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Abstract

Welfare recipients' abilities to attend college while receiving aid has been severely curtailed by the TANF program, due in part to concerns about long-term education in a time-limited program. Yet, prior research indicates that college enrollment, and particularly graduation, are strong indicators of positive future outcomes. Findings from the NLSY indicate that during the pre-TANF period, 17 percent of welfare spells had some overlap with college enrollment. Among women who enroll, however, just 36 percent graduate at any point in the 20-year NLSY panel and receipt of financial aid loans is a strong predictor of graduation. Attending college while on aid is associated with up to an additional one and a half years of aid receipt. Graduation may help to ameliorate this, although women who are already enrolled in college when they begin to receive welfare are more likely to graduate than those who start college as welfare recipients.

Introduction

The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) greatly reformed the provision of cash assistance–or welfare–to poor families nationwide, replacing Aid to Families with Dependent Children (AFDC) with Temporary Assistance for Needy Families (TANF). In contrast to the former AFDC program, TANF requires work-ready adult recipients to engage in employment or activities that lead to employment in order to receive benefits. Education leading to a postsecondary degree, although not precluded by the federal law, is not encouraged in most states (Cox and Spriggs 2002; Greenberg, Strawn, and Plimpton 2000). This limitation in welfare recipients' access to college has been a key issue for debate among policy makers and advocates. The 1998 Wellstone Amendment, which would have doubled the period of time allowed for training and education to two years and counted postsecondary education as a federal work activity, did not pass. Current plans for TANF reauthorization impose even stricter limits on access to postsecondary education (Fremstad et al. 2002).

Historically, welfare recipients have been allowed, and even encouraged, to pursue college degrees while receiving aid. The Job Opportunities and Basic Skills (JOBS) program, implemented as part of the Family Support Act of 1988, focused specifically on skills acquisition for welfare recipients. Under JOBS, all but three states allowed participants to satisfy program requirements with postsecondary education (U.S. House of Representatives 1994: Table 10-4). Estimates indicate that in 1992, nearly 15 percent of participants per month nationwide satisfied their JOBS requirements through postsecondary education (U.S. House of Representatives 1994: Table 10-6).

It is widely acknowledged that postsecondary education can provide a route out of low-wage employment and welfare dependency for those with the ability and motivation to pursue advanced degrees. A study by Kane and Rouse (1995) has been cited frequently as evidence that postsecondary education, and particularly graduation with a two-year or four-year degree, is associated with increased earnings. Focused specifically on welfare recipients, Hollenbeck and

Kimmel (2002) and London (2004) similarly demonstrate that postsecondary education is associated with improved long-term outcomes, including increased employment and earnings and reduced welfare recidivism. Further, having higher levels of education (which may or may not have been achieved while receiving aid) is associated with shorter welfare spells (Barrett 2002; Blank 1989), increased post-program employment and earnings (Michalopoulos and Schwartz 2000), and better educational outcomes for children (Magnusen and McGroder 2002). Descriptive studies of community college programs for welfare recipients also suggest improved outcomes resulting from college attendance (Butler and Deprez 2002; Gittell, Gross, and Holdaway 1993; Karier 1998 and 2000; Thompson 1993).

Opponents do not dispute the advantages of postsecondary education. Instead, they argue that allowing welfare recipients to pursue advanced degrees would undercut the program goal of providing short-term assistance (Friedman 2001). This is a particular concern in the era of time-limited welfare. Recipients who pursue college degrees while receiving aid may remain on the rolls longer than they might otherwise have if they were steered toward a more employment focused track.

Empirical studies of the determinants and consequences of college enrollment and graduation among welfare recipients are in surprisingly short supply. In this study I use data from the National Longitudinal Survey of Youth (NLSY)–a survey that follows a sample of young people annually from 1979 to 1998–to study the welfare and college trajectories followed by young women, including how college attendance relates to welfare recipients' time on aid over a 20-year period. The NLSY covers a period largely unaffected by TANF's regulations. This is advantageous for two reasons. First, evidence suggests that welfare recipients' postsecondary enrollments have begun to fall since PRWORA enactment (Cox and Spriggs 2002; Jacobs and Winslow 2003). When enrolled, welfare recipients have become less likely than others to enroll in degree-granting postsecondary programs, opting instead for shorter-term vocational certificate programs (Jacobs and Winslow 2003). With the reductions and shifts in enrollment that are thought to be associated with TANF's educational

constraints, it may not be possible to understand the determinants and consequences of postsecondary education for welfare recipients in the TANF era. Second, the long time period of the NLSY allows me to examine multiple spells of college and welfare and to track graduation and time on aid over a sufficiently long time frame.

Theoretical Model

Decades of economic research have demonstrated the merits of human capital theory; higher levels of education are associated with more favorable labor market outcomes on all points on the educational spectrum. Yet relatively few welfare recipients attend college while on aid and there are several reasons for this. First, the at-risk pool for enrollment is limited in that in any given year, 57 percent of welfare recipients in the NLSY had completed a high school diploma or GED. Further, attendance is costly; paying for tuition and other course materials may be prohibitive for this very low-income population. Having children also adds to the cost of attending school if special child care arrangements must be made while the mother is in class and studying. Once enrolled, the extra demands of having children may make school completion more difficult for these students. Beyond these direct costs, the opportunity costs associated with attending school may be prohibitive. Attending college requires that women who might otherwise be able to secure paid employment make sacrifices in income in order to realize what they hope will be long-term financial success. Access to postsecondary institutions may also play a role in that limited supply of appropriate schools in the vicinity may constrain welfare recipients' abilities to attend college. Finally, it is likely that some women are more inclined to attend college than others, either due to their ability level or motivation to pursue higher education.

