

Teenagers and Welfare Reform

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June 15, 2003

I. Introduction

When Congress passed the Personal Responsibility and Work Opportunity Act of 1996, teenage parents were on center stage. They were likely to end up on welfare, reported researchers, and their children were likely to experience poor health, have a hard time in school, become teen parents themselves, and spend time in prison. In an effort to respond to these concerns, two provisions were added to the welfare bill, one mandating that teen parents attend school, and a second requiring that they live with a parent or with a responsible adult, as a condition for receiving cash assistance.¹

Six years later, though, when Congress took up reauthorization of the welfare bill, no one asked how these teen parent provisions had worked out. Indeed, the subject of teen parents rarely came up. In part, this was because the teenage birth rate had dropped², and because there were now fewer teen parents on the welfare rolls. The problem has not disappeared, however. While the teen birth rate may have fallen, the *number* of teen

¹ By the time the 1996 legislation passed, a majority of states had already implemented one or more of these provisions through special waivers from the Department of Health and Human Services.

² It dropped by 22 percent between 1991 and 2000.

parents rose by 25 percent between 1991 and 1996. Teenagers were having fewer children, but there were many more teenagers around. Moreover, a 1997 study showed that 81 percent of women who have an out-of-wedlock birth before reaching the age of twenty are on welfare by age thirty.³ So the notion that the teen parent problem is somehow behind us is a myth. And there is a pressing need to find out how our past efforts to address this challenge have worked out.

There are other reasons to be interested in teenagers. Welfare reform influences welfare caseloads in two ways: it affects how many of those who are currently eligible actually apply; and it influences longer term behaviors, such as continuing in school and avoiding out-of-wedlock childbearing, that will help determine how many people are eligible in the future.⁴ In studying teenagers, we are concerned with this second category – to what extent is welfare reform changing the behaviors that lead to welfare dependency. These have received less attention from researchers, but they are of paramount importance in determining welfare reform’s long run success.

The remainder of this report is organized as follows: section 2 examines the 1996 law’s stay-in-school and live-with-a-parent requirements. The conclusion of this review is that relatively little can be learned from looking at individual state programs. So the analysis is expanded to look at welfare reform as a whole. Section 3 examines the previous research in this area, while section 4 describes the data employed in this analysis, and

³ David & June O’Neill, “Lessons for Welfare Reform: An Analysis of the AFDC caseload and past welfare-to-work programs,” Kalamazoo, Mi.: W.E. Upjohn Institute for Employment Research, 1997.

⁴ Robert Kaestner and June O’Neill, “Has Welfare Reform Changed Teenage Behaviors,” National Bureau of Economic Research, Cambridge, Mass., May 2002.

lays out the research design. Section 5 presents the results of a multivariate analysis, which seeks to determine the degree to which welfare reform is responsible for the observed changes. Finally, section 6 summarizes the results and presents some of the implications of our findings.

II. The Teen Parent Requirements

In this section, we seek to answer two questions: first, did the states make a serious effort to implement the two teen parent requirements in PROWRA; and second, did these efforts have any effect.

A. The School Attendance Requirement

With respect to school attendance, we don't really know the answer to the first question. The Department of Health and Human Services does not collect the data needed to answer it, and the information from the states is at best mixed. Here is a summary of what we do know:

* At least three states (Wisconsin, Ohio, California) made a conscientious effort to implement the requirement. All three programs began under federal waivers well before passage of the 1996 welfare reform bill, which means that all three states had to agree to rigorous evaluations involving control groups.

* One indicator of a state's seriousness of purpose is the number of sanctions levied for non-performance.⁵ According to an HHS-funded four state study released in 1997, the percentage of teen parents that had been sanctioned over a twelve month period were: Arizona: 20%; California: 48%; Massachusetts: 22%, and Virginia: 11%⁶.

* Another indicator is what the states themselves said about the requirement. According to the Center on Law and Social Policy, 19 of 33 states said that they encountered few challenges when implementing the school/training requirement.⁷ This response is hard to reconcile with the fact that implementing this requirement is intrinsically challenging. Two large bureaucracies (schools and welfare departments) that have never in the past had to deal with each other must learn how to communicate effectively. The schools must be convinced that they should keep attendance records in such a way that welfare sanctions (and bonuses in some cases) can be based on them. In Ohio, school officials at first did not want to change the way they kept attendance, and many of them opposed using these records as the basis for setting welfare grants. It took several years to work out the details. None of it was simple.⁸

In another survey conducted in 1999, most states reported that they had implemented the school requirement without any increase in case management funding. Again, this response raises a question about the states' seriousness of purpose. Teen mothers must

⁵ Levying sanctions takes staff time and effort – before a sanction is levied, the individual must be afforded an opportunity to explain the reason for the violation; then he/she can request a hearing; and there are other due process rights.

⁶ The sanction was usually a reduction in the grant. Robert G. Wood & John Burghardt, "Implementing Welfare Reform Requirements for Teenage Parents; Lessons From Experience in Four States," October 31, 1997, Mathematica Policy Research Inc..

⁷ Duffy & Levin-Epstein, *op.cit.*, page 13.

⁸ The author of this paper was the state official responsible for Ohio's welfare programs from 1988 to 1990.

somehow find day care, get to school, convince school personnel that they were justified in staying home to look after a sick child, and so on. “Without ongoing case management, a program such as LEAP [Ohio’s program for teen mothers] would be very difficult to implement,” reports the Manpower Demonstration Research Corporation which evaluated the Ohio program.

On balance, then, we know that a handful of states worked hard to implement the school attendance requirement, but what happened elsewhere is uncertain. In drafting PROWRA, Congress effectively told HHS that it could not collect data involving these programs from the states. There was a strong feeling at the time that, in reforming their welfare systems, the states should not be circumscribed by a lot of federal regulations. So with a few exceptions, we don’t know how many teen parents returned to school, or how many were sanctioned for not attending.

