Published in final edited form as:

Dev Psychol. 2009 March ; 45(2): 383–400. doi:10.1037/a0014960.

Losing the Safety Net: How a Time-Limited Welfare Policy Affects Families at Risk of Reaching Time Limits

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Abstract

The authors examined the effects of Florida's Family Transition Program (FTP), one of the first welfare reform initiatives to include a time limit on the receipt of federal cash assistance with other welfare requirements, on single-mother welfare-receiving families. Using a regression-based subgroup approach, they identified a group of families who were at risk of reaching the welfare time limit and subsequently assessed the experimental effects of the time-limited welfare policy on this group as compared to an otherwise comparable group of single-mother welfare-recipient families. For the families who were at risk of reaching the welfare time limit, FTP had few effects. FTP decreased mothers' depressive symptoms, and mothers in the FTP group reported higher levels of children's school achievement. There were no effects on parenting behavior or mothers' reports of children's social-emotional outcomes.

Keywords

welfare policy; time limits; children; poverty

One of the most controversial policy changes brought about by the federal Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA; 1996) was the institution of time limits on cash assistance as part of welfare reform packages. Critics of the law argued that pulling the safety net from welfare-receiving families, who are at the deepest levels of poverty and are most likely to be long-term welfare recipients, would result in severe hardships for families and negative effects on children. At the same time, proponents of the law argued that such a policy would encourage employment over welfare dependency and give families the necessary push to get them on their feet. Unfortunately, more than a decade after welfare reform, there is a dearth of definitive evidence about how time limits bundled with other welfare policies are affecting adults and children. In this study, we examine the effects of Florida's Family Transition Program (FTP), one of the first welfare reform initiatives to impose a time limit on the receipt of cash assistance bundled with other welfare requirements, on those families of greatest interest under this policy—those who are likely to reach those time limits. To be clear, this study does not provide information about the effects of time limits implemented in isolation; instead, it covers the kind of welfare policy implemented in states as a result of PRWORA: time limits in the context of other services and mandates for a group of particularly vulnerable families under this policy.

A number of descriptive studies have been conducted that compare individuals who have hit time limits with those who leave welfare for other reasons or examine differences in

individuals' experiences in a pre- and post-time-limit period (Bania et al., 2001; D. Bloom, Kemple, et al., 2000; Gordon & James-Burdumy, 2002; Gordon, Kuhns, Loeffler, & Agodini, 1999; Hunter-Manns & Bloom, 1999; Massachusetts Department of Transitional Assistance, 2000; Richardson, Schoenfeld, LaFever, Jackson, & Tecco, 2001; Richardson, White, Tecco, LaFever, & Kerttula, 1999; Taylor, Barusch, & Vogel, 2000). These studies provide useful descriptive information but do not provide information on the effects of time limits, both because individuals who reach time limits are different in many ways from those who leave welfare for other reasons and because pre- and post-time-limit behavior is affected by time limits as well as maturational changes in individuals' life course trajectories.

Experimental studies (with random assignment to a time-limited welfare policy or a control condition) have helped to disentangle the effects of policies from the effects of personal characteristics, but even in those studies there has been little attempt to examine the group of families most likely to reach the time limits. Examining the effects of welfare time limits on all welfare-recipient families is quite useful, since arguably all families who receive welfare are affected by time limits (as time limits may encourage employment so families can bank welfare months, for example), and a number of studies have been conducted that examine such families (e.g., D. Bloom, Kemple, et al., 2000; D. Bloom, Melton, Michalopoulos, Scrivener, & Walter, 2000; Gennetian & Morris, 2003). At the same time, because the group of families reaching time limits is relatively small, overall effects may mask any small but consistent negative (or, for that matter, positive) effects for those reaching time limits.

There is also a small but growing body of research about welfare transitions that has used sophisticated analytic designs to examine the effects of leaving welfare on families and children (Chase-Lansdale et al., 2003; Dunifon, Kalil, & Bajracharya, 2005; Dunifon, Kalil, & Danziger, 2003; Hofferth, Smith, McLoyd, & Finkelstein, 2000). However, these studies tend to address the effects of the welfare transition itself, irrespective of its cause (e.g., time limit, sanctioning, or voluntary exit from the welfare rolls). Thus, they provide important information about the effects of the welfare transition on children but less information on the effects of time limits per se. This study adds to the literature on the effects of welfare programs by conducting an analysis of families most likely to reach time limits in an experimental study of FTP.

FTP was implemented prior to the passage of the 1996 federal welfare reform legislation (PRWORA) under a waiver of federal rules in one county in Florida (D. Bloom, Farrell, Kemple, & Verma, 1999). FTP imposed a short 2- to 3-year time limit on the receipt of cash assistance and combined that time limit with a series of mandates and services, as described below. It is notable that FTP was evaluated using a random assignment research design: Families were randomly assigned either to a program group, subject to the rules and benefits of the FTP program, or to a control group, to receive welfare under the Aid to Families with Dependent Children (AFDC) system. Our analysis leverages that experimental design to investigate the effects of time-limited welfare policy on the most vulnerable families. Prior research on this program, which examined the effects for all families and for families by their risk of long-term welfare dependency (D. Bloom, Kemple, et al., 2000; Morris, Bloom, Kemple, & Hendra, 2003), found negative effects for children in families with the least risk of welfare dependency who had experienced the largest employment gains as a result of the program. In this article, we focus on a different group of families,¹ examining the effects on a wealth of family and child outcomes, to understand the effects of this program specifically

¹In the Results section, we examine the relation between this subgroup and those identified in prior research on this same sample. Our analysis suggests only modest overlap with previously identified groups.

on those families at risk of hitting welfare time limits, compared to otherwise similar families receiving welfare.

Background

Until 1996, cash welfare assistance was a federal entitlement that was available as long as it was needed. PRWORA (1996) sets a lifetime limit of 5 years on the receipt of federal cash assistance; however, states may impose shorter limits, and 20% of the caseload may be exempted from these limits. Once a family reaches the time limit, federally funded cash benefits are terminated, but the family typically remains eligible for food stamps, Medicaid, low-income child care assistance, and (where available) state-supported cash assistance.

In fact, time limits have not been universally implemented across states (see Zedlewski, Holcomb, & Loprest, 2007). Twenty-four states have imposed a 60-month time limit that completely terminates benefits at the end of 60 months of welfare receipt. On the other hand, 19 states (including Florida) have time limits that are shorter than 60 months.² Eight of these states (Florida is by far the largest) have imposed lifetime time limits of less than 60 months. Finally, 8 states (including New York) either have no time limits on the receipt of cash assistance or provide indefinite benefits for the portion of the welfare payment allocated to children. It is interesting that Florida was one of the first places in the country where individuals began to reach time limits, in February 1996 (because of the early institution of the welfare waiver policy). Moreover, it was one of the only places in which the introduction of time limits was tested experimentally (along with the other changes taking place in welfare reform at the same time); thus, our study is one of the few sources of information about the effects of this important change in welfare policy.

It should be noted that PRWORA and the changes that followed in subsequent years did not only bring changes to the time-limited aspect of welfare policy. It also introduced stricter mandates for participation in work-related activities and greater financial incentives to move from welfare to work in the form of earnings disregards (money that is not counted in calculating the welfare benefit) and other supports for low-income families. Nowhere in the country were time limits instituted without some combination of these other changes in welfare policy. Florida was no exception.

In 2002 and 2003, as families began reaching federal welfare time limits, federal welfare benefits were terminated for over 60,000 families (U.S. Department of Health and Human Services [USDHHS], 2006). However, over two thirds of those families were in New York State, where their cases were reopened under New York's Safety Net Assistance program. On the other hand, a larger number of families—over 70,000—reached the shorter time limits set by individual states between 2000 and 2003 (USDHHS, 2006). Even so, these numbers are much lower than might be expected, partly because of policies (including sanctions and work requirements) that encouraged families to leave welfare prior to reaching time limits.

Finally, in judging the relevance of FTP, it is important to understand the context in which the program was implemented. FTP was evaluated in a single county—Escambia County—far from any large city. Escambia County's unemployment rate was generally similar to or below the state and national rates throughout the period of the FTP study (1994–1999), declining from 4.7% in 1994 to 3.5% in 1999. At the same time, FTP was implemented during a period of extraordinary change in welfare policy. Florida's welfare caseload

²In some cases, these are intermittent time limits, such that assistance may be reduced or terminated for a period of time and then may be provided again.

declined at an unprecedented rate during the period of FTP's implementation, and declined even faster after the implementation of welfare reform in Florida in late 1996. Moreover, as one of the first tests of time limits, FTP was generously funded to provide a rich set of services and supports.