The decision to enroll in college while on aid can be characterized as follows:

(1) $E_i = F(X_i A_i, C_i, T_i)$,

where E_i indicates college enrollment, X_i is a matrix of individual characteristics, A_i is a matrix of variables indicating access to colleges in the county, C_i is a matrix of variables indicating potential opportunity costs for enrolling in school while on aid, and T_i is a matrix of taste for education variables. The subscript i indexes the person-spell–a period of consecutive months of welfare receipt. Included in the matrix X are age, race or ethnicity, number of own children under age 18, whether the youngest child is under age 5, and marital status. Access to school is measured using data on the number of schools and enrollments in the respondent's county of residence (see the Data section for a more detailed discussion). Opportunity costs for attending college are characterized in two ways. First, employment opportunity (or lack thereof) is proxied using the county unemployment rate. Second, the state's maximum AFDC benefit level for a family of three is included as a measure of the employment alternative. Those in higher benefit states may be more likely to take advantage of their time on aid to attend school. In most states, employment results in greater income than welfare receipt alone. But in higher benefit states, the difference between potential earnings and welfare benefits is smaller. Taste for education can be characterized using both family history of higher education–in this case the respondent's mother's highest grade completed–and respondent's aptitude as measured by the percentile score on the Armed Forces Qualifying Test (AFQT), which was administered to NLSY respondents in 1980. Also included is a measure of parental occupation because it is possible that the children of adults with certain types of occupations, even if they do not require advanced degrees, might be more likely to attend college. Logistic regression is used to estimate the determinants of welfare recipients' college enrollment.

Research has shown that graduation from college is a better predictor of future success than mere enrollment (Hollenbeck and Kimmel 2002; Kane and Rouse 1995; London 2004). Some of the factors that determine graduation among enrolled recipients are the same as those that determine enrollment, such as individual characteristics, access to college, opportunity costs for attending school, and taste for education. Two other factors are unique to the probability of graduation. First,

a measure of whether the individual uses financial aid is included because qualitative research (e.g., Gittell et al. 1993; Thompson 1993) indicates that access to financial aid is a key contributor to the probability of graduation. Second, a measure of college-welfare sequencing is included. As will be discussed in subsequent sections, spells that begin when a welfare recipient enrolls in college appear to differ in some key features to those which begin when a college student begins welfare receipt.

The probability of college graduation can be characterized as follows:

(2) $G_i = F(X_i, A_i, C_i, T_i, L_i, S_i)$,

where G_i is the probability of graduation given enrollment, X_i, A_i, C_i, and T_i are measured as in equation (1), L_i is a measure of financial aid, and S_i indicates whether the individual began college before or after starting her welfare spell. Equation (2) uses a three-way definition of graduation as follows: no graduation, graduation at the end of the college-welfare spell, and graduation sometime after the end of the college-welfare spell. Probability of graduation using this three-way definition is estimated using a multinomial logit regression.

An important concern is the extent to which enrollment in college while receiving welfare is associated with longer stays on aid. Particularly in the era of time-limited welfare, activities or services that lengthen the number of months that recipients receive aid experience serious opposition. There are reasons to hypothesize that attending college while on aid would be associated with longer duration of welfare use. To the extent that being in school prevents mothers from seeking self-supporting employment, their reliance on welfare benefits may be prolonged for the period of their enrollment. Establishing a causal relationship between college enrollment and time on aid is beyond the scope of this paper. Instead, I rely on descriptive results from the NLSY panel to suggest that there indeed exists a relationship between college enrollment and time on aid.

Data

Data for this study come from the special geocode version of the National Longitudinal

Survey of Youth (NLSY). The NLSY is a longitudinal data set that follows a nationally representative sample of nearly 13,000 young men and women from 1979 to 1998, providing detailed information on a multitude of issues, including welfare receipt, school enrollment, and labor force behavior. The sample is limited to women because they are the primary recipients of welfare assistance. Only college attendance toward a recipient's first advanced degree is considered.

College enrollment is defined on a monthly basis using questions that ask about each respondent's enrollment in "regular school" in the previous year. Individuals are coded as being enrolled in college if they are enrolled in regular school in a particular month and: (1) are enrolled in college at the time of the interview, or (2) if they are not enrolled at the time of the interview, completed a high school diploma or GED prior to their current enrollment. College spells are smoothed for up to four-month gaps in enrollment to account for institutional lapses that occur over the summer and between semesters or quarters. The NLSY questions that allow me to determine monthly enrollment do not allow me to differentiate between enrollment in two-year or four-year colleges. Only at graduation are respondents asked the type of degree pursued. I therefore combine two year and four-year college enrollment throughout the paper.

Welfare spells are also identified on a monthly basis using variables that identify AFDC received each month of the previous year. To be counted, the respondent herself must be a recipient of the welfare payment. Welfare spells are smoothed for one-month gaps. Characteristics of the spell are assigned using data from the first year of the welfare spell.

After 1994, the NLSY moved to a biannual survey, skipping interview years 1995 and 1997. Questions asked in 1996 and 1998 allow me to reconstruct monthly college enrollment and welfare histories during that period. In cases where a welfare spell begins during 1995 or 1997, spell characteristics are assigned from 1994 or 1996, respectively.

The NLSY geocode version includes state and county of residence for all respondents each year, as well as other county-level information. To these data, I append state-level maximum AFDC

benefit levels for a family of three, the number of postsecondary institutions in each county, and the number of enrollments associated with postsecondary institutions in each county. The latter information comes from the 1982-1983, 1989-1990, and 1996-1997 Integrated Postsecondary Education Data System (IPEDS), collected by the National Center for Educational Statistics. Because it is unlikely that the number of schools is related linearly to the enrollment outcome (i.e., increasing from 0 or 1 schools in a county is not the same as increasing from 100 to 101), number of schools is coded using 10 dummy variables denoting specific ranges.[1]

Welfare Recipients' College Enrollment

Seventeen percent of welfare spells in which the recipient has a high school diploma or GED have simultaneous college enrollment (Table 1). When limited to a younger age group, who might be more at-risk of college enrollment, the rate decreases slightly to 15.5 percent. Enrollment rates are commensurately lower when recipients of all education levels are included in the denominator. Spell enrollment rates are not easily interpretable as spell lengths vary tremendously (e.g., from 2 to 200 months). Tabulations not shown in Table 1 indicate that in any given year between 1979 and 1998, about 13 percent of female welfare recipients in the NLSY who completed high school or the equivalent were enrolled in college.

