

Turning Welfare into a Work Support

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

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Overview

The Minnesota Family Investment Program (MFIP) originated, in 1994, as a new vision of a welfare system that would encourage work, reduce reliance on public assistance, and reduce poverty. The program differed from the existing Aid to Families with Dependent Children (AFDC) system in two key ways: It included financial incentives to “make work pay” by allowing families to keep more of their welfare benefit when they worked, and it required longer-term welfare recipients to work or participate in employment services.

This report updates the MFIP story in two ways. First, it examines whether the program’s effects held up in the longer term, through six years after study entry (earlier studies reported on effects after three years). A primary question of interest is whether MFIP, after it effectively ended in its original form in 1998, provided families with a permanent advantage, increasing their employment or self-sufficiency in the long term, or whether its effects faded after the program ended. Second, the report presents new findings on MFIP’s effects on outcomes that were not available or that could not be reliably measured at the three-year point, such as school records data to measure children’s school achievement. Results are presented separately for single-parent families and for two-parent families.

Key Findings

- For the full sample of single-parent families, MFIP increased employment, earnings, welfare receipt, and income up through Year 4 of the follow-up period, after which MFIP’s effects on economic outcomes dissipated. In two-parent families, through Year 4 of the follow-up period, MFIP reduced employment among second earners, usually women; however, the reduction in family earnings was offset by higher welfare benefits, resulting in no effects on family income.
- MFIP’s economic effects persisted up until Year 6 for several of the most disadvantaged groups of single parents, including those with little employment history, long-term welfare receipt, and no high school diploma or General Educational Development (GED) certificate and those with a combination of these characteristics.
- Among the full sample of single-parent families, MFIP had no overall effect on the elementary school achievement of very young children, but, in line with results for parents, positive effects did occur for several subgroups of young children for whom data are available — notably children of long-term recipients and of the most disadvantaged families. The program had no effect on elementary school achievement of young children in two-parent families.
- By Year 6, marriage rates were similar for MFIP and AFDC single-parent families overall, but the small positive effect MFIP had at the three year point did persist for some subgroups of single-parent families. For two-parent families, MFIP’s effects on divorce varied by the prior welfare history of the two-parent family, with small reductions occurring among recipient families and an opposite pattern occurring among newer applicants, leading to no overall effect.

By using welfare payments to supplement the low earnings of welfare recipients who took jobs, Minnesota was able to increase employment, income, and children’s school performance in the three-year period during which the MFIP program operated. Encouragingly, these efforts may persist even after the program ended for the most disadvantaged, who would have been less likely to work in the absence of MFIP. However, to achieve these gains, Minnesota spent somewhat more than it would have under the AFDC welfare system.

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Supplementary technical resources are available online at www.mdrc.org:

- 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
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Preface

At its inception in the early 1990s, the Minnesota Family Investment Program (MFIP) represented a unique vision of a welfare system that could encourage work and reduce dependence on public assistance and, at the same time, could make families better off by “making work pay.” Today, this model is the norm. Most states’ Temporary Assistance for Needy Families (TANF) programs include enhanced earnings disregards to make work pay while also requiring welfare recipients to work and participate in employment-related activities.

MFIP’s effects after three years were presented in 2000 and are well known to followers of welfare policy. The program’s most consistent and most positive results were for single-parent long-term recipients. For this group, MFIP increased work, earnings, and income; reduced domestic abuse; and improved children’s behavior and school performance. Although the program’s effects for other groups were mixed, MFIP was also found to have small positive effects on marital stability among two-parent recipient families.

A natural follow-up question is “What happened next?” Did MFIP’s large effects on employment and income persist beyond Year 3, or did they end when the program ended and the entire evaluation sample was moved into Minnesota’s new TANF program, a modified version of MFIP? Did the positive effects on children’s achievement last? For two-parent families, did the effect on marital stability persist? Intense interest in MFIP’s three-year findings led to a proposal to use additional data sources to study the program’s longer-term effects.

This report presents MFIP’s six-year effects on work, income, marriage, childbearing, and children’s school achievement. Overall, the most lasting effects were on children in some of the most disadvantaged families. While the effects on parents’ earnings and income faded after six years, children of single-parent long-term recipients were still performing better in school than their control group counterparts. The exception to this pattern is seen for a group of the most disadvantaged parents. For them, MFIP seems to have created a permanent “leg up” in the labor market, increasing their earnings and income through Year 6 and having large positive effects on their children.

MFIP was certainly successful for single-parent long-term recipients during the three to four years that it operated, but how do we rate its success overall, given the longer-term findings? Although MFIP did not lead to lasting increases in employment and earnings, few programs do. And it did have lasting effects on the most disadvantaged parents and on the children of long-term recipients. One of MFIP’s most important legacies is that it brought children back to the table in the debate over welfare reform, reminding us that they are the key beneficiaries of welfare. And MFIP showed us that there is a way to design programs that move more parents into work while at the same time making their children better off, albeit at somewhat higher costs.

Gordon L. Berlin
President

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The completion and production of this long-term follow-up study of the Minnesota Family Investment Program (MFIP) would not have been possible without the support of several individuals and organizations. First and foremost, much gratitude is owed to the Office of the Assistant Secretary for Planning and Evaluation at the U.S. Department of Health and Human Services and to the Annie E. Casey Foundation and the McKnight Foundation for providing the financial support essential for launching this study.

We are immensely grateful to Scott Chazdon and Charles Johnson at the Minnesota Department of Human Services for their continued enthusiasm, dedication, and professional support for research designed to learn more about MFIP. Thanks are also due Joel Kvamme, who was intimately involved with the earlier years of the MFIP evaluation and who created the groundwork for continued collaboration. Scott Chazdon was instrumental in brokering a three-part agreement among MDRC, the Department of Human Services, and the Department of Education that made it possible to access Minnesota's public school test assessments.

Individuals at various state agencies were instrumental in making administrative records data available for the analysis. Divorce records were provided from the Minnesota Supreme Court; marriage and birth certificate data were provided from the Minnesota Center for Health Statistics; and public school test assessments were provided from the Minnesota Department of Education. We are indebted to Craig Hagensick (Minnesota Supreme Court); to Linda Salkowicz and David Stroud (Minnesota Department of Health, Office of the State Registrar, Center for Health Statistics); to Carol Hajicek and Judy Palermo (Minnesota Center for Health Statistics); and to Teresa Gromala, Reginald Allen, and Timothy Vansickle (Minnesota Department of Education). The latter three worked painstakingly closely with MDRC staff to match state math and reading achievement assessments to MFIP evaluation sample members and their children.

The quality of this report also reflects the invaluable feedback we received from several outside reviewers, including David Ribar, Lucie Schmidt, Thomas Bradbury, Sara McLanahan, Ron Haskins, and Gary Burtless. Several staff at the Office of the Assistant Secretary for Planning and Evaluation — including Alana Landey, Martha Moorehouse, Donald Winstead, and Linda Mellgren — also provided feedback on the analyses of MFIP's effects on divorce in two-parent families.

At MDRC, we thank Joel Gordon, Arthur Chachuna, Galine Farberova, and Natasha Piatnitskaia for fastidiously creating and perfecting programs in order to match the divorce, marriage, and fertility data to MFIP evaluation sample members. Thanks are also due Minnesota's Department of Economic Security and Lynn Miyazaki for revitalizing the Minnesota unemployment insurance records data from archives, which provided not only the identifying in-

formation needed to pursue matches with other records but also information about economic outcomes.

Also at MDRC, we thank Gordon Berlin, Dan Bloom, Richard Hendra, JoAnn Hsueh, Virginia Knox, Charles Michalopoulos, Pamela Morris, and Lashawn Richburg-Hayes, who reviewed material and provided feedback several times over the course of this long-term follow-up study. Leslie Sperber, Vivian Choi, Nancy Rosas, and Zawadi Rucks enthusiastically tackled several aspects of the analyses, exhibits, and production of the preliminary drafts and final report. Thanks are also owed to editors John Hutchins, Amy Rosenberg, and Robert Weber and to Stephanie Cowell, who prepared the report for publication.

Finally, and importantly, we acknowledge the dozens of Minnesota staff, MFIP case-workers, initial funders and program designers, and families who partook in the MFIP evaluation. This report — and several of the reports that precede it — would not have been possible without their dedication to improving the lives of low-income families and children and without their willingness to partake in a study to provide evidence about how to design policies to achieve the dual goals of securing and supporting families' economic well-being.

The Authors

Executive Summary

The Minnesota Family Investment Program (MFIP) originated as a new vision of a welfare system that would encourage work, reduce reliance on public assistance, and reduce poverty. The program began in April 1994 in seven Minnesota counties and differed from the existing Aid to Families with Dependent Children (AFDC) system in two key ways: It included financial incentives to “make work pay” by allowing families to keep more of their welfare benefit when they worked, and it required longer-term welfare recipients to work or participate in employment services. Both policies are now key elements of most state welfare programs under Temporary Assistance for Needy Families (TANF), the successor to AFDC.

MFIP was evaluated using a random assignment research design; that is, families were assigned at random either to a program group that was eligible to receive MFIP or to a control group that was eligible for the AFDC system. MFIP’s effects have been measured as the difference in outcomes for the two groups. Effects after three years, or roughly through 1997, are presented in an earlier report.¹ A modified version of MFIP — with a 60-month time limit, less generous financial incentives, and a stricter work requirement — became Minnesota’s statewide TANF program in January 1998.

This report updates the MFIP story in two ways. First, it examines whether the program’s effects held up in the longer term, through six years after study entry. Although MFIP was *not* designed to be temporary, Minnesota’s statewide implementation of the modified version of MFIP (its new TANF program) effectively ended the original version of MFIP in 1998. A primary question of interest in this report is whether MFIP somehow provided families with a permanent advantage, increasing their employment or self-sufficiency in the long term, or whether MFIP’s effects faded after the program ended. The report also presents new findings on MFIP’s effects on outcomes that were not available or that could not be reliably measured at the three-year point, such as school records data to measure children’s school achievement.

¹See Virginia Knox, Cynthia Miller, and Lisa Gennetian, *Reforming Welfare and Rewarding Work: A Summary of the Final Report on the Minnesota Family Investment Program* (New York: MDRC, 2000).

Findings in Brief

The report presents the effects of the original version of MFIP in three areas: economic outcomes, marital and fertility outcomes, and children's reading and math test scores in the third and fifth grades.² Results are presented separately for single-parent families and for two-parent families. In addition, findings are broken out for particular subpopulations in two cases: (1) where MFIP's requirements differed, as for long-term recipients, who faced participation requirements immediately, and recent applicants, who faced these requirements only after two years on welfare; and (2) where MFIP's effects are particularly striking, as for the most disadvantaged single parents.

Single-Parent Families

- **For the full sample of single-parent families, MFIP increased employment, earnings, welfare receipt, and income up through the fourth year of the follow-up period, after which MFIP's effects on economic outcomes dissipated; MFIP's effects varied across different subgroups of single-parent families, however.** The lines in Figures ES.1 through ES.4 present MFIP's effects — or the difference in an outcome between MFIP families and AFDC families — on employment, earnings, welfare receipt, and income, respectively, for each of three subpopulations: recent applicants, long-term recipients, and the most disadvantaged single parents. Among recent applicants (represented by the dotted lines), MFIP increased employment only modestly through Year 4 and had no effect on earnings, but it did increase income for this group of families, because MFIP redesigned the welfare system to make work pay as earnings rose. Recent applicants in MFIP were also more likely to receive welfare benefits up through the fourth year of the follow-up period. Turning to long-term recipients (represented by the heavy solid lines in the figures), MFIP substantially increased employment, earnings, and in-

²The analyses use third- and fifth-grade school records data from 2001 to 2003. Children whose data are available for third-grade reading and math achievement were roughly 0 to 3 years old at study entry. Children whose data are available for fifth-grade reading and math achievement were roughly 2 to 5 years old at study entry. Because random assignment occurred from 1994 to 1996, third- and fifth-grade reading scores for 2001 to 2003 represent a follow-up assessment period of five to nine years.

come just beyond Year 4. Compared with the control group, single-parent long-term recipients in MFIP were also more likely to combine welfare and work (not shown). The employment and earnings effects for this group faded over time, however, because many parents would have eventually gone to work on their own.³ In contrast, MFIP's effects on welfare benefits and income for these families appear to have ended when the program ended and was replaced by the statewide TANF program.

- **MFIP's effects persisted up until Year 6 for several of the most disadvantaged groups of single parents, including those with little employment history, long-term welfare receipt, and no high school diploma or General Educational Development (GED) certificate and those with a combination of these characteristics.** Effects for the small group of the most disadvantaged single parents who had a combination of these characteristics are shown by the lighter solid line in Figures ES.1 to ES.4.⁴ In contrast to the findings for recent applicant and long-term recipient single-parent families, MFIP's effects on employment, earnings, and income persist for the most disadvantaged single parents. A primary reason for the persistence of MFIP's effects over time is that these most disadvantaged single parents were the least likely to have eventually gone to work on their own. The continued earnings gains over the six-year follow-up period suggest that, for this group, the benefits of MFIP may eventually outweigh the costs, in large part because, by the end of Year 4, welfare was no longer being used to supplement earnings. Nonetheless, these families continue to have substantially lower levels of earnings and income than their more advantaged counterparts (not shown).

³In experimental evaluations, the behavior of families in the absence of the program is estimated using the control group.

⁴The characteristics were combined to create a new subgroup, the most disadvantaged single parents. This subgroup consists of families in which single parents received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school diploma or GED and had completed less than twelfth grade, and represent a subpopulation of single-parent recent applicant and long-term recipient families. Of the 415 most disadvantaged single-parent families, 344, or 83 percent, were long-term recipients.

- **By Year 6, marriage rates were similar for MFIP and AFDC single-parent families overall, but MFIP did increase marriage somewhat for some subgroups of single-parent families.** MFIP led to a small increase in marriage, primarily among single-parent long-term recipient families through Year 4 — and among several other subpopulations of single-parent families through Year 6.
- **Among the full sample of single-parent families, MFIP had no effect on the elementary school achievement of very young children; positive effects did occur for several subgroups of young children for whom data are available.** Among families of long-term recipients, for children who were age 2 to 9 at study entry, MFIP had positive effects on maternal reports of children's school performance and behavior at Year 3.⁵ Data on third- and fifth-grade math and reading achievement were matched to children of all single-parent long-term recipients who were newborn to age 3 at study entry, and MFIP improved third-grade reading achievement (assessed five to nine years after study entry). Strikingly, among the most disadvantaged families, MFIP had large positive effects on the small sample of children who were age 2 to 5 at study entry, nearly doubling the proportion who met grade-level expectation in fifth-grade reading and in fifth-grade math. Together, these findings suggest the potential beneficial effects of large and sustained increases in income (as observed among the single-parent most disadvantaged families) as well as the potential benefits to children of short-term boosts to parents' employment, earnings, and income (as observed among the single-parent long-term recipient families).⁶ The generalizability of the results should be approached cautiously given the small sample sizes.

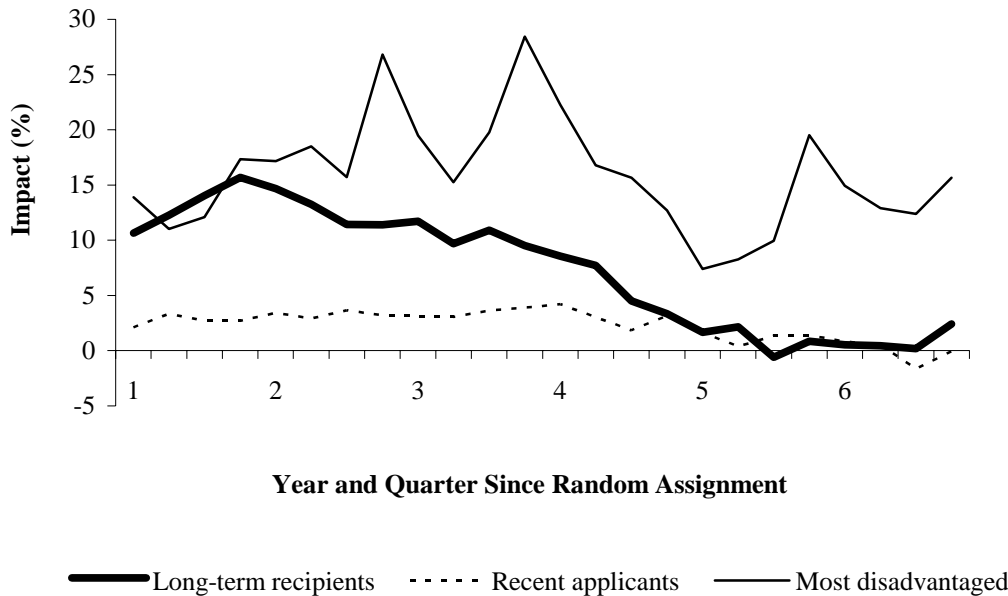
⁵Lisa Gennetian and Cynthia Miller, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program, Volume 2, Effects on Children* (New York, MDRC, 2000).

⁶A notable exception to these favorable patterns of effects is the pattern among children of recent applicant families, for whom MFIP produced neutral effects (and one negative effect) on third- and fifth-grade reading and math achievement. Some possible reasons for this are that children of recent applicants fare better, on average, than children of long-term recipients, and thus have less room for improvement, and that recent applicant families represent a heterogeneous group, some of whom might have entered the welfare system because of family upheaval. See Lisa Gennetian and Cynthia Miller, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program, Volume 2, Effects on Children* (New York: MDRC, 2000).

The Minnesota Family Investment Program

Figure ES.1

MFIP's Effects on Employment Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

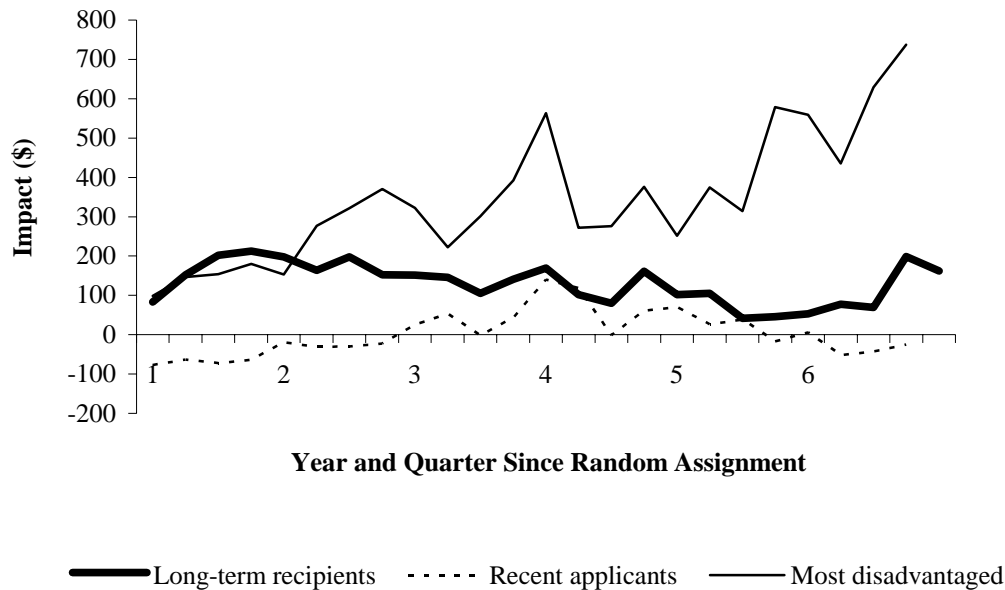
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

The Minnesota Family Investment Program

Figure ES.2

MFIP's Effects on Earnings Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

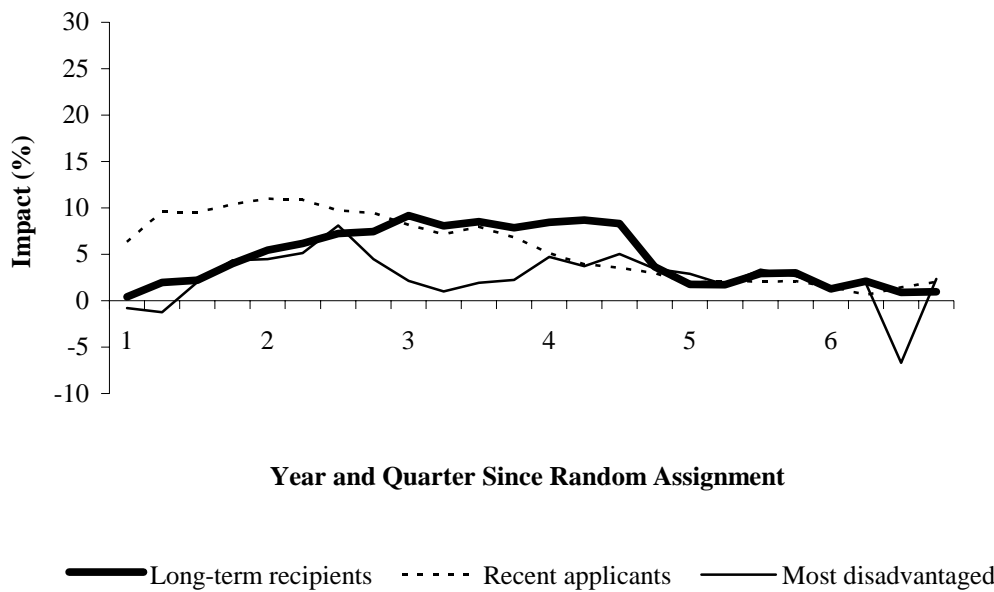
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

