

Turning Welfare into a Work Support

Six-Year Impacts on Parents and Children
from the Minnesota Family Investment Program

July 2005

Technical Resources



Unit A:

MFIP's Effects on Economic Outcomes for Single Parents

Unit B:

MFIP's Effects on Marriage and Fertility for Single Parents

Unit C:

MFIP's Effects on Young Children's Reading and Math
Achievement in Single-Parent Families

Unit D:

MFIP's Effects on Economic Outcomes, Divorce, and Fertility
for Two-Parent Families

***Click the above links to access each unit**

Unit A

MFIP's Effects on Economic Outcomes for Single Parents

Technical Resource (TR) Tables A.2 and A.3 present the Minnesota Family Investment Program's effects on economic outcomes among single-parent families in urban counties, separately for long-term recipients and for recent applicants. These single-parent families were randomly assigned to three research groups: MFIP, MFIP Incentives Only, and AFDC. The families who were in the MFIP Incentives Only group received all of MFIP's financial incentives and were not subject to its employment requirements. With this three-group research design, the effect of MFIP's financial incentives can be inferred by comparing the outcomes for families in the MFIP Incentives Only group with the outcomes for families in the control group. Likewise, the effect of MFIP's employment requirement alone can be inferred by comparing outcomes for families in the MFIP group with outcomes for families in the MFIP Incentives Only group. These tables show that the financial incentives primarily contributed to MFIP's positive effects on income, particularly among single-parent long-term recipient families.

TR Tables A.4 and A.5 present MFIP's effects among single-parent families who lived in rural counties at study entry, separately again for long-term recipients and for recent applicants. Among the relatively small sample of rural long-term recipients, MFIP increased employment and income only through the second year of follow-up and had no effect on earnings, somewhat weaker effects than among urban long-term recipients.¹ Among rural recent applicant families, MFIP appears to have only increased employment during the third and fourth years of follow-up — possibly because those recent applicants who were still on welfare were newly subject to MFIP's employment requirements. MFIP also increased earnings, welfare benefits, and income through Year 4.

TR Tables A.6 through A.9 present MFIP's effects for subpopulations of single-parent families that were examined in the 36-month follow-up report: by prior earnings experience, by prior education (or by whether or not the single parent had a high school diploma or General Educational Development [GED] certificate), by race, and by public housing status at study entry. The rightmost columns in these tables indicate whether or not MFIP's effects across subgroups vary statistically at traditional levels of significance. These tables show that MFIP increased employment, earnings, and income through Year 6 among those single-parent families who had no prior earnings experience or no high school diploma or its equivalent — two groups that overlap closely with the group of most disadvantaged single-parent families who are highlighted in the main report.

TR Table A.8 shows that MFIP's effects on economic outcomes among black single-parent families were larger and over a longer time period than its effects among white single-parent families. In particular, MFIP increased income among black single-parent families

¹Lisa Gennetian, Cindy Redcross, and Cynthia Miller, "The Effects of Welfare Reform in Rural Minnesota: Evidence from the Minnesota Family Investment Program"; Chapter 10 in B. Weber, G. Duncan, and L. Whitener (eds.), *Rural Dimensions of Welfare Reform* (Kalamazoo, MI: W.E. Upjohn Institute, 2002).

throughout the six-year follow-up period (by approximately \$1,450 annually during Years 5 and 6) and had small and few effects on income among white single-parent families. Compared with white single-parent families, black single-parent families were more likely, at study entry, to have had no or little prior employment experience (11 percent of blacks reported being employed at study entry, and 51 percent reported no earnings in the prior year, compared with 26 percent and 30 percent, respectively, for whites); no high school diploma or its equivalent (32 percent of blacks versus 21 percent of whites); and never to have been married (72 percent of blacks versus 46 percent of whites). Further analyses testing whether or not MFIP had larger effects on single-parent families who generally had these other sociodemographic characteristics — compared with being black per se — provide evidence that MFIP's effects among black single-parent families predominantly capture MFIP's effects among single-parent families with low levels of prior education and employment and with high levels of prior welfare receipt. In addition, MFIP had very similar effects among the small sample of most disadvantaged families, whether black or white.

TR Table A.9 shows that MFIP increased employment, earnings, welfare receipt, and income up until the fourth year of follow-up among single-parent families who lived in public or subsidized housing at study entry. These effects are significantly larger than MFIP's effects among single-parent families who lived in private or other housing.

The Minnesota Family Investment Program

TR Table A.1

**MFIP's Effects on Economic Outcomes
for All Single-Parent Families**

Outcome	Long-Term Recipients			Recent Applicants			All Single Parents		
	MFIP	AFDC (Difference)	Impact	MFIP	AFDC (Difference)	Impact	MFIP	AFDC (Difference)	Impact
Average quarterly employment rate,									
Years 1-6 (%)	54.2	46.8	7.4 ***	57.9	55.6	2.3 **	56.1	51.5	4.6 ***
Years 1-2	48.8	35.8	12.9 ***	54.3	51.3	3.0 ***	51.9	44.7	7.2 ***
Years 3-4	56.3	48.1	8.2 ***	59.7	56.5	3.2 ***	58.1	52.4	5.7 ***
Years 5-6	57.4	56.5	1.0	59.7	59.1	0.6	58.5	57.5	1.1
Average annual earnings,									
Years 1-6 (\$)	6,388	5,870	518 **	8,727	8,717	11	7,711	7,446	265
Years 1-2	3,559	2,878	681 ***	5,537	5,726	-190	4,675	4,490	185
Years 3-4	6,440	5,912	528 *	9,037	8,818	219	7,912	7,500	413 **
Years 5-6	9,165	8,819	347	11,608	11,605	2	10,544	10,347	197
Average quarterly receipt rate,									
Years 1-6 (%)	63.8	59.2	4.7 ***	40.6	35.0	6 ***	50.8	45.6	5.2 ***
Years 1-2	86.8	82.4	4.4 ***	65.1	55.5	10 ***	74.5	67.3	7.2 ***
Years 3-4	64.0	56.1	7.8 ***	36.4	30.7	6 ***	48.7	42.0	6.7 ***
Years 5-6	40.8	38.9	1.8	20.4	18.7	2 *	29.3	27.6	1.7 **
Average annual benefits,									
Years 1-6 (\$)	4,929	4,398	531 ***	2,643	2,124	520 ***	3,652	3,141	511 ***
Years 1-2	7,184	6,475	709 ***	4,464	3,439	1,025 ***	5,644	4,781	863 ***
Years 3-4	4,818	4,153	665 ***	2,318	1,870	448 ***	3,432	2,900	533 ***
Years 5-6	2,785	2,564	221	1,148	1,062	85	1,879	1,742	138 **
Average annual income, Years 1-6 (\$)	11,317	10,267	1,050 ***	11,370	10,840	530 **	11,363	10,587	776 ***
Years 1-2	10,743	9,353	1,390 ***	10,001	9,165	836 ***	10,319	9,271	1,048 ***
Years 3-4	11,258	10,065	1,192 ***	11,355	10,688	667 ***	11,345	10,400	945 ***
Years 5-6	11,950	11,383	567	12,755	12,668	88	12,424	12,089	335
Sample size (total = 7,402)	1,141	1,232		2,413	2,616		3,554	3,848	

(continued)

TR Table A.1 (continued)

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program
TR Table A.2
MFIP's Effects on Economic Outcomes
for Single-Parent Long-Term Recipients in Urban Counties