[TABLE 1 HERE]

Background characteristics of welfare recipients who do and do not attend college while on aid are consistent with what one might predict (Table 2). In particular, “taste for education” variables, such as mother’s highest grade completed and the 1980 AFQT score, are higher for those who enroll than those who do not. Opportunity costs associated with college enrollment also appear to play a role as state welfare benefits and county unemployment rates are both higher for those who enroll than those who do not. There appears to be some correlation between school attendance and access to postsecondary institutions with those who enroll in college having greater access to local

institutions. Enrolled welfare recipients live in counties with an average of 36 postsecondary institutions, compared to 25 in counties of non-enrolled recipients. An unexpected result is that college enrollees are more likely to be African American (49.1 percent) than non-enrollees (34.9 percent). Indeed, the college enrollment rate among African American welfare recipients is 7 percentage points higher than the white enrollment rate (18.4 percent vs. 11.5 percent).

[TABLE 2 HERE]

The descriptive results presented in Table 2 are largely borne out multivariate analyses, shown in Table 3. Personal characteristics, taste for education, opportunity costs, and access to schooling are all determinants of college enrollment for this population. Among personal characteristics, results suggest that factors associated with ethnicity, net of other intervening factors, contribute strongly to the probability of college enrollment. Minority women, both African American and Latina, are more likely to enroll in college than whites, all else constant. Having younger children and being married also decrease the probability of enrollment.

[TABLE 3 HERE]

Women with a greater taste for education, proxied by the AFQT score, are also more likely to enroll. Mother's highest grade, shown to be associated with enrollment in bivariate tabulations, is not statistically significant in the model. When parental occupation controls are not included (not shown), mother's education is a positive and statistically significant predictor of enrollment.

Opportunity cost issues also play a role in the enrollment decision in that women appear to attend college when their labor market opportunities (as proxied by the unemployment rate) are fewer. Those living in higher benefit states are also more likely to enroll, though the coefficient in this model is not statistically significant. Other specifications that do not include access to schooling variables (not shown) result in a statistically significant positive coefficient for this variable.

Finally, access to school is a key factor in enrollment decision-making. Women living in counties with more postsecondary institutions (relative to zero) are more likely to enroll in college.

Coefficients on each of the number of schools variables are positive, and several are statistically significant. A concern about these access proxies is that number of schools alone may not accurately reflect recipients' options. For instance, having one small elite school in the county is not equivalent to having one large community college. Although the community college may not offer the range of collegiate options offered at the smaller elite school, a welfare recipient would probably be more likely to meet the admission criteria and afford the tuition at the community college. The IPEDS data that provide the school counts do not include quality measures, but do include measures of enrollment at each institution. Including total county-level enrollment as a covariate does not change any of the coefficient estimates and is itself statistically insignificant.

Welfare Recipients' College Graduation

Just 11 percent of college-welfare spells observed in the NLSY end with graduation.[2] In another 28 percent of overlapping welfare and college spells, graduation occurs sometime after the spell ends. Removing the duplication of multiple spells per person, of the 312 welfare recipients who attend college while receiving aid, a total of 36 percent graduate during the course of the NLSY.

Welfare recipients' graduation rate is considerably lower than national estimates of all college students. National graduation rate estimates measure the percent of an entering cohort that graduates within one year of its expected graduation year. Using this definition, ACT (2000) estimates a graduation rate of 55 percent for two-year and four-year college combined in 1990, midway through the NLSY panel. Even with the more generous time frame used here, the rate of graduation among welfare recipients is still substantially lower than the national rate.

Welfare recipients who graduate from college differ in some ways from those who enroll but do not graduate. Table 4 shows spell-level characteristics for three sets of recipients: those who enroll in postsecondary programs and graduate at about the same time they end their welfare spell, those who enroll and graduate sometime after ending their welfare spell (possibly after another

college-welfare spell), and those who enroll and never graduate during the NLSY panel. Notably, data show that although minority women are overrepresented among welfare recipients who enroll in college, they are underrepresented in the percent who graduate. Also noteworthy is that mother's education level is higher among spells that are associated with graduation than those that are not and graduating spells are much more likely to have a student loan than non-graduating spells.

[TABLE 4 HERE]

How a woman sequences college and welfare, and the effects of this sequencing on graduation, have important ramifications. Three-quarters (76.1 percent) of college-welfare spells begin when a welfare recipient enters into college. This group of spells can be thought of as "bootstrappers," or women who follow the traditional path associated with pulling themselves from the welfare ranks into college and on to self-sufficiency. The remaining 23.9 percent of spells begin when an already enrolled college student begins a spell on aid. This group of spells can be though of as "opportunists," women who may be using welfare as a way to stay in school. Although it is useful to characterize these groups separately, they share some similar traits. For instance, both groups are likely to have had a prior welfare spell, though boostrappers are more likely to have done so (64 percent) than opportunists (55 percent). Both are also likely to have had a prior college spell, though again, bootstrappers are more likely to have done so (56 percent) than opportunists (44 percent). Opportunists are thus more likely to start their first welfare spell after beginning college, and in the majority of cases, they are in the midst of their first attempt at completing college.

Table 4 shows that bootstrappers–those who sequence welfare first and then college–are at higher risk of dropping out of their college program than opportunists–those who sequence college first. The vast majority (82 percent) of spells associated with no graduation can be attributed to bootstrappers. This is substantially higher than the percent with graduation at the end of the spell (60 percent) or later in the NLSY (69 percent). Stated differently, opportunists' welfare-college spells are more likely to end in graduation than bootstrappers' spells. In total, 55 percent of opportunists' spells

result in graduation at some point during the NLSY (19 percent at the end of the college-welfare spell), compared to 34 percent of bootstrappers' spells (9 percent at the end of the college-welfare spell). The findings on college-welfare sequencing have important ramifications for policy because welfare programs that promote education largely appeal to bootstrappers rather than opportunists.