The Minnesota Family Investment Program

Figure ES.3

MFIP's Effects on Welfare Receipt Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

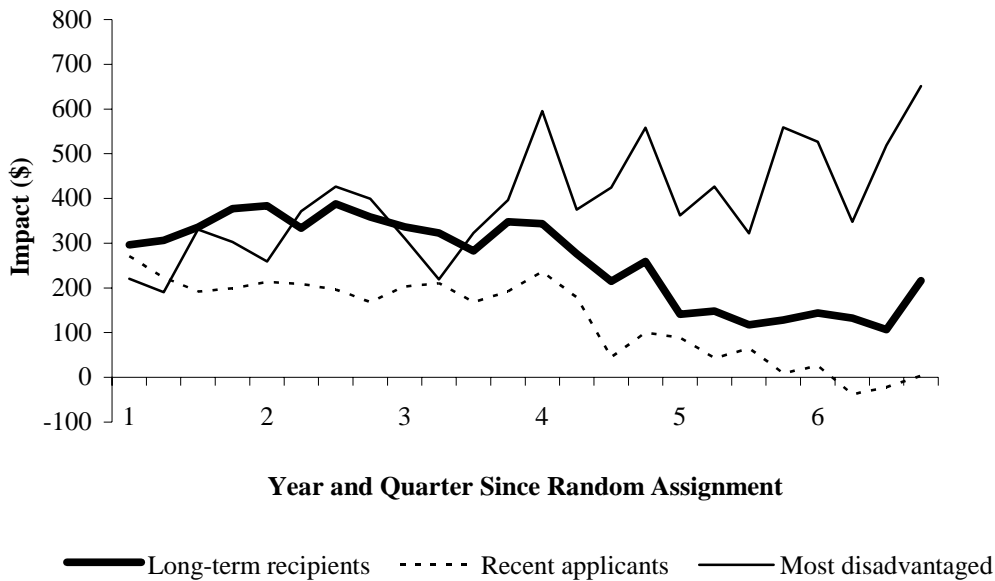
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

The Minnesota Family Investment Program

Figure ES.4

MFIP's Effects on Income Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

Two-Parent Families

- **Through Year 4 of the follow-up period, MFIP reduced employment among women in two-parent families; the reduction in family earnings was offset by higher welfare benefits, resulting in no effects on family income.** MFIP's effects were concentrated among two-parent recipient families, possibly because two-parent applicant families rotate off welfare fairly quickly. For two-parent recipient families, the reduction in family earnings came about at least in part because of the number of families who had two wage-earners.
- **At the six-year point, MFIP's effects on divorce varied by the prior welfare history of the two-parent family, leading to no overall effect.** MFIP substantially increased marital stability at the three-year point for two-parent recipient families, primarily by reducing reported rates of separation.⁷ While information on separations at the six-year point is not available, analyses of public records data show that MFIP did slightly decrease divorce rates at the six-year point for these families. The pattern of effects among two-parent applicant families, however, is significantly different from the pattern of effects among two-parent recipient families, with a trend toward higher divorce rates among two-parent applicant families in MFIP.
- **MFIP had no effect on elementary school achievement of young children in two-parent families.** Although MFIP's effects might have provided support for the hypothesis that marital stability (among two-parent recipient families) can improve children's outcomes, the evidence to date is not conclusive, especially since data are not available for a broader age group of children and information is not available about children's social, emotional, and behavioral development.

⁷Cynthia Miller, Virginia Knox, Lisa Gennetian, JoAnna Hunter, Marty Dodoo, and Cindy Redcross, *Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program, Volume 1, Effects on Adults* (New York: MDRC, 2000).

MFIP Incentives Only

- **MFIP’s financial incentives are a core component of MFIP’s positive effects on income.** In order to assess which component of MFIP led to its effects, the evaluation includes a third research group (called “MFIP Incentives Only”) that received the program’s financial incentives but was never subject to its participation mandate. For long-term recipients, the incentives when offered by themselves increased employment modestly but also caused some people to cut back their work hours or to take part-time rather than full-time jobs. As a result, MFIP’s financial incentives alone had no effect on earnings but still increased income, since they allowed some parents to use the more generous welfare benefits to make up the difference in the loss of earnings. The full MFIP treatment did increase earnings, because it combined the incentives with a requirement that individuals work or participate in services for at least 30 hours per week.

Policy Implications

- **Financial incentives combined with mandates to participate in employment-related services can move more single parents into work but are unlikely to generate long-term increases in employment and earnings for most groups.** In MFIP, as in several other similar programs,⁸ the positive effects on employment and earnings tend to fade over time, not because the program ends but because many of these parents would have gone to work eventually anyway. Under this scenario, the effect of the program was to speed up their movement into work. This finding and the fact that MFIP’s effects did not fade for the most disadvantaged single parents underscore the potential value in targeting more intensive or more expensive programs toward those who are least likely to go to work on their own.
- **In contrast, increases in income could be sustained into the longer term by continuing the program.** MFIP probably would have continued to increase families’ incomes if it had continued providing its more generous

⁸Charles Michalopoulos, *Does Making Work Pay Still Pay? An Update on the Effects of Four Earnings Supplement Programs on Employment, Earnings, and Income* (New York: MDRC, 2005).

earnings disregard to eligible families — or, in other words, if the MFIP program and control group members (who were receiving assistance) had not been moved into the new statewide program in 1998. These results are suggestive only, since they are based on nonexperimental analyses, but they are similar to findings from other earnings supplement programs.⁹

- **Even temporary increases in family income can benefit children over the long term.** The persistence of MFIP's effects on the young children of single-parent long-term recipients — beyond the economic effects for their parents — is quite similar to findings reported in comparable studies¹⁰ and is perhaps not surprising, given that better academic performance in early years has been found to foster better performance in later years. These findings also suggest that longer-lasting effects on employment and income for very disadvantaged subpopulations can lead to concurrent improvements in children's academic achievement. Understanding the broad range of potential effects across cognitive and behavioral aspects of children's development and determining whether effects exist for older children are important matters for future investigation.
- **Effects on earnings and income are largest and most sustained when financial incentives are combined with work requirements rather than implemented alone.** Offering financial incentives alone can encourage some families to cut back on work. Combining incentives with work requirements can minimize this effect and reduce the overall costs of the program. The value of these cost reductions should be weighed against the potential benefits that families experience when parents are able to spend more time with their children.
- **Strategies of increasing income by rewarding work, along with subsequent benefits that might accrue for families and children, should be**

⁹Michalopoulos (2005) finds similar results for the New Hope program and Canada's Self-Sufficiency Project — programs that offered time-limited earnings supplements outside the welfare system, based on the condition of full-time work.

¹⁰Pamela A. Morris, Lisa A. Gennetian, and Greg J. Duncan, "Effects of Welfare and Employment Policies on Young Children: New Findings on Policy Experiments Conducted in the 1990s," *Social Policy Report* 19, 2 (2005).

weighed against increased government costs. MFIP's use of welfare benefits to supplement the earnings of single parents who worked was a core component of the increased income among MFIP families, but it also led to increased costs. Among single-parent families, this increased income likely contributed to MFIP's long-term benefits to children's achievement in school. Among two-parent recipient families, welfare income also played an important, albeit different, role: MFIP allowed one parent to cut back on work effort, and this reduction in family earnings was offset by increased welfare payments, leading to no net difference in family income. Although these effects did not last beyond the fourth year of follow-up, they did appear to influence marital stability somewhat, by slightly reducing rates of divorce in the long term for that subgroup of two-parent families.

- **Changes in the welfare system that are aimed at increasing employment and income may have few and small effects on divorce rates and entry into marriage.** Although there is less evidence from other studies on this point, the results from MFIP suggest that programs of its type are unlikely to have large lasting effects on marriage rates, although they may increase marriage or marital stability for some families.¹¹ Although lower rates of separation among MFIP two-parent recipient families in the short term could not be followed up in the longer term, there is little evidence here that MFIP's short-term impacts on separations led to substantial reductions in divorce in the long run. Programs such as MFIP were not explicitly designed to affect marriage or the quality of relationships. It might be that interventions designed to address a broader range of factors influencing marital relationships could more directly influence decisions to marry or stay married.

¹¹Lisa Gennetian and Virginia Knox, "Staying Single: The Effects of Welfare Reform Policies on Marriage and Cohabitation," Next Generation Working Paper (New York: MDRC, 2003).

Chapter 1

Introduction

When it started in the early 1990s, the Minnesota Family Investment Program (MFIP) originated in a new and unique vision of welfare reform as a system that can encourage work, reduce reliance on public assistance, and reduce poverty. The program differed from the Aid to Families with Dependent Children (AFDC) system in two key ways: It included enhanced financial incentives to “make work pay,” and it required most longer-term welfare recipients to work or participate in employment services. Both policies are now key elements of most state welfare programs under Temporary Assistance for Needy Families (TANF), the successor to AFDC.

MFIP was evaluated using a random assignment research design, whereby families were assigned at random to either a program group that was eligible for MFIP or a control group that was eligible for the AFDC system. MFIP’s effects are measured as the difference in outcomes between the two research groups after study entry. Two earlier MDRC reports summarize the program’s effects on adults and on children¹ and provide evidence that MFIP met its goals at the three-year follow-up point, primarily for single parents who had been on welfare long term. For this group, the program increased employment rates, earnings, and consequently income. These single parents were also somewhat more likely to receive welfare, owing to the program’s more generous disregard that allowed them to work and still receive benefits. The findings were encouraging, in that few programs to date had been able to increase employment rates as well as income — usually increasing one but not the other. Under MFIP, parents were working more and were also better off. Although MFIP did increase employment rates for single mothers who were newer to welfare, effects for this group were much smaller. Among two-parent families, the program did not increase family employment, and its financial incentives led some parents to cut back on the work hours of one spouse.

MFIP had two other important effects at the three-year follow-up point that were not explicit goals of the program but likely resulted from its effects on economic outcomes. First, among single-parent long-term recipients, it increased marriage rates and led to notable improvements in maternal reports of the behavior and school performance of their elementary-school-age children. Second, among two-parent recipient families, MFIP substantially reduced separation rates. Data on children’s performance were not available.

This report updates the MFIP story in two ways:

¹Miller et al., 2000; Gennetian and Miller, 2000.

- The report examines whether MFIP's effects held up in the longer term, or through six years after study entry, by addressing such questions as: Did MFIP's large initial effects on economic outcomes for single parents persist beyond the third year of follow-up? Did children in single-parent families continue to do better in school than their counterparts who had not been in the program? If so, did children do better even if MFIP's initial effects on parents' economic outcomes faded?
- The report also presents new findings on MFIP's effects on outcomes that were not available or that could not be reliably measured at the three-year point, and it examines particular outcomes for a larger group of MFIP evaluation families.

Although it is hoped that any program will produce lasting effects, few welfare-to-work initiatives have done so, particularly with respect to economic outcomes. A possible reason for this is that many of these programs are temporary, owing in some cases to budget constraints and in other cases to a belief that a temporary "dose" of the program's treatment might lead to lasting effects. Although MFIP was not designed to be temporary, Minnesota's statewide implementation of the modified version of MFIP (its new TANF program) effectively ended the original version of MFIP in 1998, as all families in the evaluation study who were still on welfare were transferred into the new program. A key question in the evaluation of any temporary program is whether the effects would have lasted longer had the program been extended.

Another reason that effects on economic outcomes might fade over time is that many parents in these programs would have gone to work anyway — if not right away, then eventually.² In this case, the program's primary effect is to accelerate entry into work. Another possible, although less common, scenario is that people who go to work because of the program find it difficult to stay employed. Designing successful programs depends on understanding which of these scenarios is true. Of course, the alternative and ideal scenario is that the program somehow provides families with a permanent advantage, or "leg up," in the labor market, increasing their employment and self-sufficiency long term.

Finally, whether the effects fade over time depends on the outcome in question. In the case of young children's academic performance, for example, improvements in school achievement while in elementary school might lead to better performance in school during early or late adoles-

²In random assignment evaluations, the control groups — representing the counterfactual — show whether this would have occurred.

cence.³ The existence of such effects suggests that even if the earnings and income effects do eventually fade, the most significant benefits of a program may be in the much longer run.

The analyses throughout this report rely on an assortment of administrative records data — measuring key economic, marriage, divorce, fertility, and schooling outcomes — that were matched to all parents and children in the MFIP evaluation sample. Publicly available divorce records, for example, are newly available and were analyzed to confirm effects on marital stability that were based on self-reports and to examine effects among several new subpopulations of two-parent families. School records data are also now available to measure children’s school performance; this represents an important addition to the parent-reported data among elementary-school-age children of single-parent families, which were used at the three-year point, and the new information about children in two-parent families.

This summary report of the long-term effects of the original MFIP begins by providing a very brief overview of the MFIP model and evaluation (Chapter 2); the three-year follow-up reports provide further details about how MFIP differed from the AFDC program and about its research design and implementation.⁴ Following the structure of prior presentations of MFIP’s effects, the discussion of findings is then organized according to family type, separating single-parent families (Chapter 3) from two-parent families (Chapter 4). The beginning of each of these chapters summarizes MFIP’s main effects at the three-year point and at the six-year point. The report concludes (Chapter 5) with a discussion of the policy implications of the long-term findings from MFIP.

³Masten et al., 1995.

⁴See Miller et al., 2000; Gennetian and Miller, 2000.

Chapter 2

The MFIP Model and Evaluation

The MFIP Model

Implemented in 1994 in three urban and four rural counties, the Minnesota Family Investment Program (MFIP) integrated several programs in the Minnesota welfare system, with an eye toward accomplishing the dual goals of increasing employment and reducing poverty among welfare families.¹ MFIP differed from the Aid to Families with Dependent Children (AFDC) system in four key ways:

Financial Incentives to Work

Under the traditional AFDC system, welfare recipients experienced a sharp reduction in their benefits as their earnings increased, and this gave little incentive to work. When a parent went to work under MFIP, her basic grant was increased by 20 percent to offset work-related expenses, and then 38 percent of earnings were disregarded in calculating the family's grant level. In 1994, a single parent who had two children and who worked 20 hours per week at \$6 per hour received \$237 more under MFIP than under AFDC. MFIP's financial incentives particularly raised the reward more for working part time than full time: An equivalent single parent working 40 hours or more per week received \$148 more under MFIP than AFDC. In addition to the earnings disregard, MFIP paid child care costs directly to providers; in contrast, under AFDC, parents paid child care costs themselves and were reimbursed later.

Participation Requirements for Long-Term Recipients

Under MFIP, all recipients who received welfare for at least two of the prior three years (and who were not exempt based on the ages of their children or current work experience) were required to participate in employment and training services. These services were designed to move recipients quickly into the workforce or face a reduction in their welfare grant. For two-parent families under MFIP, at least one of the parents was required to work 30 hours or more per week or to participate in employment-focused activities after the family had received welfare for six months. This differed only slightly from the AFDC-UP (Unemployed Parent) program, in which two-parent families could continue receiving benefits only if the primary wage-earner worked, searched for a job, or worked in exchange for benefits through the Community Work Experience Program (CWEP).

¹For details about MFIP and its evaluation, see Miller et al., 2000.

Simplification of Rules and Procedures

MFIP combined AFDC, Food Stamps, and Family General Assistance into a single program and one monthly payment. Recipients also received Food Stamp benefits rather than coupons as part of their cash grant.

Streamlined Eligibility Rules for Two-Parent Families

Under MFIP, two-parent families no longer faced the “100-hour rule,” which limited the total number of hours that the primary wage-earner could work in a month and still be eligible for welfare. MFIP also ended the work history requirement, which required that at least one parent had worked during the 12 months prior to application for public assistance. The elimination of these rules reduced the incentive that they provided for families to split up in order to remain eligible for welfare.

Minnesota’s New TANF Program: MFIP-S

A modified version of MFIP became statewide policy in 1998. The statewide program (referred to here as “MFIP-S”) differed from the MFIP field trials in the following ways:²

- A 60-month lifetime limit on welfare receipt
- A requirement that single parents either work 35 hours per week or participate in job search 30 hours per week
- A time trigger for work requirement that applies within 6 months of entry into public assistance (rather than 24 months)
- A reduced base grant and financial incentives that allow recipients to remain on welfare until earnings reach 120 percent of the poverty line (rather than 140 percent)

While MFIP-S was implemented statewide in January 1998, the evaluation sample was embargoed from the change until June 1998. After that point, people in both the MFIP and the AFDC group who were still receiving welfare were transferred into MFIP-S. Thus, although MFIP-S is similar to MFIP, *the policy or program differences* that the two groups experienced ended in June 1998.³

²This description of MFIP-S does not necessarily represent Minnesota’s current Temporary Assistance for Needy Families (TANF) program.

³One exception in the timing of these events should be noted: In July 1997, the 100-hour rule was eliminated for all two-parent families, including those who were in the AFDC group for the field trials.

This context is important for interpreting any observed effects of MFIP over a long-term follow-up. While program-control group differences were preserved for roughly the first three years of follow-up, families in the program (MFIP) group *and* families in the control (AFDC) group were eligible for a similar and “new” welfare program at about the four-year follow-up point. This context also differs from a typical evaluation, in which the program ends once the field trial ends and the program group families have access to the services and benefits that the control group families always had. The subsequent chapters examine how the conversion to MFIP-S — marking the end of MFIP — might have influenced MFIP’s impacts.

The MFIP Evaluation

MFIP was evaluated via a random assignment design. Families who were newly applying for welfare benefits or who were ongoing recipients and recertifying their eligibility were assigned, in a lottery-like process, to either the MFIP (program) group, which was eligible for the benefits and subject to the requirements of MFIP, or to the AFDC (control) group, which was eligible for the AFDC program that was in effect in Minnesota in 1994. Random assignment ensures that the two groups are similar at the point of study entry and that any differences in outcomes observed between the groups during the follow-up period can be attributed to the effects of MFIP.⁴

The current analyses represent one important departure from nearly all the prior MFIP reports and papers: This report is the first to present estimates for the pooled sample of single-parent families and, separately, for the pooled sample of two-parent families.⁵ These new analyses examine all single-parent families and then all two-parent families and are complemented by analyses that examine MFIP’s effects on several important subgroups of single-parent and two-parent families that are the focus of previous MFIP analyses. (See Box 2.1.)

The first and most relevant subgroup is defined by welfare status at study entry, differentiating ongoing or long-term recipients from new or more recent applicants. MFIP’s effects are expected to differ across these groups for two reasons. First, as shown in Table 2.1, MFIP’s rules and policies differed by the welfare status of the family at study entry. In addition to being

⁴Analyses predicting the likelihood of being in either research group suggest that families in the research groups were, indeed, comparable in a variety of socioeconomic, demographic, and other characteristics, suggesting that random assignment was implemented correctly (Miller et al., 2000). All impact estimates are adjusted to control for a variety of baseline and pre-random assignment demographic and socioeconomic characteristics. Unless otherwise indicated, this discussion includes only those impacts that are statistically significant (at a probability [p] level of 10 percent or less, using a two-tailed t-test).

⁵To do this correctly, weights were applied to the impact estimates to account for the differing intake ratios at the time of random assignment, according to county of residence and status as either an applicant or a recipient of welfare.

eligible for the enhanced earned income disregard, single-parent long-term recipients were immediately subject to MFIP's employment participation requirements. In contrast, single-parent recent applicants had to have been on welfare for at least 24 months before being subject to the participation requirement.

Box 2.1

Assessing MFIP's Long-Term Effects

MFIP was evaluated using a random assignment research design. At the time at which families newly applied or sought recertification for welfare benefits, they were randomly assigned in a lottery-like process to a program group or to a control group. Random assignment ensures that any observed and unobserved differences in characteristics are similar for families across these groups. As a result, any differences observed in outcomes between the families or children in the program group and the families or children in the control group can be attributed to the MFIP policies and can be interpreted as an impact or effect of MFIP.

Each of the tables in this report shows, at a particular point in time, average outcomes for program group families (or children), average outcomes for control group families (or children), the difference between these outcomes, and an indication — via asterisks — of whether or not this difference is statistically significant. Statistical significance indicates whether or not the impact or effect occurred with a higher likelihood than would have occurred by chance. To increase precision of impact estimates, average outcomes for program group families and control group families are adjusted with a series of baseline and pre-baseline socioeconomic and demographic characteristics.

In addition, in the tables showing impacts on children's reading and math scale scores, MFIP's impact is converted into effect size or standard deviation units, for ease of interpretation. Effect size is calculated by dividing the difference between the program and the control groups by the standard deviation of the control group outcome. Effect sizes range from 0 to 1, with large effect sizes traditionally being characterized as 0.5 or greater.*

Each of the figures in this report graphs MFIP's impact over time for a particular outcome. Lines above the horizontal axis indicate that MFIP increased the outcome of interest. Lines below the horizontal axis indicate that MFIP decreased the outcome of interest. Lines that hover near the horizontal axis indicate that the outcome is similar both for MFIP families and for AFDC families; in other words, MFIP had little impact.