Outcome	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC	Impacts of Full MFIP Program	Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
Average quarterly employment rate, Years 1-6 (%)	54.7	50.6	46.8	7.9 ***	3.7 ***	4.1 ***
Years 1-2	49.6	41.4	36.0	13.6 ***	5.4 ***	8.2 ***
Years 3-4	57.0	51.6	47.9	9.2 ***	3.7 **	5.5 ***
Years 5-6	57.4	58.7	56.6	0.8	2.1	-1.3
Average annual earnings, Years 1-6 (\$)	6,556	6,106	5,971	585 **	134	451
Years 1-2	3,650	2,908	2,895	755 ***	13	742 ***
Years 3-4	6,624	5,970	6,007	617 *	-36	653 *
Years 5-6	9,395	9,439	9,013	383	426	-43
Average quarterly receipt rate, Years 1-6 (%)	64.2	65.7	60.0	4.1 ***	5.7 ***	-1.5
Years 1-2	86.8	88.6	83.1	3.7 ***	5.5 ***	-1.8
Years 3-4	64.3	66.8	57.0	7.3 ***	9.8 ***	-2.5
Years 5-6	41.4	41.7	40.0	1.5	1.7	-0.3
Average annual benefits, Years 1-6 (\$)	4,978	5,195	4,521	457 ***	674 ***	-217
Years 1-2	7,177	7,625	6,584	593 ***	1,041 ***	-447 ***
Years 3-4	4,882	5,293	4,306	576 ***	987 ***	-411 **
Years 5-6	2,874	2,668	2,674	201	-6	207

(continued)

TR Table A.2 (continued)

Outcome	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC	Impacts of Full MFIP Program	Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
Average annual income, Years 1-6 (\$)	11,534	11,301	10,493	1,042 ***	808 ***	233
Years 1-2	10,827	10,533	9,479	1,348 ***	1,054 ***	294
Years 3-4	11,506	11,263	10,313	1,193 ***	951 ***	243
Years 5-6	12,270	12,107	11,686	583	420	163
Sample size (total = 2,615)	846	835	934			

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program
TR Table A.3
MFIP's Effects on Economic Outcomes
for Single-Parent Recent Applicants in Urban Counties

Outcome	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC	Impact of Full MFIP Program	Impact of Financial Incentives Alone	Impact of Adding Mandatory Services and Reinforced Incentive Messages
Average quarterly employment rate, Years 1-6 (%)	57.6	57.1	55.7	1.9 **	1.4	0.6
Years 1-2	54.3	52.6	50.9	3.4 ***	1.8	1.6
Years 3-4	59.4	57.9	56.5	2.9 **	1.4	1.5
Years 5-6	59.2	60.6	59.7	-0.5	0.9	-1.4
∞ Average annual earnings, Years 1-6 (\$)	8,856	8,512	8,946	-90	-435	344
Years 1-2	5,586	5,396	5,782	-196	-386	190
Years 3-4	9,160	8,481	9,005	154	-525	679 *
Years 5-6	11,822	11,658	12,051	-230	-394	164
Average quarterly receipt rate, Years 1-6 (%)	39.9	42.3	35.1	4.9 ***	7.2 ***	-2.4 **
Years 1-2	64.4	65.0	55.7	8.7 ***	9.3 ***	-0.7
Years 3-4	35.7	39.7	31.0	4.7 ***	8.7 ***	-4.0 ***
Years 5-6	19.7	22.1	18.5	1.2	3.6 ***	-2.4 *
Average annual benefits, Years 1-6 (\$)	2,602	2,921	2,148	454 ***	772 ***	-318 ***
Years 1-2	4,401	4,632	3,478	924 ***	1,154 ***	-230 *
Years 3-4	2,276	2,814	1,909	368 ***	905 ***	-537 ***
Years 5-6	1,129	1,317	1,059	71	258 ***	-187 **

(continued)

TR Table A.3 (continued)

Outcome	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC	Impacts of Full MFIP Program	Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
Average annual income, Years 1-6 (\$)	11,458	11,432	11,095	363	338	26
Years 1-2	9,988	10,028	9,260	727 ***	768 ***	-41
Years 3-4	11,436	11,294	10,914	522 *	380	142
Years 5-6	12,951	12,974	13,110	-159	-136	-23
Sample size (total = 5,029)	1,916	980	2,133			

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value ≤ .01; **= p-value ≤ .05; * = p-value ≤ .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program

TR Table A.4

**MFIP's Effects on Economic Outcomes
for Single-Parent Long-Term Recipients in Rural Counties**

Outcome	MFIP	AFDC	Impact (Difference)
Average quarterly employment rate, Years 1-6 (%)	54.8	51.0	3.8
Years 1-2	46.9	38.4	8.4 ***
Years 3-4	55.8	54.3	1.5
Years 5-6	61.8	60.3	1.5
Average annual earnings, Years 1-6 (\$)	5,961	5,940	20
Years 1-2	3,310	3,133	177
Years 3-4	5,979	6,089	-110
Years 5-6	8,594	8,600	-7
Average quarterly receipt rate, Years 1-6 (%)	59.3	53.1	6.2 ***
Years 1-2	87.4	78.5	8.9 ***
Years 3-4	58.4	49.6	8.9 ***
Years 5-6	32.2	31.2	1.0
Average annual benefits, Years 1-6 (\$)	4,236	3,496	740 ***
Years 1-2	7,001	5,670	1,331 ***
Years 3-4	3,930	3,073	857 ***
Years 5-6	1,779	1,745	34
Average annual income, Years 1-6 (\$)	10,197	9,437	761 *
Years 1-2	10,311	8,803	1,508 ***
Years 3-4	9,908	9,161	747
Years 5-6	10,372	10,345	27
Sample size (total = 593)	295	298	

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as *** = 1 percent; ** = 5 percent; * = 10 percent.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program
TR Table A.5
MFIP's Effects on Economic Outcomes
for Single-Parent Recent Applicants in Rural Counties

Outcome	MFIP	AFDC	Impact (Difference)
Average quarterly employment rate, Years 1-6 (%)	63.0	58.4	4.5 **
Years 1-2	57.3	53.7	3.6
Years 3-4	65.8	59.6	6.2 ***
Years 5-6	65.8	62.0	3.8
Average annual earnings, Years 1-6 (\$)	8,659	8,156	503
Years 1-2	5,633	5,821	-188
Years 3-4	9,064	8,202	862 *
Years 5-6	11,280	10,445	835
Average quarterly receipt rate, Years 1-6 (%)	42.3	33.8	8.5 ***
Years 1-2	69.1	54.1	14.9 ***
Years 3-4	38.2	29.1	9.0 ***
Years 5-6	19.7	18.1	1.6
Average annual benefits, Years 1-6 (\$)	2,620	1,916	703 ***
Years 1-2	4,658	3,221	1,436 ***
Years 3-4	2,254	1,611	642 ***
Years 5-6	948	916	32
Average annual income, Years 1-6 (\$)	11,279	10,073	1,206 ***
Years 1-2	10,291	9,043	1,248 ***
Years 3-4	11,318	9,814	1,504 ***
Years 5-6	12,228	11,361	866
Sample size (total = 980)	497	483	

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as *** = 1 percent; ** = 5 percent; * = 10 percent.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program

TR Table A.6

MFIP's Effects on Economic Outcomes for All Single Parents,
by Prior Earnings Experience