Multinomial logit models estimating the probability of graduation are shown in Table 5. Estimates for graduation in two time periods–at the end of the spell and sometime later in the NLSY–are presented, relative to the omitted category of no graduation. Results indicate some key differences in the determinants of graduation and enrollment. In particular, minority status, which was a key contributor to enrollment, is not a predictor of graduation. Age of children and marital status, both predictors of enrollment, are similarly not associated with graduation. Taste for education as proxied by the AFQT score is a strong predictor of both enrollment and graduation, particularly for graduation that takes place sometime after the end of the college-welfare spell. Mother's education as a proxy for taste for education increases the probability of graduation later in the NLSY, but not at the end of the college-welfare spell. Proxies for opportunity cost and access to schools, both of which were predictors or enrollment, are not associated with graduation.

[TABLE 5 HERE]

Two characteristics stand out as important predictors of graduation. The first is the presence of a financial aid loan during the college-welfare spell. This increases the probability of graduating at the end of the spell, but not at some point later in the NLSY panel. The second is the timing of college-welfare sequencing. Bootstrappers, who enter college after starting welfare, are far less likely than opportunists to graduate at the end of their college-welfare spell or later in the NLSY.

How College Enrollment and Graduation Relate to Time on Aid

In the era of time-limited welfare, the extent to which college enrollment is associated with longer time on aid is of great concern. If welfare recipients who enroll in postsecondary programs

use their time on aid to advance their education, they may stay on the rolls longer than if they were to use their time to find employment. In using more of their limited months, student welfare recipients will have less time in reserve should they need assistance in the future. However, by attending school while on aid, recipients may substantially reduce their need for future assistance. Indeed, previous research using the NLSY shows that graduating from college while on aid is associated with a 41 percentage point reduction in the five-year recidivism rate among enrollees (London 2004).

Data from the NLSY support the thesis that attending college while receiving welfare is associated with longer stays on aid. Aggregating data across multiple spells, Figure 1 shows that 31 percent of welfare recipients who do not attend college have stays on welfare of a year or less across the entire 20-year panel and 32 percent receive aid for more than 60 months, the current federal lifetime limit on welfare receipt. In contrast, welfare recipients who attend college are less likely to have short stays on aid and more likely to have longer stays; just 11 percent received welfare for a year or less and 44 percent received aid for more than 60 months. On average, recipients who attend college receive aid for 67 months, compared to 51 months for those who do not. One might expect that the difference in time on aid for these groups is due, in part, to differences in education level at the start of the spell. College students begin their time on aid with higher levels of education, on average, than their non-college counterparts. Restricting the non-college recipients to those with a high school diploma or GED does not change the distribution of time on aid. This group is also more likely to have short time on aid and less likely to have very long time.

[FIGURE 1 HERE]

Although attending college while on aid is associated with longer time on aid, bivariate tabulations show thatgraduating from college is associated with much shorter total time (Figure 2). Those who graduate are far more likely to have total time on aid of a year or less (24 percent compared to 5 percent) and far less likely to have stays on aid of more than five years (24 percent

compared to 54 percent). On average, those who graduate receive aid for 48 months over the course of the NLSY panel, compared to 77 months for enrollees who do not graduate.

[FIGURE 2 HERE]

It is possible that these estimates of time on aid are biased if graduates or those who never enroll in postsecondary programs have higher rates of attrition in the NLSY. This would reduce the number of months they are in the sample and potentially lead to an underestimate of the number of welfare months in total. To check this, I examine the number of NLSY interview years in which each welfare recipient participates. Welfare recipients who attend college were present for an average of 19.0 of the possible 20 interview years, or 95.0 percent of the potential interview months covered by that time period. Welfare recipients who do not attend college were similarly present for an average of 18.6 of the possible 20 interview years and 93.1 percent of the potential interview months. Comparing graduates to non-graduates, I also find no discernible evidence of bias in aggregate. Graduates were present for an average of 18.9 of 20 years and in 94.5 percent of potential interview months. Non-graduates were present for an average of 19.0 years and in 95.2 percent of potential interview months.

It seems likely that those who graduate have shorter time on aid because, as reported previously, they are more likely to have started welfare after starting school. To check this, I examine the number of months of aid that graduates and non-graduates accrue prior to their first simultaneous college-welfare spell. I find that graduates, who are more likely to have started welfare after college, have accrued an average of 11.0 months on aid prior to their first observed college-welfare spell. However, 27.6 percent of graduates had no prior welfare experience before their first college-welfare spell. In contrast, non-graduates have accrued an average of 35.2 months on aid prior to their first college-welfare spell, with just 9.4 percent having no prior welfare experience.

Teasing apart the relationships between enrollment, graduation, and time on aid is difficult. The literature on welfare use duration typically focuses on spell analyses using survival analysis.

This type of modeling is not appropriate for examining duration across multiple spells, the measure of time on aid most relevant in the current policy discussion. It is possible to use linear regression models to examine the correlation between college enrollment and number of months on aid. Because there appear to be few disparities in attrition across various subgroups, results should reflect difference in time on aid rather than difference in time in the NLSY.