*Cohen, 1998.

The Minnesota Family Investment Program

Table 2.1

The Key Elements of MFIP for Single-Parent Families

Recent Applicants	Long-Term Recipients
Financial incentives (and other changes in eligibility rules)	Financial incentives (and other changes in eligibility rules)
Referral to mandatory services with reinforced incentives message if remaining on welfare and reaching the two-year time trigger	Immediate referral to mandatory services

As described in Table 2.2, MFIP's policies also slightly differed for two-parent families, based on their prior welfare history. Two-parent applicant families, for example, no longer faced a work history requirement, increasing their eligibility for receiving welfare benefits. Second, the demographic and socioeconomic characteristics of ongoing recipients substantially differed from new or more recent applicants, especially regarding their employment history. Appendix Table A.1 shows several selected baseline, or pre-study-entry, characteristics of single-parent families overall, including welfare status at study entry. Appendix Table A.2 shows comparable information for two-parent families.

The Outcomes Examined in This Report

This report presents MFIP's effects on economic outcomes, marriage, divorce, fertility, and children's schooling achievement. These outcomes are measured using a variety of administrative records data sources. The strength of conducting an evaluation by relying on this type of data — from Unemployment Insurance records to school records from the Department of Education — is that information is available for all families in the MFIP evaluation sample rather than for a representative survey subsample. An additional benefit is that it is possible to estimate effects reliably for subpopulations of families whose numbers might be too few in a follow-up survey effort. Administrative data sources also have weaknesses: The most notable of these is that they capture only information that is officially and often legally documented for the purposes of government regulation, monitoring, or determination of eligibility for benefits in the particular state where data are collected. For example, Unemployment Insurance records do not capture informal work or self-employment; divorce and marriage records do not capture separations or cohabitation; and school records do not capture children's socioemotional development

The Minnesota Family Investment Program

Table 2.2

The Key Elements of MFIP for Two-Parent Families

Applicants	Recipients
Financial incentives (and other changes in eligibility rules)	Financial incentives (and other changes in eligibility rules)
Removal of the work history requirement at application	
Removal of the 100-hour rule for ongoing eligibility	Removal of the 100-hour rule for ongoing eligibility
Referral to mandatory services with reinforced incentives message if remaining on welfare and reaching the two-year time trigger	Immediate referral to mandatory services

or the achievement of children in private schools. Appendix B describes the outcomes examined in this report, how they were constructed, and their original sources.

Data on the main targets of the MFIP program — employment, earnings, and welfare receipt — were obtained from state Unemployment Insurance earnings records and welfare payments records. These data do not capture informal work or self-employment or employment that might have occurred outside Minnesota. In this report, “welfare” is defined broadly: For families in the AFDC group, it includes income from AFDC or TANF payments, Food Stamp benefits, and General Assistance payments. For families in the MFIP group, it includes MFIP payments, part of which are Food Stamp benefits given in the form of cash. “Income” is the sum of earnings and welfare benefits, as measured from these administrative records sources.

MFIP’s participation requirements and enhanced earned income disregard are expected to increase employment, earnings, and income. While some of this increased income will be from increased earnings, evidence from the three-year evaluation also shows that much of MFIP’s effects on increased income resulted from the earned income disregard, which allowed recipients to continue to be eligible for and subsequently receive welfare benefits. MFIP’s earned income disregard alone is also expected to initially increase employment, especially part-time employment. On the other hand, such financial incentives might encourage employed parents to cut back their work effort, since the resulting loss in earned income will be made up for by increased welfare benefits, leading to no net change in total income.

Data on marriage and divorce are obtained both from the three-year follow-up survey and from publicly available divorce records and marriage certificate records over a six-year period. Policy and research interest in the effects of welfare reform policies on marital status hark back to one of the original goals of the 1996 welfare reform legislation, which first clearly articulated “encouraging the formation and maintenance of two-parent families.” Although only a few states — and not including Minnesota — designed their welfare waiver policies explicitly to achieve this goal, marital status could have been influenced by several employment- and income-based policy components of these welfare programs.⁶ For example, MFIP’s equalized eligibility requirements between coupled or two-parent families and single-parent families (by eliminating the 100-hour rule and the work history requirement) reduced marriage penalties that existed in the AFDC system, and this could increase marriage or marital stability by allowing working families to continue to receive welfare benefits and have higher income while married. In addition, MFIP’s effects on economic well-being might influence marriage or marital stability. Among single parents, the benefits to marrying might be reduced if increased employment reduces perceived gains to specialization in the home that might occur while married or if increased income reduces the economic need for marriage (that is, the “independence effect”). On the other hand, marriage might increase if increased employment enhances one’s self-esteem and attractiveness as a partner or one’s exposure to a wider network of potential partners in the workplace or if increased income provides financial stability (that is, the “income effect”) or sufficient bargaining power.

Among two-parent families, effects on marital stability depend on the dynamics of employment decisions and family income. Reductions in family employment with little loss in family income might reduce stress and strain in marital relationships and enhance marital satisfaction and stability. Higher welfare benefits in the form of generous earnings disregards without corresponding increases in employment might increase strain in a couple’s relationship and the likelihood of separation, especially in high-conflict or low-quality relationships. Culture, the availability of marriage (or of marriageable) partners, and other socially defined factors might indirectly support or undermine marital formation or stability.⁷

Data on fertility come from birth certificate information provided by the Minnesota Center for Health Statistics (at the Department of Health), capturing new births over the first five years of the follow-up period and the health of these babies. MFIP did not include specific program components, such as family cap policies, that are designed to reduce the incentives for additional children. However, MFIP might affect fertility through its effects on employment, earnings, income, and marriage. For example, increased employment and earnings might increase the oppor-

⁶For further discussion about theoretical predictions, see Fein, London, and Mauldon (2002); Gennetian and Knox (2003); Gennetian and Miller (2004); Gennetian and Knox (2004).

⁷Wilson, 1996; Edin, 1999, 2000.

tunity cost (that is, in lost wages or wage growth) of having an additional child. On the other hand, additional financial resources through increased income, or additional social resources through increased marriage, might increase the affordability and feasibility of having another child.

Finally, school records data on third-grade achievement for some children and fifth-grade achievement for other children come from the Minnesota Department of Education and were matched to children (newborn to age 5 at study entry) from MFIP evaluation families. Children's development became a point of concern as welfare reform policies increasingly focused on mandatory employment requirements for parents. Children may benefit from such reforms as parents respond to work incentives and requirements, thereby increasing their earnings and becoming self-sufficient, providing a role model for their children, and having more resources to invest in their children. On the other hand, children may also bear the costs of welfare reform, if balancing employment with family responsibilities increases parents' stress and negatively affects parenting or if children are left unsupervised during work hours or are exposed to poor-quality or unsafe child care arrangements.⁸ The weight of the evidence to date suggests that programs like MFIP — that were designed to make work pay and that successfully increase parental employment and income — also show positive short-term effects (after three years) on the cognitive development of preschool- and elementary-school-age children.⁹

⁸Two overarching theories drive these hypotheses. The *resources pathway* theory posits that changes in employment and the provision of services or benefits can enhance access to material and nonmaterial goods. The *socialization pathway* theory posits that changes in employment and income and the provision of benefits or services may lead to changes in family functioning, parenting practices, and the presence of role models. For further description of the theories and empirical evidence on how MFIP might affect children's development, see Gennetian and Miller (2000). For general descriptions of conceptual frameworks for understanding how welfare and employment policies might affect children's development, see Morris, Gennetian, and Duncan (2005); Zaslow and Emig (1997).

⁹Gennetian and Miller, 2000; Huston et al., 1999; Morris and Michalopoulos, 2000; Morris, Gennetian, and Duncan, 2005.

Chapter 3

MFIP's Effects Among Single-Parent Families

Summary of MFIP's Effects

In the Minnesota Family Investment Program (MFIP), “single-parent families” include long-term recipients of welfare as well as relatively new applicants to welfare. Single-parent long-term recipients were on welfare for 24 of the 36 months prior to study entry and were immediately subject to MFIP’s employment participation mandate as well as its financial incentives. At study entry, the majority of these parents were never married (64 percent); a slight majority are white, non-Hispanic (53 percent); and just over half had been on welfare for more than five years when they entered the study. Single-parent recent applicants were new applicants to welfare or were on welfare for fewer than 24 of the 36 months prior to study entry. At study entry, just over half of single-parent recent applicants were never married, and nearly 20 percent had experienced a divorce; 65 percent are white, non-Hispanic; and 58 percent had no prior experience on welfare. (Appendix Table A.1 presents selected characteristics of both groups of single-parent sample members.)

- **For the full sample of single-parent families, MFIP increased employment, earnings, welfare receipt, and income up through the fourth year of the follow-up period, after which MFIP’s effects on economic outcomes dissipated; MFIP’s effects varied across different subgroups of single-parent families, however.** The lines in Figures 3.1 through 3.4 present MFIP’s effects — or the difference in an outcome between MFIP families and AFDC families — on employment, earnings, welfare receipt, and income, respectively, for each of three subpopulations: recent applicants, long-term recipients, and the most disadvantaged single parents. Among recent applicants (represented by the dotted lines), MFIP increased employment only modestly through Year 4 and had no effect on earnings, but it did increase income for this group of families, because MFIP redesigned the welfare system to make work pay as earnings rose. Recent applicants in MFIP were also more likely to receive welfare benefits up through the fourth year of the follow-up period. Turning to long-term recipients (represented by the heavy solid lines in the figures), MFIP substantially increased employment, earnings, and income just beyond Year 4. Compared with the control group, single-parent long-term recipients in MFIP were also more likely to combine welfare and work (not shown). The employment and earnings effects for this group faded over time, however, because many parents would have eventually gone to work on their

own.¹ In contrast, MFIP's effects on welfare benefits and income for these families appear to have ended when the program ended and was replaced by the statewide TANF program.

- **MFIP's effects persisted up until Year 6 for several of the most disadvantaged groups of single parents, including those with little employment history, long-term welfare receipt, and no high school diploma or General Educational Development (GED) certificate and those with a combination of these characteristics.**² Effects for the small group of the most disadvantaged single parents who had a combination of these characteristics are shown by the lighter solid line in Figures 3.1 to 3.4. In contrast to the findings for recent applicant and long-term recipient single-parents families, MFIP's effects on employment, earnings, and income persist for the most disadvantaged single parents. A primary reason for the persistence of MFIP's effects over time is that these most disadvantaged single parents were the least likely to have eventually gone to work on their own. The continued earnings gains over the six-year follow-up period suggest that, for this group, the benefits of MFIP may eventually outweigh the costs, in large part because, by the end of Year 4, welfare was no longer being used to supplement earnings. Nonetheless, these families continue to have substantially lower levels of earnings and income than their more advantaged counterparts (not shown).
- **By Year 6, marriage rates were similar for MFIP and AFDC single-parent families overall, but MFIP did increase marriage somewhat for some subgroups of single-parent families.** MFIP led to a small increase in marriage, primarily among single-parent long-term recipient families, through Year 4 — and among several other subpopulations of single-parent families through Year 6.
- **Among the full sample of single-parent families, MFIP had no effect on the elementary school achievement of very young children; positive effects did occur for several subgroups of young children for whom data are available.** Among families of long-term recipients, for children who were age 2 to 9 at study entry, MFIP had positive effects on maternal reports of chil-

¹In experimental evaluations, the behavior of families in the absence of the program is estimated using the control group.

²The most disadvantaged single-parent families are a subpopulation of single-parent recent applicant and long-term recipient families. Of the 415 most disadvantaged single-parent families, 344, or 83 percent, were long-term recipients.

dren's school performance and behavior at Year 3.³ Data on third- and fifth-grade math and reading achievement were matched to children who were newborn to age 3 at study entry, and MFIP improved third-grade reading achievement (assessed five to nine years after study entry). Strikingly, among the most disadvantaged families, MFIP had large positive effects on the small sample of children who were age 2 to 5 at study entry, nearly doubling the proportion who met grade-level expectation in fifth-grade reading and in fifth-grade math. Together, these findings suggest the potential beneficial effects of large and sustained increases in income (as observed among the single-parent most disadvantaged families) as well as the potential benefits to children of short-term boosts to parents' employment, earnings, and income (as observed among the single-parent long-term recipient families).⁴ The generalizability of the results should be approached cautiously given the small sample sizes.

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

Table 3.1 presents effects on several economic outcomes through Year 6 for all single-parent families as well as by their history of welfare receipt prior to study entry. Recall that single-parent long-term recipient families — defined as being on welfare for at least 24 of the 36 months prior to study entry — were immediately subject to MFIP's requirement to participate in employment or employment-related services and also were eligible for MFIP's earned income disregard.

For the full sample of single-parent families, MFIP increased employment, earnings, welfare receipt, and income in Years 5 and 6, but, with the exception of welfare receipt, all the effects became small and statistically insignificant after Year 4. MFIP's effect on employment, for example, decreased from a statistically significant 4.7 percentage points in Year 4 to a small and insignificant impact of 1.5 percentage points in Year 5.

Income is measured as the sum of earnings and welfare benefits, meaning that MFIP's effect on income is made up of its effects on earnings and welfare. A comparison of MFIP's effects on income and earnings shows that MFIP increased income for single-parent families by increasing receipt of welfare and the amount of welfare benefits (the latter is not shown). For example, of the increase in quarterly income of \$269 in Year 2, only \$85 came from increased earnings.

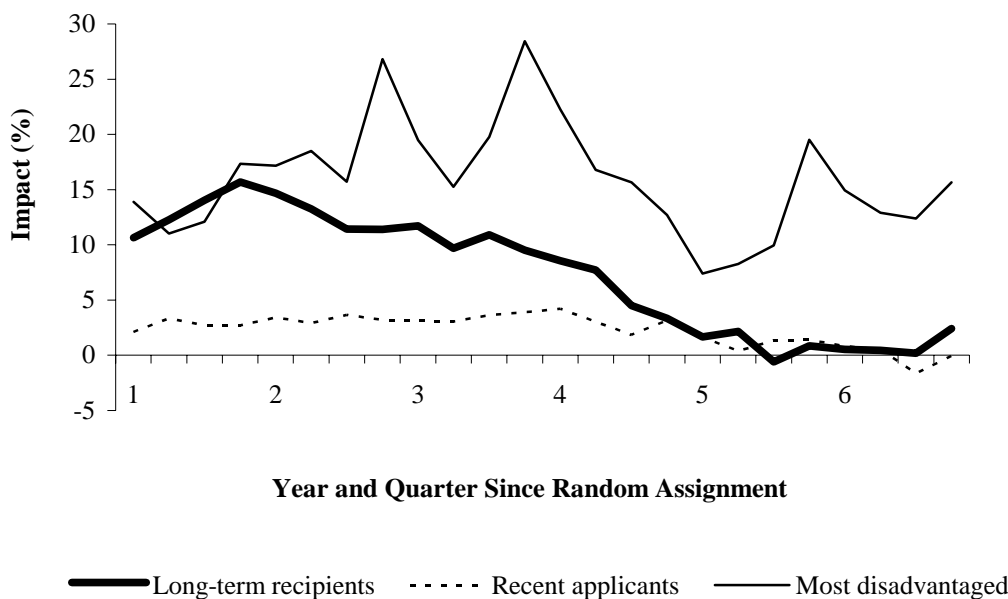
³Gennetian and Miller, 2000.

⁴A notable exception to these favorable patterns of effects is the pattern among children of recent applicant families, for whom MFIP produced neutral effects (and one negative effect) on third- and fifth-grade reading and math achievement. Some possible reasons for this are that children of recent applicants fare better, on average, than children of long-term recipients, and thus have less room for improvement, and that recent applicant families represent a heterogeneous group, some of whom might have entered the welfare system because of family upheaval (Gennetian and Miller, 2000).

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Figure 3.1

MFIP's Effects on Employment Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

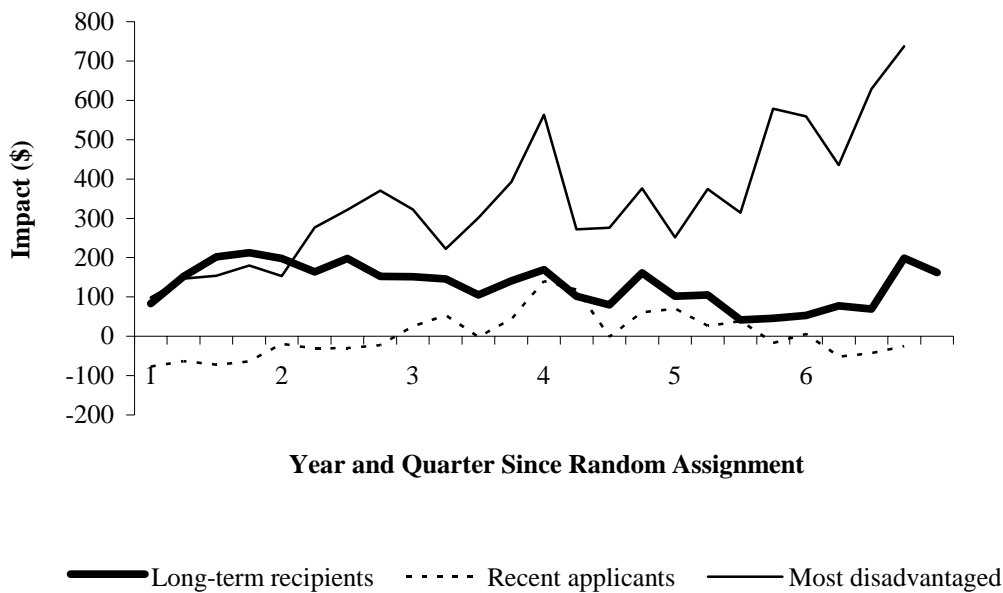
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

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Figure 3.2

MFIP's Effects on Earnings Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

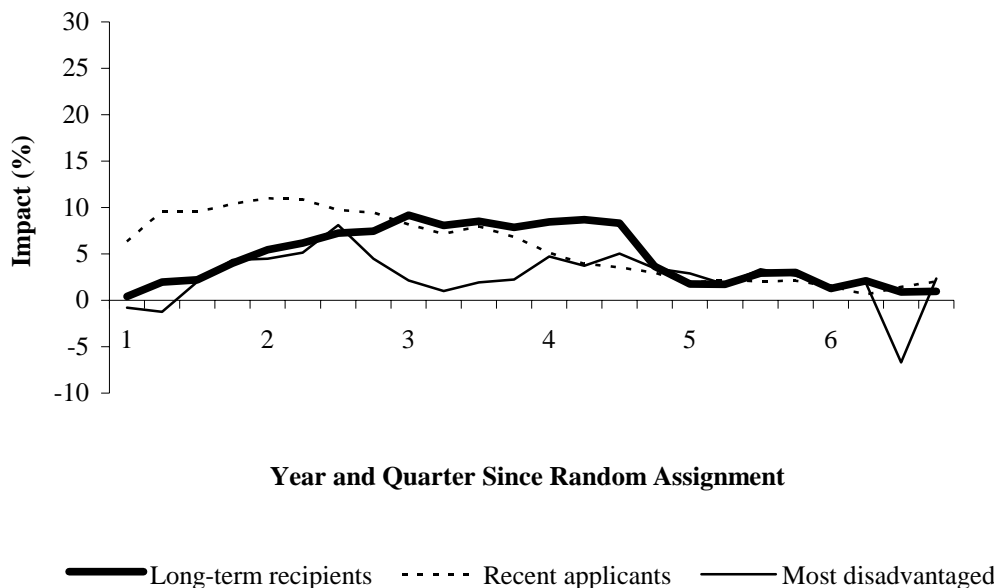
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

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Figure 3.3

MFIP's Effects on Welfare Receipt Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

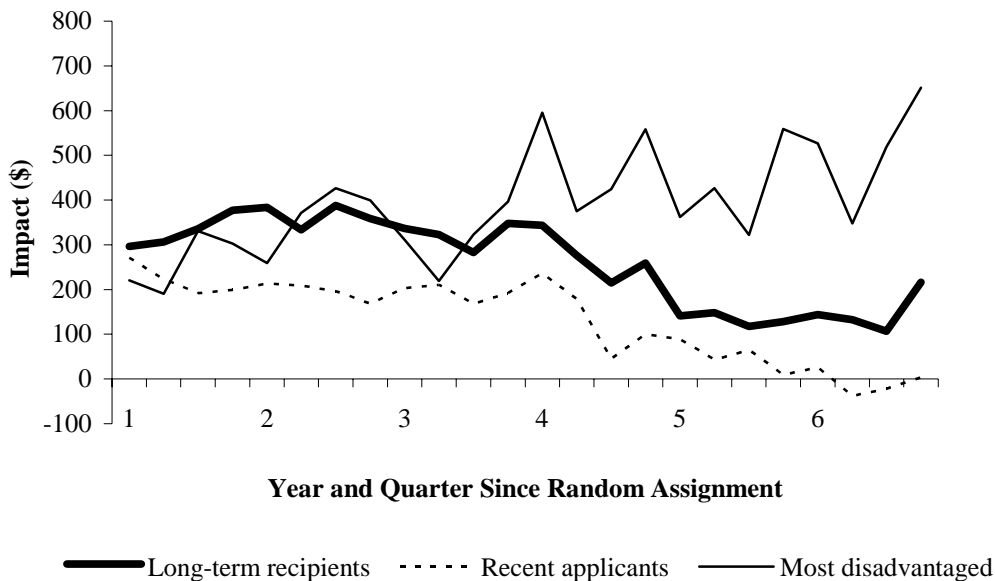
Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

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Figure 3.4

MFIP's Effects on Income Among Three Subgroups of Single-Parent Families



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

NOTES: The lines on the graph represent MFIP's effects, or the difference in the outcome between MFIP families and control group families (who were participating in Aid to Families with Dependent Children) at each point in time during the follow-up.

Respondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged. The subgroup of most disadvantaged is not mutually exclusive from long-term recipients or recent applicants.

Numbers on the x-axis indicate the year following random assignment.

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Table 3.1

**MFIP's Effects on Employment, Earnings, Welfare, and Income
for All Single Parents and by Prior Welfare History**

Outcome	All Single Parents								
	All Single Parents			Long-Term Recipients			Recent Applicants		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly employment rate (%)									
Year 1	49.0	42.2	6.9 ***	45.4	32.2	13.2 ***	51.9	49.2	2.7 ***
Year 2	54.7	47.2	7.5 ***	52.1	39.4	12.7 ***	56.6	53.3	3.3 ***
Year 3	57.4	50.8	6.7 ***	55.8	45.3	10.5 ***	58.9	55.5	3.4 ***
Year 4	58.7	54.0	4.7 ***	56.9	50.9	6.0 ***	60.5	57.5	3.1 ***
Year 5	58.7	57.3	1.5	56.8	55.8	1.0	60.6	59.4	1.2
Year 6	58.3	57.6	0.6	58.0	57.1	0.9	58.8	58.9	-0.1
Quarterly earnings (\$)									
Year 1	943	918	25	688	526	162 ***	1,143	1,212	-69 *
Year 2	1,395	1,327	68 *	1,091	913	178 ***	1,626	1,651	-26
Year 3	1,789	1,704	85 *	1,447	1,311	136 *	2,050	2,020	30
Year 4	2,168	2,046	122 **	1,773	1,646	128	2,469	2,389	80
Year 5	2,489	2,429	60	2,113	2,039	74	2,786	2,757	29
Year 6	2,784	2,745	39	2,470	2,370	100	3,018	3,046	-28
Quarterly welfare receipt rate (%)									
Year 1	82.3	76.6	5.7 ***	92.2	90.1	2.1 **	74.7	65.8	9.0 ***
Year 2	66.7	58.0	8.7 ***	81.4	74.8	6.6 ***	55.5	45.3	10.3 ***
Year 3	54.6	46.5	8.0 ***	69.8	61.4	8.4 ***	42.4	34.8	7.5 ***
Year 4	42.8	37.5	5.3 ***	58.1	50.8	7.3 ***	30.4	26.5	3.9 ***
Year 5	32.2	30.0	2.2 **	44.7	42.3	2.4	22.3	20.3	2.1 **
Year 6	26.4	25.1	1.3	36.9	35.6	1.3	18.5	17.1	1.4

(continued)

Table 3.1 (continued)

Outcome	All Single Parents								
	All Single Parents			Long-Term Recipients			Recent Applicants		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly welfare benefits (\$)									
Year 1	1,589	1,359	230 ***	1,956	1,790	166 ***	1,303	1,013	290 ***
Year 2	1,234	1,032	202 ***	1,636	1,448	188 ***	929	707	222 ***
Year 3	981	812	169 ***	1,344	1,158	187 ***	695	531	164 ***
Year 4	735	638	97 ***	1,064	919	146 ***	464	404	60 ***
Year 5	524	488	35 *	778	718	60	316	294	22
Year 6	416	382	34 **	614	564	50	257	237	21
Quarterly income (\$)									
Year 1	2,531	2,277	255 ***	2,645	2,316	329 ***	2,446	2,225	221 ***
Year 2	2,628	2,359	269 ***	2,727	2,361	366 ***	2,555	2,358	197 ***
Year 3	2,770	2,516	254 ***	2,791	2,468	323 ***	2,745	2,551	194 ***
Year 4	2,903	2,684	219 ***	2,838	2,564	274 ***	2,933	2,793	140 **
Year 5	3,012	2,917	95	2,891	2,757	134	3,102	3,051	51
Year 6	3,200	3,127	72	3,084	2,934	150	3,275	3,283	-8
Sample size	3,554	3,848		1,141	1,232		2,413	2,616	

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 six right-hand columns of Table 3.1 show that MFIP's effects differed between long-term recipients and recent applicants, primarily with respect to employment and earnings. Indeed, MFIP's effects on employment, earnings, and income among long-term recipients statistically differs from its effects among recent applicants. Although MFIP's effects on employment ended in Year 4 for both groups of single parents, its effects for long-term recipients were much larger than for recent applicants. In addition, MFIP did not increase earnings among single parents who were recent applicants, despite the increase in employment rates. This occurred in part because MFIP reduced the hours worked by some recent applicants. Recall that recent applicants did not face MFIP's work and participation requirements until after three years of welfare receipt. Economic theory predicts that providing individuals with more generous welfare benefits will encourage some of them to reduce their work hours — the idea being that they can keep their total income the same by substituting increased benefits for reduced earnings.

Figure 3.5 compares the story for long-term recipients and recent applicants among single-parents. This and subsequent figures present only impacts. The two top graphs present MFIP's effects on quarterly employment and welfare receipt for the two groups of single parents. The most notable difference between them is that MFIP increased employment more than welfare receipt for long-term recipients (on the left) and had the opposite effect for recent applicants (on the right). Effects on employment were also substantially larger for long-term recipients, peaking at 13 percentage points at the end of Year 1. Effects for recent applicants, in contrast, hovered around 2 to 3 percentage points. These graphs also show that, among single parents, MFIP's effects for long-term recipients began fading after Year 1, whereas its effects for recent applicants stayed fairly constant through the beginning of Year 4.

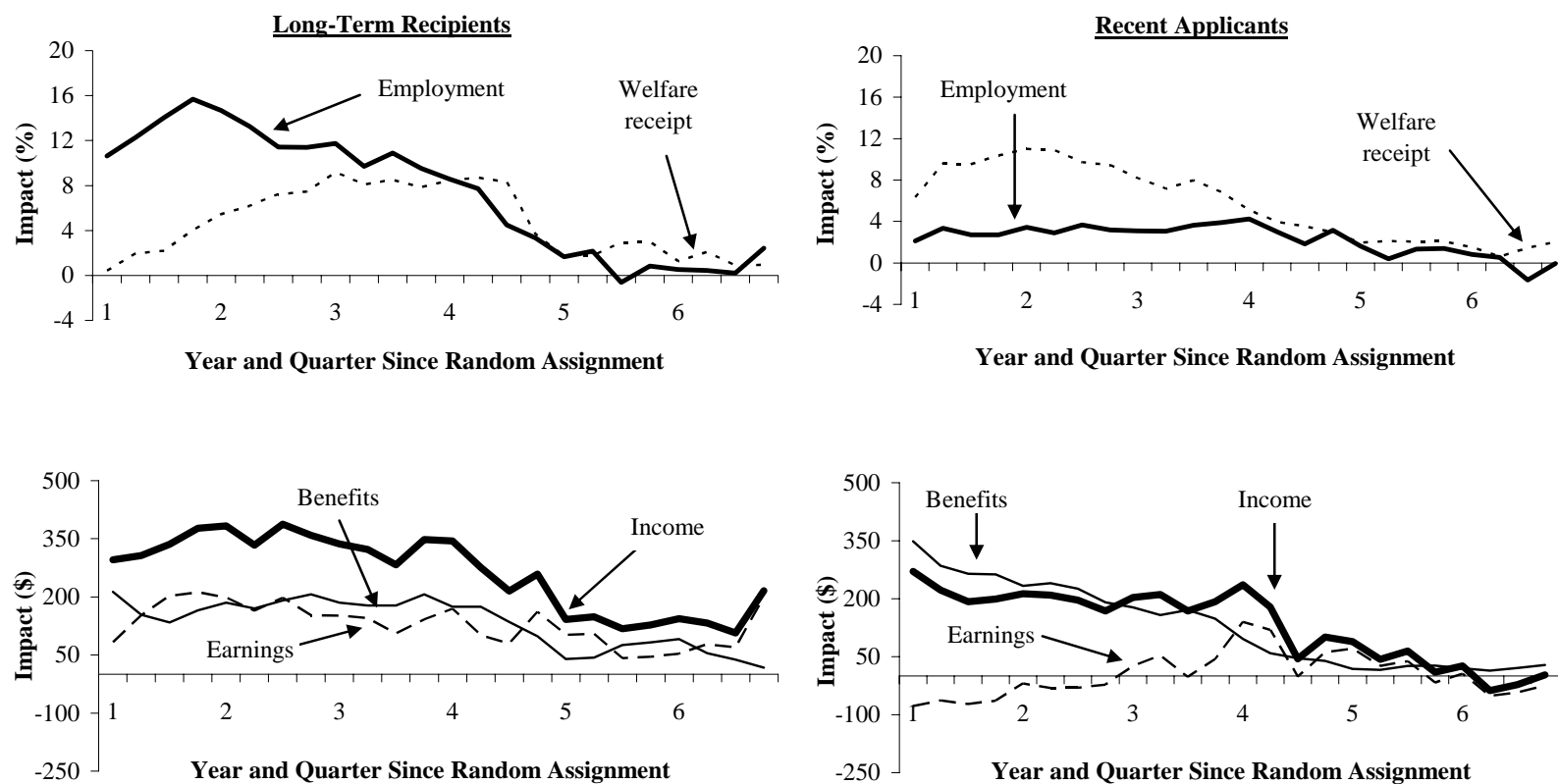
MFIP's effects on single parents' income were also very different for long-term recipients and for recent applicants, in both the magnitude of the income effect and the source of income. The increase in income for long-term recipients (shown by the heavy black line in the lower left graph) came about equally from increases in earnings and increases in welfare benefits. In contrast, MFIP increased income for recent applicants almost exclusively by increasing their welfare benefits. In other words, as shown in the lower right graph, MFIP's effect on income among single-parent recent applicants is essentially identical to its effect on welfare benefits. Even considering these differences in MFIP's effects for the two groups of single parents, its income effect dropped abruptly during Year 4 for both groups — due, in part, to the end of MFIP and the subsequent conversion to MFIP-S, a statewide program described at the end of this chapter.

Although differences in MFIP's effects for single-parent long-term recipients and recent applicants stem at least in part from the fact that they faced different programs, the differences may also reflect what these two groups would have done in the absence of the program. In an experimental program, this counterfactual can be estimated by the behavior of the control group. As shown in Table 3.1, a key difference between the two groups of single parents is their

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Figure 3.5

MFIP's Effects on Single-Parent Families: Long-Term Recipients and Recent Applicants



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

NOTE: Numbers on the x-axis indicate the year following random assignment.

employment rates. On average, only a third of long-term recipients in the control group worked in Year 1, compared with half of recent applicants. Assuming that only a certain fraction — say 65 percent to 70 percent — of current and former welfare recipients will ever work, then there was much less room for MFIP to increase employment among single-parent recent applicants. Similarly, there was much more room for MFIP to increase welfare receipt among single-parent recent applicants, given that their welfare receipt rate was 66 percent (compared with single-parent long-term recipients, who had a welfare receipt rate of 90 percent in Year 1).

Table 3.1 also highlights another trend that is essential in interpreting MFIP's effects. Among single-parent long-term recipients, employment rates nearly doubled in six years, increasing from 32 percent in Year 1 to 57 percent in Year 6, while rates of welfare receipt fell from 90 percent in Year 1 to 36 percent in Year 6. Although part of the increase in employment in the later years of the follow-up period may be due to welfare reform and the movement of MFIP families to the statewide program, MFIP-S, the data also show that many long-term recipients eventually moved into work and no longer received welfare benefits. The fact that many recipients do leave welfare fairly quickly has been well documented and is important to keep in mind when considering how long the effects of MFIP — or any program of its type — might last.⁵

MFIP's Effects on Marriage and Fertility Among Single-Parent Families

As previously described, it is not unreasonable to expect that MFIP — through its effects on employment and income and, possibly, through its streamlined eligibility rules for single-parent and two-parent families to receive welfare — might affect decisions about household formation. This section presents MFIP's effects on marriage and fertility. As described in Appendix B, data on marriage for the sample of single-parent families were obtained from vital statistics records collected by the Minnesota Center for Health Statistics, which also provided data on births, obtained through Year 5.

Table 3.2 presents MFIP's effects on marriage and fertility for all single parents and separately for long-term recipients and recent applicants. Rates of marriage are calculated cumulatively so that the average rate in Year 2 considers all marriages that occurred prior to that point. In Minnesota, the measure “ever married” captures the first time a marriage is legally documented and does not consider subsequent changes in legal marital status — such as divorce — that might occur after that point. For the full sample of single parents, MFIP increased marriage rates by a small but statistically significant amount through Year 4. In Year 5, 13.1 percent of MFIP single parents were married, compared with 11.4 of AFDC single parents — a small

⁵Bane and Ellwood, 1983.

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Table 3.2

**MFIP's Effects on Marriage and Fertility for All
Single Parents and by Prior Welfare History**

Outcome (%)	All Single Parents								
	All Single Parents			Long-Term Recipients			Recent Applicants		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Ever married									
Year 1	2.8	2.1	0.7 *	3.2	1.9	1.2 *	2.6	2.5	0.1
Year 2	6.8	5.7	1.1 *	6.9	5.5	1.3	6.9	6.0	0.9
Year 3	9.9	8.9	1.0	10.0	7.9	2.1 *	10.1	9.7	0.4
Year 4	13.1	11.4	1.7 **	12.5	10.2	2.4 *	13.8	12.5	1.3
Year 5	15.6	14.7	0.9	14.8	13.1	1.7	16.5	15.8	0.7
Year 6	17.6	16.5	1.1	16.5	15.0	1.5	19.0	17.6	1.3
Had a baby by Year 5	21.5	20.0	1.5 *	19.9	19.5	0.4	22.9	20.8	2.1 *
Sample size	3,554	3,848		1,141	1,232		2,413	2,616	

SOURCES: MDRC calculations using Minnesota's marriage records and 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 *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

but statistically significant difference of 1.7 percentage points. By Year 6, however, marriages rates were similar for MFIP and AFDC single parents. These results suggest that MFIP had a short-term effect on marriage, essentially speeding up entry into legal marriage. Additional analyses suggest that increased income available to employed MFIP single parents early in the follow-up period might have played a role in accelerating their entry into marriage.⁶

The six right-hand columns of Table 3.2 present results separately for single parents who were long-term recipients of welfare and those who were recent applicants. MFIP's effects on marriage appear to be clustered among long-term recipients, increasing the rate of marriage in Year 4 from 10.2 percent in AFDC families to 12.6 percent in MFIP families — a difference of 2.4 percentage points. Although MFIP's effects on marriage among single-parent long-term recipients are larger and statistically significant, they do not differ statistically from MFIP's effects on marriage among recent applicants. Data for the control group show that single-parent recent applicants were slightly more likely to subsequently marry during the six-year follow-up period (18 percent married by Year 6) than were single-parent long-term recipients (15 percent married by Year 6). At the six-year follow-up point, MFIP did slightly increase marriage among several other subgroups of single-parent families, some of whom might represent subpopulations of long-term recipient families. Technical Resource Table B.1 shows that MFIP increased marriage among those single parents who at study entry were not previously married, had fewer than three children, were less than 25 years old, lived in public housing, had no high school diploma or GED, or were the least disadvantaged.

Additional analyses of survey data collected at the three-year follow-up point (for the survey subsample) suggest that respondents' reports of marital status, on average, match data obtained through marriage records data.⁷ MFIP's effects on marriage for the survey sample are strikingly similar when examined for either data source (as shown in Unit B of the Technical Resources for this report).⁸ However, marriage records data do not capture the proportion of committed couples who self-identify as cohabiting and who do not eventually marry, and the data do not provide information about the quality of the relationships. Respondents' reports of domestic abuse from current (and ex) intimate partners were also collected during the 36-month survey, offering an opportunity to glimpse MFIP's effects on one — albeit extremely negative and potentially dangerous — aspect of the quality of relationships occurring among MFIP and AFDC families. As shown in the three-year report, MFIP reduced reported incidences of domestic abuse in general — primarily among single-parent, long-term

⁶Gennetian and Miller, 2004.

⁷These averages reflect a close match between survey reports and marriage records data for some families, as well as instances where there are survey reports of marriage but no corresponding marriage records data and vice versa.

⁸See www.mdrc.org.

recipients in urban counties — and abuse by intimate partners.⁹ Further analyses suggest that increased employment and, to some extent, increased income, contributed to these reductions in domestic abuse and that marriage or the presence of an intimate partner played a relatively small role in explaining MFIP's effects on domestic abuse.¹⁰

The bottom row of Table 3.2 presents MFIP's effects on fertility, or any new births that occurred during the first five years of the follow-up period. Among single parents in the AFDC group, 20.0 percent had a baby during the five-year follow-up, compared with 21.5 percent of MFIP parents — representing a small increase of 1.5 percentage points, or roughly a 7.5 percent increase in new births. MFIP had a slightly more pronounced effect on new births among recent applicants (who had a statistically significant increase of 2.1 percentage points), although this effect is not statistically different from the effect among long-term recipients.

MFIP's Effects on Schooling Achievement Among a Subgroup of Young Children in Single-Parent Families

Findings from the three-year follow-up survey show that MFIP improved maternal reports of children's behavior and of school performance among children of single-parent long-term recipient families. This section attempts to corroborate these findings by examining MFIP's effects among children in similar subgroups of single-parent families — using school records data and tests the hypothesis about whether MFIP produced long-term effects on children, effectively inoculating them from the potentially detrimental effects of poverty on children's development. Keeping in mind MFIP's findings on economic outcomes, note that long-term effects on children's achievement could occur because even short-term boosts in employment, earnings, and income can produce longer and more permanent changes in the achievement of children (as might be the case among children of single-parent long-term recipient families) or because MFIP continued to produce long-term effects on parents' economic outcomes (as is the case with the most disadvantaged single-parent families), and children benefit from these continued long-term economic effects.

School records from the Minnesota Department of Education were matched to children of MFIP evaluation families to assess third- and fifth-grade math and reading achievement. At the time of this report, data were available only from 2001 to 2003. Because random assignment of MFIP families occurred between 1994 and 1996, children with third-grade scores were roughly age 0 to 3 years, and children with fifth-grade scores were roughly age 2 to 5 years, when their parents entered the study. Note also that these reading and math outcomes represent

⁹Gennetian and Miller, 2000; Gennetian, 2003.

¹⁰Gibson, Magnuson, Gennetian, and Duncan, 2005.

assessments at a follow-up period ranging from five years (for families who were randomly assigned in 1996) to almost nine years (for families who were randomly assigned in 1994). And, importantly, the data represent a short-term follow-up with a third-grade assessment and a long-term follow-up with a fifth-grade assessment for only a very small sample of children that is not presented separately in the tables but is noted when appropriate. Data on third-grade scores are available for 764 children, and data on fifth-grade scores are available for 933 children, in single-parent families.¹¹ Details about the age distribution, follow-up period, and sample size for the third- and fifth-grade assessments, by family type, are presented in Unit C of the Technical Resources for this report.¹²

As described in Appendix B, math and reading achievement are measured in two ways. The first measure is a scale score that is standardized over time and can range from 50 to 2,600. For ease of interpretation, impacts on the reading and math scale score are converted into effect size, or standard deviation units. Effect sizes range from 0 to 1, with large effect sizes traditionally being characterized as 0.5 standard deviation unit or greater.¹³ To put this upper threshold in context, evidence from similar types of experimental welfare and employment interventions shows a consistent range of effects on children's outcomes, of 0.1 to 0.2 standard deviation unit. The second measure of reading and math achievement is a dichotomous measure indicating whether or not a child has met grade-level expectation. Reading and math scale scores are converted into five levels. Children who scored in Level 3 or above are coded as meeting grade-level expectation in the respective subject.

Table 3.3 presents MFIP's effects on third- and fifth-grade math and reading achievement for children in all single-parent families and separately for children of long-term recipients and of recent applicants. For the full sample, MFIP increased the proportion of children meeting third-grade reading level from 40.9 percent to 47.8 percent, or by 6.9 percentage points.¹⁴ The program had no effect on fifth-grade scores. The middle and right-hand sets of columns show that, as with the economic outcomes, MFIP produced statistically different effects on the children of single-parent long-term recipients than on the children of single-parent recent applicants. Among the long-term recipients' children who were newborn to age 3 at study entry, MFIP increased third-grade reading achievement by 0.2 standard deviation unit, and the proportion of young children who met grade-level expectation in reading rose from 27.2 percent to

¹¹Note that some children in these families are siblings. Standard errors are corrected to account for unobserved variation across siblings within family.

¹²See www.mdrc.org.