Outcome	Some Earnings in Year Prior to Study Entry			No Earnings in Year Prior to Study Entry			Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	
Average quarterly employment rate, Years 1-6 (%)	63.5	62.4	1.1	45.8	36.4	9.3 ***	†††
Years 1-2	60.2	57.7	2.5 **	40.1	26.6	13.5 ***	†††
Years 3-4	65.1	63.2	1.9 *	48.2	37.4	10.7 ***	†††
Years 5-6	65.2	66.3	-1.1	49.0	45.3	3.7 **	††
Average annual earnings, Years 1-6 (\$)	9,064	9,254	-190	5,815	4,946	869 ***	†††
Years 1-2	5,704	5,993	-289	3,260	2,387	874 ***	†††
Years 3-4	9,334	9,312	21	5,926	4,990	935 ***	††
Years 5-6	12,153	12,457	-303	8,259	7,461	798 **	††
Average quarterly receipt rate, Years 1-6 (%)	47.9	41.4	6.5 ***	55.0	51.5	3.5 ***	††
Years 1-2	72.0	63.5	8.5 ***	77.9	72.5	5.3 ***	††
Years 3-4	45.3	37.2	8.1 ***	53.3	48.7	4.6 ***	†
Years 5-6	26.2	23.4	2.8 ***	33.7	33.2	0.5	
Average annual benefits, Years 1-6 (\$)	3,261	2,678	583 ***	4,200	3,780	420 ***	
Years 1-2	5,206	4,200	1,006 ***	6,252	5,590	662 ***	††
Years 3-4	3,000	2,423	577 ***	4,035	3,562	473 ***	
Years 5-6	1,578	1,412	166 **	2,313	2,186	126	
Average annual income, Years 1-6 (\$)	12,325	11,933	393 *	10,015	8,725	1,289 ***	†††
Years 1-2	10,910	10,193	717 ***	9,512	7,977	1,536 ***	†††
Years 3-4	12,334	11,735	598 **	9,961	8,552	1,408 ***	††
Years 5-6	13,732	13,869	-138	10,572	9,647	924 **	††
Sample size (total = 7,402)	2,201	2,394		1,353	1,454		

(continued)

TR Table A.6 (continued)

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01;

**= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

The Minnesota Family Investment Program

TR Table A.7

MFIP's Effects on Economic Outcomes for All Single Parents, by Prior Education

Outcome	At Least High School Diploma at Study Entry			No High School Diploma or GED at Study Entry			Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	
Average quarterly employment rate, Years 1-6 (%)	59.4	55.3	4.1 ***	48.0	41.4	6.6 ***	
Years 1-2	56.2	48.9	7.4 ***	40.9	33.7	7.2 ***	
Years 3-4	61.1	56.3	4.9 ***	50.4	42.3	8.1 ***	
Years 5-6	60.9	60.8	0.0	52.7	48.3	4.4 **	††
Average annual earnings, Years 1-6 (\$)	8,667	8,552	115	5,250	4,593	657 ***	†
Years 1-2	5,436	5,281	155	2,745	2,408	337 **	
Years 3-4	8,888	8,667	222	5,403	4,532	871 ***	†
Years 5-6	11,678	11,708	-31	7,601	6,839	762 *	
Average quarterly receipt rate, Years 1-6 (%)	46.9	41.6	5.3 ***	61.3	55.9	5.3 ***	
Years 1-2	72.0	64.0	8.0 ***	81.4	75.5	5.8 ***	
Years 3-4	44.2	37.3	6.9 ***	60.4	53.8	6.6 ***	
Years 5-6	24.5	23.4	1.1	42.0	38.5	3.5 **	
Average annual benefits, Years 1-6 (\$)	3,252	2,770	482 ***	4,696	4,097	599 ***	
Years 1-2	5,308	4,434	873 ***	6,524	5,683	841 ***	
Years 3-4	2,970	2,480	490 ***	4,631	3,969	663 ***	
Years 5-6	1,477	1,395	82	2,933	2,641	292 *	
Average annual income, Years 1-6 (\$)	11,919	11,322	597 ***	9,946	8,691	1,256 ***	††
Years 1-2	10,744	9,715	1,029 ***	9,269	8,091	1,178 ***	
Years 3-4	11,858	11,146	712 ***	10,035	8,501	1,534 ***	††
Years 5-6	13,154	13,103	51	10,534	9,480	1,055 ***	††
Sample size (total = 7,339)	2,601	2,808		927	1,003		

(continued)

TR Table A.7 (continued)

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

The Minnesota Family Investment Program

TR Table A.8

MFIP's Effects on Economic Outcomes
for All Single Parents, by Race

Outcome	Black, Non-Hispanic			White, Non-Hispanic			Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	
Average quarterly employment rate, Years 1-6 (%)	52.7	45.4	7.3 ***	61.0	57.7	3.3 ***	††
Years 1-2	48.4	41.0	7.3 ***	56.9	49.3	7.6 ***	
Years 3-4	54.6	46.0	8.6 ***	62.6	58.8	3.8 ***	††
Years 5-6	55.1	49.2	5.9 ***	63.4	64.9	-1.5	†††
Average annual earnings, Years 1-6 (\$)	6,787	5,931	856 ***	8,685	8,784	-99	††
Years 1-2	4,069	3,564	505 **	5,362	5,328	33	†
Years 3-4	6,903	5,997	905 **	8,917	8,858	60	†
Years 5-6	9,388	8,232	1,156 **	11,776	12,165	-390	†††
Average quarterly receipt rate, Years 1-6 (%)	57.5	51.2	6.3 ***	45.1	40.0	5.0 ***	
Years 1-2	76.0	70.2	5.8 ***	72.3	63.4	8.9 ***	†
Years 3-4	57.2	48.1	9.1 ***	41.7	36.0	5.7 ***	
Years 5-6	39.3	35.2	4.1 **	21.3	20.7	0.5	†
Average annual benefits, Years 1-6 (\$)	4,370	3,739	631 ***	2,985	2,538	447 ***	
Years 1-2	6,129	5,343	787 ***	5,142	4,188	953 ***	
Years 3-4	4,307	3,492	815 ***	2,642	2,289	353 ***	††
Years 5-6	2,673	2,383	290 *	1,172	1,137	35	
Average annual income, Years 1-6 (\$)	11,157	9,670	1,486 ***	11,670	11,322	348 *	†††
Years 1-2	10,199	8,906	1,292 ***	10,503	9,516	987 ***	
Years 3-4	11,210	9,490	1,720 ***	11,559	11,147	412 *	†††
Years 5-6	12,061	10,615	1,447 ***	12,948	13,302	-354	†††
Sample size (total = 6,437)	861	1,001		2,246	2,329		

(continued)

TR Table A.8 (continued)

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

The Minnesota Family Investment Program

TR Table A.9

MFIP's Effects on Economic Outcomes for All Single Parents,
by Public Housing Status

Outcome	In Public/Subsidized Housing at Study Entry			In Private or Other Housing at Study Entry			Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	
Average quarterly employment rate, Years 1-6 (%)	61.6	50.0	11.5 ***	54.6	52.0	2.6 ***	†††
Years 1-2	55.1	36.5	18.6 ***	50.9	47.0	4.0 ***	†††
Years 3-4	64.0	51.2	12.8 ***	56.3	52.8	3.5 ***	†††
Years 5-6	65.6	62.4	3.2	56.5	56.2	0.3	
Average annual earnings, Years 1-6 (\$)	8,081	7,190	890 **	7,570	7,538	32	††
Years 1-2	4,517	3,488	1,029 ***	4,689	4,783	-94	†††
Years 3-4	8,279	7,037	1,242 ***	7,769	7,656	113	††
Years 5-6	11,446	11,047	400	10,251	10,174	77	
Average quarterly receipt rate, Years 1-6 (%)	63.4	58.0	5.4 ***	47.5	42.0	5.5 ***	
Years 1-2	88.0	81.7	6.2 ***	70.9	63.1	7.9 ***	
Years 3-4	63.0	55.7	7.3 ***	45.0	37.9	7.1 ***	
Years 5-6	39.3	36.5	2.9	26.6	25.0	1.6 *	
Average annual benefits, Years 1-6 (\$)	4,654	4,140	514 ***	3,382	2,854	528 ***	
Years 1-2	6,932	6,170	762 ***	5,297	4,384	912 ***	
Years 3-4	4,496	3,966	529 ***	3,150	2,589	561 ***	
Years 5-6	2,534	2,284	250	1,700	1,588	111	
Average annual income, Years 1-6 (\$)	12,735	11,331	1,404 ***	10,952	10,392	560 ***	††
Years 1-2	11,450	9,659	1,791 ***	9,986	9,167	819 ***	†††
Years 3-4	12,774	11,003	1,771 ***	10,919	10,245	674 ***	††
Years 5-6	13,980	13,331	650	11,951	11,763	188	
Sample size (total = 7,340)	669	724		2,862	3,085		