Of the three rigorously-evaluated programs, Wisconsin’s Learnfare was the first, starting nine years before PROWRA’s passage, in 1987. From the beginning, the program was mired in controversy. Many individuals on the political left felt that it was punitive because it relied wholly on sanctions (recipients who failed to attend school lost all or part of their welfare grant), and many school system personnel opposed it on the grounds that they were in effect being asked to act as agents of the welfare system (since their attendance reports would be used to reduce clients’ grants). Learnfare was evaluated by

the state's highly-respected, and non-partisan, Legislative Audit Bureau, which found that the program had no effect on school attendance or completion.⁹

Ohio's LEAP program sought to avoid the controversy surrounding the Wisconsin program by adopting a more balanced approach: those who were not in school would be sanctioned, but those with good attendance records would receive a bonus. Ohio's program was limited to teen parents (Wisconsin's applied to all teenagers receiving aid), which meant that the state could focus its attention on a much smaller group of individuals. LEAP was evaluated by the Manpower Demonstration Research Corporation, and the results were more positive. LEAP was found to have increased school attendance (although not completion); it also increased employment and earnings and reduced welfare expenditures. As a result, it was cost neutral to the state.¹⁰

Like Ohio, California focused on teen parents (as opposed to all teenagers), but unlike Ohio and Wisconsin, California rewarded performance instead of attendance. Custodial parents on welfare who are under 19 and don't have a high school degree receive a \$100 bonus up to four times a year if they maintain a C average, and a one-time bonus of \$500 if they receive a high school degree or its equivalent (they could also lose \$100 up to four times a year if they fail to maintain at least a D average). The evaluation, conducted by the University of California at Berkeley, found that Cal-Learn increased high school

⁹ State of Wisconsin Legislative Audit Bureau, An Evaluation of the Learnfare Program: Final Report, April 1997, Madison, Wisc.. There was a small improvement in school attendance in the first and second semesters, but it was not statistically significant, and, in any event, it was no longer there by the third semester.

¹⁰ Johannes M Bos and Veronica Fellerath, LEAP: Final Report on Ohio's Welfare Initiative to Improve School Attendance Among Teenage Parents, Manpower Demonstration Research Corporation, New York, N.Y., August 1997.

graduation rates, although the increase was in the form of GEDs rather than regular high school degrees. There was no increase in employment or earnings or reduction in the use of welfare, although this may have been due to the fact that the evaluation period was not long enough to pick up these effects.¹¹

So there we have it – three studies, and three different results. Wisconsin’s program had no effects; Ohio’s had no effect on school completion, although it increased school attendance as well as subsequent employment, and reduced welfare receipt; and California’s increased school completion, although displaying no short-term employment or welfare effects. About the only lessons that could be drawn from all this are that an approach that combines sanctions and bonuses seems to be preferable to one that relies wholly on sanctions, and that it is easier to influence the behavior of teenage parents, a relatively small group, than teenagers as a whole.

B. The Living Arrangement Requirement

As with the school attendance requirement, the critical questions here are whether the states made a conscientious effort to implement the requirement and whether implementation had any effect – that is, did it materially change the living arrangements of teen parents on welfare. As before, answering these questions is hampered by a lack of information. States are not required to report data on teen parent living arrangements to the federal government, so no one knows how aggressively the requirement was

¹¹ Jane Mauldon, Jan Malvin, Jon Stiles, Nancy Nicosia, and Eva Seto, Impact of California’s Cal-Learn Demonstration Project: Final Report, UC Data, University of California, Berkeley, CA., June 2000.

implemented. Even state officials are in the dark. The Center for Law and Social Policy conducted a survey in 2000, and found that only three states tracked the living arrangement requirement, and only one could report the number of teen parents who were denied cash benefits because of the rule.

As for the impact on living arrangements, skepticism is warranted. To begin with, states were given great discretion in implementing the requirement, and some of them adopted policies so full of holes that almost anyone could circumvent them. In Michigan, for instance, a teen parent was exempted from the requirement if she was seventeen, attending school full-time, or participating in a Teen Parent service plan, if changing residences would require her to change schools, or if the independent living arrangement provided adequate structure and safety for her and her child¹². According to another report, nine states exempted minor parents if they were living successfully on their own¹³.

Still, some states seem to have taken the requirement seriously. An analysis sponsored by the Department of Health and Human Services found that ten percent of the minor parents in Arizona, seven percent of those in Virginia, and one percent of those in Massachusetts were being denied cash benefits because of the rule. Furthermore, even a loose rule may have some effect. In Michigan, where, as noted earlier, the rule contained liberal exemptions, it seems to have had some impact, at least according to one report.

Ariel Kalil and Sandra Danziger interviewed 88 low-income minor mothers in one Michigan county, and concluded that “the policy changes in Michigan have dramatically

¹² Ariel Kalil & Sandra Danziger, “How Teen Mothers Are Faring Under Welfare Reform,” Journal of Social Issues, vol. 56, No. 4, 2000, pp. 775-598

¹³ State Policy Documentation Project, Washington D. C., March 1999

lowered the number of young teen mothers who live independently and receive cash assistance.”¹⁴

Another measure of state concern about this problem is the funding of second chance homes, which are group homes that integrate housing and services for teen mothers who cannot live at home because of abuse, neglect or other extenuating circumstances. Absent such alternative placements, the prohibition on teen mothers living independently is seriously compromised since state authorities have no place to accommodate teen parents who cannot live with their own families. In any event, while at least six states have funded second chance homes¹⁵, the number of slots in these homes is minimal, which is not hard to understand inasmuch as their average annual cost is about \$45,000. Only Massachusetts has allocated more than a nominal sum to this purpose, and even there the state funding only supports about 100 teen parents and their children, which is a small subset of its teen parent population.

In summary, then, Congress handicapped efforts to evaluate state performance in implementing the teen parent requirements. As a result, our knowledge about individual state programs is limited, to say the least.

Even if that were not true, however, evaluations of individual programs, like LEAP or Cal-Learn, have an inherent shortcoming. In every state, welfare reform represents a mix of initiatives, such as time limits, work requirements, and child support provisions, along

¹⁴ Kalil and Danziger, *op.cit.*, page

¹⁵ Georgia, Massachusetts, New Mexico, Nevada, Rhode Island, and Texas.

with the changes directed specifically at teens. States want to know whether a program like LEAP succeeded, but they also want to know about the total effect of welfare reform on teenagers. It may be the broader welfare changes that really matter – that is, the fact that welfare is being made more restrictive and time limits are being placed on receipt may be more important in convincing teenage girls to finish school than the fact that dropping out will cost them part of their current grant.

The problem is that individual program evaluations, like those involving LEAP or Cal-Learn, do not give us information on the total effect of welfare reform.¹⁶ To measure this, it is necessary to compare outcomes over time and across states. It is to such efforts that we now turn.

III. Previous Research

The only previous comprehensive look at the effect of welfare reform on teenagers is by Robert Kaestner and June O’Neill, who use data from the two National Longitudinal Surveys Of Youth (NLSY79 and NLSY97).¹⁷ The first of these surveys is based on a sample of individuals born between 1957 and 1964 who have been interviewed on a regular basis since 1979; the second involves individuals born between 1980 and 1984, and interviewed regularly since 1997. The earlier cohort went through its teenage years before the passage of the 1996 welfare reform bill, whereas the latter cohort came after

¹⁶ The problem is that both the treatment and control group members in programs like LEAP and Cal-Learn are subject to the state’s non-teen-specific welfare changes (time limits, work requirements, etc.). Accordingly, state program evaluations will not pick up these effects.