Characteristics of Individuals Who Reach Time Limits

A primary goal of this analysis is to identify welfare recipients who reach time limits. A number of characteristics might differentiate these welfare recipient families from the rest of the welfare caseload, including those who leave welfare for other reasons (D. Bloom, Farrell, & Fink, 2002; Seefeldt & Orzol, 2005). Many of these same characteristics have been identified as barriers to employment among the hard-to-employ population (Danziger et al., 2000; Olson & Pavetti, 1996; Yoshikawa, Magnuson, Bos, & Hsueh, 2003). That is, welfare-recipient parents who reach time limits are likely to face many of the same barriers to employment that a broader low-income sample does, but perhaps even more extensively, limiting their ability to move off of welfare and into employment. These barriers include demographic characteristics (race or ethnicity, with racial or ethnic minority families at greater risk of reaching time limits than White counterparts; family structure, with single parents at greater risk than their married counterparts; and the number and age of children, with families with a greater number of young children more likely to reach time limits than those with fewer children; Burley, 2001; Danziger et al., 2000; Miller, 2002); human capital factors (prior experience with employment and welfare receipt, such that families with less experience in the workforce and greater length of time receiving welfare are more likely to reach time limits); educational attainment (parents without a high school degree are at higher risk of reaching time limits; Miller, 2002; Moffitt, Cherlin, Burton, King, & Roff, 2002; Polit et al., 2001; Zedlewski, 2003); and health, mental health, and psychosocial risks and competencies (with risk factors in these domains increasing the likelihood of reaching time limits and competencies reducing that likelihood; Danziger et al., 2000; Loprest & Acs, 1995; Moffitt et al., 2002; Polit et al., 2001; Zedlewski, 2003). Less commonly studied but probably also implicated are contextual factors like the unemployment rate; a higher unemployment rate may make it more difficult to find jobs and increase the likelihood of reaching time limits.

How Might Time Limits Affect Children?

While prior research has not been able to attribute outcomes for children to time limits themselves, hypotheses about the effects of time limits on children may be drawn from research that investigates the relation between changes in parents' welfare status, employment, and income, and outcomes for children. This nonexperimental research suggests that the effects of increases in employment may be affected by the quality of the jobs attained, but any loss of income resulting from a time limit could have deleterious effects on children.

Reductions in welfare—The most likely effect of time limits is that they will reduce the receipt of welfare benefits among single parents. The loss of welfare income might improve outcomes for children and families by reducing the stigma of public assistance receipt. Prior research in this area found contradictory results; some studies found a negative relation between welfare receipt and children's outcomes (Haveman & Wolfe, 1995; Ratcliffe, 1996), and other research found no differences between children in families receiving welfare and children in poor (nonwelfare) families (Zill, Moore, Smith, Stief, & Coiro, 1995). More recent research on welfare transitions has found neutral or positive effects of welfare transitions, but those effects may depend on the age of children examined (Chase-Lansdale et al., 2003) and whether the transition involves moving from welfare reliance to combining welfare and employment (as opposed to sole reliance on work; Dunifon et al.,

2003). At the same time, nonvoluntary reductions in welfare use may have a much more negative effect on parents' psychological well-being and children's developmental outcomes than transitions that occur by choice, and data have rarely been available to explore this critical distinction. Experimental studies of mandatory welfare programs have found that reductions in welfare, when accompanied by increases in employment, yield few effects on children (McGroder, Zaslow, Moore, & LeMenestrel, 2000; Morris, Huston, Duncan, Crosby, & Bos, 2001); however, combining work and welfare may actually benefit families and children (Gennetian & Miller, 2002; Gennetian & Morris, 2003; Morris et al., 2001).

Loss of income—Not surprisingly, research has found that income loss may result in distress and problems of adjustment for children and adolescents, primarily as a result of changes in parents' harsh and inconsistent discipline (Conger & Elder, 1994; Conger, Ge, Elder, Lorenz, & Simons, 1994; Elder, 1974, 1979; McLoyd, 1990; McLoyd, Jayaratne, Ceballo, & Borquez, 1994). However, the primary focus of this research has been income loss that resulted from job loss. It is not clear whether income loss that results from the loss of cash benefits might have the same negative effects on families and children, as the combination of financial stress and loss of employment might impinge on parents' emotional well-being more than financial stress alone. Of course, the extent to which reductions in income result in increases in poverty bodes ill for outcomes for children, as poverty has consistently been found to have negative effects on children's development (Bradley & Corwyn, 2002; Duncan & Brooks-Gunn, 1997; Duncan, Brooks-Gunn, & Klebanov, 1994; Mayer, 1997; McLoyd, 1998).

Increase in employment—Some have hypothesized that welfare time limits might increase employment as single parents turn to paid work to support their families. A series of studies examining the outcomes of welfare leavers has found this pattern, with high rates of employment following welfare exits (Acs & Loprest, 2001). For low-income families, maternal employment and children's cognitive and social development tend to be positively correlated, although these associations may be due to maternal characteristics associated with employment rather than employment per se (Harvey, 1999; Huston, 2002; Vandell & Ramanan, 1992; Zaslow & Emig, 1997). Moreover, what appears to be critical in understanding the effects of maternal employment on children's development is the quality of employment and perhaps its timing (Brooks-Gunn, Han, & Waldfogel, 2002; Harvey, 1999; Menaghan & Parcel, 1995; Parcel & Menaghan, 1994). Research from experimental studies has shown that increases in employment alone have few effects on the cognitive and social development of young children (McGroder et al., 2000; Morris et al., 2001). However, extensive increases in employment without increases in income in the context of time-limited welfare have been found to result in negative effects on school-age children (Morris et al., 2003).

Estimation Challenges

Measuring how FTP has affected those who hit time limits might appear to be straightforward. One approach would be to compare those who hit time limits with those who did not (this would include only some program group members but all control group members). But those who hit time limits would likely have had different out-comes from those who did not (even if they had not hit time limits). Attributing differences between these two groups to the time limits would clearly be erroneous. Alternatively, we could compare recipients in the control group who received welfare for long enough to reach a time limit with those who reached time limits in the program group. But the presence of a time limit may encourage some of those in the program group to leave welfare for work in anticipation of reaching a time limit. Again, this would make those in the control group

different from those in the program group, and the differences would make it impossible to confidently attribute any differences between the two groups to the welfare policy.

To maintain the integrity of the experimental research design while best identifying the group of families most likely to reach time limits, we used a strategy that relies on a weighted, regression-based approach. This technique is also used in propensity score research (Rosenbaum, 1995), and it is increasingly being used to identify critical subgroups in experimental studies (Yoshikawa et al., 2003). In short, we attempted to identify the set and relative weight of baseline characteristics that predict the likelihood of reaching time limits in the program group and use those weights to identify the comparable sample in the control group of similar welfare-receiving families. (See the *Analysis Strategy* section for further detail on this approach and some critical nuances in implementing this strategy without bias). By using multiple baseline characteristics to identify the subgroup, we can more accurately divide the sample into those who are likely to hit the time limit and those who did not accumulate enough welfare to reach the time limit. However, because we are relying solely on characteristics of families assessed at baseline prior to random assignment (albeit a particular weighting of those characteristics), estimates that compare the FTP and control group outcomes in each of these subgroups provide an unbiased estimate of the impacts of the FTP program.

The study contributes to prior research in several ways. First, we attempt to identify a group of families who were likely to reach time limits and no longer have welfare as a safety net. Second, we examine the effects of a time-limited welfare policy on this group of families in the context of an experimental evaluation in which families were randomly assigned either to a new welfare policy subject to time limits or to a control condition subject to the prior welfare policy. This provides a strong test of the causal effect of the welfare reform program for this group of families. Third, we focus on adult economic outcomes and measures of children's development, as well as key mediators of these economic targets on children. Despite considerable concern about how children fare under welfare time limits, relatively little information has been collected to inform our understanding of whether children are affected by welfare time limits per se, and if so, through what pathways those effects might occur.

Finally, and most important, this research continues a tradition of policy experiments that inform our understanding of questions critical to developmental science (see, for example, Huston et al., 2001; Morris, Duncan, & Clark-Kauffman, 2005; Yoshikawa et al., 2003). In our case, this research informs a body of research linking dynamic patterns of welfare, employment, and income with developmental outcomes for children. More specifically, this research provides an opportunity to build our understanding of how the loss of welfare might affect parents' psychological well-being, parenting, and child care, and in turn affect socialemotional and academic outcomes for children.

Method

Florida's FTP

This article uses data from Florida's FTP. To assess what difference FTP made, the evaluation compared the experiences of two groups of people: the *FTP group*, whose members were subject to the program, and the Aid to Families with Dependent Children (AFDC) group, whose members were subject to the prior welfare rules. Families were randomly assigned to the two groups, using a lottery-like process.