(continued)

TR Table A.9 (continued)

SOURCES: MDRC calculations using data from Minnesota's Unemployment Insurance (UI) earnings records and public assistance benefit records.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Welfare receipt is defined as receipt of either Food Stamp coupons or cash benefits from AFDC, Family General Assistance, or MFIP. Average welfare benefits are the sum of benefits from any of these sources.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Unit B

MFIP's Effects on Marriage and Fertility for Single Parents

Technical Resource (TR) Tables B.1 through B.5 are supplemental tables presenting the effects of the Minnesota Family Investment Program (MFIP) on marriage and fertility. As shown in the 36-month follow-up report, MFIP increased marriage from 7 percent to 11 percent among a survey sample of single-parent long term recipients.¹ This measure of marriage is based on respondents' answers to the question "During the prior month, were you married and living with a spouse?" Here, marriage is measured via marriage certificate records from the State of Minnesota, which — to the best extent possible — were matched by name to families in the MFIP evaluation who entered the study headed by a single parent. TR Table B1 shows that MFIP had no effect on marriage among all single-parent families by the six-year follow-up point. As described in the main report, small effects on marriage emerged during Years 3 and 4 and began to fade in Year 5.

TR Table B.1 also shows that MFIP appears to have increased marriage among some subgroups of single-parent families: those who at study entry were never married, had fewer than three children, were less than 25 years old, lived in public housing, had no high school diploma or General Educational Development (GED) certificate, or were considered the least disadvantaged. In only two cases are these effects significantly different across subgroups: MFIP's effect among single parents less than 25 years old at study entry is significantly different than its effect among older single parents, and MFIP's effect among those with no high school diploma or equivalent is significantly different than among those with more education. MFIP's effect on marriage for these subpopulations is generally quite small, in the range of 2 to 4 percentage points, though this sometimes represents a relatively large increase in marriage because of low rates of marriage among control group families. For example, MFIP increased marriage from 11.8 to 15.8 percentage points among single-parent families who had no high school diploma or equivalent at study entry. Because MFIP's long-term effects on marriage are quite scattered and appear clustered in subgroups of single parents who likely overlap, it is too early to assess — without further analyses — whether or not these effects are real or spurious.

TR Table B.2 presents MFIP's effect on marriage among single-parent long-term recipients in urban counties, a group of families who were randomly assigned to one of three research groups: MFIP, MFIP Incentives Only, and AFDC. Prior work shows that MFIP's financial incentives particularly influenced reports of being married and living together among the survey sample of long-term recipient families.² TR Table B2 shows a slightly higher rate of marriage — according to marriage certificate data — among urban single-parent long-term recipients in the MFIP Incentives Only group than in the AFDC group. However, these differences do not quite reach statistical significance. In Year 5, for example, 14.7 percent of the MFIP Incentives Only group were recorded as being married, compared with 12.2 percent of

¹Cynthia Miller, Virginia Knox, Lisa Gennetian, Martey Dodoo, Jo Anna Hunter, and Cindy Redcross, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program*, vol. 1, *Effects on Adults* (New York: MDRC, 2000).

²Lisa Gennetian and Cynthia Miller, "How Welfare Reform Can Affect Marriages: Evidence from an Experimental Study in Minnesota," *Review of Economics of the Household* 2 (2005): 275-301.

the AFDC group — resulting in an increase of 2.5 percent that is not quite statistically significant (a p-value of 0.13).

TR Table B.3 presents MFIP’s effect on marriage for the survey sample of single-parent families, comparing survey reports of marital status with marriage certificate records. This table reassuringly shows that respondents’ reports of being “married and living with a spouse” at the 36-month follow-up interview correspond quite closely to information gathered from marriage records data. More specifically, 13.0 percent of MFIP single parents reported being married at the three-year interview (which could have taken place any time between Month 36 and Month 48 of the follow-up period). This rate is similar to what was found with marriage records data: 10.0 percent of these families in Year 3 and 13.0 percent of these same families in Year 4 were recorded as being legally married in the State of Minnesota. TR Table B.3 further shows that MFIP’s effects on marriage are strikingly similar across data sources for the survey subsample. Among single-parent long-term recipients, MFIP increased reported marriage by 3.6 percentage points, according to the three-year survey interview. For this same group of single-parent families, MFIP increased legal marriages by 3 to 5 percentage points through the third to fifth years of follow-up. As is the case with the full sample of single-parent families, MFIP’s effects on marriage for the survey sample were no longer statistically significant by Year 6.

TR Table B.4 presents MFIP’s effects on fertility, according to birth certificate data provided by the Minnesota Center for Health Statistics and matched by name to MFIP evaluation families. Among all single-parent families, MFIP slightly increased — by 1.5 percentage points — the likelihood of having a baby during a five-year follow-up period. MFIP had few effects on fertility across a variety of subgroups of single-parent families. MFIP’s effects on fertility differed across subgroups in only two cases: MFIP increased fertility among never-married single-parent families and among single-parent families who had been on welfare for five years or more prior to study entry, and it had no effect among single-parent families who were previously married or among single-parent families with less prior experience on welfare. As is the case with MFIP’s effects on marriage, it is too early to assess — without further analysis — whether or not these effects are real or spurious.

TR Table B.5 shows the proportion of healthy babies born among those single-parent families who had a baby during the five-year follow-up period. Roughly half the babies born to MFIP and AFDC families who had babies were characterized as a “healthy” baby, with a gestational age of 37 weeks or more, a birth weight of 2,500 grams or more, a five-minute APGAR score of 9 or greater, and a mother who used prenatal care.³

³The APGAR scale, developed by Dr. Virginia Apgar in 1953, measures the resuscitation of infants at birth by grading appearance (color), pulse (heart rate), grimace (reflex irritability), activity (muscle tone), and respiration (breathing). An infant receives a score of zero, 1, or 2 for each factor, for a possible maximum score of 10. See Virginia Apgar, “A Proposal for a New Method of Evaluation of the Newborn Infant,” *Current Researches in Anesthesia and Analgesia* 32, 4 (1953): 260-270.

The Minnesota Family Investment Program

TR Table B.1

MFIP's Effects on Marriage During the Six-Year Follow-Up
for All Single Parents, by Subgroup

	Sample Size	MFIP	AFDC	Impact	Variation in Subgroup Impacts
All single parents	7,402	17.6	16.5	1.1	
Recipient status (%)					
Recent applicants	5,029	19.0	17.6	1.4	
Long-term recipients	2,373	16.5	15.0	1.5	
Marital history prior to study entry (%)					
Never married	4,035	18.9	16.7	2.2 *	
Previously married	3,288	15.7	16.2	-0.6	
Number of children (%)					
Fewer than 3 children	5,771	18.6	16.8	1.8 *	
3 or more children	1,434	14.3	16.0	-1.7	
Age of respondent (%)					††
Less than 25 years old	2,657	22.3	18.8	3.5 **	
25 years or older	4,745	14.8	15.3	-0.5	
Race/ethnicity (%)					
White, non-Hispanic	4,575	20.9	20.6	0.4	
Black, non-Hispanic	1,862	13.7	11.8	1.8	
Hispanic	159	21.5	19.2	2.3	
Asian/Pacific Islander	204	13.3	11.3	2.0	
Native American	447	11.6	10.7	1.0	
Housing status at study entry (%)					
In public/subsidized housing	1,393	17.6	13.7	3.9 *	
In private or other housing	5,947	17.6	17.3	0.4	
Education status (%)					††
High school diploma or GED	5,409	18.1	18.4	-0.3	
No high school diploma or GED	1,930	15.8	11.8	4.1 **	
Earnings prior to study entry (%)					
Some earnings	4,595	19.9	18.4	1.5	
No earnings	2,807	14.1	14.0	0.1	