¹⁷ “Has Welfare Reform Changed Teenage Behaviors?” National Bureau of Economic Research, Cambridge, Mass., May 2002.

welfare reform. Since the two NLSY surveys relied on similar questions and sample designs, O'Neill & Kaestner combine data from the two surveys to conduct their analysis.

The authors use a difference-in-difference strategy to estimate the effect of welfare reform. They divide up their observations into those who are at high risk of welfare dependency (individuals from single-parent families and/or families with less educated parents) and those at low risk (individuals from two parent families and/or families with more educated parents). Their assumption is that welfare reform should affect the high risk group but not the low risk group, and they test this hypothesis by comparing pre- and post-welfare reform performance on such measures as welfare receipt, fertility, and dropping out of school. The premise here is that both groups are affected by broad changes in social norms, but only the high-risk group is affected by welfare reform. If the assumption is correct, it follows that any differential change in pre- and post-welfare reform behavior between the two groups is due to welfare reform¹⁸.

¹⁸ Of course, it could also be due to other policy changes affecting the high risk group (but not the low risk group) during this period.

TABLE 1

	<u>Difference-in-Difference Estimates¹⁹</u>		<u>1997 Cohort – 1979 Cohort</u>
	<u>Non-Marital Births</u>	<u>School Dropouts</u>	<u>Living With A Parent²⁰</u>
17 Year Olds	-0.001	-.148**	.320**
19 Year Olds	-.060*	-.104**	.188**

- significant at the 90th percent level
- ** significant at the 95th percent level

Table 1 summarizes Kaestner’s and O’Neill’s results. The major finding is that welfare reform has reduced non-marital births (at least for 19 year old women) and school dropout rates, and increased the proportion of teen mothers living with a parent. While these results all conform to the authors’ expectations, some of the coefficients are implausibly large. In the school dropout column, for instance, the number of 17 year old women who have dropped out of school is down by 14.8 percentage points. Since 20.9 percent of the high risk 17 year olds in the 1979 NLSY were high school dropouts, this implies that welfare reform cut the dropout rate by over 70%, which the authors themselves acknowledge is unrealistic.²¹

¹⁹ adjusting for age, race/ethnicity, unemployment, and AFDC benefit level.

²⁰ The numbers in this column refer to high risk women who have had a child. It should be noted that these are not difference-in-difference estimates, but simply the adjusted difference between the 1997 cohort and the 1979 cohort.

²¹ Kaestner & O’Neill, op.cit., page 20

The third column of table 1 shows the change between the two NLSY cohorts in the proportion of teen mothers living with a parent and not receiving welfare. For 17 year olds, the increase is 32 percentage points; for 19 year olds, 18.8 points. This would appear to suggest that the welfare decline is offset by greater reliance on family resources. Kaestner and O'Neill hesitate to reach such a conclusion, however, pointing out that most of the increase in the number of teenage girls living with a parent is offset by a decline in the number living with a spouse.

This last point illustrates the basic problem with Kaestner-O'Neill. Over the eighteen years separating the two NLSY cohorts, much changed. Education rates increased dramatically, and marriage rates dropped sharply, to name just two. How much of the change between the two periods is due to welfare reform is not clear. Koestner and O'Neill themselves are appropriately cautious: "welfare reform *may have resulted* in lower fertility, less use of welfare, and less dropping out of school," they write (emphasis added).²²

Three other recent academic papers analyze specific aspects of the teenage welfare situation. Ann Horvath and Elizabeth Peters (1999) look at the effect of welfare waivers (pre-1996) on non-marital childbearing²³. To their surprise, they find that the waiver provision requiring unmarried teen mothers to stay in school and live at home is *positively* correlated with non-marital childbearing. They speculate that the waiver gives teen mothers a measure of security because it implies that they will be looked after if and

²² Koestner and O'Neill, *op.cit.*, page 20

²³ "Welfare Waivers and Non-Marital Childbearing," Cornell University, September 1999.

when the baby arrives. Traci Mach (2002) estimates the effect of welfare reform on teenage non-marital childbearing, using data from the two NLSY cohorts, and finds that restricting teen parents' living arrangements reduces the probability of becoming a teen mother by nearly 60 percent. This is a large effect, and runs directly counter to Horvath and Peters' finding. Finally, Scott Susin and Laura Adler (2002) find that the proportion of single mothers living with a parent is 2.4 percentage points higher in states with aggressive welfare reform programs than in other states.

Where does this leave us? First, as demonstrated by this brief review of the literature, the topic of teenagers on welfare has received relatively little attention from researchers. Second, with the exception of Horvath and Peters, the work that has been done suggests that welfare reform is at least working in the intended direction – young women are more likely to attend school, live at home, and refrain from out-of-wedlock births. However, the most comprehensive work (Kaestner and O'Neill) is based on a comparison of two NLSY cohorts, which is problematic given the eighteen-year gap between them. So welfare reform's effects on this population must still be viewed as uncertain, and the need persists for a more persuasive analysis.

IV. Data & Research Design

We use data from the Current Population Survey (CPS) March Supplement, a nationally representative sample containing detailed information on family characteristics, household composition, and income from all sources for the preceding year. We cover

the period 1989-2001, which means that our analysis begins several years before the start of the last welfare reform cycle²⁴. Our main sample consists of roughly 74,000 teenage girls. We are interested in how many of these young women are in school and living with one or both parents, since these were both major concerns embodied in the welfare reform legislation. We also want to know how welfare reform has affected out-of-wedlock births.

For this kind of investigation, the CPS has one advantage over the NLSY as well as one disadvantage. The disadvantage is that the CPS lacks information on the sample members' parents, unless they happen to live in the same household. Because the NLSY contains this information, it is possible to set up comparison groups based on characteristics unaffected by welfare reform, like family structure while growing up and the parents' education attainments. This is not true of the CPS.

The CPS' advantage is that it provides us with annual data, which means that we can test to see whether the behavior changes we are interested in coincided with welfare reform. This still leaves us with the challenge of showing that welfare reform, and not some other change occurring at that time, was the causal agent, but this is surely a lesser challenge than distinguishing the effects of welfare reform from all the changes occurring over an eighteen year period.

²⁴ We do not use the data prior to 1989 because the coding of the relationship-to-head variable (one of our key variables of interest) was less detailed.

Our basic hypothesis is that, as the administration of welfare programs becomes more restrictive and conditional, and as the anti-dependency message is articulated more forcefully and clearly, teenage girls will come to the conclusion that they cannot rely on welfare for support. As a result, they are more likely to stay in school, live at home, and refrain from bearing out-of-wedlock children. It is, of course, true that some features of welfare reform – the more liberal earnings disregards, for instance – can be seen as expanding welfare. On the whole, though, reform clearly moved us in the opposite direction.