FTP subjected welfare recipients to a time limit on the receipt of cash assistance. More specifically, about 56% of FTP participants were limited to 24 months of cash assistance in

any 60-month period. The remainder of recipients were limited to 36 months of welfare in any 72-month period if they (a) had received AFDC for at least 36 of the 60 months prior to enrollment or (b) were under 24 years old and had no high school diploma and no recent work experience. In all, 17% of families in the FTP program reached a time limit and had their welfare benefits canceled. Program policies also included several safeguards; the most common one used in practice was a temporary exemption for families so that some of their months were not counted toward their time limit. Such exemptions were granted to a little over 7% of the FTP group. None of the AFDC group members were subject to a time limit on their welfare benefits until after the study was completed.

In addition to the time limit, FTP offered a small financial work incentive that was a little more generous than that offered to the AFDC group. Under FTP, the first \$200 plus half of any remaining earned income was *disregarded* (that is, not counted) in calculating a family's monthly grant. It is notable that Florida's relatively low welfare grant levels (a maximum of \$303 for a family of three) limited the extent to which FTP's disregard increased recipients' income. Under AFDC, \$30 plus one third of earnings could be excluded (as well as a \$90 work expense credit) in calculating welfare benefits for the first 4 months of work; however, the earnings disregard was reduced to \$30 (plus the \$90 work expense credit) after 4 months of work, and there was no disregard (except the work expense credit) after a year of employment.

FTP also aimed to provide a rich array of services and supports that were not available as extensively to those in the AFDC group. Most notably, participants received intensive case management from workers with very small caseloads. FTP participants were also more likely than AFDC group members to be required to participate in employment-related activities; to facilitate compliance with those mandates, the FTP program provided enhanced education, training, and job placement services, and an additional year of transitional child care assistance (2 years for the FTP program, compared to 1 year for the AFDC program). FTP also sought to increase participants' access to a range of other benefits, including social and health services, child care, and transportation, by increasing funding for such services and bringing many of them into the program offices. Finally, under FTP, parents with school-age children were required to ensure that their children were attending school regularly and to speak with their children's teachers at least once each grading period, and parents of preschoolers had to provide proof of immunizations.

Sample and Procedures

In the FTP study, 2,815 single-mother welfare applicants and recipients in Escambia County, Florida, were randomly assigned to program and control groups from May 1994 to February 1995 (see D. Bloom, Kemple et al., 2000, for further description of the random assignment process and sample selection). Administrative records of sample members' monthly cash assistance and food stamp benefits in Florida and quarterly earnings in jobs covered by Florida's unemployment insurance (UI) system were collected. All sample members had a minimum of 6.5 years of data from the three administrative sources (2 years before random assignment, and 4.5 years after random assignment; D. Bloom, Kemple, et al., 2000). Two brief forms, the Baseline Information Form (BIF) and the Private Opinion Survey, were completed for virtually all members of the research sample. These data provide a snapshot of the characteristics and attitudes of the two groups' members as of the date each person was randomly assigned. The BIF included information about demographics, employment history, welfare history, and other characteristics useful for creating subgroups (and for predicting behavior after random assignment). These data were very important for this article, since the risk index was based on preintervention indicators.

In addition, the study drew on a large-scale survey roughly 4 years after random assignment. The 4-year survey targeted a subset of the total sample: those randomly assigned from August 1994 to February 1995 who had one focal child between the ages of 1 and 8 at random assignment (who would be 5 to 12 years old at the 4-year interview).³ These focal children were randomly selected from families. With an 80% response rate on the survey, the total survey sample was 1,104 families. Response bias analyses have been conducted on this sample, and FTP and AFDC groups are comparable on a variety of background characteristics in the survey sample (D. Bloom, Kemple, et al., 2000).

As we discuss later, our approach uses a modeling sample to determine the group of FTP members who were likely to reach welfare time limits. This modeling sample was subsequently omitted from the analysis sample. This is important because using the impact analysis sample to generate the estimates can lead to overfitting in the program relative to the control group and can result in biased program impacts (Kemple & Snipes, 2000). Using an external sample allows us to maintain the integrity of the random assignment design of the experiment.

Our external modeling sample included a random subsample of 250 individuals assigned to the FTP group who did not respond to the child survey. Respondents to the child survey were deliberately excluded to have the largest possible sample sizes for the analysis phase. There were several reasons that these families were not part of the focal child survey: (a) They were randomly assigned in the early cohort (between May and August 1994); (b) they did not have a child in the focal age range (they had a very young child or an older child); or (c) they were eligible for the focal child survey, but could not be located for, or refused to be interviewed for, the survey effort. As discussed in the Results section, analyses were conducted to determine the similarity of the modeling and analysis samples. Our results suggest that the modeling sample is not very different from the full analysis sample and that the prediction process was quite similar in both samples.⁴

The modeling sample of 250 was deemed large enough to develop a strong profile (using standard power estimates that compare the ratio of the sample size, n , to the number of predictor variables, k , we computed that we could conduct a simple regression of approximately 25 predictors in a sample of 250) but small enough not to detract from the power of the subsequent stage of analysis. That is, after excluding the modeling sample, we examined the effects of FTP on 2,565 single parents for administrative sources of data and 1,104 single parents for the survey sources of data. These are the samples for the primary analyses reported in this article. At times, we report the effects of FTP on the subgroup of families at highest risk for reaching the time limit: Sample sizes for these analyses are 637 for administrative sources of data and 295 for the survey sources of data.

Measures

Time-limit status—Sample members were considered to have reached the time limit if (a) they were FTP group members; (b) administrative data from the Department of Children and Families indicated that they had hit the time limit (or had accumulated enough welfare to be close to doing so⁵) by the time of the follow-up survey; and (c) they were not granted an exemption. Checks conducted with other sources of administrative data confirmed the quality of this measure.⁶

³Because of the timing of the 4-year interview, 26 of these respondents were actually 13 years of age at the time.

⁴It is important to note that any differences between the modeling and the analysis sample will result in a lack of precision in transferring the weights from the modeling sample to the analysis sample—in effect, more “noise” in identifying the families at risk for reaching the time limit, but not an experimental-control bias in estimating program impacts on this group.

Parental employment, public assistance, and income—Average employment rate and quarterly earnings data were obtained from Florida's unemployment insurance records for the 4 years of follow-up. These data provide information about earnings obtained by sample members in any county in Florida, but they do not have information about earnings obtained in other states or from jobs not reported to the state's unemployment insurance system (e.g., self-employment and employment in federal jobs, such as the military). Monthly AFDC, Temporary Assistance for Needy Families (TANF), and food stamp payment data, obtained from the state of Florida, provided information on average rates of receipt and payments for the final year of the follow-up. Total income was computed as the sum of earnings, AFDC and TANF payments, and food stamp payments, representing total reported individual income, and does not include income of other family members.

Child care—Child care arrangements in the final year of follow-up⁷ were categorized into center-based child care (center or group care, summer daycare, and extended day programs); relative home-based care (care by the child's sibling, father, or grandparent, or the mother's spouse or partner); and nonrelative home-based care arrangements (unrelated daycare or babysitter in a home setting). These categories are not mutually exclusive; that is, children in relative home-based care may have also been in center-based care arrangements.

Quality of the home environment—A scale was adapted from the Home Observation for Measurement of the Environment (HOME) scale (Caldwell & Bradley, 1984), resembling the HOME-Short Form (Baker, Keck, Mott, & Quinlan, 1993). As used in prior research (Polit, 1996), items were scored on a 3-point scale and summed ($\alpha = .72$).

Depression—Parents were asked about the number of days they had experienced each of 20 depressive symptoms, using items from the Center for Epidemiologic Studies–Depression scale (Radloff, 1977). Item responses ranged from 0 (*rarely [less than 1 day]*) to 3 (*most [5–7] days*). A summary score was computed by summing across the 20 items ($\alpha = .90$).

Aggravation—The average of six items, on a scale of 1 to 4, indicated maternal aggravation (e.g., the extent to which mothers felt that children were hard to care for or felt trapped by their children; $\alpha = .77$).

Warm and harsh parenting—Parental warmth was measured as the average of three items (on a scale of 1 to 4) asking the number of times the child was shown physical affection, praised, and praised to other adults over the past week ($\alpha = .75$). Harsh parenting was measured using the average of six items (rescaled to a 4-point scale) assessing the number of times in the last week the respondent lost his or her temper; scolded or yelled, spanked, or grounded the child; took away privileges from the child; or sent the child to his or her room ($\alpha = .67$).