(continued)

TR Table B.1 (continued)

	Sample Size	MFIP	AFDC	Impact	Variation in Subgroup Impacts
AFDC receipt prior to study entry (%)					
Less than 5 years	5,612	19.2	17.8	1.3	
5 years or more	1,572	13.5	13.1	0.5	
Level of risk (%)					
Least disadvantaged	2,629	22.9	20.3	2.7 *	
Moderately disadvantaged	4,282	15.4	15.6	-0.2	
Most disadvantaged	415	13.5	10.0	3.5	

SOURCE: MDRC calculations using marriage records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Information at baseline on some subgroup characteristics was missing for some sample members. Therefore, the average impact across subgroups does not always replicate the impact for all recipients.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

The Minnesota Family Investment Program

TR Table B.2

MFIP's Effects on Marriage During the Six-Year Follow-Up
for Single-Parent Long-Term Recipients in Urban Counties

Outcome	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC	Impacts of Full MFIP Program	Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
Ever married (%)						
Year 1	3.0	2.7	1.7	1.3 *	1.0	0.3
Year 2	6.3	6.2	5.2	1.1	1.0	0.1
Year 3	9.4	9.3	7.3	2.2	2.0	0.2
Year 4	11.9	11.8	9.5	2.3	2.3	0.1
Year 5	13.7	14.7	12.2	1.5	2.5	-1.0
Year 6	15.2	16.4	13.9	1.3	2.5	-1.2
Sample size (total = 2,615)	846	835	934			

SOURCE: MDRC calculations using marriage records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value ≤ .01; **= p-value ≤ .05; * = p-value ≤ .10.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program

TR Table B.3

MFIP's Effects on Marital Status of All Single-Parent and Long-Term Recipient Families According to Survey Reports and Marriage Records for the Survey Sample

Outcome	Sample Size	MFIP	AFDC	Impact
<u>All single parents</u>	2,285			
Marital status as reported on 36-month survey (%)				
Married and living with spouse		13.0	12.2	0.8
Cohabiting		16.2	15.3	0.9
Divorced		6.6	9.6	-3.0 ***
Separated		20.6	19.4	1.2
Widowed		1.3	1.3	-0.1
Ever married, from marriage records (%)				
Year 3		10.0	9.4	0.6
Year 4		13.0	11.5	1.5
Year 5		15.0	15.2	-0.2
Year 6		16.6	17.3	-0.7
<u>Long-term recipients</u>	974			
Marital status as reported on 36-month survey (%)				
Married and living with spouse		10.6	7.0	3.6 **
Cohabiting		16.1	15.9	0.2
Divorced		7.3	9.5	-2.2
Separated		18.8	19.5	-0.7
Widowed		1.7	0.8	0.9
Ever married, from marriage records (%)				
Year 3		10.7	7.2	3.5 *
Year 4		13.8	8.8	5.0 **
Year 5		16.0	12.0	4.0 *
Year 6		17.0	14.0	3.0

SOURCES: MDRC calculations using 36-month survey data and marriage records data from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value ≤ .01; **= p-value ≤ .05; * = p-value ≤ .10.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program

TR Table B.4

**MFIP's Effects on Having a Baby During the Five-Year Follow-Up
for All Single Parents, by Subgroup**

	Sample Size	MFIP	AFDC	Impact	Variation in Subgroup Impacts
All single parents	7,402	21.5	20.0	1.5 *	
Recipient status (%)					
Recent applicants	5,029	22.9	20.8	2.1 *	
Long-term recipients	2,373	20.0	19.5	0.4	
Marital history prior to study entry (%)					†
Never married	4,035	28.5	25.6	2.9 **	
Previously married	3,288	11.1	11.5	-0.4	
Number of children (%)					
Fewer than 3 children	5,771	23.6	22.1	1.5	
3 or more children	1,434	13.6	12.2	1.4	
Age of respondent (%)					
Less than 25 years old	2,657	38.2	36.7	1.5	
25 years or older	4,745	12.2	11.0	1.2	
Race/ethnicity (%)					
White, non-Hispanic	4,575	19.6	19.7	-0.2	
Black, non-Hispanic	1,862	21.0	17.8	3.2 *	
Hispanic	159	33.0	27.2	5.8	
Asian/Pacific Islander	204	34.1	26.3	7.7	
Native American	447	28.9	26.1	2.8	
Housing status (%)					
Public housing	1,393	19.6	19.0	0.6	
Not in public housing	5,947	21.8	20.2	1.6	
Education status (%)					
High school diploma or GED	5,409	19.4	18.5	0.9	
No high school diploma or GED	1,930	26.3	23.4	2.9	
Earnings prior to study entry (%)					
Yes	4,595	22.9	22.5	0.4	
No	2,807	19.5	16.7	2.8 **	

(continued)

TR Table B.4 (continued)

	Sample Size	MFIP	AFDC	Impact	Variation in Subgroup Impacts
AFDC receipt prior to study entry (%)					††
Less than 5 years	5,612	23.3	23.2	0.0	
5 years or more	1,572	16.0	11.6	4.4 ***	
Level of risk (%)					
Least disadvantaged	2,629	21.6	20.7	0.9	
Moderately disadvantaged	4,282	21.6	19.8	1.9	
Most disadvantaged	415	17.6	19.1	-1.5	

SOURCE: MDRC calculations using birth records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Information at baseline on some subgroup characteristics was missing for some sample members. Therefore, the average impact across subgroups does not always replicate the impact for all recipients.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

The Minnesota Family Investment Program

TR Table B.5

Proportion of Single Parents Who Had a Healthy Baby,
Among Those Who Had a Baby During the Five-Year Follow-Up
(Nonexperimental Comparison)

Outcome	Sample Size	MFIP	AFDC	Impact (Difference)
All single parents	7,402			
Had a healthy birth ^a (%)		54.4	54.6	-0.2
Gestational age of 37 weeks or more		87.9	90.6	-2.8
Birth weight of 2,500 grams or more		91.6	92.3	-0.6
Used prenatal care in the first trimester		68.8	68.4	0.4
Five-minute APGAR score of 9 or greater ^b		87.3	87.5	-0.2
Long-term recipients	2,373			
Had a healthy birth ^a (%)		54.7	52.5	2.2
Gestational age of 37 weeks or more		89.5	88.1	1.4
Birth weight of 2,500 grams or more		91.0	90.3	0.7
Used prenatal care in the first trimester		68.3	66.0	2.2
Five-minute APGAR score of 9 or greater ^b		86.1	88.3	-2.1
Recent applicants	5,029			
Had a healthy birth ^a (%)		54.7	54.4	0.4
Gestational age of 37 weeks or more		87.3	91.9	-4.5
Birth weight of 2,500 grams or more		92.8	92.7	0.0
Used prenatal care in the first trimester		70.0	69.2	0.8
Five-minute APGAR score of 9 or greater ^b		88.8	86.2	2.6

SOURCE: MDRC calculations using birth records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value ≤ .01; **= p-value ≤ .05; * = p-value ≤ .10.

Rounding may cause slight discrepancies in sums and differences.

^aA birth is considered healthy if the gestational age was 37 weeks or more, the birth weight was 2,500 grams or more, the mother used prenatal care in the first trimester, and the five-minute APGAR score was 9 or greater.