Table 6 presents results from linear regressions that use total months spent on aid as a dependent variable. Though not shown, comparable models were estimated using percent of time in the NLSY with differently scaled, but essentially equivalent results. Each model in Table 6 includes the controls that were included in previously presented models. In addition, model 1 includes a control for whether the welfare recipient attended college while on aid. Model 2 includes this dummy variable, plus one that indicates whether the welfare recipient attended college at some time in the NLSY panel outside of her time on aid. It is possible that recipients could have spent time in college both while on aid and outside of their time on aid. If so, both dummy variables would be coded as 1. Model 3 includes only the dummy variable indicating college enrollment while on aid and also includes a dummy variable indicating whether the recipient graduated from the program within three months of the end of the welfare spell. Model 4 includes all the measures in models 2 and 3, plus one indicating whether the welfare recipient graduated from college at a time when she was not also receiving welfare.

[TABLE 6 HERE]

Attending college while receiving welfare (shown in model 1) is associated with a statistically significant increase in total time on aid of nine months. In contrast, attending college outside of welfare (model 2) is associated with 29 fewer months of aid receipt during the NLSY panel. Inclusion of enrollment outside of welfare doubles the coefficient for enrollment while on aid to 18 additional months of aid associated with college enrollment.

Models 3 and 4 include measures of whether the welfare recipient graduates at the time of her welfare spell ending or at some other time during the NLSY panel. These variables do not substantially change the coefficients on the enrollment variables and are statistically insignificant in both models. This contrasts with findings from bivariate tabulations, which showed that graduating from college is associated with shorter time on aid than attending but not graduating from college. Because of the potential endogeneity between graduation and time on aid measures, coefficients for these variables should be viewed cautiously.

Other control variables have the expected sign and are consistent with the literature that uses survival analysis to model welfare duration (e.g., Blank 1989 and Barrett 2000). Being younger, African-American, never-married, without a high school diploma or GED, and having more children at the start of the first welfare spell are all associated with longer duration of welfare receipt. Living in a state with higher welfare benefits is also associated with longer duration. One variable that is typically not included in the duration literature is the recipient's AFQT percentile ranking. This is included because it proxies a taste for education and was shown to be associated with college enrollment and graduation. The coefficient on AFQT percentile ranking is statistically significant in all models, indicating that those with a higher AFQT ranking stay on aid for shorter durations. The other proxy for taste for education, mother's highest grade, is not significantly related to time on aid.

Data from the NLSY demonstrate an interesting and perhaps unexpected picture of long-term welfare recipients. In addition to the widely supported characterization of long-term users as those who are high school dropouts, minority women who have never married, findings indicate that a more elite group of welfare college students also stay on aid for longer than average time periods.

In contrast to the majority of the period covered by the NLSY, today's welfare system does not allow most women to continue to receive welfare after 60 months of receipt, and many states have even shorter lifetime limits. Those who are in college would likely be dropped from the rolls when they reach their limit.[3] This analysis of the correlation between time on aid and college

enrollment and graduation pertains only to women whose options for college enrollment are not curtailed by program requirements associated with their welfare receipt. Still, findings strongly suggest that pursuing a college degree takes time and may have ramifications for time on aid. If the investment in college is one that results with graduation, the additional time on aid may not have serious future ramifications for the graduate. For non-graduates, the majority of welfare recipients who enroll in college, the story is not as promising. Enrollment without graduation is not associated with the extent of improvement in outcomes seen by graduates. Hence, the use of many months on aid to attend college may leave time-limited non-graduates in a difficult position later in their lives.

Discussion

The exclusion of access to postsecondary education for most welfare recipients today is a concern of many policy makers and advocates. If, as previous research suggests, two-year and four-year degree completion is associated with improved outcomes for welfare recipients, perhaps postsecondary education should be promoted. However, if pursuit of an advanced degree leads to lengthened time on aid, it may be inconsistent with TANF's goal of offering short-term assistance.

Evidence from the NLSY indicates that a select group of welfare recipients pursue college degrees while on aid. Those who have a taste for education, as proxied by their percentile ranking on the AFQT and their mother's highest grade completed, are more likely to enroll. Access to postsecondary institutions is also important, as are opportunity costs. Living in a higher unemployment county or a higher benefit state both positively affect the probability of enrollment. African American and Latina women are also more likely to enroll than white women.

Among enrollees, an even more select group graduates. Access, opportunity costs, and ethnicity do not determine graduation, although taste for education continues to be important. Instead, key determinants of graduation are use of a student loan, particularly for graduation by the end of the welfare spell, and the timing of college-welfare sequencing. Women who enroll in college

after starting a welfare spell (bootstrappers) have a lower probability of graduation than those who enter into welfare while college students (opportunists). Why this sequencing is important is unclear. However, because programs thatsupport colle ge attendance among welfare recipients tend to target bootstrappers–who comprise three-quarters of college students on aid–their lower graduation rates may indicate the need for even more focus on graduation as an outcome.

Timing of college-welfare sequencing, graduation and time on aid are integrally related. Opportunists have fewer months of previous welfare receipt than boostrappers, and are more likely to graduate. College enrollment is associated with up to 18 additional months on aid and bivariate tabulations show graduates spending fewer months on aid than non-graduates (though graduation is not a statistically significant predictor of time on aid). Although the causal factors linking these relationships are not possible to identify, evidence points to the conclusion that attending college while on welfare has the potential to correlate with longer stays on aid over time, particularly if enrollment is not associated with graduation. Findings also point to a secondary conclusion about the characteristics of long-term welfare recipients. In addition to the very disadvantaged women thought to occupy this group during the study time period is a more elite set of women who are pursuing, but not necessarily completing, their college education while on aid.

College education will not be a successful route out of poverty unless student recipients can find employment and remain off the welfare rolls. Evidence from this study points to the importance of financial aid and financial aid counseling for welfare recipients, as well as other potential interventions aimed at improving graduation rates. These may include: child care, both during courses and for related activities; other supportive services, such as transportation, ongoing case management, and career counselors; remediation for students who need to improve basic skills; and incentives for attending school and graduating (Butler and Deprez 2002; Golonka and Matus-Grossman 2001; Thompson 1993).