We divide up our sample period into three sub-periods: 1989-1992, the years before welfare reform; 1993-1996, the years of increased waiver activity and growing momentum for national legislation; and 1997-2001, the years following passage of the Personal Responsibility and Work Opportunity Act of 1996. We seek to measure welfare reform's effects by comparing the behavior of teenage girls during these three time periods. The drawback to this approach, of course, is that welfare was not the only change that occurred – marriage rates continued to decline, school enrollments increased, unemployment dropped dramatically, to site just three examples.

To address this problem, we obtain difference-in-difference estimates of the effects of welfare reform. Like Kaestner and O'Neill, we divide our sample of teenage girls into a high-risk group that is likely to be affected by welfare reform, and a low risk group that should not be²⁵. Changes in the behavior of the low risk group over this period reflect

²⁵ To the extent that welfare reform does affect some members of the low risk group, our difference-in-difference estimates will be biased downward.

general social trends. Changes in the high-risk group reflect these general trends as well as welfare reform. By subtracting the former from the latter, we derive an estimate of welfare reform's net effect.

We define the high-risk group as teenage women whose family income is under 200 percent of the federal poverty level, while the low risk group is made up of those at or above 200 percent²⁶. Over the thirteen-year period, 38 percent of the sample is in the high risk category. This division does a good job of identifying those at risk of welfare dependency since on average 18.3 percent of 14 to 19 year old women under 200 percent of the poverty level were on welfare between 1989 and 2001, whereas only 1.3 percent of the over-200 percent group were (chart 1).

This arrangement runs into trouble if the composition of the two groups changes over this period in some systematic way – if there was a movement of individuals from the over-200% category to the under-200% category, or vice-versa. It is hard to think of factors that would have pushed people from the over-200% group into the under-200% group, but there are a number of factors that could have gone the other way. We divide these into income effects and family composition effects.

If welfare reform itself increased people's incomes sufficiently to push them across the 200% of poverty threshold, we could end up with biased results. This does not seem to have happened, however, at least to any significant degree. While many recipients have

²⁶ If the teen is living on her own, the family unit consists of her and any children she may have. If she is living with her parents, "family" refers to her parents and the members of their family, including the teenager and her child/children.

found jobs and left the rolls, the consensus is that these are mostly low-wage positions that leave recipients well short of twice the poverty level²⁷. However, other factors may have pushed people over the line, such as economic growth, for instance.

We address this concern by providing a second set of estimates, which are based on keeping the threshold at the same *relative* position throughout the period under investigation. Thus, our alternative definition of high risk includes family units in the bottom thirty percent of incomes. Here we compare girls in the same relative position on the income scale throughout the period. As an additional precaution, we build in a cushion between our two groups -- the low risk group is defined as teenage women between the 40th and the 70th percentiles. We propose to report the estimates obtained with this approach as well as those with the under-200% approach.

The results could still be biased, of course, but even if they are, this bias almost certainly strengthens our case. If welfare reform and/or economic growth are moving people across the 200% line (or the 30th percentile line), this means that the abler, more ambitious individuals from the lower income group are moving into the higher income group, leaving the lower group more disadvantaged. This should make it less likely that we would find positive results from welfare reform.

The other factor that might have pushed some individuals across the 200% line has to do with living arrangements. Consider the teenage girl from an upper-middle-class family

²⁷ Grogger, Jeffrey, Lynn A. Kaaroly, and Jacob Alex Klerman, Consequences of Welfare Reform: A Research Synthesis. Rand, July 2002.

who gets pregnant, and moves out on her own. She is now in the sub-200% category. With welfare reform, though, she realizes that there is less of a safety net out there, and she decides to move back home. So welfare reform moves her from the under-200% category to the over-200% category. Assuming she is a school drop-out, welfare reform appears to be reducing out-of-wedlock births and school dropouts in the high risk group, whereas in fact it is merely changing the category they are in.

Here, the bias works against us, undercutting any finding of a welfare reform effect. Fortunately, however, the data cast doubt on the premise that welfare reform has resulted in living arrangement changes of this kind. There has been no increase in the number of young mothers living in families with incomes over the 200% threshold. The proportion of never-married 14 to 19 year olds with children who have family income over 200% of poverty stays between one and two percent throughout 1989-2001, and there is no discernable trend in the data (see Appendix table 1). So if there is an effect, it is small.

To increase confidence in our results, we make two other comparisons. First, we compare low-income girls with low-income boys. School completion rates have been almost identical for boys and girls over the last thirty years²⁸, and among low-income populations, boys and girls are the product of the same families, and face many of the same financial pressures. There are also differences, of course – the boys' labor market situation has deteriorated in comparison to the girls' in recent years, for instance. Still, particularly in the context of school enrollment, we believe that boys represent a

²⁸ The same is true among black boys and girls, as well as among Hispanic boys and girls (<http://www.sensus.gov/population/socdemo/education/tableA-2.txt>).

reasonable comparison group. Our hypothesis is that welfare reform should be associated with larger changes among the girls than among the boys.

In addition, we compare teenage girls who have children living with them to teenage girls who do not. This formulation could be criticized on the grounds that there are likely to be other variables not contained in our regression that are associated both with dropping out of school and having a child. In this case, however, our interest is in the coefficient of the interactive term, Child x Welfare Reform Period (as opposed to the coefficient of Child), and that coefficient would only be affected if the degree of endogeneity had changed over time, which we do not believe it has.

We use a regression model of the form:

$$Y = B_0 + B_1\text{Age} + B_2\text{Race} + B_3\text{South} + B_4\text{Un}_i + B_5\text{HR} + B_6\text{T} + B_7\text{t93} + B_8\text{t97} \\ + B_9\text{HRt93} + B_{10}\text{HRt97} + B_j\text{MSA}_j + e$$

where Y is an indicator of one of the three outcomes of interest (school dropout, living arrangement, and out-of-wedlock birth); Race is a set of dummy variables indicating race and Hispanic origin; South indicates residence in the south; Un is the unemployment rate in the MSA inhabited by the individual; HR is a dummy variable indicating whether the individual is in the high risk group; T is a time trend taking the value of 1 in 1990, 2 in 1991, up to 13 in 2001; t93 is a dummy variable taking the value of 1 in the years 1993-1996 (the waiver years), 0 otherwise; t97 is a dummy variable taking the value of 1 in the years 1997-2001 (the welfare reform years), 0 otherwise; HRt93 is an interaction variable

between the high risk group and the waiver period; HRT97 is an interaction variable between the high risk group and welfare reform period; and MSA is a set of dummy variables for each of the metropolitan statistical areas inhabited by sample members.

We are interested in the coefficients of the interactive terms, B_9 and B_{10} because these give us the difference-in-difference estimates. In other words, B_9 tells us how one of the outcomes of interest (school dropout, out-of-wedlock births, etc.) differed for the high risk group as compared to the low risk group during the waiver period. B_{10} gives us the same information for the welfare reform period.