⁵We included families who had accumulated enough welfare to be within 3 months of reaching time limits, because their background characteristics suggested that these families were extremely similar to those who actually reached time limits and because systems were at times delayed in recording families who reached time limits in a timely fashion. According to Florida state records, 237 individuals reached the time limit. The remaining 52 sample members in the time-limit group were within 3 months of reaching the time limit.

⁶A check of this administrative source of data shows that, of those who were scored as reaching the time limit, 96.1% were receiving welfare in the quarter prior to their termination, only (as expected) 6.8% were receiving welfare in the quarter after their termination, and 3.3% were receiving welfare four quarters after termination. Some of these nonzero values could be due to the transition to child-only cases at the point of the time limit, which did occur in a few instances.

⁷At the 48-month follow-up interview, the parent was asked about child care information for the 2 years prior to the interview. However, because some families were interviewed more than 48 months after random assignment, comparable child care participation data were available for all families only from months 38 to 49 after random assignment, roughly corresponding to the final year of the follow-up period.

Supervision and monitoring—Seven items (ranging from 1 to 5) were averaged to assess the extent to which parents knew about their children's whereabouts and activities ($\alpha = .82$).

Children's school engagement—School engagement is the sum of four items (with scores from 1 to 3) examining focal children's investment in school. For example, items assessed whether the child "does just enough homework to get by" or "only works on schoolwork when forced to" ($\alpha = .76$).

Children's academic achievement—Parents were asked about their "knowledge of children's schoolwork, including report cards," based on a 5-point scale. Children who scored below a 3 (average) were scored as performing below average in school.

Children's school progress and suspensions—Parents were asked whether any of their children had repeated any grades since kindergarten and whether their children had ever been suspended from school since random assignment.

Children's behavior problems and positive behavior—Behavior problems were measured with the 28-item Behavioral Problems Index (BPI), which was used in the National Longitudinal Study of Youth (Peterson & Zill, 1986; $\alpha = .92$). Positive behavior was scored as the sum of a 7-item subset of the 25-item Positive Behavior Scale (Polit, 1996) measuring the extent to which children are engaging in positive social behavior with their peers on an 11-point scale ($\alpha = .91$).

Children's health—Focal children's general health was rated using parents' responses to a single question, ranging from 1 to 5.

Baseline measures considered for modeling those who reached the time limit—Various measures were considered to predict who would hit the time limit. A set of variables, all measured at random assignment, were chosen based on theoretical considerations. These measures can be broadly grouped into the following categories:

1. Demographic and family characteristics: We examined race and ethnicity of the parent, parents' marital status (married, divorced or separated, never married), number of children, and age of the youngest child as possible predictors of reaching time limits.
2. Human capital factors: We considered parents' prior welfare and employment history (based on administrative sources of data from the unemployment insurance and public assistance system, including the extent to which they combined earnings and welfare use); parents' prior income (a combination of earnings, welfare receipt, and food stamps); and parents' educational attainment (whether or not they had their high school diploma or GED) from the BIF.
3. Parents' health, mental health, and psychosocial competencies: On the BIF, parents reported whether a physical or mental disability limited their ability to engage in employment. On the Private Opinion Survey, parents completed a short (four-item) version of Pearlin's Mastery Scale (Pearlin, Menaghan, Lieberman, & Mullan, 1981) designed to measure a person's sense of control over external events.
4. Contextual factors: Unemployment rate was computed using data for Escambia County, Florida (the single county in which FTP was tested) from 1994 to 1996 (the years corresponding to the follow-up period), using information from the U.S. Bureau of Labor Statistics.

Analysis Strategy

Identifying the Time-Limit Risk Index—As indicated earlier, our goal was to develop an index indicating families' risk of reaching welfare time limits by using a regression-based subgroup approach (H. Bloom, Hill, & Riccio, 2001; Kemple & Snipes, 2000; Morris et al., 2003; Yoshikawa et al., 2003) that has many of the same elements of a propensity score matching approach; however, a critical distinction in this case is that it is not used to identify a control group for comparison purposes (Dehejia & Wahba, 1999; Rosenbaum & Rubin, 1983, 1984). Instead, this approach is used to develop a risk index that can be used along with the randomized design to estimate how the effects of this program differ across families at differing levels of the time-limit risk index. (See Hendra, 2004, for more information on the development of the risk index used in this study).

This strategy involves four steps. The first three steps included operationally defining the risk of hitting the time limit; identifying background characteristics that are empirically related to hitting the time limit; and using multiple regression to generate empirical estimates of the relationship between the background characteristics and the time-limit measure. (See above discussion on sample sizes.) It is notable that we discuss two samples in this section: a modeling sample for establishing our prediction of the risk index, and an analysis sample for conducting our analysis of the effects of FTP on this subgroup of families.

Twelve variables, all measured at baseline, were found to have relatively strong and independent power for predicting the time-limit outcome in the regression-modeling sample. The most parsimonious model that maximized the percentage that was correctly classified into the high-risk group (i.e., the percentage of sample members who reached the time limit, or what we term the "hit rate") was chosen. Prior work has suggested that variables that might serve to moderate the program impacts might complicate the interpretation of estimates obtained from a regression-based subgroup approach (see Peck, 2002, 2003).⁸ Therefore, a parsimonious model was sought to minimize the risk that variables would be included in the modeling process that might serve to moderate the experimental impacts. The measures (all measured at random assignment) included race, age of youngest child, marital status, income, welfare and earnings in the year prior to random assignment and the extent to which prior year earnings outweighed the prior year's AFDC receipts, high school diploma receipt, presence of a disability limiting employment, locus of control, and the local unemployment rate.

The fourth step used the estimates generated in the modeling sample to create an index for those in the analysis sample that indicated their propensity for hitting the time limit. This index was used in the analyses as a continuous measure (as discussed in greater detail below), as well as to estimate effects for a sub-group—those with a high propensity for reaching the time limit (defined as those in the top 25th percentile). This subgroup is referred to as those most at risk of hitting the time limit, or for short, the *time limit risk subgroup*.

⁸The problem is that certain background characteristics that correlate with reaching the time limit might also moderate program impacts. The concern arises when that moderation is not due to the variable that is being predicted, and thus parsimony helps by minimizing exposure. In our case, whether the parent was African American was a strong predictor of reaching the time limit. Fortunately, we did not find moderation of this demographic characteristic on impacts on parents' employment and income. However, there is moderation of this characteristic on impacts on parents' welfare receipt. The question that remains is the following: Are the impacts on loss of welfare receipt larger for African American parents because they are also more likely to reach time limits (which would lend support for our analysis and interpretation), or is it possible that there is something about being African American that results in lower levels of welfare receipt as a result of FTP that is not due to reaching time limits? Although we think there is support for the model and interpretation we present here, it is impossible for us to be confident that the latter interpretation is not valid as well.

While there was little prior guidance to draw on to determine the extent to which our risk index was performing well, we base our assessment of the risk index on several criteria. First, we examined the magnitude of the hit rate among those estimated to be at high risk on the index as well as the difference in the hit rate between those at the highest and lowest quartile on the risk index, and we examined these measures in both the modeling and the analysis samples. Second, we examined the extent to which those in the predicted subgroup were similar on a set of baseline characteristics to those whom we knew to be in that subgroup in the program group. Finally, we examined the extent to which we observed economic changes (in our case, reductions in welfare use following the imposition of the time limit) consistent with what we would hypothesize for this subgroup of families.

A final check of the subgroup entailed an examination of back-ground characteristics of the FTP and AFDC groups to ensure that the two groups were equivalent at the start of the study and thus ensure that estimates of the effects of FTP on this subgroup could be confidently attributed to the program and not to any preexisting differences between families.

Impact Analysis—Our primary analysis tested the extent to which the time-limit risk index moderated the experimental program impact. This analysis allowed us to address whether the effects of FTP differed across the continuum of the risk index. The analysis had the following specification:

$$Y_i = \alpha + \beta_0 P_i + \beta_1 R_i + \beta_2 P_i R_i + \sum_j \beta_{3j} X_{ij} + \epsilon_i,$$

where Y_i = the outcome measure for sample member i , $P_i = 1$ for program group members and 0 for control group members, R_i = the time-limit risk index, β_0 = the impact of the program on the average value of the outcome, β_1 = the main effect of the time-limit risk index, β_2 = the effect of the interaction of risk index and the dummy variable representing program group membership, and β_{3j} = the regression coefficients for the vector of background characteristics j , with ϵ_i = a random error term.