^bThe APGAR scale, developed by Virginia Apgar in 1953, measures the resuscitation of infants at birth by grading appearance (color), pulse (heart rate), grimace (reflex irritability), activity (muscle tone), and respiration (breathing). An infant receives a score of zero, 1, or 2 for each factor, for a possible maximum score of 10. See Virginia Apgar, "A Proposal for a New Method of Evaluation of the Newborn Infant," *Current Researches in Anesthesia and Analgesia* 32, 4 (1953): 260-270.

Unit C

**MFIP's Effects on Young Children's Reading and Math
Achievement in Single-Parent Families**

Analyses of the Minnesota Family Investment Program's effects on children's outcomes during the 36-month follow-up period show that MFIP increased maternal reports of achievement and decreased maternal reports of problem behavior among elementary-school-aged children of urban long-term recipient families.¹ For this long-term follow-up study, third- and fifth-grade math and reading achievement scores from school tests given to public school children in 2001 to 2003 were matched to children of MFIP evaluation sample members. Technical Resource (TR) Table C.1 shows the sample sizes and length of follow-up by age of child at study entry, family type, and assessment grade level. Notably, this sample differs from the aforementioned sample, where children were roughly 2 to 9 years old when their mothers entered the evaluation. Here, third-grade assessments are capturing the long-term effects on children who were newborn to 3 years old at study entry, and fifth-grade assessments are capturing long-term effects on children who were infants to about 5 years old at study entry. Thus, TR Tables C.2 to C.7 present new findings on groups of children in single-parent families who were not previously examined because of data constraints. Appendix B in the main report provides a detailed description of the reading and math assessment outcomes.

TR Table C.2 shows that MFIP had no effect on third- or fifth-grade reading and math assessments, with the sole exception of increasing the proportion of children who met third-grade-level expectation in reading, from 41 percent to 48 percent. MFIP had few or no effects on third- or fifth-grade reading or math assessments for subgroups of children by age (TR Table C.3), by whether or not their parents had prior earnings experience (TR Table C.4), or by race (TR Table C.6). TR Table C.5 shows that MFIP particularly increased fifth-grade reading and math achievement among children whose parents had no high school diploma or General Educational Development (GED) certificate at study entry. These effects are large — 0.2 to 0.3 standard deviation units — and they differ significantly from the effects of MFIP on fifth-grade assessments among children whose parent had a high school diploma or higher at study entry. TR Table C.7 also shows that MFIP particularly increased third-grade math assessments among children who lived in public or subsidized housing at study entry.

With anticipated additional assessment data from Minnesota — including third- and fifth-grade assessments from additional years of follow-up and basic skills tests among older children — future work will build on these intriguing emerging findings for the youngest children in the MFIP evaluation and will examine MFIP's effects among elementary-school-aged children and adolescents.

¹Lisa Gennetian and Cynthia Miller, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program*, vol. 2, *Effects on Children* (New York: MDRC, 2000).

The Minnesota Family Investment Program

TR Table C.1

Sample Sizes for Reading and Math Assessment Data

Age at Study Entry (Years)	Third Grade			Fifth Grade		
	Sample Size	Years of Follow-Up		Sample Size	Years of Follow-Up	
		Minimum	Maximum		Minimum	Maximum
<u>Single-parent families</u>						
0	166	7.6	9.0	0		
1	224	6.4	8.9	22	8.7	9.0
2	280	5.8	7.8	210	7.6	9.0
3	88	5.1	6.9	316	6.5	9.0
4	4	5.1	6.0	281	5.7	8.4
5	2	5.6	6.2	97	5.3	8.1
6	0			7	5.2	5.7
<u>Two-parent families</u>						
0	119	7.6	9.0	0		
1	152	6.6	8.8	10	8.7	9.0
2	156	6.0	8.1	133	7.6	9.0
3	28	5.5	7.2	143	6.6	9.0
4	4	5.1	5.6	139	5.5	8.9
5	0			44	5.2	6.9
6	0			4	5.2	6.3

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTE: Sample size refers to the total number of children, some of whom might be siblings.

The Minnesota Family Investment Program

TR Table C.2

**MFIP's Effects on Reading and Math Achievement for Children
Ages 0 to 6 Years for All Single-Parent Families at Study Entry**

Outcome	Sample Size	MFIP	AFDC	Impact	Effect Size
Third-grade assessments	764				
Reading scale score		1,363	1,346	16.9	0.1
Met grade-level expectation in reading (%)		47.8	40.9	6.9	0.1 *
Math scale score		1,356	1,343	13.1	0.0
Met grade-level expectation in math (%)		41.4	38.9	2.5	0.0
Fifth-grade assessments	933				
Reading scale score		1,420	1,405	15.0	0.0
Met grade-level expectation in reading (%)		58.3	53.4	4.9	0.1
Math scale score		1,372	1,364	7.5	0.0
Met grade-level expectation in math (%)		47.3	45.0	2.3	0.0

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

The Minnesota Family Investment Program

TR Table C.3

MFIP's Effects on Reading and Math Achievement for Children Ages 0 to 6 Years at Study Entry for All Single-Parent Families, by Age Group

Outcome	0 to 1 Year at Study Entry				2 to 6 Years at Study Entry				Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	
Third-grade assessments									
Reading scale score	1,387	1,371	16.3	0.1	1,344	1,318	25.8	0.1	
Met grade-level expectation in reading (%)	50.0	41.2	8.8	0.1	46.9	39.8	7.1	0.1	
Math scale score	1,374	1,362	11.3	0.0	1,339	1,324	14.7	0.0	
Met grade-level expectation in math (%)	48.6	41.1	7.5	0.1	35.0	36.1	-1.1	0.0	
Sample size (total = 764)	201	189			192	182			
Fifth-grade assessments									
Reading scale score	NA	NA	NA	NA	1,420	1,404	16.3	0.1	NA
Met grade-level expectation in reading (%)	NA	NA	NA	NA	58.7	53.5	5.2	0.1	NA
Math scale score	NA	NA	NA	NA	1,372	1,363	8.7	0.0	NA
Met grade-level expectation in math (%)	NA	NA	NA	NA	47.4	44.7	2.7	0.0	NA
Sample size (total = 933)					454	457			

(continued)

TR Table C.3 (continued)

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

The Minnesota Family Investment Program

TR Table C.4

MFIP's Effects on Reading and Math Achievement for Children Ages 0 to 6
Years at Study Entry for All Single-Parent Families, by Parent's Prior Earnings

Outcome	Some Earnings in Year Prior to Study Entry				No Earnings in Year Prior to Study Entry				Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	
Third-grade assessments									
Reading scale score	1,382	1,377	4.6	0.0	1,345	1,312	32.9	0.1	
Met grade-level expectation in reading (%)	50.5	44.3	6.2	0.1	45.6	36.9	8.7	0.1	
Math scale score	1,381	1,360	20.9	0.1	1,336	1,317	19.1	0.1	
Met grade-level expectation in math (%)	45.0	41.0	4.0	0.1	39.0	35.3	3.8	0.1	
Sample size (total = 764)	207	221			186	150			
Fifth-grade assessments									
Reading scale score	1,416	1,416	-0.4	0.0	1,424	1,391	33.0	0.1	
Met grade-level expectation in reading (%)	58.3	55.6	2.7	0.0	58.5	50.3	8.2	0.1	
Math scale score	1,378	1,370	8.6	0.0	1,361	1,359	1.7	0.0	
Met grade-level expectation in math (%)	49.9	47.8	2.1	0.0	43.9	42.2	1.8	0.0	
Sample size (total = 933)	257	265			207	204			

(continued)

TR Table C.4 (continued)

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

The Minnesota Family Investment Program

TR Table C.5

MFIP's Effects on Reading and Math Achievement for Children Ages 0 to 6
Years at Study Entry for All Single-Parent Families, by Parent's Prior Education