We have not included a welfare benefit variable in our analysis because there is not much difference among states in the rate of change of benefits between 1989 and 2001 (the states that are high at the beginning are high at the end). We control for MSA-level unobserved factors that are fixed over time by including MSA dummies, and these should control for inter-MSA differences in welfare benefit levels. It is true that benefits declined during this period (in real terms), and it could be argued that this is part of the explanation for the improved teen behaviors. However, past research has generally found that differences in benefit levels have an uncertain effect on behaviors²⁹, and in any event, the decline in benefits in 1989-2001 decelerated during the latter half of this period (the welfare reform period) as inflation abated.

²⁹ Robert A. Moffitt, "Welfare Benefits and Female Headship in U.S Time Series," in Out of Wedlock: Causes and Consequences of Nonmarital Fertility, Lawrence Wu and Barbara Wolfe, eds., Russell Sage Foundation, New York, N.Y., 2001, page 143.

V. Results

In this section, we examine the effect of welfare reform on the three variables of interest: dropping out of school, living with parents, and having an out-of-wedlock child. We start by summarizing the data for the period 1989-2001, and then present the results of a multivariate analysis.

(1) Dropping Out of School

Chart 1 shows school dropout rates of 16 and 17 year old girls in the period 1989-2001. We focus on this age group because the CPS does not provide school enrollment information on children under sixteen, and eighteen year olds are a mixed lot – some are still in school, some are dropouts, and some have already graduated. Our expectation is that welfare reform would reduce the number of school dropouts, and indeed that's what seems to have happened – the percentage of low-income 16 and 17 year old girls not enrolled in school goes from 14.1 percent in 1989 to 7.3 percent in 2001 (surprisingly, the percentage of low risk girls not enrolled in school seems to have increased after 1992).

If we look at 16 and 17 year old girls who have children (chart 2), we see a similar pattern, at least for the lower income group. The dropout percentage goes from 50.1 in

1989 to 22.7 in 2001³⁰. These findings are consistent with the view that welfare reform has convinced young women, particularly those with children, that they cannot rely on welfare to support them, and should stay in school to increase future earnings.

We turn now to our difference-in-difference estimates, which are based on ordinary least squares (OLS) regressions.³¹ In all cases, we adjust for personal characteristics, the current MSA unemployment rate, MSA dummies, a set of time variables, and a variable indicating whether the individual is a member of the low-income/high risk group (table 2). The first column is labeled “Absolute Threshold” to reflect the fact that the low-income group here includes all individuals with incomes under 200 percent of the poverty level. The second column is labeled “Relative Threshold” because here the low-income group includes individuals with incomes below the 30th percentile of incomes. Both here and in our other tables, we use three time variables – a time trend, a dummy variable for the waiver period, and a dummy variable for the welfare reform period.³²

The results show that welfare reform is associated with a reduction in the number of young women dropping out of school. The effect is larger in the TANF period – the average of the coefficients of (Low Income x TANF Period) is –3.6 percentage points – but even during the waiver period, there is a significant decline. Since the dropout rate for the low-income group averaged about ten percent between 1993 and 2001, our results

³⁰ The movement for the low risk group is harder to characterize. By 2001, however, the two rates are only four points apart.

³¹ We have also done this analysis using a logit model, and have come up with very similar results.

³² It could be argued that we should drop the time trend, and rely on the two dummies, but we have kept the trend because welfare reform implementation occurs toward the end of the 1989-2001 period, and if there is a secular time trend operating here, we want to be sure that we adjust for it, and do not attribute its effects to welfare reform.

TABLE 2
School Dropout: 16 & 17 Year Olds
OLS Regressions: With MSA Dummies
(t-values in parenthesis)

	<u>Females</u>		<u>Low Income Males & Females</u>	<u>Low Income Females</u>
	1	1	2	3
	<u>Absolute Threshold</u>	<u>Relative Threshold</u>		
Low Income	.105 (19.7)	.104 (14.1)		
Age	.034 (11.9)	.044 (10.4)	...064 (13.9)	.054 (8.3)
Black	-.025 (5.1)	-.035 (5.2)	-.030 (4.4)	-.061 (6.4)
Hispanic	.034 (7.2)	.029 (4.3)	.048 (7.3)	.022 (2.3)
South	.017 (3.1)	.021 (2.7)	.034 (4.1)	.029 (2.5)
Unemployment Rate	-.001 (0.9)	-.000 (0.2)	-.004 (1.4)	-.001 (0.4)
Time Trend	-.001 (1.2)	.000 (0.2)	-.003 (1.6)	-.001 (0.3)
Waiver Period	.002 (0.3)	-.006 (0.6)	.003 (0.3)	-.008 (0.6)
TANF Period	.012 (1.1)	-.000 (0.0)	.010 (0.5)	-.012 (0.5)
Low Income x Waiver Period	-.024 (3.2)	-.021 (2.0)		
Low Income x TANF Period	-.035 (4.8)	-.037 (3.6)		
Has a Child				.409 (20.8)
Has a Child x Waiver Period				.147 (5.2)
Has a Child x TANF Period				-.128 (4.4)
Female			.028 (3.6)	
Female x Waiver Period			-.020 (1.7)	
Female x TANF Period			-.024 (2.2)	
N	23,940	14,182	17,106	8,581
Adjusted R Squared	5.1	4.9	3.2	11.4

Notes: 1. Low income in the first column is defined as under 200% of the poverty level. In the second column, low income is defined as under the 30th percentile of incomes.

2. The sample here is 16 and 17 year old males and females with incomes under 200% of poverty.

3. The sample here is 16 and 17 year old females with incomes under 200% of poverty.

suggest that welfare reform reduced this rate by about 21 percent during the waiver period, and 35% during the welfare reform period.

In column 3, we compare low-income girls to low-income boys. 16 and 17 year old boys are at low risk of going on welfare in future years (there are relatively few men on welfare), so welfare reform should have little effect on them. In most other respects (though not all), they are similar to the girls, coming from the same families, and being subject to some of the same pressures. In this regression, we include a dummy variable indicating female gender, and we interact this dummy with dummies representing the welfare reform periods. Our goal is to determine whether low-income girls are more likely to stay in school during the welfare reform period than low-income boys.

Our results show that the coefficient of the female variable is positive and significant, indicating that girls are more likely to drop out of school than boys, presumably because many of them have babies to look after. However, both of the interactive variables have negative coefficients, and the coefficient for the welfare reform period is statistically significant at the 5% level. Compared to the boys, reform is associated with a reduction in the dropout rate of low-income girls of 2.4 percentage points.

