Economic Well-being of Single Mothers: Work First or Postsecondary Education?

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This article investigates the relationship between single mothers' education and their economic well-being. Through the analysis of the 1993 Panel Study of Income Dynamics (PSID) data, we examine the effect of education on a sample of White and African American single mothers. The results indicate that past work experience is a weak predictor of current economic well-being. Having education, particularly postsecondary education, on the other hand, significantly improves their economic status. The results challenge the "work-first" approach to alleviating poverty and provide more support for designing policies to develop human capital.

Key words: *postsecondary education, welfare reform, single mothers, economic well-being*

American family structure has changed in the past four decades due to a rise in the divorce rate and a rise in never married women with children. Mother-only families have become increasingly common. In 1960, non-married women headed about 9 percent of families with children; by 1999 the number was over 20 percent (U.S. Bureau of the Census, 1961, 2000). In the meantime, female-headed households consistently comprised a large proportion of poor households. Throughout the 1980s and 1990s, female-headed families with children were five times more likely to be poor than two-parent families with children (Furstenberg,

1990; Garfinkel & McLanahan, 1986; Nichols-Casebolt & Krysik, 1997; U.S. Bureau of the Census, 2001). In 2000, 35.1 percent of female-headed families with children under 18 lived in poverty, compared with 6.9 percent of married-couples with children un-der 18. In the same year, female-headed households with children under 18 comprised 52 percent of all poor households with chil-dren under 18 (U.S. Bureau of the Census, 2001).

Given the rise of single-mother families, it is important to ex-amine factors that contribute to the economic well-being of these families. Studies indicate that reasons for the low economic well-being of female-headed households include low earning capacity of single mothers, low job opportunity in the neighborhoods where they reside, inadequate enforcement of child support, and meager public benefits (McLanahan & Booth, 1989; McLanahan & Sandefur, 1994; Nichols-Casebolt & Krysik, 1997; Rocha, 1997). A less often cited factor, but probably one of the most important to the economic well-being, is the low level of human capital, especially the lack of higher education, of single mothers. For a married woman living with her husband, her lower level of educational attainment and earning may not be a problem since there is a spouse to help provide for the incomes of the family; however, her earning alone become insufficient in single-mother families (Mauldin & Koonce, 1990). The work requirements and time limits of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 have further reduced op-tions for poor women's postsecondary education (U.S. Congress, 1996). The PROWRA emphasizes "work first" strategy and allows women only up to 12 months of vocational training while on welfare. It is important to understand the role of postsecondary education on women's economic status and its role in comparison to work experiences.

Much of the past research has compared economic status of female-headed families with married families. For example, much attention has been given to the high poverty rates in female-headed households and the negative economic consequences of divorce on women and their children. These studies did not pay much attention to the within-group variations of female-headed households (Richards & Schmiege, 1993). To examine the varia-tion of economic well-being within similar types of households

is helpful in locating strengths some female-headed families may have to buffer the risk of poverty and other vulnerabilities. If there are strengths within this group of families, future policy can either replicate or target the strengths to mitigate vulnerability among these families.

This study aims to examine the relationship between mothers' education and the economic well-being in female-headed households. It also compares the roles of postsecondary education and work experience in the economic status of single mothers. Specifically, there are three main questions examined in this study: 1) How does single mothers' educational attainment affect their economic well-being? What is the role of employment-related factors? 2) Does education have the same or different patterns of influence on White and African American single mothers? 3) Are single mothers with postsecondary education economically better off compared to those without postsecondary education?

Literature Review

As mentioned, while it is well documented that female-headed families are more likely to experience poverty, fewer studies have analyzed various factors that might augment or diminish the negative effects on the economic status of single mothers. With a few exceptions (Nichols-Casebolt & Krysik, 1997; Rocha, 1997), these studies have focused on divorced women, and they suggested that several resources and characteristics might enhance a single mothers' ability to provide financially for her family.

Factors of human capital

Human capital theory implies that investment in human capital can raise future returns in the labor market even though it may entail opportunity costs in forgone short-term earnings (Becker, 1993; Mincer, 1979, 1989; Schultz, 1993). Human capital usually refers to education, work experience, and on-the-job training. According to human capital theory, education is associated with single mothers' economic well-being in two ways. First, higher educated women have higher earnings and occupational status (Bernhardt & Dresser, 2002; Blau, 1998; Thompson, 1993; U.S. Department of Labor, 1997). The wage gap between workers with college degrees and those without college degrees has widened

in recent years (Amott, 1994; Mishel, Bernstein & Schmitt, 1996). It is well known that real income has declined since 1980 for all demographic groups except college graduates (Farley, 1996). A majority of women without postsecondary education work at jobs that pay a lower wage and/or offer fewer benefits after they leave welfare (Cancian, 2001; Pandey, Zhan, Neely-Barnes, & Menon, 2000; Strawn, 1998). Second, educated women generally tend to marry educated men. Therefore, upon divorce or separation, educated women's former spouses tend to provide more in child support and alimony and upon becoming widows these women tend to receive more financial resources from their marriage compared to less educated women (Mauldin & Koonce, 1990). Human capital theory also implies that work experience and on-the-job training are positively related to earnings (Mincer, 1962; Mincer & Polachek, 1974).