¹³Cohen, 1988.

¹⁴MFIP's effects on parents' economic outcomes among the sample of families whose children have school records data are similar to MFIP's effects among the larger sample of all single-parent families.

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Table 3.3

**MFIP's Effects on Third- and Fifth-Grade Reading and Math Achievement for
Children in All Single-Parent Families and by Prior Welfare History of Family**

Outcome	All Single Parents											
	All Single Parents				Long-Term Recipients				Recent Applicants			
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size
Third-grade assessment, children aged 0-3 at study entry ^a												
Reading scale score	1,363	1,346	17	0.1	1,337	1,286	51 *	0.2	1,391	1,430	-39 *	-0.1
Met grade-level expectation in reading (%)	47.8	40.9	6.9 *	0.1	41.3	27.2	14.1 **	0.2	57.6	58.2	-0.6	0.0
Math scale score	1,356	1,343	13	0.0	1,314	1,293	21	0.1	1,390	1,411	-21	-0.1
Met grade-level expectation in math (%)	41.4	38.9	2.5	0.0	36.9	30.1	6.8	0.1	47.2	52.9	-5.6	-0.1
Sample size	393	371			165	160			228	211		
Fifth-grade assessment, children aged 2-5 at study entry ^a												
Reading scale score	1,420	1,405	15	0.0	1,408	1,376	31	0.1	1,438	1,451	-13	0.0
Met grade-level expectation in reading (%)	58.3	53.4	4.9	0.1	54.5	48.6	5.9	0.1	61.3	62.0	-0.7	0.0
Math scale score	1,372	1,364	7	0.0	1,361	1,335	26	0.1	1,398	1,416	-18	-0.1
Met grade-level expectation in math (%)	47.3	45.0	2.3	0.0	44.6	38.8	5.8	0.1	53.9	54.8	-0.9	0.0
Sample size	464	469			239	247			225	222		

(continued)

Table 3.3 (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 *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

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

Effect size is calculated as the impact divided by the standard deviation of the outcome for the control group.

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.

See [Technical Resource Table C.1](#) for details on children's ages and years of follow-up for each assessment.

^aSample size varies slightly between reading and math data.

41.3 percent — an increase of 14 percentage points, or more than 50 percent. Effects on fifth-grade reading and math achievement for children of long-term recipients were also positive but slightly smaller in magnitude and are not quite statistically significant at conventional levels.¹⁵

In contrast, MFIP appears to have had neutral to slightly negative effects on reading and math achievement among children of single-parent recent applicants. Of the eight outcomes examined, MFIP produce one negative effect — a decrease in third-grade reading scale scores.

MFIP's differing effects on children's achievement among the two groups of single-parent families is similar to the patterns of findings reported using data from the survey sample for the 36-month child study.¹⁶ At the 36-month point, MFIP increased maternal reports of children's achievement and reduced maternal reports of behavior problems among elementary-school-age children in single-parent families of long-term recipients who lived in urban counties.¹⁷ MFIP had no effect on the children of urban single-parent recent applicants, though the MFIP Incentives Only intervention appears to have reduced schooling achievement and engagement among these same children. As described in the prior report about MFIP's effects on children, there are several possible explanations for these differing effects.¹⁸

In summary, even though MFIP's effects on economic outcomes faded, it appears that the program benefited particular groups of young children of single-parent long-term recipients in the short term and similar (though not identical) groups of young children in the long term. How MFIP might have affected older children — a group that has been found to be potentially vulnerable to the effects of welfare and employment programs and increased maternal employment — remains unanswered until more school records data become available.¹⁹

¹⁵MFIP produced large and positive effects on fifth-grade math and reading achievement, as well as on third-grade reading achievement, among the subsample of children for whom both third- and fifth-grade assessment data are available (that is, the 120 children in single-parent families of long-term recipients who took the third-grade assessment in 2001 and the fifth-grade assessment in 2003).

¹⁶Gennetian and Miller, 2000.

¹⁷Unfortunately, the sample of children who have both three-year survey data (from the 36-month focal child study) and school records data is too small to estimate MFIP's effects reliably.

¹⁸As noted earlier, possible reasons for this are that children of recent applicants fare better, on average, than children of long-term recipients, and thus have less room for improvement, and that recent applicant families represent a heterogeneous group, some of whom might have entered the welfare system because of family upheaval. See Gennetian and Miller, 2000.

¹⁹Gennetian et al., 2002, 2004.

MFIP's Effects Among the Most Disadvantaged Single Parents and Their Young Children

MFIP's effects varied for different types of families. As shown in earlier reports, for example, MFIP had larger employment effects for people who had not worked in the year prior to entering the evaluation, compared with those who had worked, and it had larger effects for those without a high school diploma, compared with their more educated counterparts. Did these differences hold up over the longer term? And although MFIP's effects faded for the sample as a whole, did they persist beyond Year 4 for some groups? This section examines MFIP's long-term effects for three groups of single parents, defined by level of disadvantage. The findings presented here focus on groups of disadvantaged families that were created using a composite of information about prior welfare history, prior employment history, and education level at study entry.²⁰

Table 3.4 presents MFIP's effects on economic outcomes; these impacts are also presented in Figure 3.6. Consider first the most disadvantaged, defined as single parents who had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school diploma or GED certificate, and had completed less than twelfth grade. MFIP had its largest and most lasting effects on employment for this group. In fact, MFIP's effects on their employment were still above 10 percentage points up through Year 6. MFIP also increased earnings for this group throughout the follow-up period: By Year 6, the earnings of the most disadvantaged single-parent families increased by \$590 — rising from \$1,279 to \$1,869. As a result, MFIP's effects on income for the most disadvantaged also increased over time and were largest in Years 5 and 6.²¹ MFIP's effects among the least disadvantaged single-parent families were at the other extreme. The program had no effect on employment for this group, and it reduced their earnings through Year 6. In addition, MFIP produced the largest increases in welfare receipt among the least disadvantaged group and had no effect on their income — because these MFIP families were able to reduce their work hours and could replace their lost earnings with increased welfare benefits.

The control group outcomes in Table 3.4 reveal why MFIP's effects might have varied so dramatically across these three groups of single-parent families. MFIP had its largest effects on the group that had the lowest employment rates in the short term, and it had its most lasting effects on the group that was least likely to go to work on its own (or to have “caught up” to the program group) in the long term. Quarterly employment rates among control group members of

²⁰[Unit A of this report's Technical Resources](#) includes several tables that present MFIP's effects for subgroups of single-parent families that are defined by prior education, prior earnings history, race/ethnicity, and public housing status. See www.mdrc.org.

²¹Further analyses using a conditional impact model revealed that the effects for the most disadvantaged group were not due solely to the fact that these sample members were also long-term recipients rather than recent applicants.

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Table 3.4

**MFIP's Effects on Employment, Earnings, Welfare, and Income
for Single-Parent Families, by Level of Disadvantage^a**

Outcome	Least Disadvantaged			Moderately Disadvantaged			Most Disadvantaged		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly employment rate (%)									
Year 1	61.1	62.1	-1.0	45.8	36.7	9.1 ***	27.3	13.7	13.6 ***
Year 2	64.4	65.8	-1.3	51.6	41.8	9.8 ***	40.8	21.2	19.5 ***
Year 3	66.5	67.5	-1.0	54.3	46.3	8.0 ***	46.6	25.9	20.7 ***
Year 4	67.2	68.1	-0.9	55.5	50.1	5.3 ***	50.3	33.4	16.8 ***
Year 5	66.9	69.0	-2.2	55.8	54.3	1.5	48.8	37.5	11.3 ***
Year 6	64.9	68.1	-3.2 *	55.4	54.9	0.5	54.9	40.9	14.0 ***
Quarterly earnings (\$)									
Year 1	1,469	1,675	-207 ***	773	655	119 ***	315	171	145 **
Year 2	2,017	2,218	-201 **	1,190	1,023	168 ***	673	392	280 ***
Year 3	2,453	2,698	-244 **	1,578	1,381	197 ***	914	605	309 **
Year 4	2,907	3,082	-175	1,937	1,717	220 ***	1,166	794	372 **
Year 5	3,283	3,471	-188	2,230	2,109	121	1,433	1,053	380 *
Year 6	3,509	3,808	-299 **	2,535	2,432	103	1,869	1,279	590 **
Quarterly welfare receipt rate (%)									
Year 1	71.0	61.3	9.7 ***	85.8	81.8	4.1 ***	96.1	95.0	1.1
Year 2	50.9	38.8	12.2 ***	71.2	63.8	7.4 ***	90.4	84.8	5.5 *
Year 3	37.8	27.9	9.9 ***	59.4	51.6	7.7 ***	79.1	77.3	1.8
Year 4	26.6	19.1	7.5 ***	46.9	42.5	4.4 ***	72.2	68.0	4.2
Year 5	19.2	14.7	4.4 ***	35.1	34.2	0.9	59.8	57.1	2.7
Year 6	15.2	11.7	3.5 ***	28.9	28.6	0.3	50.3	50.6	-0.2

(continued)

Table 3.4 (continued)

Outcome	Least Disadvantaged			Moderately Disadvantaged			Most Disadvantaged		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly welfare benefits (\$)									
Year 1	1,192	894	298 ***	1,695	1,502	193 ***	2,165	2,048	117 *
Year 2	824	575	249 ***	1,337	1,156	181 ***	1,908	1,824	84
Year 3	606	411	195 ***	1,073	910	162 ***	1,620	1,617	3
Year 4	384	276	108 ***	808	728	80 ***	1,453	1,336	116
Year 5	260	197	63 ***	573	559	14	1,127	1,089	38
Year 6	198	140	58 ***	464	435	28	846	925	-79
Quarterly income (\$)									
Year 1	2,661	2,569	91	2,469	2,157	312 ***	2,480	2,219	261 ***
Year 2	2,841	2,793	47	2,527	2,179	348 ***	2,581	2,216	364 ***
Year 3	3,059	3,109	-50	2,650	2,292	359 ***	2,534	2,222	312 **
Year 4	3,291	3,358	-67	2,745	2,445	300 ***	2,619	2,130	488 ***
Year 5	3,544	3,669	-125	2,803	2,667	135 *	2,560	2,142	418 **
Year 6	3,708	3,948	-241 *	2,999	2,867	132	2,716	2,205	511 **
Sample size	1,266	1,363		2,051	2,231		206	209	

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.

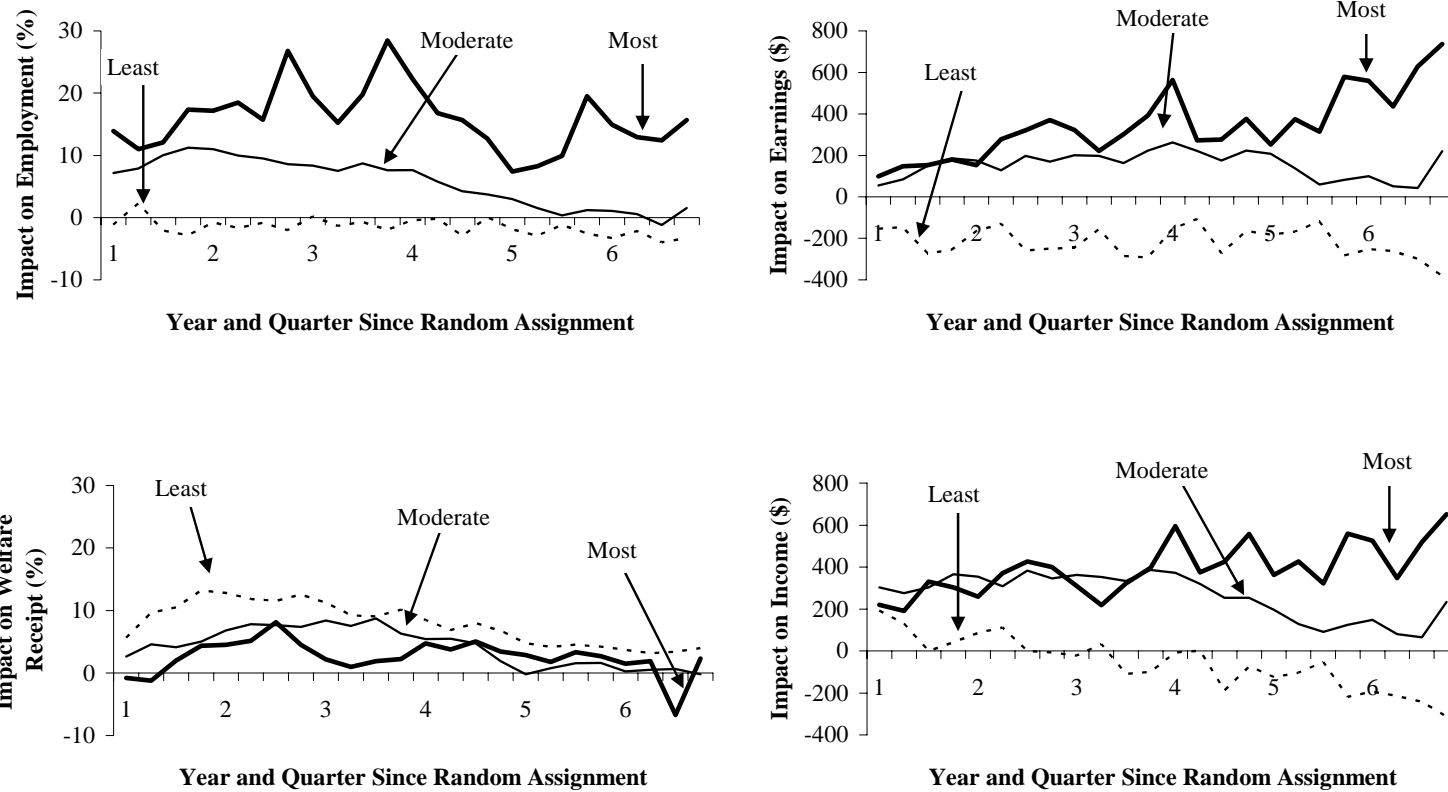
Rounding may cause slight discrepancies in sums and differences.

^aRespondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged.

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Figure 3.6

MFIP's Effects for All Single-Parent Families, by Level of Disadvantage^a



(continued)

Figure 3.6 (continued)

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

NOTES: ^aRespondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged.

Numbers on the x-axis indicate the year following random assignment.

the most disadvantaged single-parent families averaged 14 percent in Year 1, compared with 62 percent for the least disadvantaged single-parent families. By Year 5, employment rates increased for control group members in the most disadvantaged families, but only to 41 percent. The employment rates for the moderately disadvantaged families generally fell between the rates for the least and the most disadvantaged families. These differences in MFIP's effects for single-parent families are also consistent with predications of economic theory: As noted above, with the findings for single-parent recent applicant families, MFIP's financial incentives might increase employment among some single-parent families or might encourage those who are already employed to reduce their work hours. The majority of the least disadvantaged single-parent families were working at or near study entry, and many were not subject to MFIP's employment requirements, resulting in a reduction in work hours.

Table 3.5 presents MFIP's effects on marriage and fertility among the same subgroups of disadvantaged single-parent families. Its effects on marriage appear to vary slightly according to prior levels of disadvantage. Specifically, MFIP had no effect on marriage among the moderately disadvantaged single-parent families — a group that experienced increased employment, earnings, and income through Year 4 of the follow-up period. Among the least disadvantaged single-parent families, MFIP increased marriage by nearly 3 percentage points in Year 6 — an increase from 20.3 percent to 23.0 percent. MFIP also showed a pattern of increased marriage among the most disadvantaged single-parent families; however, these effects never reach statistical significance. Furthermore, effects on marriage among the least disadvantaged single-parent families are not statistically different from effects on marriage among the most disadvantaged single-parent families. While MFIP appears to have had a very similar pattern of marriage effects for the least disadvantaged and the most disadvantaged single-parent families, its effects on economic outcomes for the two groups differed substantially; throughout the six-year follow-up period, MFIP somewhat reduced earnings among the least disadvantaged single-parent families and produced large increases in employment among the most disadvantaged single-parent families. That reductions in hours worked — without concomitant reductions in income — might influence marriage is a possible explanation that is somewhat consistent with how MFIP might have increased marital stability among two-parent recipient families (described below). It was also hypothesized that increased employment and income might increase marriage. Indeed, theory is ambiguous about how changes in employment, earnings, and income might (or might not) affect marriage or marital stability. The bottom row of Table 3.5 presents MFIP's effects on the fertility of single-parent subgroups according to their level of disadvantage at study entry. Across the levels of disadvantage in the control group, similar proportions of single-parent families — approximately 20 percent, on average — had a baby during the five-year follow-up. MFIP had no effect on the fertility of these three groups.

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Table 3.5

MFIP's Effects on Marriage and Fertility for Single-Parent Families, by Level of Disadvantage^a

Outcome (%)	Least Disadvantaged			Moderately Disadvantaged			Most Disadvantaged		
	Impact			Impact			Impact		
	MFIP	AFDC	(Difference)	MFIP	AFDC	(Difference)	MFIP	AFDC	(Difference)
Ever married									
Year 1	4.3	2.8	1.5 **	2.1	1.9	0.2	2.8	1.6	1.2
Year 2	8.3	6.3	2.0 *	5.9	5.6	0.3	7.3	4.6	2.6
Year 3	12.0	10.0	2.0	8.9	8.6	0.2	9.8	7.0	2.8
Year 4	17.2	13.6	3.7 ***	11.3	11.0	0.4	11.5	7.5	4.0
Year 5	20.1	17.9	2.3	13.8	14.0	-0.3	12.1	8.3	3.8
Year 6	22.9	20.3	2.7 *	15.4	15.6	-0.2	13.5	10.0	3.5
Had a baby by Year 5	21.6	20.7	0.9	21.6	19.8	1.9	17.6	19.1	-1.5
Sample size	1,266	1,363		2,051	2,231		206	209	

SOURCES: MDRC calculations using Minnesota's marriage records and 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 *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

^aRespondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged.

Table 3.6 presents MFIP's effects on children's achievement for the least, the moderately, and the most disadvantaged single-parent families. The results show that the children in the most disadvantaged families appear to have benefited the most from MFIP, particularly with respect to fifth-grade outcomes: MFIP nearly doubled the proportion of these children (ages 2 to 5 at study entry) who met grade-level expectation in fifth-grade reading and math. Effects on third-grade achievement were also largest for children in the most disadvantaged families, although not typically statistically significant. MFIP had only one effect among children of the least and the moderately disadvantaged single-parent families: MFIP children in the least disadvantaged families were 11.4 percentage points more likely to meet grade-level expectation in third-grade reading than their AFDC counterparts. Not surprisingly, among children in the control groups across these subgroups, third-graders in the most disadvantaged single-parent families scored lowest, with 26 percent meeting grade-level expectation in reading and 19 percent meeting grade-level expectation in math. Third-graders in the control group of the least disadvantaged single-parent families scored highest, with 54 percent meeting grade-level expectation in reading and nearly 50 percent meeting grade-level expectation in math. These differences in outcomes for children in the control group follow a similar pattern when looking at fifth-grade achievement scores. MFIP might have particularly benefited children in the most disadvantaged single-parent families, both because of MFIP's striking and lasting effects on their parents' economic outcomes and because these children had the most room to improve. It is important to keep in mind that, among the children of single parents, those in the most disadvantaged families were not faring as well as those in the least disadvantaged families, even factoring in MFIP's large positive effects on reading and math achievement; that is, fewer children of the most disadvantaged MFIP families achieved grade-level expectation in reading or math than did children of the least disadvantaged AFDC (control group) families.

With reading and math achievement data being available only from 2001 through 2003, the sample of children in the most disadvantaged single-parent families is especially small, and thus these findings should be interpreted with caution. Despite the small sample size, however, the findings are compelling for three reasons. First, MFIP produced large positive effects on a roughly similar group of children in the most disadvantaged single-parent long-term recipient families who were age 2 to 9 at study entry and who were targeted by a specific child study at the 36-month follow-up point.²² Moreover, analyses show that several of these children are siblings of the children for whom matched school records data are available. The combination of positive effects among the sample of children age 2 to 9 in the most disadvantaged families who were followed in the 36-month survey and the positive effects of their siblings as measured by

²²Gennetian and Miller, 2000.

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Table 3.6

**MFIP's Effects on Third- and Fifth-Grade Reading and Math Achievement for
Children in All Single-Parent Families, by the Family's Level of Disadvantage^a**

Outcome	Least Disadvantaged				Moderately Disadvantaged				Most Disadvantaged			
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size
Third-grade assessment, children aged 0-3 at study entry ^b												
Reading scale score	1,431	1,434	-2	0.0	1,344	1,338	7	0.0	1,373	1,238	135 *	0.3
Met grade-level expectation in reading (%)	65.7	54.3	11.4 *	0.2	44.8	38.8	6.1	0.1	42.8	26.0	16.8	0.2
Math scale score	1,395	1,432	-37	-0.1	1,347	1,330	17	0.0	1,344	1,269	76	0.3
Met grade-level expectation in math (%)	54.5	49.8	4.7	0.1	39.7	38.0	1.7	0.0	34.1	19.4	14.7	0.2
Sample size	94	102			251	229			44	38		
Fifth-grade assessment, children aged 2-5 at study entry ^b												
Reading scale score	1,422	1,454	-32	-0.1	1,414	1,415	-1	0.0	1,449	1,276	173 ***	0.4
Met grade-level expectation in reading (%)	64.6	62.5	2.0	0.0	56.7	54.9	1.8	0.0	61.5	29.8	31.7 ***	0.4
Math scale score	1,418	1,420	-2	0.0	1,361	1,365	-4	0.0	1,383	1,273	109 ***	0.5
Met grade-level expectation in math (%)	60.1	53.8	6.4	0.1	44.6	46.2	-1.6	0.0	45.1	24.0	21.1 *	0.3
Sample size	123	110			290	305			49	47		

(continued)

Table 3.6 (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 *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

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

Effect size is calculated as the impact divided by the standard deviation of the outcome for the control group.