Still another way to check on our results is to compare low-income girls who have children to those who do not, on the theory that the former are more likely to be affected by welfare reform. This subject is examined in column 4 where we see that, while having a child greatly increases the likelihood of being out of school (the coefficients of the

Child variable are positive and large), the interactive terms involving the Child variable and the two welfare reform periods are strongly negative. Welfare reform is associated with large reductions in dropping out for girls with children as compared to girls without children.³³

(2) Living With Parents

Next we consider what has happened to living arrangements – specifically, the percentage of teenage girls living with one or more of their parents. The 1996 welfare reform law affected living arrangements in several ways. First, by placing limits on welfare, it increased the pressure on parents to force older teenagers to leave the home and support themselves. For the teenagers themselves, however, and teenage mothers in particular, the same factor works in the opposite direction – welfare limits have reduced their incentive to leave home. How these forces balance out can be seen by looking at charts 3 and 4. On the whole, the lines are relatively flat. Among low-income young mothers (chart 4), the percentage living with a parent jumps up between 1993 and 1995, but this change is mirrored among low risk mothers, so it is hard to attribute this change to welfare reform. Based on these data, reform seems to have had little or no effect on teenage girls' living arrangements.

The results of the corresponding multivariate analysis are in table 3. Here the evidence is ambiguous. All the coefficients of the variables interacting low income and welfare

³³ We also ran regressions limited to 14 to 19 year old women with children, but the sample sizes were so small (and, as a result, the standard errors so large) that none of the key coefficients approached statistical significance.

TABLE 3
 Living With A Parent: 14-19 Year Olds
 OLS Regressions: With MSA Dummies
 (t-values in parenthesis)

	<u>Females</u>		<u>2</u>	<u>3</u>
	<u>1</u>	<u>1</u>	<u>Low Income Males & Females</u>	<u>Low Income Females</u>
	<u>Absolute Threshold</u>	<u>Relative Threshold</u>		
Low Income	-.194 (47.9)	-.162 (30.5)		
Age	-.050 (76.5)	-.060 (67.9)	-.079 (85.6)	-.085 (61.9)
Black	.003 (0.9)	.001 (0.2)	.024 (5.2)	.048 (7.1)
Hispanic	.005 (1.3)	.009 (1.9)	.026 (5.7)	.054 (8.3)
South	.002 (0.5)	-.000 (0.1)	.006 (1.0)	.015 (1.8)
Unemployment Rate	.000 (0.4)	-.001 (0.6)	-.001 (0.7)	-.003 (1.1)
Time Trend	-.001 (1.3)	-.002 (1.2)	-.001 (0.6)	-.002 (1.0)
Waiver Period	.001 (0.2)	.001 (0.1)	.008 (1.1)	.008 (0.8)
Tanf Period	.006 (0.7)	.005 (0.4)	.001 (0.1)	-.009 (0.5)
Low Income x Waiver Period	.013 (2.2)	.010 (1.4)		
Low Income x Tanf Period	.001 (0.2)	.009 (1.3)		
Has a Child				-.239 (18.9)
Has a Child x Waiver Period				.046 (2.6)
Has a Child x Tanf				.091 (5.0)
Female			.057 (10.3)	
Female x Waiver Period			.002 (0.2)	
Female x Tanf Period			.001 (0.2)	
N	74,480	45,052	56,709	28,799
Adjusted R Squared	15.2	14.6	13.6	18.4

Notes: 1. Low income in the first column is defined as under 200% of the poverty level. In the second column, it is defined as under the 30th percentile of incomes.

2. The sample in this column is 14 to 19 year old males and females with incomes under 200% of poverty.

3. The sample in this column is 14 to 19 year old females with incomes under 200% of poverty.

reform period are positive, although only one is significant at the five percent level, which suggests that welfare reform is not having a clear effect on living arrangements. In column 3, we show the results of a regression that compares young girls and young boys, on the theory that welfare reform should have a greater impact on the former. Both coefficients of the interactive variables are small and insignificant, indicating that there is little difference between girls and boys on this measure.

Finally, column 4 compares low-income young mothers with other low-income young women. Since young mothers are very likely to go on welfare, we expect welfare reform to have a bigger impact on them. Our results support this expectation. During the waiver period, for instance, having a child is associated with an increased likelihood of living at home of 4.6 percentage points, whereas during the Tanf period, having a child increases the likelihood of living at home by 9.1 points. Since approximately half of all lower income girls with children live with a parent, this latter finding represents an 18 percent increase in the proportion living with a parent.

Taken together, these findings suggest two conclusions: first, welfare reform does not seem to be having a measurable effect on the living arrangements of teenage girls, but second, it does seem to be having such an effect on teenage mothers. Given teen mothers' greater exposure to the effects of welfare reform, this result seems plausible.

(3) Out-of-Wedlock Children

Unfortunately, the CPS does not give us the teenage birth rate, but it does tell us if the teenager has ever married and whether she has her own child/children living with her, the first cousin of the birth rate³⁴ In any event, chart 5 shows the percent of never-married women 14-19 who have children, over the years between 1989 and 2001. Two forces are at work here. First, the teenage birth rate declined, which, other things being equal, would have decreased the percentage of this group that has a child living with them. At the same time, though, marriage rates dropped, which would have increased it. The bottom line is that the proportion of never-married teenage girls who have children living with them declined gradually from 9.5 percent in 1989 to 8.1 percent in 2001.

In Table 4, we present the results of our multivariate analysis. The sample includes all never-married women aged 14-19, and the dependent variable is an indicator of whether the teenage girl has her own child/children in the household. As before, we show regression results based on the absolute income threshold (200% of poverty), as well as those based on the relative threshold (the 30th percentile). In both cases, we find insignificant effects for the waiver period. However, the Tanf period is associated with about a one percentage point reduction in the likelihood of having own children present.

Table 5 summarizes the regression results reported in this paper. In the first column, we show the pre-welfare-reform values for the main outcomes of interest for low-income teenage girls. The numbers presented here are the averages for the four years 1989-1992.

³⁴ The differences are two: some of these children were born in a previous year, and some of the children of teenage mothers may not be living with them.

TABLE 4
 Never-Married Women 14-19 With Children
 (t-values in parenthesis)

	1	1
	<u>Absolute Threshold</u>	<u>Relative Threshold</u>
Low Income	.060 (22.2)	.063 (17.3)
Age	.015 (37.2)	.023 (37.8)
Black	.050 (21.6)	.053 (16.2)
Hispanic	.010 (7.3)	.015 (4.7)
South	-.001 (0.4)	-.001 (0.2)
Unemployment Rate	.001 (1.3)	.001 (1.2)
Time Trend	-.001 (1.5)	-.003 (3.0)
Waiver Period	.006 (1.9)	.015 (3.0)
Tanf Period	.013 (2.3)	.026 (3.2)
Low Income x Waiver Period	.043 (1.2)	.002 (0.3)
Low Income x Tanf Period	-.009 (2.4)	-.010 (2.0)
N	71,906	43,122
Adjusted R Squared	5.4	6.6

Notes:
 1. Low income in the first column is defined as under 200% of the poverty level. In the second column, it is defined as under the 30th percentile of incomes.