Empirical studies consistently indicate that educational attainment, especially post-secondary education, positively affects the economic well-being of single mothers (Bae, Choy, Geddes, Sable, & Snyder, 2000; Dixon & Rettig, 1994; Katz, 1991; Mauldin, 1990, 1991; Mauldin & Koonce, 1990; Rocha, 1997; Smock, 1993, 1994). For example, Bae et al. (2000) examined data between 1970 and 1997 and documented that annual median incomes were substantially higher for women with postsecondary education compared to those without it. Mauldin and Koonce (1990) estimated the per capita income of divorced or separated single mothers, and found that compared to women with less than 8 years of education, those with a Bachelor's degree had higher incomes, for both White and African American women. Similarly, Dixon and Rettig (1994) suggested that single mothers with a college degree were more likely to find employment and earn above poverty income after divorce. A study tracing the poverty status and welfare use of those who had exited from Aid to Families with Dependent Children (AFDC) concluded that women with higher earning potential, especially with higher education, achieved higher levels of economic success (Meyer & Cancian, 1998). Another longitudinal study of former welfare recipients also concluded that those who had postsecondary education were significantly less likely to return to welfare compared to those who have not completed a high school degree (Harris, 1996).

Studies consistently found that employed single mothers and those with more work hours had higher incomes (Dixon & Rettig, 1994; Mauldin, 1990; Morgan, 1989; Smock, 1993, 1994). The findings on the impact of single mothers' prior work history were mixed. Some studies showed that divorced women who had worked more years or worked full-time prior to divorce experienced less economic hardship (Bianchi, Subaiya, & Kahn, 1999; Mauldin & Koonce, 1990). Some other studies did not find statistically significant effects of single mothers' work experience on their economic well-being (Dixon & Rettig, 1994; Mauldin, 1990; Smock, 1993, 1994). Findings on the effects of job training are also mixed (Mauldin, 1990; Mauldin & Koonce, 1990).

In sum, human capital investment in women, especially in the form of education, is a strong and consistent predictor of their economic status. The strength of this relationship between women's higher education and their economic status is important to understand as more and more families are headed by women with children.

Factors of non-human capital

In addition to the factors related to human capital, studies have also examined the role of some demographic factors in single mothers' economic status. These factors include women's age, race, marital status, the presence of children, and other adults living in households. Studies found that African American single mothers were economically worse off than their White counterparts, after controlling for other demographic characteristics (Mauldin, 1990, 1991; Morgan, 1989; Smock, 1993). Studies also found that older single mothers were economically better off than younger single mothers (Dixon & Rettig, 1994; Rocha, 1997), and previously married single mothers were better off than never married single mothers (Nichols-Casebolt & Krysik, 1997). Number of children and the presence of young children had negative effects on the economic status of single-mother families (Buehler, Hogan, Robinson, & Levy, 1985; Mauldin, 1991; Mauldin & Koonce, 1990; Morgan, 1989). This implies that the presence of children, especially young children, may limit a woman's ability to participate in the labor force, especially if affordable and quality childcare is unavailable, thus reducing her earning potential.

The presence of other adults in the household might strain a family financially, while at the same time, these adults could contribute income to the household or help the family indirectly by providing childcare. Furthermore, depending on the other adults' health, earning ability, and relationship with the mother and children, they might contribute to the household differentially. Several empirical studies (Smock, 1993, 1994; Sandfort & Hill, 1996) found that single mothers living with at least one parent or other family members fared better those living by themselves. Further studies in this area may help elaborate the impact of other adults in the economic status of single mothers.

Gaps of the current literature

There are several gaps in the literature that examines the factors contributing to the economic well-being of single mothers. First, although education was included as a variable in some of these studies, the specific role of postsecondary education has been sparsely examined. With the passage of PRWORA in 1996, the federal government drastically limited postsecondary education opportunities for low-income women with children. The legislation implies that investment in postsecondary education of poor women with children is not worth the cost. Therefore, it is worthwhile to accurately address the benefits of investing in postsecondary education of poor women. Second, existing research has either focused on White women only or has included race/ethnicity as a control variable; no study, however, has specifically examined whether or not post-secondary education has differential impact on economic well-being of White and African American single mothers. Third, with a few exceptions, most of the current studies have examined the economic status of divorced or separated women but left out the single mothers who were never married. Never-married mothers are a rapidly growing demographic group (Mauldin, 1990; Nichols-Casebolt & Krysik, 1997; Rawlings & Saluter, 1994). Therefore, the economic well-being of never-married single mothers also needs to be examined. Finally, another difference between the present study and earlier research is that we examine the effect of education on different sources of income of female-headed households instead of total household income, per capita income or income-to-needs

ratio. Because certain sources of income receive wider public approval than others, we think it is more accurate to examine the relationship between education and different types of income. In sum, the goal of our study is to highlight the effect of single mothers' education, especially their postsecondary education, on their economic well-being by race.