In addition, we estimated program impacts for the group of families who are likely to reach welfare time limits. Using ordinary least squares regression techniques, we estimated program impacts by measuring the difference between FTP group and AFDC group average outcome levels for the families most at risk of reaching the time limit, based on the risk index. To increase the precision of the impact estimates and reduce the standard errors of the estimates, impacts were adjusted for a small set of covariates, all measured at the time of random assignment. Two-tailed tests with an alpha of .10 were used to test for the significance of program impacts. The following model was used:

$$Y_i = \alpha + \beta_0 P_i + \sum_j \beta_{1j} X_{ij} + \epsilon_i,$$

for those in the time-limit risk subgroup, where Y_i = the outcome measure for sample member i , $P_i = 1$ for program group members and 0 for control group members, β_0 = the impact of the program on the average value of the outcome, controlling for X_{ij} or background characteristics, with ϵ_i = a random error term. The coefficient on the program dummy measured the regression-adjusted effect of FTP on those who were at high risk of hitting the time limit.

Results

Defining the Time-Limit Risk Subgroup

Table 1 presents the regression model that generated the propensity scores used to create the time-limit risk index. The model suggests that race and local (monthly) unemployment rates are the most important predictors of whether a sample member will hit the time limit. Notably, a more parsimonious model did not increase the precision of the prediction.

In this effort, we did not attempt to tease out the relative contribution of any particular factor in estimating this risk sub-group; our aim was merely to produce the best empirical prediction of the variable reaching the time limit. In this case, for example, race emerged as a key predictor variable; we assume there is likely considerable shared variance between race and the other human capital characteristics as well as characteristics of the local labor market (such as job discrimination), and the race variable is likely such a strong predictor because it is picking up these other effects. However, it is not the purpose of this article to determine the interpretation of the profile; instead, our goal was simply to use it as a forecasting device.

The performance of the model was first assessed by the hit rate (the percentage of FTP group members in the top quartile who actually reached the time limit) and the difference in the hit rate between FTP group members in the top and bottom quartiles (the high- and low-risk groups, respectively). In the regression modeling sample, 48% of the high-risk group reached the time limit. This rate is 32.1 percentage points greater than in the low-risk group.

Next, we examined the performance of the model in discriminating those at risk of hitting the time limit in the 1,104 FTP group members in the analysis sample. One question at the outset of this analysis was whether a model would translate from the small modeling sample to the analysis sample. The modeling was successful in creating two distinct subgroups in the analysis sample as well: In the high-risk group, nearly 43% actually reached the time limit, down from the 48% in the modeling sample. This is our best evidence that the prediction of who reaches time limits works equally well in the modeling and the analysis sample. This is 23 percentage points larger than the hit rate in the low-risk group (in which only 20% actually reached the time limit). A chi-square test found that the percentage hitting the time limit was statistically significantly different across the risk groups ($p < .0001$). A comparison of the regression models that predicted reaching the time limit in the modeling and the analysis samples does not find significant differences in the coefficients of any of the predictors, confirming the appropriate use of the modeling sample for prediction in the analysis sample (results available from Pamela A. Morris).

Figure 1 shows that the hit rate increases more or less monotonically over the deciles of the risk index. It suggests that the index is doing an especially good job in distinguishing the top three deciles from the remainder of the sample.

Background Characteristics of the Risk Subgroup

Table 2 shows the background characteristics of FTP group members at high risk of hitting the time limit (above the top 25th percentile of the time-limit risk index; column 1); those who actually hit the 24-month time limit (column 2); those who actually hit the 36-month time limit (column 3); and those who were exempted from the time limit (column 4).

Those predicted to be at high risk of hitting the time limit are very similar on a number of characteristics (income, number of months on AFDC, gender, age, number of children) to those who actually reached the 36-month time limit, which provides some confidence in using this risk index to assess the effects of reaching the time limit. Those at risk of hitting

the time limit resemble the 36-month time-limit group more closely than those who reached the 24-month time limit. In part, this may be because this group may have the characteristics, such as longterm welfare dependency, typically associated with reaching time limits. At the same time, those who were exempted from time limits entered the program with the most disadvantaged characteristics. Only 22% of this group were employed in the quarter before random assignment. Seventy percent of those who were eventually exempted were given a 36-month time limit (compared to 44% among the full FTP group). Finally, over half of those exempted did not have a high school diploma, and 38% (nearly double the FTP group average) reported that they had turned down a part-time job due to physical or mental disability.

Table 3 presents the background characteristics of a number of groups. First, we examined the baseline characteristics of the modeling and the FTP analysis samples to ensure their similarity. There are a number of similarities between the modeling and the analysis samples on measures of income, parental human capital characteristics (like high school education), and parental background characteristics, including the presence of a physical or mental disability. The primary difference is in the age of the children; the modeling sample has a similar proportion of very young children but fewer children in the preschool age range than the full analysis sample. However, we are not concerned with these differences; there was very little loss of precision in prediction between the two samples (from 48% to 43% of families reaching the time limit in the high-risk group), and the comparison of the models that predicted reaching the time limit in two samples found similar estimates on all the coefficients, which suggests nothing in the way of systematic biases as a result of these differences (described above).

Next, Table 3 presents a comparison of the FTP and AFDC groups for the full sample of families and for that subgroup at high risk of reaching the time limit (based on the risk index). One of the most important findings in this table is that there is no systematic difference between FTP and AFDC groups in the high-risk sub-group. While a few characteristics emerge as statistically significantly different between the FTP and AFDC groups, a regression that tried to predict research group status based on a series of background characteristics among the high-risk group was not statistically significant ($p > .1$), suggesting that the integrity of the experiment was preserved with this subgroup. Nevertheless, all impacts presented in this article are regression adjusted to account for any remaining differences before random assignment and to reduce the standard error of the impact estimates.

Finally, we wanted to understand the extent to which this subgroup was similar to other subgroups already identified in this sample. More specifically, prior research on this same sample had been conducted on families at high risk of long-term welfare dependency (D. Bloom, Kemple, et al., 2000; Morris et al., 2003). This work identified subgroups of families, using the control group (not the experimental group, as in this case), and the outcome variable predicted in identification of this subgroup was the extent to which the families received AFDC or TANF without being employed. Comparing those families at highest risk in the time-limit subgroup and those at highest risk of long-term welfare dependency from prior work, we find that only half of those identified as being at high risk of reaching the time limit were also identified as being at high risk of long-term welfare dependency. This is because some of those who would have received many months of welfare in the absence of FTP were encouraged, prior to reaching the time limit, to leave welfare early and engage in employment. It is important to note that these families are not a part of our analysis for this article, as they were not predicted to reach welfare time limits under the conditions of the FTP program (and therefore did not likely experience the resulting loss of welfare benefits). On the other hand, there is a set of families at risk of

long-term welfare dependency that is not part of our time-limit risk subgroup; in fact, half of those identified as being at high risk of long-term welfare dependency were not identified as being at high risk of reaching the time limit. These families were likely to be exempted under the FTP program because they faced a number of extreme barriers to their employment. Again, excluding these families from our analysis for this article is warranted, since our focus is on the effects of time limits for those families who experience the resulting welfare loss. However, both groups of families represent vulnerable families under this welfare reform initiative.

Impacts on Economic Outcomes

Table 4 shows the results of the analysis estimating the effects of FTP on those at highest risk of reaching the time limit and the extent to which the time-limit risk index moderated FTP's effects on parents at the 4th year of follow-up, after all families would have reached time limits. We found significant subgroup and interaction effects only for the percentage of families receiving AFDC, such that FTP reduced AFDC use in the 4th year of the follow-up for those most at risk of reaching the time limit, consistent with our expectations. FTP reduced AFDC use by 20 percentage points in the AFDC group for those families at highest risk of reaching the time limit. The results of the interaction model, portrayed graphically in Figure 2, show that the reductions for this high-risk group were much greater than for other groups on the risk index. For those in the middle 50% of the risk index, FTP also reduced welfare use, but only by about 5 percentage points, and FTP had no effect on welfare use for families in the lowest 25th percentile of the risk index.

There were no significant effects of FTP on other economic indicators (employment, food stamp receipt, earnings, and income in Year 4 for the highest risk subgroup), nor did the risk index significantly interact with the experimental treatment group assignment for any of these other outcomes in the interaction models. The loss of welfare benefits was slightly outweighed by a (non-significant) increase in earnings, leading to no effects on recipients' income. It is notable that because we relied on administrative sources of data for these analyses, we estimated effects on employment participation and earnings but not hours of employment—a point to which we return in the discussion section.

Impact on Welfare, Earnings, and Income in the Pre-Time-Limit Period

Table 5 presents findings on the impact of FTP on welfare use, employment, earnings, and income in the first 2 years of the follow-up, before any sample members reached time limits. Again, the results of the model for the time-limit risk subgroup are presented first, followed by the results of the model estimating the effects of the interaction between the time-limit risk index and the program dummy. Significant effects of the program were only found with regard to employment, which increased due to FTP for this time-limit risk subgroup. As the results of the interaction model show, these effects are significantly different than those for the rest of the sample. These results are graphed in Figure 3 and show that FTP increased employment for the time-limit risk subgroup by almost 9 percentage points, as compared to 4 percentage points for those in the middle quartile on the risk index and only 2 percentage points for those at the lowest quartile on the risk index.