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.

[See Technical Resource Table C.1](#) for details on children's ages and years of follow-up for each assessment.

^aRespondents were classified as most disadvantaged if they had received welfare payments in 11 or more of the 12 months prior to random assignment, were not employed in any of the four quarters prior to random assignment, did not have a high school degree or GED, and had completed less than twelfth grade. Respondents satisfying at least one but not all of these conditions were classified as moderately disadvantaged. Respondents satisfying none of these conditions were classified as least disadvantaged.

^bSample size varies slightly for reading and math data.

school records data provides a slightly larger number of children from which to infer this general finding. Second, MFIP had a strikingly and significantly different pattern of effects among children in the least and the moderately disadvantaged families — groups that did not experience sustained effects on parental employment, earnings, and income. Third, corroborating evidence about sustained economic effects and long-term benefits to children come from findings observed in other similarly disadvantaged subgroups of families that are represented in slightly larger sample sizes.²³

The Effects of MFIP’s Financial Incentives Compared with MFIP’s Employment Participation Requirement

MFIP increased employment fairly substantially for single-parent long-term recipients. But what component of the MFIP “treatment” led to this effect? Did most of the single parents who went to work do so because they now could keep more of their benefits, or did they work to satisfy the participation mandate? Or was it some combination of the two components? MFIP’s unique, three-group research design in the urban counties addresses this question by examining the effects of the program’s financial incentives alone. In these counties, single-parent families were randomly assigned to one of three groups: MFIP, MFIP Incentives Only, and AFDC. This three-group design was implemented to test the separate effects of the program’s financial incentives and its participation mandates. Those single-parent families who were randomly assigned to the MFIP Incentives Only research group received the financial incentives but were never subject to MFIP’s participation mandate.

Figure 3.7 compares the effects of the full MFIP program with the effects of offering MFIP’s financial incentives alone.²⁴ The top left panel presents effects on employment rates. The difference between the two graph lines can be interpreted as the effect of adding MFIP’s mandate to participate in employment or employment-related services to the financial incentives. The results show that offering financial incentives alone did increase employment rates, although much less so than combining financial incentives with an employment mandate. MFIP’s incentives alone increased employment by no more than 10 percentage points. For both the MFIP and the MFIP Incentives Only treatments, effects faded over time and were negligible by the end of Year 4.

Despite MFIP’s effects on increasing parents’ employment rates, the financial incentives alone did not lead to positive effects on earnings (shown in the top right graph of Figure 3.7. As discussed in earlier reports, the financial incentives caused some people to cut back

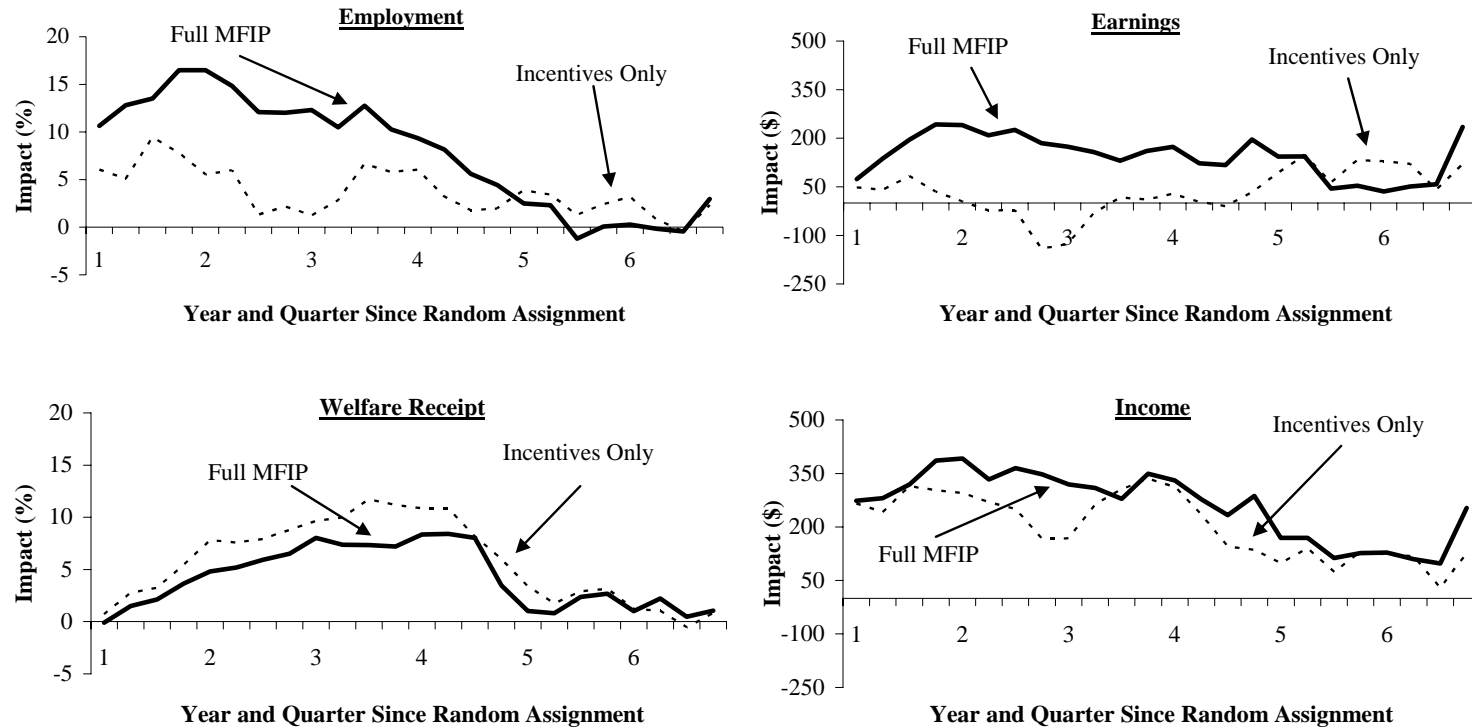
²³See [Unit C of this report’s Technical Resources](#) at www.mdrc.org.

²⁴[Unit A of the Technical Resources](#) presents detailed tables on the effects of MFIP Incentives Only. See www.mdrc.org.

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Figure 3.7

The Effects of MFIP's Incentives Only Versus Full MFIP
for Single-Parent Long-Term Recipients in Urban Counties



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

NOTE: Numbers on the x-axis indicate the year following random assignment.

their work hours or to increase employment that was part time rather than full time.²⁵ This reduction in hours worked is an expected and often-found effect of offering financial incentives by themselves — the program allowed parents to work a little bit less and to use the more generous welfare benefits to make up the difference in income. The full MFIP program did not generate this effect, because it combined the incentives with a requirement that individuals work or participate in employment-related services for at least 30 hours per week.

The bottom left graph of Figure 3.7 presents effects on welfare receipt. The effects are similar for the two treatments, although MFIP's financial incentives by themselves increased welfare receipt somewhat more than when combined with the participation mandate. The effects for the full MFIP program and for MFIP Incentives Only also faded by the end of Year 4. Finally, the bottom right graph in the figure presents effects on income, or the sum of earnings and welfare benefits. Despite the smaller effects on employment and earnings of MFIP's financial incentives alone, the two treatments had fairly similar effects on income over the six-year period. The composition of that income, however, was substantially different. The full MFIP program increased income through higher earnings and higher welfare benefits, whereas the financial incentives by themselves increased income entirely by increasing welfare benefits.

Why Did MFIP's Effects on Economic Outcomes Among Single-Parent Families Fade?

The pattern of MFIP's effects on employment, earnings, welfare, and income among single-parent families — peaking early and then fading — is generally consistent with patterns found for other, similar programs (for example, Canada's Self-Sufficiency Project [SSP] and Milwaukee's New Hope program).²⁶ In some cases, the employment effects of a program fade because employment rates for the control group increase over time, eventually matching those for the program group. In other cases, there is a high rate of job loss among individuals in the program group. Another reason that program effects might fade is because the treatment itself ends. In SSP, for example, the earnings supplement was available to the program group for only three years. Although MFIP did not technically end with the advent of the statewide program, MFIP-S, in January 1998, the treatment difference did end in June of that year, when both the program group and the control group were moved into MFIP-S. The following sections explore the reasons behind MFIP's fading impacts.

²⁵For example, see Miller et al., 2000.

²⁶Michalopoulos et al., 2002; Huston et al., 2003.

Job Loss Among MFIP Families Compared with Increased Employment Among AFDC Families

This analysis first focuses on single-parent long-term recipients, since MFIP's impacts began fading fairly rapidly, much earlier than the conversion of the program to MFIP-S. Earlier in this chapter, Figures 3.1 and 3.5 show that MFIP's employment effects peaked at the end of Year 1 and began falling thereafter; Table 3.1 also shows that employment rates for the AFDC group increased substantially, from 32 percent in Year 1 to 57 percent in Year 6. This pattern suggests that MFIP's effects began to fade because of increasing employment among the control group, rather than because of job loss among the program group. However, employment rates for the control group may not tell the whole story. It may be the case that some of the parents in the program group who went to work in Year 1 to take advantage of MFIP's incentives subsequently lost their jobs.

Figure 3.8 presents results from a simulation exercise designed to test the importance of these two competing explanations. The figure presents the actual impacts (represented by the dotted line) and two simulated impacts. The heavy solid line ("No job loss") shows what MFIP's effects would have been had employment rates stayed constant after Year 1 for people in the program group who worked at some point during Year 1. In other words, this simulation assumes that there was no subsequent job loss among program group workers. The lighter solid line ("No catch-up") shows what the effects would have been had employment rates for the control group not increased after Year 1.²⁷ The results indicate that MFIP's impacts began diminishing after Year 1 not because of job loss among the program group but because of rising employment rates for the control group. Aside from a slight increase in effects in the first two quarters of Year 2, effects under the "No job loss" scenario decline in the same way as the actual effects. In contrast, effects under the "No catch-up" scenario stay constant from Year 2 onward.

The Effect of MFIP-S, or the End of the Treatment Difference

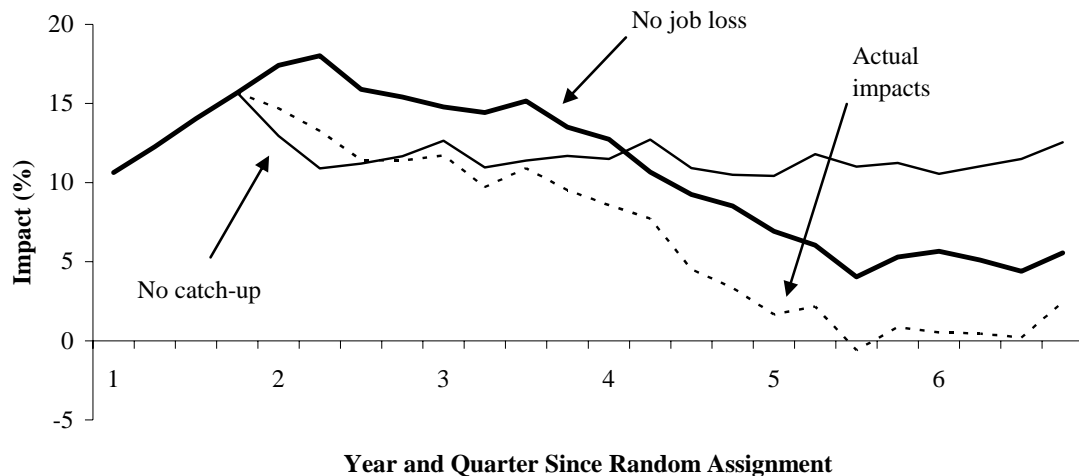
In January 1998, Minnesota's entire welfare caseload began to be transferred into the state's new TANF program, referred to here as "MFIP-S." The research sample members were held separate from the statewide program until June of that year, when both the program and the control group were also transferred into MFIP-S. As noted in Chapter 2, MFIP-S had somewhat

²⁷The first simulation does not hold constant the employment rates of program group members who did not work during Year 1, since this group did contribute toward the program's effects in that year. In the second simulation, their employment rates were held constant, along with the control group's employment rates — again in order to remove their effect from the simulation.

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Figure 3.8

The Estimated Effects of Program Group Employment Decreases Versus Control Group Employment Increases on MFIP's Impact on Employment for Single-Parent Long-Term Recipients



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

NOTE: Numbers on the x-axis indicate the year following random assignment.

less generous financial incentives than MFIP, and it imposed a participation mandate immediately, rather than after 36 months of welfare receipt.²⁸

For this reason, even though MFIP-S was similar to MFIP, June 1998 represents the end of the MFIP treatment, since that was when the treatment difference between the program and control groups was eliminated. What effect did this have on the program's impacts? Is there any evidence that MFIP's effects might have lasted longer had the treatment difference been maintained? For long-term recipients, for example, MFIP's effects on employment had started fading much earlier, but did the advent of MFIP-S reduce them even further? In contrast, the effects on welfare receipt remained fairly constant and then fell abruptly at the end of Year 4, suggesting a more important role for the end of the treatment.

²⁸Although the timing of the mandate was left to counties' discretion, most chose to enforce the mandate in the first month of welfare receipt.

Figure 3.9 presents MFIP's effects on single parents' employment, welfare benefits, and total income. In this case, the effects are presented by calendar quarter, in order to view any difference in patterns before and after June 1998. The top panel of the figure shows MFIP's effects on employment rates. Although MFIP's effects for single-parent long-term recipients had diminished to zero by the end of 1998, this reflects a pattern that had started much earlier. For example, the steep decline in effects in the last two quarters of 1998 is fairly similar to the steep decline that occurred during 1997. The pattern is similar for recent applicants: Although MFIP's effects on employment do fall somewhat in the two quarters after June 1998, this decrease appears to be part of a longer-term fall in impacts that began before that month. The effect of MFIP-S was also estimated in a statistical model comparing the decrease in effects both before and after June 1998. The results suggest that MFIP's effects on employment during the months following June do not represent a statistically significant "break" in the longer-term pattern of impacts.

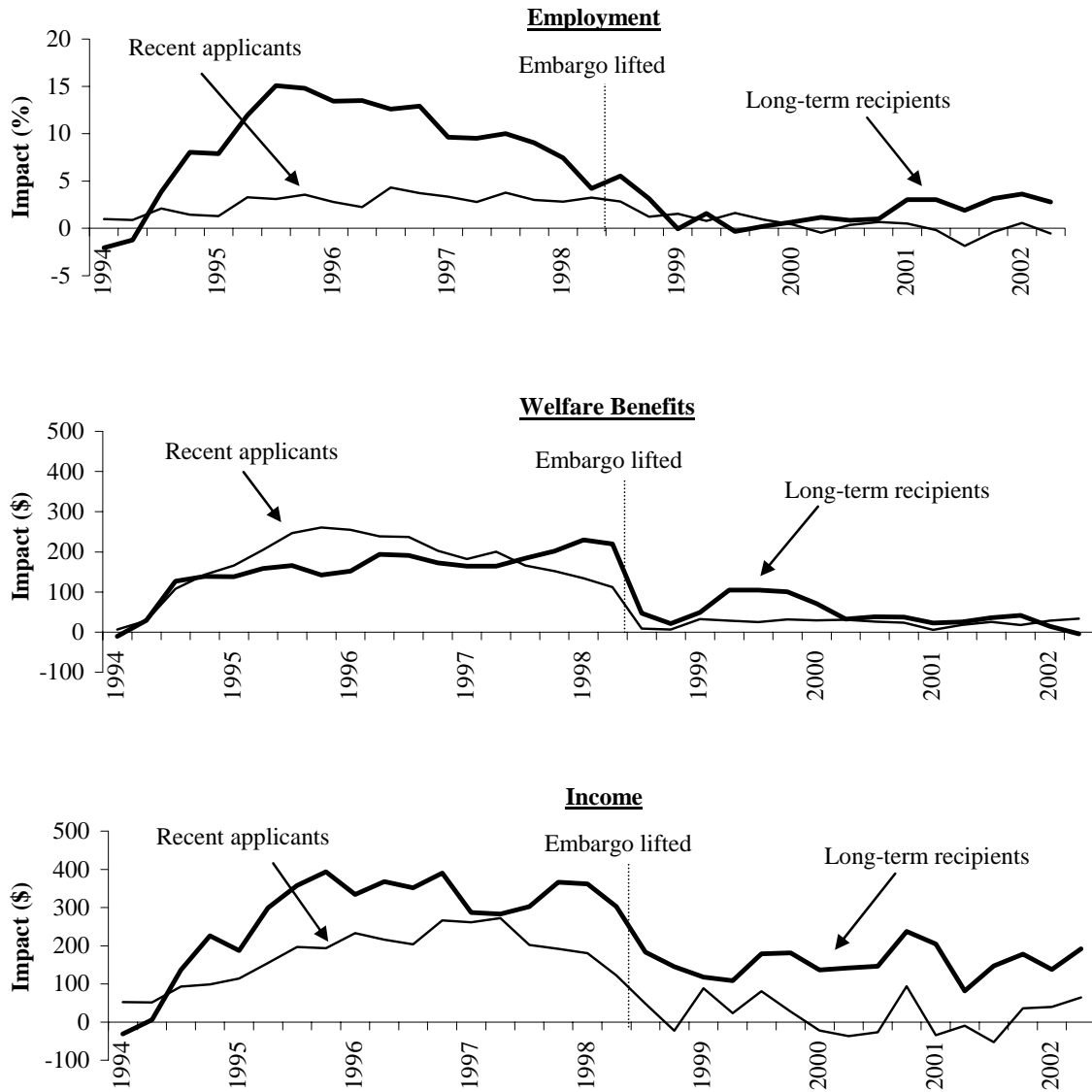
The middle and bottom panels of Figure 3.9 show that MFIP-S does appear to have substantially altered the effects on welfare and income. MFIP's effects on welfare benefits, for example, dropped to zero immediately after June 1998. The income effects also dropped steeply after that point, although they remained positive for single-parent long-term recipients, owing to the continued impacts on earnings for this group. These differences before and after June 1998 are statistically significant when estimated in a regression model. Similar results were found using a method that takes advantage of the timing with which different study cohorts passed through the June 1998 conversion.²⁹

²⁹Michalopoulos, 2005.

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Figure 3.9

MFIP's Effects on Employment, Welfare, and Income for All Single-Parent Families, by Calendar Quarter



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

Chapter 4

MFIP's Effects Among Two-Parent Families

Summary of MFIP's Effects

In the Minnesota Family Investment Program (MFIP), “two-parent families” are those who were either married or cohabiting at study entry (and who provided the Social Security number of the partner or spouse to the welfare office). Among two-parent families who had been receiving welfare for six months or longer, MFIP required that at least one parent work or participate in employment services. For this reason, *two-parent recipient families* — or those who had received welfare for at least six months — are examined separately from *two-parent applicant families*, who were new to welfare.

- **Through Year 4 of the follow-up period, MFIP reduced employment among women in two-parent families; the reduction in family earnings was offset by higher welfare benefits, resulting in no effects on family income.** MFIP's effects were concentrated among two-parent recipient families, possibly because two-parent applicant families rotate off welfare fairly quickly. For two-parent recipient families, the reduction in family earnings came about at least in part because of the number of families who had two wage-earners.
- **At the six-year point, MFIP's effects on divorce varied by the prior welfare history of the two-parent family, leading to no overall effect.** MFIP substantially increased marital stability at the three-year point for two-parent recipient families, primarily by reducing reported rates of separation.¹ While information on separations at the six-year point is not available, analyses of public records data show that MFIP did slightly decrease divorce rates at the six-year point for these families. The pattern of effects among two-parent applicant families, however, is significantly different from the pattern of effects among two-parent recipient families, with a trend toward higher divorce rates among two-parent applicant families in MFIP.
- **MFIP had no effect on elementary school achievement of young children in two-parent families.** Although MFIP's effects might have provided support for the hypothesis that marital stability (among two-parent recipient families) can improve children's outcomes, the evidence to date is not con-

¹Miller et al., 2000.

clusive, especially since data are not available for a broader age group of children and information is not available about children's social, emotional, and behavioral development.