Outcome	At Least High School Diploma at Study Entry				No High School Diploma or GED at Study Entry				Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	
Third-grade assessments									
Reading scale score	1,388	1,378	9.7	0.0	1,318	1,287	31.1	0.1	
Met grade-level expectation in reading (%)	54.2	44.3	9.8	0.1 **	36.0	35.7	0.4	0.0	
Math scale score	1,385	1,363	21.8	0.1	1,303	1,302	1.3	0.0	
Met grade-level expectation in math (%)	48.3	41.9	6.3	0.1	27.8	33.3	-5.5	-0.1	
Sample size (total = 759)	268	249			122	120			
Fifth-grade assessments									
Reading scale score	1,426	1,444	-17.9	-0.1	1,406	1,310	96.3	0.3 ***	†††
Met grade-level expectation in reading (%)	61.7	61.6	0.1	0.0	51.1	33.4	17.6	0.2 **	†
Math scale score	1,385	1,398	-12.6	0.0	1,344	1,294	50.5	0.2 **	††
Met grade-level expectation in math (%)	52.2	53.4	-1.2	0.0	35.0	27.5	7.4	0.1	
Sample size (total = 925)	341	325			122	137			

(continued)

TR Table C.5 (continued)

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

The Minnesota Family Investment Program

TR Table C.6

MFIP's Effects on Reading and Math Achievement for Children Ages 0 to 6
Years at Study Entry for All Single-Parent Families, by Race

Outcome	Black, Non-Hispanic				White, Non-Hispanic				Variation in Subgroup Impacts
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	
Third-grade assessments									
Reading scale score	1,271	1,285	-14.3	0.0	1,453	1,424	28.7	0.1	
Met grade-level expectation in reading (%)	24.0	26.5	-2.5	0.0	70.8	57.8	13.1	0.2 ***	†
Math scale score	1,288	1,286	2.4	0.0	1,412	1,411	1.1	0.0	
Met grade-level expectation in math (%)	27.7	24.7	2.9	0.0	55.4	53.6	1.8	0.0	
Sample size (total = 657)	110	96			237	214			
Fifth-grade assessments									
Reading scale score	1,369	1,330	39.0	0.1	1,479	1,465	13.5	0.0	
Met grade-level expectation in reading (%)	42.8	36.4	6.5	0.1	71.0	65.8	5.2	0.1	
Math scale score	1,316	1,307	8.6	0.0	1,403	1,412	-8.9	0.0	
Met grade-level expectation in math (%)	30.7	24.3	6.4	0.1	54.8	59.4	-4.6	-0.1	
Sample size (total = 801)	115	122			282	282			

(continued)

TR Table C.6 (continued)

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

The Minnesota Family Investment Program

TR Table C.7

MFIP's Effects on Reading and Math Achievement for Children Ages 0 to 6
Years at Study Entry for All Single-Parent Families, by Public Housing Status

Outcome	In Public/Subsidized Housing at Study Entry				In Private or Other Housing at Study Entry				Variation in Subgroup Impacts
	MFIP	AFDC	Impact	Effect	MFIP	AFDC	Impact	Effect	
			(Difference)	Size			(Difference)	Size	
Third-grade assessments									
Reading scale score	1,359	1,311	47.8	0.1	1,368	1,355	13.0	0.0	
Met grade-level expectation in reading (%)	41.4	33.8	7.6	0.1	49.8	43.8	6.0	0.1	
Math scale score	1,383	1,291	91.6	0.3 **	1,350	1,358	-8.3	0.0	†
Met grade-level expectation in math (%)	41.9	27.7	14.2	0.2 *	41.1	42.9	-1.8	0.0	†
Sample size (total = 760)	98	85			293	284			
Fifth-grade assessments									
Reading scale score	1,411	1,348	63.1	0.2	1,426	1,423	3.8	0.0	
Met grade-level expectation in reading (%)	54.7	45.1	9.6	0.1	59.8	55.9	3.9	0.1	
Math scale score	1,311	1,303	8.1	0.0	1,397	1,386	11.6	0.0	
Met grade-level expectation in math (%)	41.7	32.3	9.4	0.1	50.5	49.0	1.5	0.0	
Sample size (total = 929)	345	342			119	123			

(continued)

TR Table C.7 (continued)

SOURCES: MDRC calculations using 2001 to 2003 data from Minnesota's public school test assessments.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts. Statistical significance levels are indicated as ††† = p-value \leq .01; †† = p-value \leq .05; and † = p-value \leq .10.

Standard errors of the impact estimates were adjusted to account for shared variance between siblings.

The effect size is the difference between the program and control group averages divided by the standard deviation of the control group outcome.

Reading and math scale scores have been converted from raw scores to allow comparisons across years for each of the four specific tests. The scale scores range from 50 to 2,600, depending on the grade they apply to. Maximum and minimum scores may differ across years depending on the difficulty of the test.

The reading and math grade-level expectation is based on the achievement levels created by the Minnesota Department of Education to assist in interpreting reading and math scale scores.

Unit D

**MFIP's Effects on Economic Outcomes, Divorce, and Fertility
for Two-Parent Families**

The main report presents the Minnesota Family Investment Program's effects on divorce among all two-parent families and then separately presents effects for two-parent recipient families and two-parent applicant families. Technical Resource (TR) Table D.1 expands on these findings by presenting MFIP's effects on divorce among several subgroups of two-parent recipient families. As reported elsewhere, MFIP's reductions in divorce among two-parent recipient families at the six-year point are similar across several subgroups.¹

TR Table D.2 presents MFIP's effects on marriage and divorce for the survey sample of all two-parent families and the survey sample of two-parent recipient families. As reported in prior work, this table shows that, at the three-year follow-up point, MFIP increased marital stability primarily by reducing separations among a small sample of two-parent recipient families.² Because some separations do not become legal divorces, divorce records data likely underestimate levels of marital dissolution. TR Table D.2 compares client reports of marital status with divorce records data for the survey sample of two-parent families. The table shows that, on average, client reports of divorce are quite similar to legally documented divorces occurring within a reasonable time lag. At the three-year follow-up point, more than 9 percent of AFDC families reported being divorced, compared with 4 percent of AFDC families who had a documented legal divorce by Year 3 and 10 percent of AFDC families who had a documented legal divorce by Year 4. The table also highlights the value of client reports over administrative records sources in measuring marital stability. For example, the proportion of AFDC recipient families who were divorced by the six-year follow-up point is lower than the proportion of these same families who reported being separated at the three-year follow-up point. In addition, divorce records do not capture the extent of MFIP's effects on marital stability. MFIP increased marital stability among two-parent recipient families by reducing separations by 9 percentage points at the three-year follow-up point. Although MFIP families were slightly less likely to divorce than AFDC families — a pattern that holds up in both data sources — the effects do not quite reach statistical significance.

TR Table D.3 shows that MFIP had no effect on the likelihood of two-parent families' having a baby during the five-year follow-up period, as measured by birth certificate data. However, TR Table D.4 shows, through a nonexperimental comparison, that — compared with babies born to AFDC two-parent families — babies born to MFIP two-parent families were slightly more likely to be healthy, with a gestational age of 37 weeks or more, a birth weight of 2,500 grams or more, a five-minute APGAR³ score of 9 or greater, and a mother who used prenatal care.

¹Lisa Gennetian and Virginia Knox, "The Effects of a Minnesota Welfare Reform Program on Marital Stability Six Years Later," *Population Research and Policy Review*, 23 (2004): 567-595.

²Cynthia Miller, Virginia Knox, Lisa Gennetian, Marey Dodoo, Jo Anna Hunter, and Cindy Redcross, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program*, vol. 1, *Effects on Adults* (New York: MDRC, 2000).

³The APGAR scale, developed by Dr. Virginia Apgar in 1953, measures the resuscitation of infants at birth by grading appearance (color), pulse (heart rate), grimace (reflex irritability), activity (muscle tone), and respiration (breathing). An infant receives a score of zero, 1, or 2 for each factor, for a possible maximum score of 10. See Virginia Apgar, "A Proposal for a New Method of Evaluation of the Newborn Infant," *Current Researches in Anesthesia and Analgesia* 32, 4 (1953): 260-270.

