calculations.
Notes: The short run is defined as the two years after random assignment. The medium run is defined as the third through the fifth years after random assignment. The estimates are calculated for the comparisons for which balance could be achieved (see Bloom et al. 2002, chapter 3). Statistical significance was assessed at the 0.10 level for a two-tailed test.

Table 5.5 Mean Absolute Bias Estimates for Balanced and Unbalanced Comparisons

	Short Run				Medium Run			
	Out-of-State Comparisons		Multistate Comparisons		Out-of-State Comparisons		Multistate Comparisons	
	Balanced (n = 8)	Unbalanced (n = 6)	Balanced (n = 4)	Unbalanced (n = 2)	Balanced (n = 8)	Unbalanced (n = 6)	Balanced (n = 4)	Unbalanced (n = 2)
Mean absolute bias estimates in 1996 dollars (number of statistically significant estimates)								
Difference of means	285 (4)	494 (5)	337 (4)	330 (1)	845 (5)	1,585 (6)	1,027 (4)	1,127 (2)
OLS regression	400 (5)	636 (6)	374 (4)	425 (2)	1,350 (6)	1,601 (5)	1,066 (4)	1,326 (2)
Fixed effects	568 (4)	572 (6)	446 (4)	543 (2)	1,573 (6)	1,507 (4)	1,147 (3)	1,434 (2)
Random growth	792 (6)	1,694 (6)	754 (2)	821 (2)	1,594 (4)	4,008 (6)	1,739 (3)	2,021 (2)
Mean absolute bias estimates in percentages								
Difference of means	12	20	14	17	21	31	20	35
OLS regression	17	26	15	22	33	31	20	40
Fixed effects	24	24	18	26	39	29	22	42
Random growth	34	69	30	42	40	79	34	63

Source: Authors' calculations.
Notes: The short run is defined as the two years after random assignment. The medium run is defined as the third through the fifth years after random assignment. Because this table shows the mean absolute bias estimates for unbalanced as well as for balanced comparisons, methods based on propensity scores (which required balance to estimate the selection bias) are not shown. Statistical significance was assessed at the 0.10 level for a two-tailed test.

Table 5.6 Estimation Error for Net Impacts on Earnings over Five Years

	NEWWS Program Category			
	Portland	Job-Search-First	High-Enforcement Education-First	Low-Enforcement Education-First
Experimental point estimate of impact[a]	$5,034 ($p < 0.001$)	$2,138 ($p < 0.001$)	$1,503 ($p < 0.001$)	$ 770 ($p = 0.075$)
Likelihood of replicating a statistically significant positive impact				
Experimental replication[b]	98%	~100%	99%	56%
Nonexperimental replication[c]	53%	39%	30%	11%

Source: Authors' calculations.

[a]Impacts are expressed in 1996 dollars. The numbers of program- and control-group members are, respectively, 3,529 and 499 (Portland), 5,382 and 6,292 (job-search-first), 9,716 and 8,803 (high-enforcement education-first), and 6,535 and 6,591 (low-enforcement education-first).

[b]The experimental standard errors are $1,327 (Portland), $455 (job-search-first), $385 (high-enforcement education-first), and $432 (low-enforcement education-first; for details on the calculation of these standard errors, see the appendix to this chapter).

[c]The nonexperimental standard errors are $2,967 (Portland), $1,598 (job-search-first), $1,356 (high-enforcement education-first), and $1,926 (low-enforcement education-first; for details on the calculation of these standard errors, see the appendix to this chapter).

Table 5.7 Estimation Error for Differential Impacts on Earnings over Five Years

	NEWWS Program Category			
	Portland	Job-Search-First	High-Enforcement Education-First	Low-Enforcement Education-First
Experimental point estimate of differential impact[a]				
Portland	–			
Job-search-first	$2,896 (p = 0.039)	–		
High-enforcement education-first	$3,531 (p = 0.011)	$634 (p = 0.575)	–	
Low-enforcement education-first	$4,264 (p = 0.002)	$1,368 (p = 0.029)	$733 (p = 0.205)	–
Likelihood of replicating a statistically significant positive impact				
Experimental replication[b]				
Portland	–			
Job-search-first	66%	–		
High-enforcement education-first	82%	14%	–	
Low-enforcement education-first	92%	70%	35%	–
Nonexperimental replication[c]				
Portland	–			
Job-search-first	22%	–		
High-enforcement education-first	29%	7%	–	
Low-enforcement education-first	33%	14%	9%	–

Source: Authors' calculations.

[a]Impacts are expressed in 1996 dollars. The numbers of program- and control-group members are, respectively, 3,529 and 499 (Portland), 5,382 and 6,292 (job-search-first), 9,716 and 8,803 (high-enforcement education-first), and 6,535 and 6,591 (low-enforcement education-first).

[b]The experimental standard errors are $1,327 (Portland), $455 (job-search-first), $385 (high-enforcement education-first), and $432 (low-enforcement education-first; for details on the calculation of these standard errors, see the appendix to this chapter).

[c]The nonexperimental standard errors are $2,967 (Portland), $1,598 (job-search-first), $1,356 (high-enforcement education-first), and $1,926 (low-enforcement education-first; for details on the calculation of these standard errors, see the appendix to this chapter).

Table 5A.1 Impact and Standard Error Estimates on Total Earnings over Five Years (in 1996 Dollars)

Type of Impact Estimate and NEWWS Program Approach	Estimate	Standard Error	
		Experimental	Nonexperimental
Net impacts			
Portland	5,034	1,327	2,967
Job-search-first	2,138	455	1,598
High-enforcement education-first	1,503	385	1,356
Low-enforcement education-first	770	432	1,926
Differential impacts			
Portland versus job-search-first	2,896	1,403	3,371
Portland versus high-enforcement education-first	3,531	1,382	3,263
Portland versus low-enforcement education-first	4,264	1,396	3,538
Job-search-first versus high-enforcement education-first	634	1,151	2,096
Job-search-first versus low-enforcement education-first	1,368	627	2,503
High- versus low-enforcement education-first	733	579	2,355

Source: Authors' calculations.

Table 5A.2 Nonexperimental Mismatch Error for In-State Comparisons for Earnings over Five Years (in 1996 Dollars)

In-State Comparison	Bias Point Estimate	Standard Error of Bias Point Estimate	Variance of Bias Point Estimate	Variance Component
Oklahoma City	778	660	436,100	
Detroit	–2,867	1,206	1,454,837	
Riverside	551	922	849,872	
Michigan	–3,829	1,051	1,104,037	
Portland	3,206	1,534	2,351,712	
Total variance of bias point estimates				8,284,105
– Estimated variance from sampling error				1,239,311
= Variance attributable to nonexperimental mismatch error				7,044,793

Source: Authors' calculations.