MFIP's Effects on Economic Outcomes for Two-Parent Families

Table 4.1 and Figure 4.1 present MFIP's effects for two-parent families. Among two-parent recipient families, MFIP increased welfare receipt by about 8 to 10 percentage points through the first three years, after which the effects faded substantially. In contrast, MFIP had small, negative, and generally statistically insignificant effects on one measure of family employment: whether at least one parent worked. For recipient two-parent families, the effects illustrate that the reduction in family earnings came about at least in part because of a reduction in the number of families who had two wage-earners (in most cases, a reduction in the number of families in which the mother also worked). As a result, MFIP led to fairly large negative effects on family earnings, and these negative effects were offset by positive effects on welfare benefits, resulting in no effect on total income. As discussed in earlier reports, families appear to have used the extra welfare benefits provided by MFIP's financial incentives to reduce the work hours of one parent, substituting welfare benefits for earnings.²

MFIP's Effects on Divorce and Fertility Among Two-Parent Families

Table 4.2 presents MFIP's effects on divorce for two-parent families, showing cumulative rates of divorce using public records data.³ The measure "ever divorced" captures the first time a divorce occurs and does not consider subsequent changes in legal marital status that might have occurred after that point. The table shows that MFIP decreased divorce among all two-parent families by 2.2 percentage points, or by 17 percent by the six-year follow-up point. The additional columns of the table, however, show that MFIP's effects differ statistically according to the prior welfare history of the two-parent family.⁴ By the six-year follow-up point, MFIP decreased divorce by 3.1 percentage points among two-parent recipient families. A further look indicates that these reductions in divorce occurred somewhat similarly across several

²Miller et al., 2000.

³For a detailed discussion of MFIP's effects on divorce among two-parent families, see Gennetian and Knox (2004).

⁴Gennetian and Knox, 2004.

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Table 4.1

**MFIP's Effects on Employment, Earnings, Welfare, and Income
for All Two-Parent Families and by Prior Welfare History**

Outcome	All Two-Parent Families								
	All Two-Parent Families			Recipient Families			Applicant Families		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly employment rate, at least one parent employed (%)									
Year 1	63.7	66.2	-2.5 *	58.1	61.1	-3.0 *	78.2	78.1	0.1
Year 2	65.9	68.3	-2.3	61.1	63.7	-2.6	78.4	78.8	-0.4
Year 3	68.7	69.0	-0.3	64.9	65.3	-0.5	77.7	77.6	0.1
Year 4	68.7	69.8	-1.1	65.0	67.0	-2.0	77.6	77.6	0.0
Year 5	70.3	70.3	0.0	68.0	67.5	0.6	75.9	78.3	-2.5
Year 6	68.9	71.5	-2.6	66.6	69.1	-2.5	74.5	77.4	-2.9
Quarterly employment rate, both parents employed (%)									
Year 1	22.3	27.0	-4.6 ***	17.8	22.7	-4.9 ***	33.5	36.4	-3.0
Year 2	25.2	30.2	-5.0 ***	20.3	26.1	-5.8 ***	36.7	39.1	-2.4
Year 3	27.4	30.4	-3.0 *	24.0	27.0	-3.0 *	36.3	37.0	-0.7
Year 4	30.8	31.1	-0.4	27.7	28.5	-0.8	37.7	38.0	-0.3
Year 5	32.5	32.3	0.2	30.3	29.9	0.4	37.9	37.4	0.5
Year 6	31.2	32.0	-0.8	28.3	30.9	-2.6	37.3	34.6	2.7
Quarterly earnings (\$)									
Year 1	2,320	2,691	-372 ***	1,801	2,211	-410 ***	3,585	3,874	-289
Year 2	2,991	3,546	-556 ***	2,410	3,001	-591 ***	4,366	4,901	-534 **
Year 3	3,662	4,052	-390 **	3,109	3,497	-388 **	5,011	5,381	-369
Year 4	4,392	4,685	-293 *	3,796	4,005	-210	5,702	6,280	-579 *
Year 5	5,015	5,297	-282	4,485	4,559	-74	6,303	7,034	-732 *
Year 6	5,469	5,785	-315	4,915	5,226	-311	6,686	7,057	-371

(continued)

Table 4.1 (continued)

Outcome	All Two-Parent Families								
	All Two-Parent Families			Recipient Families			Applicant Families		
	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)	MFIP	AFDC	Impact (Difference)
Quarterly welfare receipt rate (%)									
Year 1	76.4	67.5	8.9 ***	84.7	77.8	6.9 ***	56.7	43.4	13.3 ***
Year 2	59.9	49.1	10.8 ***	71.0	58.0	13.0 ***	32.4	27.3	5.1 *
Year 3	50.5	39.4	11.1 ***	60.8	47.0	13.8 ***	25.8	20.1	5.7 **
Year 4	38.2	31.8	6.4 ***	47.5	38.5	9.0 ***	16.7	16.0	0.8
Year 5	30.3	27.3	2.9 *	37.5	33.8	3.7 *	13.1	12.7	0.3
Year 6	26.3	22.3	4.0 ***	32.4	28.5	3.9 *	12.5	9.4	3.1
Quarterly welfare benefits (\$)									
Year 1	1,815	1,312	503 ***	2,147	1,621	526 ***	1,043	576	467 ***
Year 2	1,394	933	461 ***	1,726	1,192	534 ***	590	338	252 ***
Year 3	1,120	743	377 ***	1,407	953	454 ***	441	265	176 ***
Year 4	795	601	195 ***	1,026	781	246 ***	268	211	57
Year 5	551	521	29	711	695	16	166	152	14
Year 6	465	394	71 **	598	540	58	161	111	51
Quarterly income (\$)									
Year 1	4,134	4,003	132	3,948	3,832	116	4,628	4,450	178
Year 2	4,385	4,480	-95	4,136	4,193	-58	4,957	5,239	-282
Year 3	4,782	4,795	-13	4,516	4,450	66	5,452	5,646	-194
Year 4	5,187	5,285	-98	4,822	4,786	36	5,969	6,491	-522
Year 5	5,566	5,819	-253	5,196	5,254	-59	6,469	7,187	-718 *
Year 6	5,934	6,179	-245	5,513	5,766	-253	6,847	7,168	-321
Sample size	1,109	1,147		761	762		348	385	

(continued)

Table 4.1 (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 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.

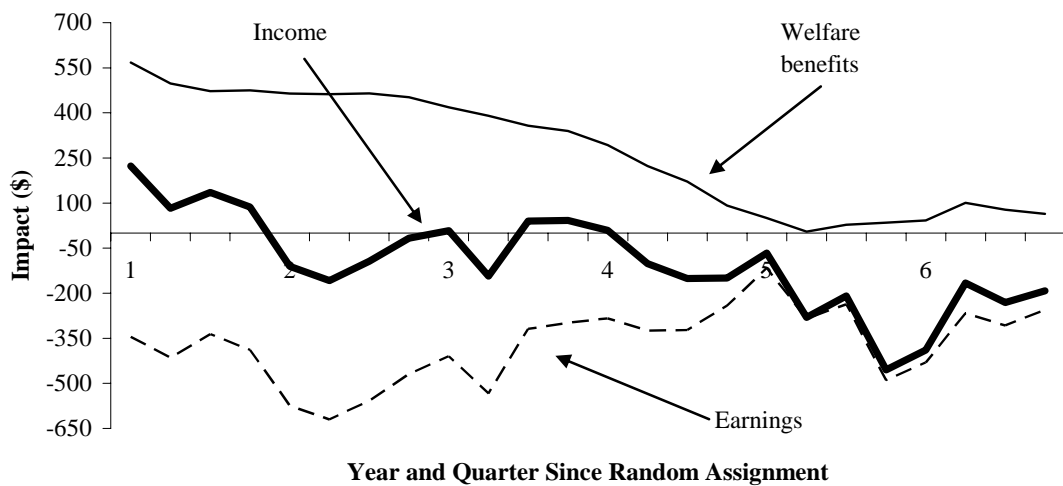
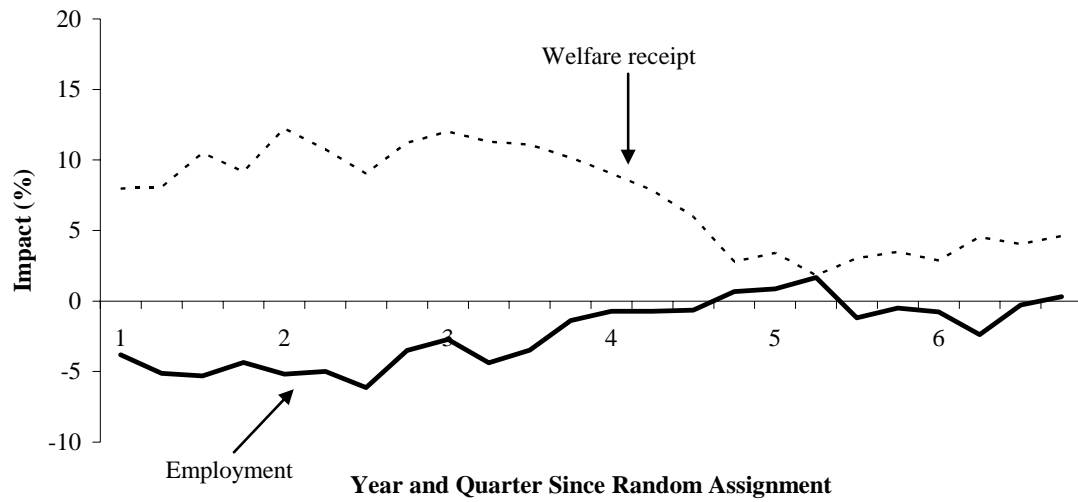
Sample size may slightly vary for each outcome variable.

Rounding may cause slight discrepancies in sums and differences.

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Figure 4.1

MFIP's Effects on Employment, Earnings, Welfare, and Income
for All Two-Parent Families, by Calendar Quarter



(continued)

Figure 4.1 (continued)

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

NOTES: Employment data reference households where at least one parent was employed.

Welfare benefits, earnings, and income represent the sums for both parents.

Numbers on the x-axis indicate the year following random assignment.

subgroups of recipient families.⁵ In contrast, MFIP's effects on divorce among two-parent applicant families show a pattern of increased divorce in some years, though these effects never quite reach statistical significance.

A comparison of client reports of marital status and divorce records data for the three-year survey sample of two-parent families shows that, on average, client reports of divorce are similar to legally documented divorces occurring within a reasonable time lag.⁶ At the three-year follow-up point, approximately 9 percent of AFDC families reported being divorced, compared with 4 percent of AFDC families who had a documented divorce by Year 3 and 10 percent of AFDC families who had a documented divorce by Year 4. Although MFIP families were slightly less likely to divorce than AFDC families among the three-year survey sample — a pattern that holds up in both survey and administrative data sources — the effect by Year 6 among the survey sample of two-parent recipient families does not quite reach statistical significance. Overall, this comparison of data sources for the survey sample of two-parent families suggests that rates of divorce can be similarly captured — at least when considering a reasonable time lag — by either records data or client reports.

Importantly, however, divorce records might not capture the full extent of program effects on marital stability. MFIP increased marital stability among two-parent recipient families primarily by reducing separations: More specifically, MFIP decreased reported separations by 8 percentage points at the three-year follow-up point. Because some separations do not become legal divorces, divorce records data underestimate levels of actual marital dissolution. MFIP's

⁵See Unit D of this report's [Technical Resources](#) at www.mdrc.org. Also see Gennetian and Knox, 2004.

⁶See Unit D of MFIP's [Technical Resources](#) at www.mdrc.org. Of the 35 divorces reported in the survey, 11 (or 31 percent) were captured with divorce records data. And of the 36 divorces measured in the divorce records data, 11 (or 30 percent) were reported by clients at the 36-month survey point.

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Table 4.2

MFIP's Effects on Divorce and Fertility for All Two-Parent Families and by Prior Welfare History

Outcome (%)	All Two-Parent Families								
	All Two-Parent Families			Recipient Families			Applicant Families		
	Impact			Impact			Impact		
	MFIP	AFDC	(Difference)	MFIP	AFDC	(Difference)	MFIP	AFDC	(Difference)
Ever divorced									
Year 1	0.5	0.9	-0.5	0.5	0.5	0.0	0.6	1.7	-1.1
Year 2	2.2	3.2	-1.0	1.9	2.7	-0.8	3.1	3.0	0.1
Year 3	4.0	5.4	-1.4	3.3	4.7	-1.4	5.6	7.0	-1.4
Year 4	8.0	7.6	0.4	6.3	6.8	-0.5	12.1	9.1	3.0
Year 5	9.8	10.2	-0.4	7.4	9.1	-1.6	15.9	12.2	3.7
Year 6	10.6	12.8	-2.2 *	7.9	11.1	-3.1 **	17.9	15.9	2.0
Had a baby by Year 5	15.6	18.0	-2.4	14.5	17.1	-2.6	16.9	20.2	-3.3
Sample size	1,109	1,147		761	762		348	385	

SOURCES: MDRC calculations using Minnesota's public divorce certificate records and 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 *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

Technical Resources (Unit D) provide some descriptive evidence to support this: The proportion of AFDC recipient families who were divorced by the six-year point is lower than the proportion of these same families who reported being separated at the three-year follow-up point.⁷

The bottom row of Table 4.2 also shows that MFIP had no effect on the likelihood of having a baby over the five-year follow-up period. During this time, similar proportions of AFDC two-parent families (roughly 18 percent) and MFIP two-parent families (roughly 16 percent) had a baby.

MFIP's Effects on Schooling Achievement Among a Subgroup of Young Children in Two-Parent Families

School records data from 2001 to 2003 provide information on third-grade math and reading scores for 459 children of two-parent families and information on fifth-grade math and reading scores for 473 children of two-parent families.⁸ Table 4.3 shows that MFIP had no discernible effect on third- or fifth-grade reading or math achievement among children (who were newborn to age 5 at study entry) of all two-parent families or of two-parent recipient families; the sample of children of two-parent applicant families was too small to obtain reliable estimates. A comparison of findings from Table 3.3 and Table 4.3 shows that, on average, a similar proportion of children in two-parent families as in single-parent families met grade-level expectation in third- and fifth-grade reading and math.

Research on the effects of family structure on children's outcomes suggests that children in two-parent families — across a broad socioeconomic spectrum — fare better on a variety of cognitive and social outcomes than children in single-parent families.⁹ If so, then it would be expected that lower rates of separation or divorce among MFIP two-parent recipient families would improve young children's school achievement, but these findings provide little evidence to support a hypothesis linking marital stability to children's achievement. This might be because MFIP did not have a large long-term effect on reductions in marital separations — an out-

⁷See [Unit D of the Technical Resources](#) at www.mdrc.org. It is interesting that, unlike divorce among two-parent families, similar conclusions can be drawn about MFIP's effects on marriage among single-parent families, using respondent reports about marital status or marriage certificates data; that is, the rates of marriage as well as MFIP's effects on these rates are virtually similar using either data source.

⁸Note that some children in these families are siblings. Standard errors are corrected to account for unobserved variation among siblings within families. See [Unit C of the Technical Resources](#), which provides a more detailed breakdown of sample size by child age, family, and family type. See www.mdrc.org.

⁹McLanahan and Sandefur, 1994.

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Table 4.3

**MFIP's Effects on Third- and Fifth-Grade Reading and Math Achievement for
Children in All Two-Parent Families and in Recipient Families**

Outcome	All Two-Parent Families				Recipient Families			
	MFIP	AFDC	Impact (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect Size
Third-grade assessment, children aged 0-3 at study entry ^a								
Reading scale score	1,355	1,340	15	0.0	1,344	1,332	12	0.0
Met grade-level expectation in reading (%)	43.1	42.3	0.9	0.0	40.1	38.1	2.0	0.0
Math scale score	1,364	1,355	9	0.0	1,349	1,339	10	0.0
Met grade-level expectation in math (%)	45.8	41.5	4.3	0.1	44.1	38.3	5.8	0.1
Sample size	228	231			182	187		
Fifth-grade assessment, children aged 2-5 at study entry ^a								
Reading scale score	1,374	1,398	-24	-0.1	1,376	1,382	-6	0.0
Met grade-level expectation in reading (%)	48.7	48.4	0.4	0.0	48.5	46.6	1.9	0.0
Math scale score	1,368	1,369	-1	0.0	1,355	1,365	-10	0.0
Met grade-level expectation in math (%)	45.5	43.5	2.0	0.0	45.7	41.5	4.2	0.1
Sample size	226	247			190	204		

(continued)

Table 4.3 (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 was applied to regression-adjusted impact estimates. Statistical significance levels are indicated as *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

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

Effect size is calculated as the impact divided by the standard deviation of the outcome for the control group.

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.

See [Technical Resource Table C.1](#) for details on children's ages and years of follow-up for each assessment.

Sample size was too small to reliably estimate effects on reading and math achievement among children in two-parent applicant families.

^aSample size varies slightly for reading and math data.

come that was not measured after the three-year point.¹⁰ It might also be possible that children's development is affected by a multitude of processes including marital stability. MFIP's package of effects on family employment, earnings, income, and separations and divorce was particularly pronounced for two-parent recipient families. The reductions in work effort that were observed among MFIP two-parent recipient families might be a tradeoff that policymakers would consider if children's development were improved. On balance, this mix of effects on family economic outcomes did not produce an effect among outcomes of young children in two-parent recipient families. Although MFIP's effects could have provided support for the hypothesis that marital stability can improve children's outcomes, the evidence is again not conclusive enough to dismiss this link, especially since data are not available for a broad range of children's ages nor across the domains of children's development.

¹⁰It is also possible that children's age or stage of development might play a role in influencing how their outcomes respond to changes in family structure. For example, very young children, as examined here, might not be as responsive to continued stability in marriage, or the quality of a marital relationship might matter more than crude classifications of family structure (Gennetian, 2005).

Chapter 5

The Policy Implications of MFIP

Since the 1996 welfare reforms and the institution of Temporary Assistance for Needy Families (TANF), nearly every state has adopted an earned income disregard and some type of participation requirement — two key policies that were tested in the 1994 field trials of the Minnesota Family Investment Program (MFIP). During the time that the experiment's treatment differences for families in the program group and the control group were in place, MFIP achieved several of its goals, increasing employment, earnings, and income. When MFIP ended in 1998, its early positive effects on these outcomes faded substantially. Some of these effects faded because parents in the control group naturally increased their rates of employment as time passed. The effects on income faded largely because MFIP ended. It is noteworthy that — for several subpopulations of families and for some children — MFIP led to positive long-term effects, well beyond the three-year follow-up point.

MFIP's strongest effects on employment, earnings, and income were clustered in the group of single-parent families who could be characterized as facing the most barriers to successful entry into and maintenance of economic self-sufficiency. Effects on economic outcomes were shorter-lived for some groups of these single-parent families than others. More specifically, effects on economic outcomes faded by Year 4 among single-parent long-term recipients, largely because of naturally increasing employment rates in the control group, the parents in the Aid to Families with Dependent Children (AFDC) system. In turn, MFIP's effects on economic outcomes persisted until Year 6 among the most disadvantaged single-parent families, largely because these control group families were not able to increase employment on their own. Furthermore, for the very youngest children in these very disadvantaged single-parent families, MFIP had positive long-term effects until the time they were in third or fifth grade.¹ MFIP's effects among recent applicants (and among two-parent applicant families) are less promising. Although the program did somewhat increase employment among single-parent recent applicants, earnings did not increase in MFIP families compared with AFDC families, and — although income did slightly increase — children in MFIP and AFDC families fared similarly.

These analyses relied only on administrative records data sources to understand MFIP's long-term effects and, as a result, uncovered several new and important findings. It is also clear, however, that much of MFIP's potential effects on family and child well-being might not have been measured. This includes MFIP's potential effects on several outcomes for which effects did occur at the three-year point, as measured by the three-year follow-up survey, and outcomes

¹Morris, Gennetian, and Duncan, 2005.

that could be measured through self-reports or objective assessments, such as domestic abuse and the quality of relationships, parents' emotional and psychological well-being, and, importantly, the academic and behavioral outcomes for adolescents.

MFIP's overall success, then, should be measured against both these short- and long-term findings. MFIP's findings should also be compared with emerging long-term findings from evaluations of similar types of programs. A recent synthesis of long-term effects from earnings supplement programs shows that such programs successfully increased the employment, earnings, and income of recipient and very low-income families and that these effects faded shortly after the experiment ended.² Some evidence also exists that effects on children's achievement — especially preschool-age children — are strongest during the first years of the follow-up period, while experiments are in place, and that they begin to fade, though not entirely, two to three years after the experiment ends.³

The long-term findings from MFIP offer several policy implications:

- **Financial incentives combined with mandates to participate in employment-related services can move more single parents into work but are unlikely to generate long-term increases in employment and earnings for most groups.** In MFIP, as in several other similar programs,⁴ the positive effects on employment and earnings tend to fade over time, not because the program ends but because many of these parents would have gone to work eventually anyway. Under this scenario, the effect of the program was to speed up their movement into work. This finding and the fact that MFIP's effects did not fade for the most disadvantaged single parents underscore the potential value in targeting more intensive or more expensive programs toward those who are least likely to go to work on their own.
- **In contrast, increases in income could be sustained into the longer term by continuing the program.** MFIP probably would have continued to increase families' incomes if it had continued providing its more generous earnings disregard to eligible families — or, in other words, if the MFIP program and control group members (who were receiving assistance) had not been moved into the new statewide program in 1998. These results are sug-

²Michalopoulos, 2005.

³Morris, Gennetian, and Duncan, 2005.