Figure 1

Welfare Recipients' Total Time on Aid

by College Enrollment and Education Level

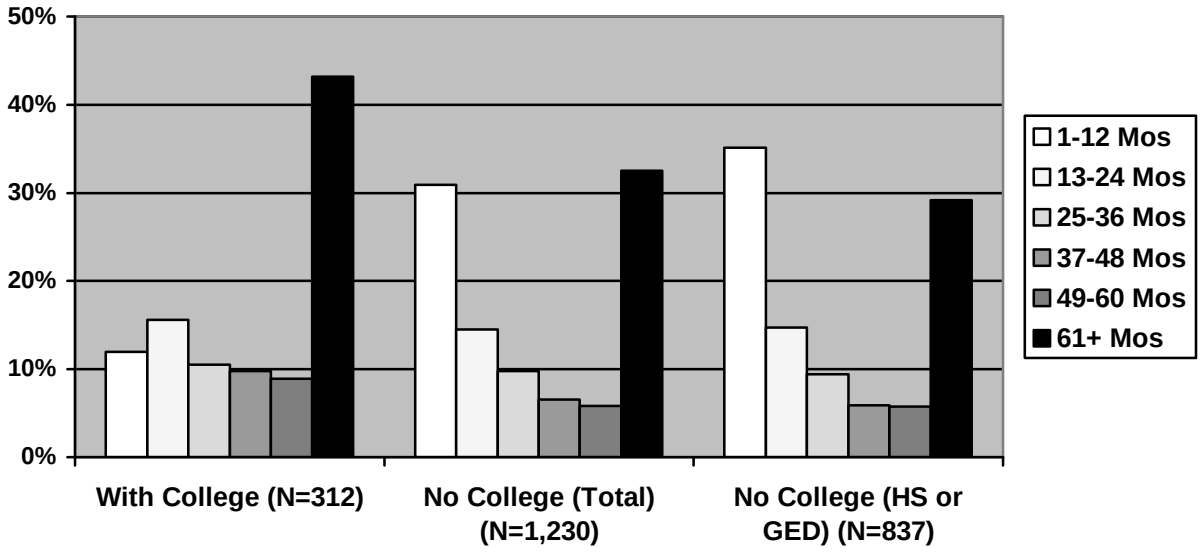

Figure 2

Welfare Recipients' Total Time on Aid

by College Graduation Status

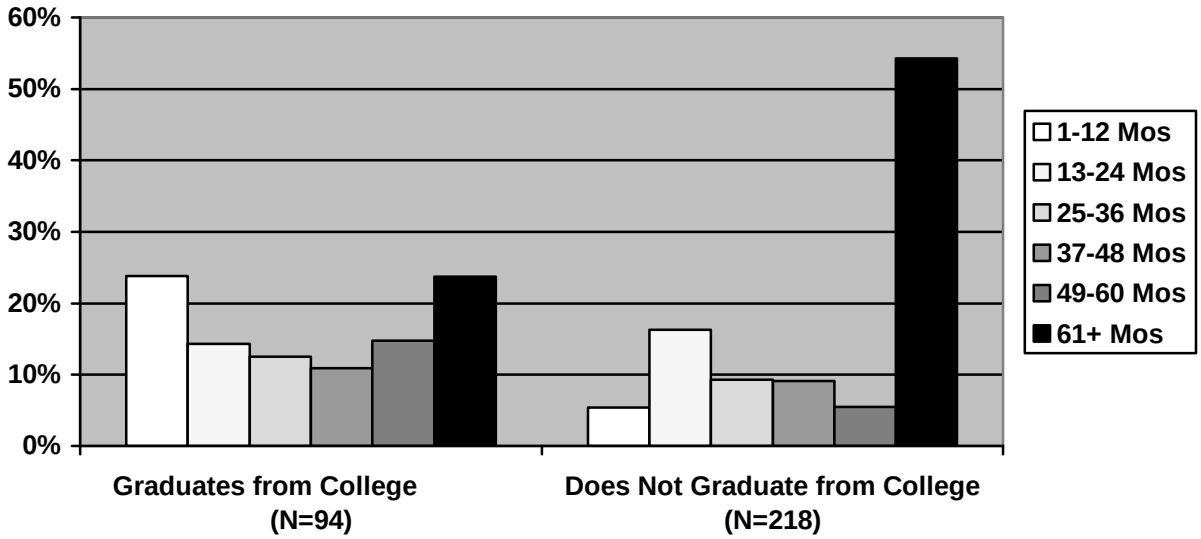

Table 1: Welfare Recipients' College Enrollment Rates

	College enrollment during the welfare spell		
	Unweighted	Weighted	N
Recipients with HS Diploma or GED			
All ages	17.3	17.0	2,509
Age <=30	16.1	15.5	2,031
All Recipients			
All ages	13.6	13.8	3,317
Age <=30	12.3	12.1	2,770

Notes:

(a) Sample includes all female welfare recipients in the NLSY.

(b) Welfare spells are smoothed for one-month gaps.

Table 2: Characteristics of Welfare Spells By College Enrollment Status

	College Attendees	No College Attendance
Age	27.0	25.0
High school diploma or equivalent (%)	97.8	78.0
Race/Ethnicity (%)		
White	44.5	54.7
African-American	49.1	34.9
Latina	6.4	10.4
Number of children	1.8	1.7
Youngest child <= age 5 (%)	69.5	82.4
Marital Status (%)		
Never married	44.7	39.4
Divorced/separated	41.1	31.2
Married	13.4	28.3
1980 AFQT score percentile	34.3	24.9
Mother's highest grade completed	11.1	10.3
Max state AFDC benefits for family of 3	$678.21	$657.33
County unemployment rate (%)	8.6	8.2
Number postsecondary institutions in county	35.7	25.2
Zero postsecondary institutions in county (%)	10.2	17.3
N	482	2,865

Notes:

(a) All tabulations are weighted using weights provided by the NLSY.

(b) Spell characteristics are measured in the first year of the spell.