Impacts on Child Care, Family, and Child Outcomes

Impacts on child care use—Table 6 presents impacts on child care use for focal children in the final year of the follow-up. Families at high risk of reaching time limits significantly increased their use of child care for less than 2 months over the 1-year period examined. These increases in care are concentrated in increases in relative home-based care arrangements rather than nonrelative home-based or center-based arrangements. In addition, these impacts on total months in any care arrangement and total months in relative care were

significantly moderated by the risk index. As shown in Figure 4, increases in total care and relative care were only found for this subgroup of families and not for those at moderate or low risk of reaching time limits.

Impacts on home environment, parents' emotional well-being, and parenting

—Impacts on the quality of the home environment, parents' emotional well-being, and parenting are presented in Table 7. These show only one significant impact of FTP for the time-limit risk subgroup. More specifically, there were no differences on measures of the quality of children's home environments and on measures of parenting behavior (warmth, harshness, or supervision). There were also no effects on the extent of aggravation parents reported. However, FTP did reduce parental depression in the time-limit risk subgroup by more than 2 points, as measured by the Center for Epidemiologic Studies-Depression scale. Moreover, there was a significant effect of the program group by risk index interaction. As shown in Figure 5, significant reductions in parents' depression were only found for parents at high risk on the time-limit risk index; neutral effects were found for parents at moderate and low risk.

Impacts on children's development—Impacts on measures of children's school achievement and social behavior are presented in Tables 8 and 9. As with the measures of family well-being, few effects emerged for the time-limit risk subgroup, but those effects were favorable for children. More specifically, we found benefits of FTP to children's school achievement—on the average score and on the proportion of children scoring below average in school—for children in families in the time-limit risk subgroup. We also found corresponding significant effects for the interaction of program group and the risk index. As shown in Figure 6, the high-risk subgroup was the only one of the three groups of the risk index to show increases in children's average school achievement and reductions in the proportion of children scoring below average in school. Neutral effects were observed for those at moderate and low levels on the risk index for the continuous measure of achievement.

Conclusion

This study used a regression-based approach to identify a subgroup of sample members who had a high degree of similarity to those who actually hit time limits. This subgroup was identified in a manner that maintained the rigorous properties of the random assignment evaluation. FTP group members in the risk subgroup looked similar in both background characteristics and outcomes after random assignment to those who actually hit the time limit (although they looked more like those who hit the 36-month time limit). AFDC group members in the time-limit risk group were largely indistinguishable from FTP group members at baseline, allowing us to be confident that the impact estimates generated on this subgroup were valid estimates of the effects of a time-limited welfare program on this group of families. Most important, the pattern of impacts on welfare use at the end of the follow-up suggests that this group is indeed likely to receive less welfare at the point when families reach welfare time limits. In short, this group looks like those who actually reached time limits in background characteristics and in the expected post-time-limit economic outcomes.

What happened earlier in the follow-up period for these families? The time-limit risk group had higher levels of employment than their AFDC group counterparts in the pre-time-limit period but did not experience any corresponding declines in their use of welfare during this same period. Thus, this group of families initially combined work and welfare. When the time limit set in, many of these families made the transition to sole employment, showing declines in welfare use but without corresponding changes in their earnings or employment. These changes did not result in any income gains or losses for these families, because of

small offsets in welfare payments early in the follow-up period and small increases in earnings later in the follow-up period (both of which were nonsignificant, however). In short, parents altered their behavior as a result of the time limit, but this did not dramatically change family resources for better or worse.

Parents in the time-limit risk subgroup appear to have increased their use of child care, particularly relative home-based care arrangements, more than their counterparts who were in the AFDC group. This finding is somewhat surprising, given the lack of significant increase in the proportion of families employed at the end of the follow-up period, based on the administrative sources of data. Further analysis shows an increase in the number of hours of employment as reported in the parent survey (but based on the survey measure, as with the administrative data, there was no increase in the proportion of families working). Perhaps this increase in employment hours means that parents in the FTP group were more likely to be working in the after-school hours, increasing their reliance on relative care.

Despite these small increases in hours worked and in the use of relative care arrangements, we found only a few effects for this group of families on family processes and children's development; the clearest conclusion is one of neutral effects. These results of neutral effects for middle-childhood children are completely consistent with those of Dunifon et al. (2003), who found that sole wage reliance (unlike combining work and welfare) is not associated with benefits to family processes and children's outcomes. Chase-Lansdale et al.'s (2003) analysis of data on a slightly younger sample from the Three Cities Study found neutral effects of maternal transitions to employment and off of welfare as well. It is notable, however, that these children remained at considerable developmental risk, even in the absence of negative effects.⁹

It is interesting that the few effects observed for families and children suggested benefits of FTP for this subgroup: reductions in parents' depression and improvements in children's school achievement. Perhaps the movement into sole reliance on employment, even if motivated by the threat of benefit loss, is met by some women with increased self-esteem and less depression. At the same time, their children also seemed to be doing better, by their own reports, although these benefits were concentrated in school outcomes rather than social-emotional outcomes.

From a policy perspective, these largely neutral and perhaps positive findings suggest that either FTP exempted the right sample members (sparing from harm those who could not easily make the welfare-to-work transition) or other aspects of FTP helped prepare sample members for life without welfare (possibly both). It is notable that any effects observed in this study are a result of the package of services offered to families and the mandates imposed on families from the full FTP program; as such, they should not be interpreted as the effects on families of a time limit implemented in isolation. However, this fact does not undermine the policy relevance of these findings; all state welfare programs implemented in the wake of welfare reform included some combination of incentives, mandates, and services, along with time limits. What this study tells us is the effect of this combination of policies, which most states have implemented, for a particular group of highly vulnerable families.

Before concluding, a few caveats to these results are in order. First, it is unclear whether FTP group members will be able to sustain the employment that helped them weather time

⁹As discussed in D. Bloom, Kemple, et al. (2000), children in the AFDC group show rates of behavior problems at similarly high levels to those of national low-income samples (at a little less than 10% of children with high rates of behavior and emotional problems). However, they show much lower rates of school engagement (at 10% of children compared with 30% of children in low-income samples nationally).

limits. Therefore, effects may be different in the longer term. Second, this program was evaluated during a time of unprecedented economic strength and in a program that had considerable resources. It is not clear that the same results would be found in other economic or policy contexts.

We highlight two implications of the current study. With regard to policy, these findings suggest that time-limited welfare programs can be implemented in ways that do not harm families and children, even the group of families at greatest risk of being harmed by time limits—those highly likely to reach their time limit on welfare and have their benefits canceled. Although it is an extrapolation beyond the current data, these findings may also have implications for time limiting other income-related benefits, such as child support, housing assistance, or child care payments. From a developmental perspective, these findings suggest that nonvoluntary movements of single mothers off of welfare are unlikely to yield large changes in family processes or developmental outcomes for children, and they provide one of the few pieces of evidence on the causal effects of welfare loss on outcomes for children. As such, this article adds to a growing literature finding that policy experiments can be relied on to address questions critical to the advancement of developmental theory.

Acknowledgments

We thank the original sponsors of the studies for permitting reanalysis of the data and Chris Rodrigues and Francesca Longo for capable research assistance. We also thank Edwin Melendez, Alex Schwartz, and David Howell for advice and feedback on the creation of the time-limit risk index.

This article was completed as part of the Next Generation Project, a collaboration between researchers at MDRC and several leading research institutions. It was funded by the Next Generation Project funders: the David and Lucile Packard Foundation, the William T. Grant Foundation, the John D. and Catherine T. MacArthur Foundation, and the Annie E. Casey Foundation; and by Grant R01HD045691 from the National Institute of Child Health and Human Development.

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Figure 1. Percentage of families hitting time limit by decile of the time-limit risk index. Sample size = 1,155.

Figure 2.

Results of regression modeling estimating program and risk index interactions: impacts on use of Aid to Families with Dependent Children (AFDC) by risk group. Impact signifies a difference between program and control group levels, controlling for baseline statistics. TANF = Temporary Assistance for Needy Families. ** $p < .01$. *** $p < .0001$.

Figure 3.

Results of regression model estimating program and risk index interactions: impacts on employment per quarter by risk group. Impact signifies a difference between program and control group levels, controlling for baseline statistics. ** $p < .01$. *** $p < .0001$.

Figure 4.

Results of regression model estimating program and risk index interactions: impacts on child care use by risk group. Impact signifies a difference between program and control group levels, controlling for baseline statistics. * $p < .05$. ** $p < .01$.