Column 2 shows our estimate of the change in outcome for low-income teenage girls associated with welfare reform. Column 3 tells us how much ground has been made up. For instance, low-income girls had a dropout rate of 13.5 in the pre-welfare-reform period. Welfare reform was associated with a 3.5 percentage point improvement in this measure, representing about a quarter of the total dropout rate. With respect to the percent living with a parent, low-income girls only closed 0.4 percent of the gap; and with regard to the percent of never-married women who have children, they closed about one tenth of the gap.

TABLE 5
Estimate Effect of Welfare Reform on Outcomes
Low-Income Teens

<u>Outcome Measures</u>	<u>Pre-Welfare Reform</u>	<u>WR Effect</u>	<u>Column. 2</u> <u>Column 1</u>
School Dropout	13.51	3.5	25.9
Not Living at Home	25.62	0.1	0.4
Never-Married Girls with Children	8.81	.9	10.2

The implication of these findings is that welfare reform affected school enrollment, but not living arrangements. The reality is more complicated, however. From Table 3, we know that having a child in the Tanf period increases the likelihood of living with a parent.³⁵ In other words, while welfare reform seems to have little or no effect on the living arrangements of low-income teenage girls as a whole, it has a significant impact on

³⁵ The coefficient for the Child x Waiver Period variable is also positive and significant.

those girls who have children.³⁶ This contrasts with the school enrollment situation, where welfare reform affects all low income girls, whether they have children or not.

TABLE 6
Changes Associated With Welfare Reform

	Girls <200%FPL ³⁷ Compared to Girls ≥200%FPL	Girls <200%FPL With Children Compared to Other Girls <200%FPL
School Dropout	-3.5**	-12.8**
Live With Parent	0.1	9.1**

** significant at 95% level

VI. Conclusion

The foregoing analysis shows that welfare reform is strongly associated with certain changes in teen outcomes between 1989 and 2001. In particular, it seems to have significantly reduced the school dropout rate of low-income teenage girls, had little effect on living arrangements (with the exception of young low-income mothers), and reduced the number of never-married girls who have children

That more progress was made in increasing school attendance than in convincing teens to live with a parent is hardly surprising. While welfare reform reduced the incentive for

³⁶ On average, 48% of low-income teenage girls with children lived with a parent in 1989-2001, so the 9.1 percentage point increase represents a 19% improvement on this measure

³⁷ Federal Poverty Level

teenagers to leave home, it increased the incentive for the parent(s) to push them out. Furthermore, regulating living arrangements is inherently more complicated than requiring school attendance. As noted in section 2, crafting a regulation that allows caseworkers to deal with the problem of abusive relatives without opening a large hole in the policy itself is a significant challenge.

These results should be interpreted with some caution. It is always possible that something else was going on during this period – some change in the attitudes of low-income people, for instance – that uniquely affected this population group, and would have occurred in the absence of welfare reform. In that case, our estimates over-state welfare reform’s true effect. That is always the risk in making these kinds of estimates. But no obvious candidates come to mind.

This paper began with a discussion of three state programs that sought to convince welfare mothers to stay in school³⁸. It would be interesting to see how these states fared in comparison to the rest of the country, but unfortunately, this is hard to do, partly because of small sample sizes, and partly because two of the three programs were in place for the whole period under investigation, which makes it impossible to do a before-and-after analysis. Still, this much can be said: such evidence as we have does not indicate that these states did any better than other states. This suggests that it was the total effect of welfare reform that mattered, not the individual initiatives directed specifically at teenagers.

³⁸ The three states were Wisconsin, Ohio, and California. In Wisconsin’s case, the program applied to all teenagers, rather than just teen mothers.

When we compare the waiver period with the TANF period, we find significant effects in both, although the TANF effects are larger in every case. This is hardly surprising, however, since only about half the states had major statewide waivers by the time the 1996 legislation was passed³⁹. Indeed, at least as far as teenage girls are concerned, what is remarkable is how much was accomplished *before* PROWRA. As a result of waivers from the Department of Health and Human Services, states were already sending the message to young, low-income women that they had better stay in school (and stay at home if they already had a baby) since the welfare system was not a reliable source of long-term support⁴⁰

Our findings underscore the gender imbalance that has overtaken young people in low-income communities. Among blacks, for instance: the employment rate of young, less-educated women increased from 39.4% to 51.6% between 1990 and 2000, while that for comparable men declined (from 56.1% to 54.0%)⁴¹. In this paper, we have shown that welfare reform is associated with increased school attendance among low-income girls, and that the female dropout rate declined relative to the male rate. So many young women from low-income families are now getting ahead, whereas the young men are not. This is a subject that should engage our policymakers. We need to do for the men some of what we have done for the women

³⁹ This is a little misleading inasmuch as most of the big states had implemented waiver programs by the time PROWRA became law.

⁴⁰ The one exception to this point involves out-of-wedlock births. We did not find significant effects on out-of-wedlock births until the TANF period.

⁴¹ The same pattern exists among whites and Hispanics, although the differences between young men and young women are not as great.

Finally, our results show that low-income teens do respond to economic incentives, particularly when those incentives are buttressed by clear messages from society-at-large. This certainly took place in the case of school attendance, and it made a difference. There is also evidence that out-of-wedlock births declined, and that teenage mothers were more likely to live with a parent during this period. At least as far as teenagers are concerned, it looks as if the behaviors leading to welfare dependency can be changed if there is a will to do it.

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APPENDIX TABLE 1

Percent With A Child
Never-Married 14-19 Year Old Women

	<u>Below 200%</u> <u>Federal Poverty Level</u>	<u>Equal to or Above 200%</u> <u>Federal Poverty Level</u>
1989	9.54	1.45
1990	8.83	1.29
1991	8.71	1.67
1992	8.15	1.36
1993	9.75	1.24
1994	10.09	1.72
1995	10.06	1.69
1996	8.43	1.46
1997	8.76	1.98
1998	7.42	1.89
1999	8.28	1.64
2000	8.82	1.56
2001	8.05	1.85