Table 3: Determinants of College Enrollment Among Welfare Spells

	Coeff		SE
Age	-0.043		0.034
African American	1.244	**	0.199
Latina	0.586	*	0.264
Number of children	0.070		0.065
Youngest child <=5	-0.398	*	0.177
Married	-1.043	**	0.245
Divorced or separated	-0.002		0.160
1980 AFQT	0.035	**	0.004
Mother's highest grade	0.024		0.029
Maximum state AFDC *100	0.037		0.028
County unemployment rate	0.090	**	0.020
1-3 schools in county	0.232		0.237
4-9 schools in county	0.505	*	0.244
10-14 schools in county	0.881	**	0.266
15-19 schools in county	0.947	**	0.283
20-49 schools in county	0.630	*	0.253
50-99 schools in county	0.568	*	0.295
100-199 schools in county	0.575		0.372
200-299 schools in county	0.988		0.685
300+ schools in county	0.158		0.632
Time trend	0.115	**	0.033
Mother's grade missing	-0.049		0.400
AFQT missing	0.687	*	0.393
N		3,273	

Notes:

(a) * Significant at the .10 level, ** Significant at the .01 level.

(b) All regressions are logistic and unweighted.

(c) Standard errors are corrected for the inclusion of multiple spells per person.

(d) Model includes controls for parental occupation.

(e) Model limited to women with a high school diploma or GED.

Table 4: Characteristics of Women in College-Welfare Spells by Graduation Status

	Graduates at End of College-Welfare Spell	Graduates Later in NLSY	Never Graduates
Age	27.11	27.39	26.72
Race (%)			
White	63.79	55.02	36.09
African American	34.63	42.66	54.73
Latina	1.59	2.32	9.18
Number of children	1.78	1.72	1.91
Youngest child <=5 (%)	73.73	62.15	72.12
Marital Status (%)			
Never married	42.71	37.50	48.40
Married	16.81	8.73	14.89
Divorced or separated	40.48	52.42	36.03
Mother's Highest grade	11.42	11.71	10.68
Has student loan (%)	59.55	39.80	26.99
Maximum state AFDC benefits	$644.45	$700.80	$673.77
County unemployment rate (%)	8.37	8.32	8.69
Number postsecondary institutions in county	50.07	25.04	36.06
Zero postsecondary institutions in county (%)	2.30	14.66	7.24
Spell starts with welfare receipt "Bootstrappers" (%)	60.21	69.34	82.16
N	42	109	301

Notes:

(a) All estimates are weighted using weights provided in the NLSY.

(b) Observations are cumulated spells for each welfare recipient and limited to women who attended college while receiving aid.

Table 5: Determinants of College Graduation

	Graduates at end of spell			Graduates later in NLSY		
	Coeff		SE	Coeff		SE
Age	0.183		0.119	0.157	*	0.078
African American	-1.076		0.671	0.156		0.484
Latina	-1.194		0.853	0.222		0.708
Number of children	-0.123		0.208	-0.301		0.191
Youngest child <=5	0.049		0.633	-0.301		0.419
Married	-0.604		0.761	-0.722		0.698
Divorced or separated	-0.288		0.682	0.002		0.382
1980 AFQT	0.021	*	0.011	0.030	**	0.009
Mother's highest grade	-0.014		0.085	0.170	*	0.097
Has financial aid loan	1.384	**	0.373	0.440		0.321
Bootstrapper	-1.356	**	0.422	-1.039	**	0.319
Maximum state AFDC *100	-0.127		0.129	-0.0001		0.079
County unemployment rate	-0.080		0.078	-0.079		0.057
Time trend	-0.216	*	0.115	-0.147	*	0.081
Mother's grade missing	0.167		1.181	0.623		1.721
AFQT missing	-31.071	**	0.820	0.786		0.858
1-3 schools in county	0.642		0.926	-1.757	**	0.680
4-9 schools in county	0.364		0.978	-0.533		0.684
10-14 schools in county	0.192		1.281	-0.777		0.717
15-19 schools in county	0.901		1.068	-0.759		0.757
20-49 schools in county	-0.265		1.041	-1.372	*	0.622
50-99 schools in county	0.719		1.158	-1.763	*	0.828
100-199 schools in county	1.780		1.397	-1.407		0.956
200-299 schools in county	0.798		1.594	-0.655		1.218
300+ schools in county	1.740		1.414	-0.632		1.212
N				447		

Notes:

(a) * Significant at the .10 level, ** Significant at the .01 level.

(b) Graduation is a three-way variable coded as: 1 if the college-welfare spell ends with graduation, 2 if the college-welfare spell does not end with graduation but is associated with graduation at some later point during the NLSY panel, and 0 if the college-welfare spell is not associated with graduation. No graduation is the base category in the model.

(c) The model is estimated using a multinomial logit regression and is unweighted

(d) Standard errors are corrected for the inclusion of multiple observations per person.

(e) Model includes controls for parental occupation.

(f) Observations are cumulated spells for each welfare recipient and limited to women who attended college while receiving aid.