Figure 5. Results of regression model estimating program and risk index interactions: impacts on parents' depression by risk group. Impact signifies a difference between program and control group levels, controlling for baseline statistics. * $p < .05$.

Figure 6. Results of regression model estimating program and risk index interactions: impacts on children's achievement by risk group. Impact signifies a difference between program and control group levels, controlling for baseline statistics. † $p < .10$. ** $p < .01$.

Table 1
Parameter Estimates for Model That Generated the Time-Limit Risk Index

Independent variable	<i>B</i>	<i>SE</i>
Demographic characteristics of parent and family		
Ethnicity: Black	15.096	5.762**
Never married	1.890	5.920
Age of youngest child	-0.550	0.764
Youngest child at least 2 years old	-0.110	8.086
Employment and public assistance history		
Income in the year prior to RA	0.001	0.002
Earnings in the year prior to RA	-0.001	0.003
Amount earned in prior 2 years minus amount of welfare in prior 2 years	0.000	0.001
No AFDC in the year prior to RA	-2.675	8.282
Barriers to employment		
No high school or GED diploma	-0.745	5.743
Unable to take part-time job because of physical/mental disability	-0.338	7.067
Parent attitudinal measures		
Locus of control	5.418	4.786
Contextual factors		
Local unemployment	22.844	10.915*
<i>F</i> value		2.470
<i>R</i> ²		.111
Sample size		250

Note. RA = random assignment; AFDC = Aid to Families with Dependent Children.

*
 $p < .05$.

**
 $p < .01$.

Table 2
Selected Characteristics at the Time of Random Assignment of FTP Group Members at Risk of Hitting Time Limit, Hitting Time Limit, and Exempted From Time Limit

Characteristic	At risk	Hit 24-month TL	Hit 36-month TL	Exempted
Work and welfare history				
Income in the year prior to RA (\$)	7,226	5,544	7,205	6,594
Employed in the year prior to RA (%)	38.1	53.3	33.3	37.6
Earnings in the year prior to RA (\$)	555	1,617	623	652
Ever received AFDC in prior year (%)	94.5	77.1	90.9	87.1
Number of months of AFDC in prior year	10.2	7.2	10.1	9.0
Demographic characteristic				
Type of time limit				
24-month	32.6	100.0	0.0	29.7
36-month	67.4	0.0	100.0	70.3
Gender (%)				
Female	99.7	98.1	99.2	99.0
Male	0.4	2.0	0.8	1.1
Average age (years)	28	30	27	32
Unable to take part-time job because physically or mentally disabled (%)	15.9	19.0	21.2	37.6
Welfare applicant (%)	31.1	48.6	33.3	28.7
No high school or GED diploma (%)	44.7	24.6	64.8	50.7
Ethnicity (%)				
White, non-Hispanic	1.7	39.8	17.8	30.2
Black, non-Hispanic	97.1	57.2	80.0	66.9
Hispanic	0.4	1.9	0.0	1.0
Other	0.4	1.0	1.6	1.1
Family status				
Marital status (%)				
Never married	75.8	51.4	64.4	55.4
Separated, divorced, or widowed	24.2	48.6	35.6	44.5
Other	0.0	0.0	0.0	0.0
Average number of children	2.6	1.8	2.5	2.3
Age of youngest child	3.3	5.0	3.7	5.6
Age of youngest child (%)				
2 years and under	57.9	47.7	55.0	40.7
3–5 years	30.6	19.0	27.0	20.8
6 years and over	11.0	33.0	17.5	38.5
Sample size	289	105	132	101

Note. A total of 20 sample members whose Background Information Forms were missing are not included in the table. Invalid or missing values are not included in individual variable distributions. Rounding may cause slight discrepancies in the calculation of sums and differences. FTP = Family Transition Program; TL = time limit; RA = random assignment; AFDC = Aid to Families with Dependent Children.

Table 3
Means on Selected Characteristics at the Time of Random Assignment of FTP and AFDC Group Members for Full Sample and Time-Limit High-Risk Subgroup

Characteristic	Full modeling sample		Full analysis sample		At risk of hitting TL	
	FTP	AFDC	FTP	AFDC	FTP	AFDC
Work and welfare history						
Income in the year prior to RA (\$)	5,184	5,845	5,891	7,226	7,533	
Employed in the year prior to RA (%)	52.4	46.8	45.7	38.1	35.1	
Earnings in the year prior to RA (\$)	1,693	1,810	1,846	555	657	
Ever received AFDC in prior year (%)	63.2	71.3	71.6	94.5	98.6**	
Number of months of AFDC in prior year	5.8	6.7	6.7	10.2	10.5	
Demographic characteristic						
Type of time limit						
24-month	59.5	54.8		32.6		
36-month	40.5	45.2		67.4		
Gender (%)						
Female	96.2	97.8	96.8	99.7	98.8	
Male	3.7	2.2	3.2	0.4	1.2	
Average age (years)	30	29	30 [†]	28	29	
Unable to take part-time job because physically or mentally disabled (%)	19.2	20.0	18.4	15.9	13.5	
Welfare applicant (%)	60.8	50.6	50.6	31.1	32.5	
No high school or GED diploma (%)	38.7	41.1	38.1	44.7	39.2	
Ethnicity (%)						
White, non-Hispanic	43.2	44.8	46.2	1.7	4.1 [†]	
Black, non-Hispanic	53.3	52.0	51.4	97.1	94.3 [†]	
Hispanic	1.3	1.6	0.8*	0.4	0.0	
Other	2.1	1.6	1.7	0.4	0.6	
Family status						
Marital status (%)						

Characteristic	Full modeling sample	Full analysis sample		At risk of hitting TL	
		FTP	AFDC	FTP	AFDC
Never married	44.4	51.0	49.0	75.8	72.0
Separated, divorced, or widowed	54.0	48.6	49.8	24.2	27.4
Other	1.6	0.5	1.2	0.0	0.6
Average number of children	1.8	2.0	1.9	2.6	2.6
Age of youngest child	5.9	4.9	5.2 [†]	3.3	3.7
Age of youngest child (%)					
2 years and under	40.3	42.9	42.5	57.9	56.8
3–5 years	18.1	29.0	25.6 [†]	30.6	26.0
6 years and over	41.8	28.2	31.9 [*]	11.0	16.8 [*]
Sample size	250	1,155	1,410	289	348

Note. A total of 20 sample members whose Background Information Forms were missing are not included in the table. Invalid or missing values are not included in individual variable distributions. Rounding may cause slight discrepancies in the calculation of sums and differences. FTP = Family Transition Program; TL = time limit; RA = random assignment; AFDC = Aid to Families with Dependent Children. Significance levels testing the significant difference within the full analysis sample and the at-risk sample are indicated.

[†] $p < .10$.
^{*} $p < .05$.
^{**} $p < .01$.

Table 4
Results of Regression Models Predicting Economic Measures, Year 4

Outcome	Assignment to program group		Risk index		Program group × Risk index		R ²	F
	B (SE)		B (SE)		B (SE)			
Percentage receiving AFDC/TANF								
Subgroup model ^a	-20.57 (2.94)	***					.11	2.98***
Interaction model ^b	3.89 (2.38)		0.24 (0.09)	*	-0.51 (0.09)	***	.11	11.41***
Percentage receiving food stamps per quarter								
Subgroup model ^a	0.49 (3.48)						.10	2.62***
Interaction model ^b	2.74 (3.15)		0.10 (0.12)		-0.04 (0.11)		.21	23.38***
Percentage employed per quarter								
Subgroup model ^a	1.16 (3.26)						.13	3.51***
Interaction model ^a	0.73 (3.22)		0.18 (0.12)		0.07 (0.12)		.12	12.46***
Average total earnings (\$)								
Subgroup model ^a	741.33 (451.14)						.14	3.75***
Interaction model ^b	306.96 (486.17)		24.89 (18.64)		14.04 (17.35)		.14	14.14***
Average total income from earnings, AFDC/ TANF, and food stamps (\$)								
Subgroup model ^a	77.60 (444.44)						.14	3.96***
Interaction model ^b	491.13 (481.55)		43.04 (18.46)	*	-3.73 (17.19)		.14	14.68***

Note. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first-time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in quarter prior to RA, Aid to Families with Dependent Children (AFDC) receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child. TANF = Temporary Assistance for Needy Families.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 637$).

^bThis model includes all members with a time-limit risk index ($N = 2,565$).

*
 $p < .05$.