The Minnesota Family Investment Program

TR Table D.1

MFIP's Effects on Divorce During the Six-Year Follow-Up
for Two-Parent Recipient Families, by Subgroup

	Sample Size	Ever Divorced (%)			Variation in Subgroup Impacts
		MFIP	AFDC	Impact	
All recipient families	1,523	7.9	11.1	-3.1	**
Marital status at baseline					
Married	1,043	11.0	14.4	-3.3	
Cohabiting	472	1.4	4.6	-3.2	**
Number of children					
Fewer than 3 children	790	10.1	13.2	-3.1	
3 or more children	705	4.7	9.1	-4.4	**
Age of youngest child					
Less than 6 years old	1,159	6.9	11.3	-4.4	***
6 years old or older	336	10.9	9.6	1.3	
Race/ethnicity					
White, non-Hispanic	898	10.6	13.0	-2.3	
Black, non-Hispanic	245	6.1	10.7	-4.6	
Asian/Pacific Islander	242	4.4	4.3	0.2	
Other ^a	125	3.7	15.4	-11.7	*
Employment 1 year prior to study entry					
One parent employed	547	8.4	10.9	-2.5	
Both parents employed	450	12.0	17.3	-5.2	
No parent employed	526	3.4	7.4	-3.9	*
Welfare receipt prior to study entry					
Less than 2 years	519	9.7	12.9	-3.2	
2 years to 5 years	459	5.9	11.7	-5.8	**
More than 5 years	528	7.7	9.6	-1.9	

(continued)

TR Table D.1 (continued)

SOURCE: MDRC calculations using public divorce certificate records from the state of Minnesota.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Information at baseline on some subgroup characteristics was missing for some sample members. Therefore, the average impact across subgroups does not always replicate the impact for all recipients.

Chi-square tests were applied to the differences between the impacts of the three types of programs. For the measures for which data were available for only two of the three program types, two-tailed t-tests were applied to the differences between impacts.

^aHispanic, American Indian, and Alaskan.

The Minnesota Family Investment Program

TR Table D.2

**MFIP's Effects on Marriage and Divorce for the Survey Sample
of All Two-Parent and Recipient Families**

Outcome	Sample Size	MFIP	AFDC	Impact (Difference)	Standard Error
<u>All two-parent families</u>	408				
Marital status as reported on 36-month survey (%)					
Married and living with spouse		65.6	50.5	15.1 ***	4.8
Separated		9.0	16.6	-7.6 **	3.4
Divorced		7.4	9.4	-2.1	3.0
Ever divorced, from divorce records (%)					
Year 3		4.5	3.9	0.6	2.1
Year 4		7.0	10.0	-3.0	2.9
Year 5		9.2	13.7	-4.5	3.3
Year 6		11.1	15.5	-4.4	3.5
<u>Two-parent recipient families</u>	290				
Marital status as reported on 36-month survey (%)					
Married and living with spouse		67.3	48.3	19.1 ***	5.9
Separated		7.6	16.8	-9.1 **	4.0
Divorced		6.7	10.9	-4.2	3.6
Ever divorced, from divorce records (%)					
Year 3		5.3	4.0	1.3	2.7
Year 4		7.1	9.4	-2.3	3.4
Year 5		8.1	13.0	-4.9	3.8
Year 6		9.1	14.3	-5.1	4.0

SOURCES: MDRC calculations using 36-month survey and marriage records data.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value ≤ .01; **= p-value ≤ .05; * = p-value ≤ .10.

Rounding may cause slight discrepancies in sums and differences.

The Minnesota Family Investment Program

TR Table D.3

**MFIP's Effects on Having a Baby During the Five-Year Follow-Up
for Two-Parent Families, by Subgroup**

	Sample Size	New Birth at End of Year (%)		
		MFIP	AFDC	Impact
All two-parent families	2,256			
Year 1		1.8	1.9	-0.1
Year 2		7.9	9.2	-1.3
Year 3		12.1	13.1	-0.9
Year 4		14.1	16.1	-2.0
Year 5		15.6	18.0	-2.4
Two-parent recipient families	1,523			
Year 1		1.8	1.7	0.1
Year 2		7.5	8.5	-1.0
Year 3		12.2	12.1	0.1
Year 4		13.4	15.6	-2.1
Year 5		14.5	17.1	-2.6
Two-parent applicant families	733			
Year 1		1.5	2.4	-0.9
Year 2		8.0	10.9	-3.0
Year 3		11.2	15.1	-3.9
Year 4		14.7	17.9	-3.3
Year 5		16.9	20.2	-3.3

SOURCE: MDRC calculations using birth records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Impacts among all two-parent families are estimated using weights constructed separately for recipients versus applicant families to reflect their differing rates of intake into the study. Because of this weighting scheme, MFIP's impacts among all two-parent families may not equal a simple weighted average of MFIP's impacts among recipients and applicants.

The Minnesota Family Investment Program

TR Table D.4

Proportion of Two-Parent Families Who Had a Healthy Baby,
Among Those Who Had a Baby During the Five-Year Follow-Up
(Nonexperimental Comparison)

Outcome	Sample Size	MFIP	AFDC	Impact (Difference)
All two-parent families	2,256			
Had a healthy birth ^a (%)		60.3	48.5	11.9
Gestational age of 37 weeks or more		92.0	86.7	5.3
Birth weight of 2,500 grams or more		95.0	93.0	2.1
Used prenatal care in the first trimester		71.1	60.5	10.6
Five-minute APGAR score of 9 or greater ^b		90.5	89.8	0.6
Recipient families	1,523			
Had a healthy birth ^a (%)		56.3	48.9	7.4
Gestational age of 37 weeks or more		90.0	84.9	5.1
Birth weight of 2,500 grams or more		94.8	90.9	4.0
Used prenatal care in the first trimester		68.4	58.8	9.6
Five-minute APGAR score of 9 or greater ^b		92.3	89.4	2.9
Applicant families	733			
Had a healthy birth ^a (%)		67.0	55.0	12.0
Gestational age of 37 weeks or more		93.4	91.8	1.7
Birth weight of 2,500 grams or more		94.4	97.2	-2.8
Used prenatal care in the first trimester		82.5	66.9	15.7
Five-minute APGAR score of 9 or greater ^b		85.7	91.7	-6.0

(continued)

TR Table D.4 (continued)

SOURCE: MDRC calculations using birth records from the Minnesota Center for Health Statistics.

NOTES: The sample includes members randomly assigned from April 1, 1994, to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps at random assignment.

A two-tailed t-test is applied to regression-adjusted impact estimates. Statistical significance levels are indicated as ***= p-value \leq .01; **= p-value \leq .05; * = p-value \leq .10.

Rounding may cause slight discrepancies in sums and differences.

Italicized estimates pertain only to sample members who had a birth during follow-up. Therefore, the italicized differences between the experimental and control groups are not true experimental comparisons; statistical tests were not performed.

^aA birth is considered healthy if the gestational age was 37 weeks or more, the birth weight was 2,500 grams or more, the mother used prenatal care in the first trimester, and the five-minute APGAR score was 9 or greater.

^bThe APGAR scale, developed by Virginia Apgar in 1953, measures the resuscitation of infants at birth by grading appearance (color), pulse (heart rate), grimace (reflex irritability), activity (muscle tone), and respiration (breathing). An infant receives a score of zero, 1, or 2 for each factor, for a possible maximum score of 10. See Virginia Apgar, "A Proposal for a New Method of Evaluation of the Newborn Infant," *Current Researches in Anesthesia and Analgesia* 32, 4 (1953): 260-270.