Table 6: Determinants of Months Spent on Aid in NLSY

	Model 1			Model 2			Model 3			Model 4		
	Coeff		SE	Coeff		SE	Coeff		SE	Coeff		SE
Attends college while on welfare	9.040	**	3.313	17.817	**	3.328	9.708	**	3.393	17.672	**	3.425
Attends college outside welfare				-28.796	**	2.900				-27.929	**	3.009
Graduates college while on welfare							-9.867		10.809	-5.282		10.490
Graduates college outside welfare										-7.351		7.228
Age	-2.143	**	0.357	-1.753	**	0.348	-2.125	**	0.357	-1.724	**	0.349
African American	17.640	**	3.255	21.061	**	3.171	17.555	**	3.256	21.108	**	3.175
Latina	5.810		4.049	10.183	**	3.947	5.729		4.051	10.225	**	3.950
Number of children	1.616		1.410	0.776		1.368	1.626		1.410	0.737		1.369
Youngest child <=5	9.927	*	5.442	9.024	**	5.272	9.962	*	5.443	9.270	*	5.278
Married	-17.713	**	3.552	-17.818	**	3.440	-17.819	**	3.554	-18.011	**	3.446
Divorced or separated	-13.406	**	3.608	-13.121	**	3.495	-13.448	**	3.608	-13.141	**	3.496
HS diploma or GED	-12.243	**	2.831	-11.167	**	2.744	-12.343	**	2.834	-11.184	**	2.748
1980 AFQT	-0.455	**	0.071	-0.283	**	0.071	-0.453	**	0.071	-0.276	**	0.071
Mother's highest grade	-0.695		0.491	-0.401		0.476	-0.690		0.491	-0.398		0.477
Maximum state AFDC *100	0.032	**	0.005	0.029	**	0.005	0.032	**	0.005	0.029	**	0.005
County unemployment rate	0.543		0.368	0.646	*	0.357	0.540		0.368	0.638	*	0.357
Mother's grade missing	2.217		6.497	3.421		6.294	2.247		6.497	3.294		6.297
N	1,542											

Notes:

(a) * Significant at the .10 level, ** Significant at the .01 level.

(b) All models are estimated using OLS and are unweighted. Dependent variable is number of months on aid during entire NLSY panel.

References

ACT (2000). "College Dropout Rate Improves, But Graduation Rate Falls." News Release, February 16, 2000.

Barrett, Garry F. (2000). "The Effect of Educational Attainment on Welfare Dependence: Evidence from Canada." *Journal of Public Economics* 77(2000): 209-232.

Blank, Rebecca M. (1989). "Analyzing the Length of Welfare Spells." *Journal of Public Economics* 39(1989): 245-273.

Butler, Sandra S. and Luisa Deprez. (2002). "Something Worth Fighting For: Higher Education for Women on Welfare." *Affilia* 17(1): 30-54.

Cox, Kenya L. C. and William E. Spriggs. (2002). "Negative Effects of TANF on College Enrollment." Washington, D.C.: National Urban League Institute for Opportunity and Equality. Available online at http://www.nul.org/departments/inst_opp_equality/reports_statistics.html. Last accessed June 9, 2003.

Fremstad, Shawn, Zoë Neuberger, Sharon Parrott, Nisha Patel, Steve Savner, Mark Greenberg, and Vicki Turetsky. 2002. "Summary Comparison of TANF Reauthorization Provisions: Bills Passed by Senate Finance Committee and the House of Representatives, and Related Proposals." Washington, DC: Center on Budget and Policy Priorities and Center for Law and Social Policy. Available online at http://www.centeronbudget.org/7-2-02tanf.pdf. Last accessed June 11, 2003.

Friedman, Pamela. 2001. "TANF Reauthorization and Postsecondary Education Options for Welfare Recipients." *TANF Reauthorization Resource, Reauthorization Notes* 1(3). Available online at http://www.welfareinfo.org/tanfreauth-postsecedureauthorization.htm. Last accessed June 9, 2003.

Gittell, Marilyn, Jill Gross, and Jennifer Holdaway. (1993). "Building Human Capital: The Impact of Postsecondary Education on AFDC Recipients in Five States." The Graduate School and University Center, City University of New York.

Golonka, Susan and Lisa Matus-Grossman. (2001). Opening doors: expanding educational opportunities for low-income workers. New York, NY: Manpower Demonstration Research Corporation.

Greenberg, Mark, Julie Strawn, and Lisa Plimpton. (2000). "State Opportunities to Provide Access to Postsecondary Education Under TANF." Washington, DC: Center for Law and Social Policy.

Hollenbeck, Kevin and Jean Kimmel. 2002. "The Role of Postsecondary Education in Welfare Reform: Ohio's JOBS Student Retention Program." *Evaluation Review* 26(6): 618-644.

Jacobs, Jerry A. and Sarah Winslow. 2003. "Welfare Reform and Enrollment in Postsecondary Education." *The Annals of the American Academy of Political and Social Science* 586(1): 194-217.

Kane, Thomas and Cecilia Rouse. (1995). "Labor-market returns to two-and four-year college," *American Economic Review,* 85(3): 600-614.

Karier, Thomas. (2000). "Welfare College Students: Measuring the Impact of Welfare Reform." *Jerome Levy Economics Institute Policy Notes,* 2000(3).

_____. (1998). "Welfare Graduates: College and Financial Independence." *Jerome Levy Economics Institute Policy Notes,* 1998(1).

London, Rebecca A. (2004). "The Role of Postsecondary Education in Welfare Recipients' Paths to Self-Sufficiency," Center for Justice, Tolerance, and Community Working Paper, University of California Santa Cruz.

Magnuson, Katherine A. and Sharon M. McGroder. (2002). "The Effect of Increasing Welfare Mothers' Education on their Young Children's Academic Problems and School Readiness." Joint Center for Poverty Research Working Paper 2002-280.

Michalopoulos, Charles and Christine Schwartz. (2000) *National Evaluation of Welfare-to-Work Strategies What Works Best for Whom: Impacts of 20 Welfare-to-Work Programs by Subgroup*. New York, NY: Manpower Demonstration Research Corporation.

Thompson, Joanne J. (1993). "Women, Welfare, and College: The Impact of Higher Education on Economic Well-Being." *Affilia* 8(4): 425-441.

Notes

[1] Dummy variables for number of schools in the county are grouped as follows: 0, 1-3, 4-9, 10-14, 15-19, 20-49, 50-99, 100-199, 200-299, and 300 or more. Other groupings were tested in the analyses with very similar results.

[2] If the respondent reports receiving a degree within three months of welfare spell completion she is counted as completing her degree and her welfare spell simultaneously.

[3] Women who face certain barriers to self-sufficiency, such as mental health, substance abuse, or domestic violence problems, may in some cases have their time limit exempted or extended.