**
 $p < .01$.

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Table 5
Results of Regression Models Predicting Economic Measures, Years 1 and 2

Outcome	Assignment to program group	Risk index		Program group × Risk index		R ²	F
	B (SE)	B (SE)	B (SE)	B (SE)			
Percentage receiving AFDC/TANF							
Subgroup model ^a	2.09 (2.51)					.18	5.03***
Interaction model ^b	1.08 (2.52)		0.01 (0.10)		0.00 (0.09)	.29	37.87***
Percentage receiving food stamps per quarter							
Subgroup model ^a	0.06 (2.00)					.19	5.40***
Interaction model ^b	−0.05 (2.41)		0.00 (0.09)		0.03 (0.09)	.31	40.50***
Percentage employed per quarter							
Subgroup model ^a	8.71 (2.62)***					.23	6.90***
Interaction model ^b	0.19 (2.54)		0.01 (0.10)		0.21 (0.09)*	.25	30.75***
Average total earnings (\$)							
Subgroup model ^a	862.34 (519.78) [†]					.14	3.96***
Interaction model ^b	764.64 (577.73)		6.45 (22.15)		7.87 (20.62)	.28	34.55***
Average total income from earnings, AFDC/ TANF, and food stamps (\$)							
Subgroup model ^a	445.88 (527.48)					.21	6.35***
Interaction model ^b	485.04 (590.95)		55.31 (22.66)*		4.00 (21.09)	.27	32.77***

Note. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first-time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in year prior to RA squared, earnings in quarter prior to RA, Aid to Families with Dependent Children (AFDC) receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child. TANF = Temporary Assistance for Needy Families.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 637$).

^bThis model includes all members with a time-limit risk index ($N = 2,565$).

[†] $p < .10$.

* $p < .05$.

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 $p < .001$

Table 6
Results of Regression Models Predicting Child Care Use Measures

Outcome, Year 4	Assignment to program group		Risk index		Program group × Risk index		R ²	F
	B (SE)		B (SE)		B (SE)			
Total months in any type of care								
Subgroup model ^a	1.62 (0.64) [*]						.15	1.91 ^{**}
Interaction model ^b	−0.61 (0.69)		0.03 (0.03)		0.05 (0.02) [*]		.06	2.43 ^{***}
Total months in relative home-based care								
Subgroup model ^a	1.83 (0.64) ^{**}						.11	1.34
Interaction model ^b	−0.46 (0.66)		−0.04 (0.03)		0.04 (0.02) [‡]		.03	1.17
Total months in nonrelative home-based care								
Subgroup model ^a	−0.12 (0.29)						.11	1.43 [‡]
Interaction model ^b	−0.20 (0.34)		0.03 (0.01) [*]		0.00 (0.01)		.04	1.57 [*]
Total months in center-based care								
Subgroup model ^a	0.38 (0.49)						.14	1.87 [*]
Interaction model ^b	0.14 (0.51)		0.04 (0.02) [*]		0.01 (0.02)		.07	3.16

Note. The sample includes children ages 5–12 at the time of the 4-year interview in families who were randomly assigned from August 1994 to February 1995. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first-time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in year prior to RA squared, earnings in quarter prior to RA, Aid to Families with Dependent Children (AFDC) receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child. TANF = Temporary Assistance for Needy Families.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 295$).

^bThis model includes all members with a time-limit risk index ($N = 1,104$).

[†] $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

^{***} $p < .001$.

Table 7
Results of Regression Models Predicting Home Environment, Emotional Well-Being, and Parenting Behavior Measures

Outcome	Assignment to program group		Risk index		Program group × Risk index		R ²	F-value
	B (SE)		B (SE)		B (SE)			
Total HOME scale								
Subgroup model ^a	0.14 (1.06)						.18	1.71 *
Interaction model ^b	0.35 (1.20)		0.06 (0.04)		−0.01 (0.04)		.10	2.77***
Depression scale								
Subgroup model ^a	−2.62 (1.26)*						.07	0.78
Interaction model ^b	2.68 (1.39) [†]		−0.10 (0.05) [†]		−0.11 (0.05)*		.05	1.93*
Aggravation scale								
Subgroup model ^a	0.08 (0.07)						.09	1.06
Interaction model ^b	−0.04 (0.07)		0.00 (0.00)		0.00 (0.00)		.02	0.98
Warmth scale								
Subgroup model ^a	−0.07 (0.08)						.13	1.53 [†]
Interaction model ^b	0.10 (0.08)		0.01 (0.00) [†]		0.00 (0.00)		.05	2.22***
Harsh-parenting scale								
Subgroup model ^a	0.10 (0.07)						.13	1.71 *
Interaction model ^b	−0.06 (0.07)		0.00 (0.00)		0.00 (0.00)		.04	1.51 *
Supervision scale								
Subgroup model ^a	−0.02 (0.07)						.06	0.74
Interaction model ^b	−0.13 (0.07) [†]		0.00 (0.00)		0.00 (0.00)		.06	2.51***

Note. The sample includes children ages 5–12 at the time of the 4-year interview in families who were randomly assigned from August 1994 to February 1995. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first-time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in quarter prior to RA, Aid to Families with Dependent Children receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child. HOME = Home Observation for Measurement of the Environment.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 295$).

^bThis model includes all members with a time-limit risk index ($N = 1,104$).

† $p < .10$.
 * $p < .05$.
 *** $p < .001$.

Table 8
Results of Regression Models Predicting School Outcomes

Outcome	Assignment to program group		Risk index		Program group × Risk index		R ²	F
	B (SE)		B (SE)		B (SE)			
Average achievement								
Subgroup model ^a	0.39 (0.13)**						.15	1.81*
Interaction model ^b	−0.16 (0.13)		0.00 (0.01)		0.01 (0.00)*		.07	2.65***
Below average (%)								
Subgroup model ^a	−5.92 (3.22) [†]						.09	1.02
Interaction model ^b	4.92 (3.56)		−0.07 (0.14)		−0.28 (0.12)*		.04	1.60*
Engagement in school								
Subgroup model ^a	−0.06 (0.23)						.09	1.11
Interaction model ^b	0.16 (0.26)		0.01 (0.01)		−0.01 (0.01)		.04	1.49 [†]
Ever repeated a grade (%)								
Subgroup model ^a	−1.79 (4.96)						.22	3.11***
Interaction model ^b	2.90 (5.06)		−0.13 (0.20)		−0.08 (0.18)		.16	7.76***
Ever suspended (%)								
Subgroup model ^a	0.88 (3.28)						.12	1.55 [†]
Interaction model ^b	−2.10 (3.43)		−0.25 (0.13) [†]		0.07 (0.12)		.07	3.03***

Note. The sample includes children ages 5-12 at the time of the 4-year interview in families who were randomly assigned from August 1994 to February 1995. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in year prior to RA squared, earnings in quarter prior to RA, Aid to Families with Dependent Children receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 295$).

^bThis model includes all members with a time-limit risk index ($N = 1,104$).

† $p < .10$.

* $p < .05$.

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Table 9
Results of Regression Models Predicting Child Behavior Measures

Outcome	Assignment to program group		Risk index		Program group × Risk index		R ²	F
	B (SE)		B (SE)		B (SE)			
Total behavior problems score								
Subgroup model ^a	−0.12 (1.02)						.10	1.28
Interaction model ^b	0.18 (1.12)		−0.03 (0.04)		−0.01 (0.04)		.03	1.17
Externalizing subscore								
Subgroup model ^a	0.24 (0.45)						.13	1.65*
Interaction model ^b	−0.19 (0.51)		−0.02 (0.02)		0.01 (0.02)		.03	1.22
Internalizing subscore								
Subgroup model ^a	−0.42 (0.47)						.08	0.98
Interaction model ^b	0.18 (0.51)		−0.01 (0.02)		−0.01 (0.02)		.02	0.92
Total positive behavior score								
Subgroup model ^a	−1.51 (1.24)						.08	0.93
Interaction model ^b	−1.56 (1.33)		0.07 (0.05)		0.01 (0.05)		.05	2.00**
General health								
Subgroup model ^a	0.11 (0.12)						.06	0.73
Interaction model ^b	0.03 (0.11)		0.00 (0.00)		0.00 (0.00)		.05	2.01**

Note. The sample includes children ages 5–12 at the time of the 4-year interview in families who were randomly assigned from August 1994 to February 1995. The following covariates, measured at or prior to study entry, were included in both the subgroup and interaction regression models: gender, age, race/ethnicity, marital status, high school or GED diploma, first-time welfare applicant, employment prior to random assignment (RA), earnings in year prior to RA, earnings in year prior to RA squared, earnings in quarter prior to RA, Aid to Families with Dependent Children receipt prior to RA, food stamp receipt prior to RA, number of children in the household, and age of youngest child.

^aThis model includes only those considered to be at high risk of hitting the time limit ($N = 295$).

^bThis model includes all members with a time-limit risk index ($N = 1,104$).

*
 $p < .05$.

**
 $p < .01$.