⁴Michalopoulos, 2005.

gestive only, since they are based on nonexperimental analyses, but they are similar to findings from other earnings supplement programs.⁵

- **Even temporary increases in family income can benefit children over the long term.** The persistence of MFIP's effects on the young children of single-parent long-term recipients — beyond the economic effects for their parents — is quite similar to findings reported in comparable studies⁶ and is perhaps not surprising, given that better academic performance in early years has been found to foster better performance in later years. These findings also suggest that longer-lasting effects on employment and income for very disadvantaged subpopulations can lead to concurrent improvements in children's academic achievement. Understanding the broad range of potential effects across cognitive and behavioral aspects of children's development and determining whether effects exist for older children are important matters for future investigation.
- **Effects on earnings and income are largest and most sustained when financial incentives are combined with work requirements rather than implemented alone.** Offering financial incentives alone can encourage some families to cut back on work. Combining incentives with work requirements can minimize this effect and reduce the overall costs of the program. The value of these cost reductions should be weighed against the potential benefits that families experience when parents are able to spend more time with their children.
- **Strategies of increasing income by rewarding work, along with subsequent benefits that might accrue for families and children, should be weighed against increased government costs.** MFIP's use of welfare benefits to supplement the earnings of single parents who worked was a core component of the increased income among MFIP families, leading to increased costs. Among single-parent families, this increased income likely contributed to MFIP's long-term benefits to children's achievement in school. Among two-parent recipient families, welfare income also played an important, albeit different, role: MFIP allowed one parent to cut back on work effort, and this reduction in family earnings was offset by increased

⁵Michalopoulos (2005) finds similar results for the New Hope program and Canada's Self-Sufficiency Project — programs that offered a time-limited earnings supplement outside the welfare system, based on the condition of full-time work.

⁶Morris, Gennetian, and Duncan, 2005.

welfare payments, leading to no net difference in family income. Although these effects did not last beyond the fourth year of follow-up, they did appear to influence marital stability somewhat, by slightly reducing rates of divorce in the long term for that subgroup of two-parent families.

- **Changes in the welfare system that are aimed at increasing employment and income may have few and small effects on divorce rates and entry into marriage.** Although there is less evidence from other studies on this point, the results from MFIP suggest that programs of its type are unlikely to have large lasting effects on marriage rates, although they may increase marriage or marital stability for some families.⁷ Although lower rates of separation among MFIP two-parent recipient families in the short term could not be followed up in the longer term, there is little evidence here that MFIP's short-term impacts on separations led to substantial reductions in divorce in the long run. Programs such as MFIP were not explicitly designed to affect marriage or the quality of relationships. It might be that interventions designed to address a broader range of factors influencing marital relationships could more directly influence decisions to marry or stay married.

⁷Gennetian and Knox, 2003.

Appendix A

**Selected Characteristics of Sample Members,
by Welfare Status at Random Assignment**

The Minnesota Family Investment Program

Appendix Table A.1

**Selected Characteristics of Sample Members in Single-Parent Families,
by Welfare Status at Random Assignment**

Characteristic	All Single Parents	Long-Term Recipients	Recent Applicants
<u>Demographic characteristics</u>			
Geographic area (%)			
Hennepin County (Minneapolis)	59.8	65.8	56.6
Anoka/Dakota counties	23.1	15.7	27.1
Rural counties	17.1	18.5	16.3
Gender of respondent (%)			
Female	91.3	97.8	87.8
Male	8.7	2.2	12.2
Average age (years)	29.5	30.4	29.0
Race/ethnicity (%)			
White, non-Hispanic	60.8	52.8	65.1
Black, non-Hispanic	28.0	34.8	24.3
Hispanic	2.3	1.7	2.6
Native American/Alaskan Native	6.1	7.8	5.2
Asian/Pacific Islander	2.8	2.9	2.8
<u>Family status</u>			
Marital status (%)			
Never married	56.4	64.0	52.4
Married, living with spouse	0.4	0.5	0.3
Married, living apart	18.0	9.5	22.5
Separated	2.9	2.0	3.3
Divorced	21.3	22.8	20.5
Widowed	1.1	1.2	1.0
Age of youngest child (%)			
Under age 3, or client pregnant at the time of random assignment	47.7	35.4	54.5
3-5 years	20.8	29.2	16.3
6-18 years	31.4	35.4	29.3
Number of children (%)			
1	52.4	36.2	61.2
2	27.3	33.2	24.1
3 or more	20.3	30.5	14.8
<u>Labor force status</u>			
Worked full time for 6 months or more for one employer (%)	63.7	53.5	69.1
Any earnings in past 12 months (%)	59.8	32.1	74.9

(continued)

Appendix Table A.1 (continued)

Characteristic	All Single Parents	Long-Term Recipients	Recent Applicants
Currently employed (%)	19.6	13.9	22.7
Never worked (%)	5.8	10.1	3.5
<u>Education status</u>			
Highest credential earned (%)			
GED certificate ^a	14.4	16.9	13.0
High school diploma	44.6	39.7	47.2
Technical/2-year college degree	11.4	9.6	12.3
4-year college degree or higher	3.0	1.3	4.0
None of the above	26.7	32.6	23.5
<u>Prior welfare receipt</u>			
Total prior AFDC receipt ^b (%)			
None	38.1	1.3	57.8
Less than 4 months	2.6	0.9	3.6
4 months or more but less than 1 year	6.9	1.8	9.6
1 year or more but less than 2 years	8.4	2.5	11.6
2 years or more but less than 5 years	20.7	40.2	10.2
5 years or more but less than 10 years	13.9	31.6	4.4
10 years or more	9.4	21.8	2.8
<u>Housing status</u>			
Current housing status (%)			
Public housing	3.4	5.7	2.2
Subsidized housing	16.8	33.9	7.6
Emergency or temporary housing	3.3	2.7	3.7
None of the above	76.4	57.7	86.5
Sample size	9,217	3,208	6,009

SOURCE: MDRC calculations using data from Background Information Forms.

NOTES: The sample includes AFDC and MFIP group members who were randomly assigned from April 1, 1994 to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps, were assigned to the AFDC / no STRIDE group, or were missing required baseline information. Members of the AFDC group are potentially eligible for any programs that MFIP was designed to replace: AFDC; Minnesota's JOBS program, STRIDE; Family General Assistance (FGA); or Food Stamps.

One percent of single-parent sample members did not complete a Background Information Form.

Rounding may cause slight discrepancies in sums and differences.

^aThe General Educational Development (GED) certificate is given to those who pass the GED test and is intended to signify knowledge of basic high school subjects.

^bThis refers to the total number of months an individual or her spouse has spent on AFDC at one or more periods of time as an adult. It does not include AFDC receipt under a parent's name.

The Minnesota Family Investment Program

Appendix Table A.2

**Selected Characteristics of Sample Members in Two-Parent Families,
by Welfare Status at Random Assignment**

Characteristic	All Two-Parent Families	Long-Term Recipients	Recent Applicants
<u>Demographic characteristics</u>			
Geographic area (%)			
Hennepin County (Minneapolis)	47.5	52.4	37.2
Anoka/Dakota counties	21.5	20.3	24.1
Rural counties	31.0	27.3	38.6
Gender of respondent (%)			
Female	86.6	90.7	78.0
Male	13.4	9.3	22.0
Average age (years)	31.0	31.2	30.6
Race/ethnicity (%)			
White, non-Hispanic	66.0	59.5	79.7
Black, non-Hispanic	13.3	16.2	7.2
Hispanic	3.2	2.7	4.3
Native American/Alaskan Native	4.5	5.6	2.2
Asian/Pacific Islander	13.0	16.0	6.6
<u>Family status</u>			
Marital status (%)			
Married, living with spouse	72.0	68.6	78.8
Cohabiting			
Never married	22.0	24.2	17.4
Married, living apart	1.4	1.8	0.7
Separated, currently cohabiting	0.2	0.2	0.1
Divorced, currently cohabiting	4.5	5.1	3.0
Widowed	0.0	0.1	0.0
Age of youngest child (%)			
Under age 3, or client pregnant at the time of random assignment	57.1	55.2	61.1
3-5 years	19.2	22.3	12.8
6-18 years	23.7	22.5	26.1
Number of children (%)			
1	27.4	21.2	40.1
2	30.7	31.6	28.6
3 or more	42.0	47.2	31.3
<u>Labor force status</u>			
Worked full time for 6 months or more for one employer (%)	59.3	52.4	73.5

(continued)

Appendix Table A.2 (continued)

Characteristic	All Two-Parent Families	Long-Term Recipients	Recent Applicants
Any earnings in past 12 months (%)	53.2	40.8	78.8
Currently employed (%)	20.2	15.1	30.6
Never worked (%)	12.3	16.5	3.5
<u>Education status</u>			
Highest credential earned (%)			
GED certificate ^a	11.9	12.6	10.4
High school diploma	42.9	38.9	51.1
Technical/2-year college degree	10.3	9.2	12.7
4-year college degree or higher	3.7	2.1	7.0
None of the above	31.2	37.2	18.9
<u>Prior welfare receipt</u>			
Total prior AFDC receipt ^b (%)			
None	26.6	3.7	74.4
Less than 4 months	3.9	4.4	2.6
4 months or more but less than 1 year	11.6	13.0	8.7
1 year or more but less than 2 years	10.4	13.3	4.3
2 years or more but less than 5 years	22.7	30.5	6.4
5 years or more but less than 10 years	16.3	23.0	2.4
10 years or more	8.6	12.1	1.2
<u>Housing status</u>			
Current housing status (%)			
Public housing	5.8	7.6	2.0
Subsidized housing	13.1	17.8	3.4
Emergency or temporary housing	3.6	3.7	3.4
None of the above	77.4	70.8	91.1
Sample size	2,256	1,523	733

SOURCE: MDRC calculations using data from Background Information Forms.

NOTES: The sample includes AFDC and MFIP group members who were randomly assigned from April 1, 1994 to March 31, 1996, excluding the small percentage who were receiving or applying only for Food Stamps, were assigned to the AFDC / no STRIDE group, or were missing required baseline information. Members of the AFDC group were potentially eligible for any programs that MFIP was designed to replace: AFDC; Minnesota's JOBS program, STRIDE; Family General Assistance (FGA); or Food Stamps.

One percent of single parent sample members did not complete a Background Information Form.

Rounding may cause slight discrepancies in sums and differences.

^aThe General Educational Development (GED) certificate is given to those who pass the GED test and is intended to signify knowledge of basic high school subjects.

^bThis refers to the total number of months an individual or her spouse has spent on AFDC at one or more periods of time as an adult. It does not include AFDC receipt under a parent's name.

Appendix B
Data Sources

Baseline Information Form

Just prior to random assignment, data were collected on the characteristics of each research sample member in the Minnesota Family Investment Program (MFIP). The Background Information Form (BIF) provides important demographic information, such as the sample member's age, educational attainment, prior work history, and prior welfare receipt. To complete the BIF, staff in the financial offices interviewed each welfare applicant or recipient and collected information on prior welfare receipt from the automated benefit system.

These data on sample members' baseline characteristics are used for three purposes: to describe the samples, to define subgroups of the population whose participation patterns and program impacts may be of particular interest, and to contribute to the regression model used in the impact analyses to increase the precision of impact estimates.

Administrative Records

Public Assistance Benefits Records

Public assistance benefits records from April 1993 to September 2002 were provided to MDRC by Minnesota's Department of Human Services. These automated data include monthly information on public assistance benefits provided to each member of the research sample. Public assistance may include MFIP, Aid to Families with Dependent Children (AFDC), Food Stamps, or Family General Assistance. Public assistance receipt and benefit levels are measured as quarterly averages.

Unemployment Insurance (UI) Earnings Records

Unemployment Insurance (UI) earnings records from April 1993 to June 2002 were provided to MDRC by Minnesota's Department of Economic Security. These data provide quarterly earnings information for each sample member, as reported by employers to the UI system. These data exclude earnings that are not covered by or not reported to the UI system — for example, jobs in the informal economy.

The entire report sample had administrative records data available for at least 24 quarters of follow-up. Outcomes were created by taking quarterly averages over each year of follow-up. For example, the measure "quarterly earnings in Year 2" is the quarterly average of earnings in follow-up Quarters 5 to 8. "Income" is the sum of public assistance benefits and earnings.

Divorce Records and Marriage Certificate Records

Divorce data were obtained through electronic publicly available divorce records from the Minnesota Supreme Court. The records provide names and dates of divorces that took place in Minnesota from January 1994 through August 2001. Marriage is measured through marriage certificate records data capturing marriages that took place in Minnesota from January 1989 through December 2001, obtained from the Minnesota Center for Health Statistics. Names of respondents from the MFIP sample are available from the BIF, UI records, and public assistance benefit records and are matched against the names found in the divorce and marriage records data. For two-parent families, matches are based on the names of both the respondents and their spouses. Matches of the marriage certificate data use additional information about respondents' birth dates and Social Security numbers.

With these data, yearly or cumulative measures of divorce or marriage are created using the month-by-month information about divorce and marital status. For example, if a family split up in Month 6 after random assignment, then that family is considered divorced in Years 1 through 6 of follow-up. Similarly, if a respondent was married in Month 49 after random assignment, then that respondent is considered married in Years 4 through 6 of follow-up. A subset of the full sample completed a survey 36 months after random assignment. Results from this survey pertaining to respondents' marital status are compared with the divorce records data.

Birth Certificate Records

New births are measured using birth certificate data documenting births from January 1990 through December 2000, obtained from the Minnesota Center for Health Statistics. Names, birth dates, and Social Security numbers of respondents from the MFIP sample are available from the BIF, UI records, and public assistance benefit records and are matched against the parent information found in the birth certificate data. Matches are based on names of both the respondents and their spouses. Birth certificate records include information about the biological mother's age, education, and race/ethnicity as well as the following indicators of prenatal care and the health of the newborn: whether or not the mother received prenatal care, the newborn's weight, and APGAR scores taken 1 minute and 5 minutes after birth.¹

Public School Records

Public school educational records were made available through a cooperative agreement between MDRC, the Minnesota Department of Human Services, and the Minnesota De-

¹The 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 (Apgar, 1953).

partment of Education. The Department of Human Services provided a file containing the names and birth dates of children who appeared on the MFIP sample members' public assistance files at the time of entry into the MFIP evaluation study. The Department of Education then matched the children from this file to the students in its test assessment files, based on a child's name, gender, and birth date.

Beginning in 1997, the State of Minnesota began administering the Minnesota Comprehensive Assessments (MCAs) to third- and fifth-grade students in public schools, to measure their mastery of mathematics and reading skills.² MDRC received data on four tests for each year from 2001 to 2003: third-grade reading, third-grade math, fifth-grade reading, and fifth-grade math. The reading test consists of reading a story that is informational, practical, or literary. Third-graders are asked to respond to questions about the main idea of the piece, the sequence of events, the conclusion, and the story line. Fifth-graders are additionally asked about information in charts or graphs. The math test includes computations and problem solving. For third-graders, the content includes basic addition and subtraction, identifying patterns in numbers and shapes, and time and money calculations. For fifth-graders, the content includes addition and subtraction, multiplication, identification of numbers, shapes, tables and graphs, and basic understanding of numerical means, medians, modes, and ranges. The questions in both the reading and the math tests are formatted as multiple-choice and short-answer items.

To allow comparisons across years for each of the four specific tests, raw scores are converted to scale scores. Scale scores cannot be compared between grades or between tests. (One can compare scale scores for the third-grade reading assessments in 2001 and 2002 but not the third-grade reading and math assessments in 2001 nor the third-grade and the fifth-grade reading assessments in 2001.) Scale scores differ depending on the grade and test but can be as low as 50 and as high as 2,600. Maximum and minimum scores may differ across years, depending on the difficulty of the test. For the 2001 to 2003 tests, minimum scale scores (where a student received a raw score of zero correct answers) can be as low as 50 for the third-grade math assessment; 370 for the third-grade reading assessment; 170 for the fifth-grade math assessment; and 260 for the fifth-grade reading assessment. For the 2002 to 2003 tests, maximum scale scores (where the student answered all questions correctly) can be as high as 2,390 for the third-grade math assessment; 2,120 for the third-grade reading assessment; 2,280 for the fifth-grade math assessment; and 2,300 for the fifth-grade reading assessment.

In order to assist in the interpretation of scale scores, Minnesota's Department of Education created five achievement levels (I, IIa, IIb, III, and IV) that link a given range of scores to a level of achievement. Level IIb corresponds to meeting grade-level expectation.

²See the Minnesota Department of Education Web site: http://cfl.state.mn.us/html/mde_home.htm.

To measure student achievement over the three years of available data, MDRC used two outcomes for each of the four tests. One outcome is a continuous measure of the scale score, and the other is a dichotomous measure indicating whether or not a student met grade-level expectation. Because of the limited time period in which data are available, there are very few cases in which information is available at *both* the third-grade point and the fifth-grade point, limiting the ability to examine shorter- versus longer-run effects for the same sample of children. Rather, analyses are designed to assess MFIP's long-term effects by measuring effects on either a third-grade or a fifth-grade outcome, both of which are observed beyond the third year of follow-up.

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Earlier MDRC Publications on the Minnesota Family Investment Program

The Long Term Effects of the Minnesota Family Investment Program on Marriage and Divorce Among Two-Parent Families
2003. Lisa Gennetian

Reforming Welfare and Rewarding Work
Final Report on the Minnesota Family Investment Program

Volume 1: Effects on Adults
2000. Cynthia Miller, Virginia Knox, Lisa Gennetian, Martey Dodoo, Jo Anna Hunter, Cindy Redcross

Volume 2: Effects on Children
2000. Lisa Gennetian, Cynthia Miller

Reforming Welfare and Rewarding Work
A Summary of the Final Report on the Minnesota Family Investment Program
2000. Virginia Knox, Cynthia Miller, Lisa Gennetian

Final Report on the Implementation and Impacts of the Minnesota Family Investment Program in Ramsey County
2000. Patricia Auspos, Cynthia Miller, Jo Anna Hunter

Explaining the Minnesota Family Investment Program's Impacts by Housing Status
1998. Cynthia Miller

Making Welfare Work and Work Pay
Implementation and 18-Month Impacts of the Minnesota Family Investment Program
1997. Cynthia Miller, Virginia Knox, Patricia Auspos, Jo Anna Hunter-Manns, Alan Orenstein

MFIP
An Early Report on Minnesota's Approach to Welfare Reform
1995. Virginia Knox, Amy Brown, Winston Lin

About MDRC

MDRC is a nonprofit, nonpartisan education and social policy research organization. We are dedicated to learning what works to improve the well-being of low-income people. Through our research and the active communication of our findings, we seek to enhance the effectiveness of social policies and programs. MDRC was founded in 1974 and is located in New York City and Oakland, California.

MDRC's current projects focus on welfare and economic security, education, and employment and community initiatives. Complementing our evaluations of a wide range of welfare reforms are new studies of supports for the working poor and emerging analyses of how programs affect children's development and their families' well-being. In the field of education, we are testing reforms aimed at improving the performance of public schools, especially in urban areas. Finally, our community projects are using innovative approaches to increase employment in low-income neighborhoods.

Our projects are a mix of demonstrations — field tests of promising program models — and evaluations of government and community initiatives, and we employ a wide range of methods to determine a program's effects, including large-scale studies, surveys, case studies, and ethnographies of individuals and families. We share the findings and lessons from our work — including best practices for program operators — with a broad audience within the policy and practitioner community, as well as the general public and the media.

Over the past quarter century, MDRC has worked in almost every state, all of the nation's largest cities, and Canada. We conduct our projects in partnership with state and local governments, the federal government, public school systems, community organizations, and numerous private philanthropies.

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

	Average Outcome Levels			MFIP vs. AFDC	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
		MFIP Incentives Only	AFDC	Impacts of Full MFIP Program	Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
Outcome	MFIP					
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 Impacts of Full MFIP Program	MFIP Incentives Only vs. AFDC		MFIP vs. MFIP Incentives Only Impacts of Adding Mandatory Services and Reinforced Incentive Messages
	MFIP	MFIP Incentives Only	AFDC		Impacts of Financial Incentives Alone		
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 Impact of Full MFIP Program	MFIP Incentives Only vs. AFDC	MFIP vs. MFIP Incentives Only
	MFIP	MFIP Incentives Only	AFDC		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: MDR, 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
					Impacts of Financial Incentives Alone	Impacts of Adding Mandatory Services and Reinforced Incentive Messages
	MFIP	MFIP Incentives Only	AFDC	Impacts of Full MFIP Program		
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 \leq .01; **= p-value \leq .05; * = p-value \leq .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 \leq .01; **= p-value \leq .05; * = p-value \leq .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	<i>MFIP</i>	<i>AFDC</i>	<i>Impact (Difference)</i>
<u>All single parents</u>	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
<u>Long-term recipients</u>	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
<u>Recent applicants</u>	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)									

(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 (Difference)	Effect Size	MFIP	AFDC	Impact (Difference)	Effect 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	<i>MFIP</i>	<i>AFDC</i>	<i>Impact (Difference)</i>
<u>All two-parent families</u>	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
<u>Recipient families</u>	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
<u>Applicant families</u>	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.