Chart 1: High School Dropout Rate, Females Aged 16-17

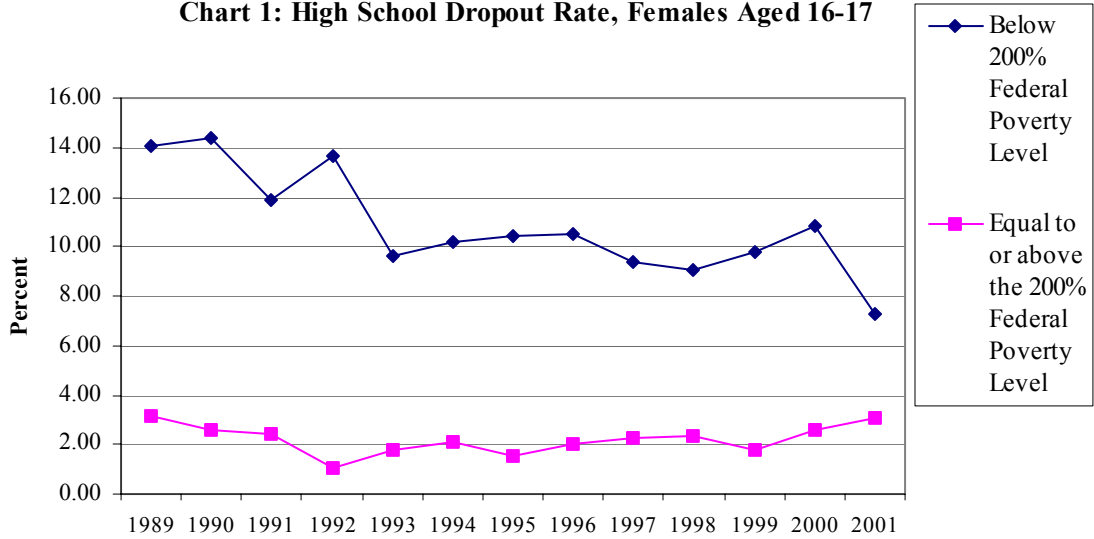


Chart 2: High School Dropout Rate, Females 16-17 who have Children

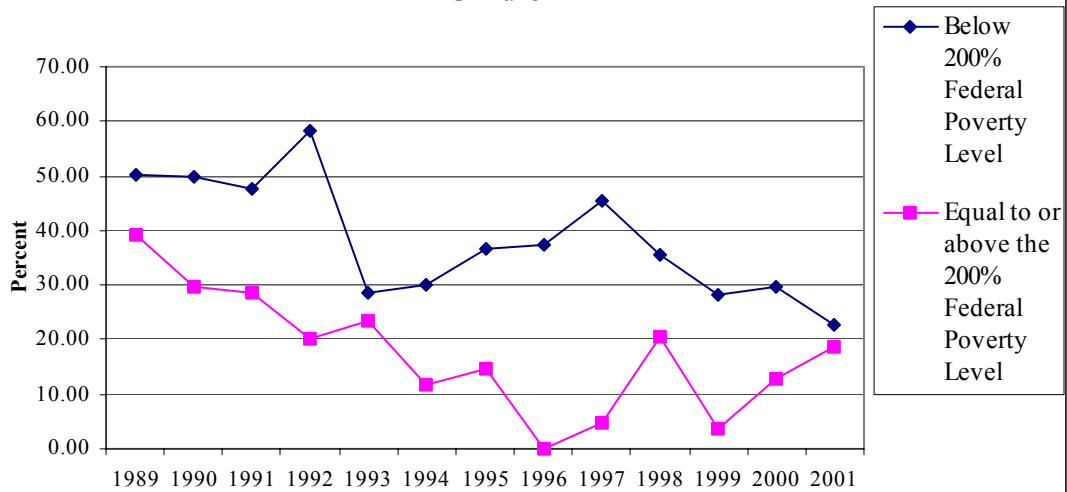


Chart 3: Living with Parents, Females Aged 14-19

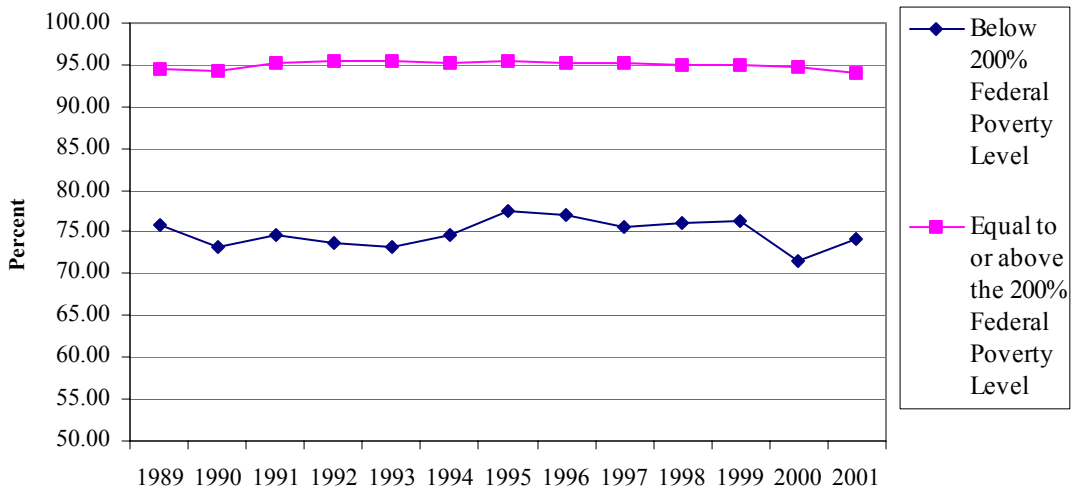


Chart 4: Living with Parents, Female Aged 14-19 who have Children

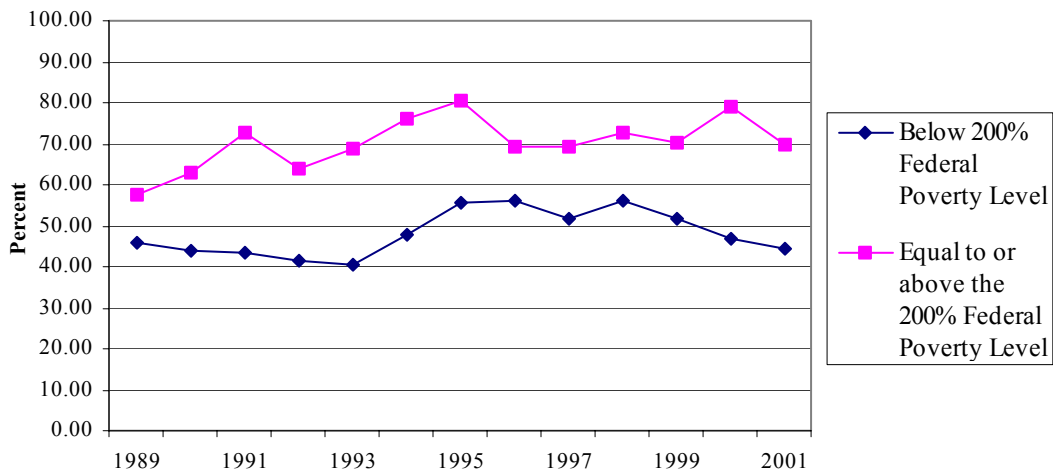


Chart 5: Unmarried Women Aged 14-19 With Children