Data and Methodology

The data for this study come from the 1993 Panel Study of Income Dynamics (PSID), conducted by the Survey Research Center at the University of Michigan. The PSID is an ongoing national survey following 5,000 American families since 1968. From this data we extracted all the female heads of household who were unmarried, 64 years old or younger in 1993, and had at least one dependent child under 18 years old living in the household. Those who were disabled or received Social Security Income in 1992 were deleted from the sample. The final sample included 1097 women.

The dependent variables in this study, which measure the economic well-being of the women, include labor income, asset income, house value, welfare income, income received from relatives and non-relatives, and child support per child. These income sources are measured as the dollar amounts the head of household received in 1992. Labor income includes women's labor related income from farm, business, marketing of products from gardening, roomers and boarders, wages from main or extra jobs, and other job-related income. In this study, sources of asset income include income from investment in the form of profit and dividend, interest from savings and trust funds. Welfare income includes Supplemental Security Income (SSI), Food Stamps, income from AFDC, and other welfare income.

Control variables include demographic and employment-related variables. The demographic variables include women's age, race, marital status, number of adults, and number of children under 18 living in household. Age of youngest child was also included. Because only three percent of the women in the sample were widowed, marital status of women was dummy coded into two groups: the women who were never married is

the reference group and coded as 0 and those who were previously married (divorced, separated, or widowed) were coded as 1. Race is also dummy coded (White and African American), and White is the reference group in the regression analyses. Four employment related variables are included in this study: employment status of women in 1992 (employed=1, not employed=0), their total work hours in 1992, and the ratio of the years they had worked full-time or part-time out of the possible years they could work.[1] We also included county unemployment rate as a proxy to control for the effects of neighborhood characteristics on economic well-being of its residents.

The independent variable is respondents' educational attainment. As mentioned, we are particularly interested in understanding how postsecondary education plays out in alleviating poverty among single mothers. Therefore, we created a new nominal level education variable with three categories: less than high school degree (less than 12 years of education), high school degree (12 years of education), and some postsecondary education (more than 12 years of education). In multiple regressions, this variable has been dummy coded, and less than high school degree is a reference group.

Three types of statistical analyses were conducted. First, descriptive analyses were conducted to derive the descriptive information about the sample. Second, analysis of variance (ANOVA) was used to compare the mean differences of all dependent variables across three different educational groups. Finally, several hierarchical multiple regression models were used in which each of these dependent variables was regressed on control variables and then on the educational attainment. Results of our analyses are presented for all women, White women and African American women.

Results

A demographic profile, employment related information and different sources of income of the sample by race are given in Table 1. The average age of the women was 34. More than half of the single mothers were African American (54%), and previously married (59%). African American mothers were more likely to

Table 1

Demographic characteristics

Variables	Full sample		White women		African American women	
Continuous Variables	*Mean*	*N*	*Mean*	*N*	*Mean*	*N*
Age	34	1097	35	377	34	576
Family size	3.4	1097	3.2	377	3.4	576
Number of adults	1.3	1097	1.4	377	1.3	576
Number of children under 18	2.05	1097	1.9	377	2.1	576
Age of youngest children	7	1097	7.6	377	6.6	576
Years of education	11.7	1051	11.8	366	11.9	559
Total work hours	1,134	1097	1,213	377	1,122	576
Ratio of yr full-time worked	.39	1046	.47	359	.36	552
Ratio of yr part-time worked	.10	1013	.10	354	.09	537
County unemployment rate	8	1090	8.1	373	7.7	574
Total labor income ($)	10,466	1097	12,276	377	9,771	576
Total income from assets ($)	76.5	1097	73.1	377	95.4	576
House value ($)	15,533	1097	26,777	377	8,197	576
Total welfare income ($)	2,517	1097	2,155	377	2,491	576
Support Income ($)	242	1097	214	377	220	576
Child support per child ($)	555	1097	1,032	377	305	576

be never married. Compared to White single mothers, African American mothers had slightly more children and less adults living in households, and tended to have younger children. Further analyses indicated that among women who had other adults living with them (26%), most of these adults were their parents (47%) and siblings (39%).

The average years of completed education of the women was 12, and 28% of them had postsecondary education. The average year of education of African American women is similar to that of White women, but lower proportions of African American women obtained postsecondary education. Fifty-eight percent

Table 1
continued

Variables	Full sample		White women		African American women	
Categorical Variables	*Percent*	*N*	*Percent*	*N*	*Percent*	*N*
Race						
White	35	377	Not		Not	
African American	54	576	applicable		applicable	
Others	11	121				
Marital status						
Never Married	41	447	19	74	54	312
Divorced or Separated	56	617	77	291	44	251
Widowed	3	33	3	12	2	13
Employment Status						
Working now	58	639	66	249	55	318
Laid off /Looking for job	17	190	10	39	22	127
Retired	1	8	0	0	1	7
Keeping house	18	198	18	66	16	93
Student	6	62	6	23	5	31
Educational Status						
Less than High School	36	374	35	127	32	178
High School Graduates	37	386	32	118	42	237
Postsecondary education	28	291	33	121	26	144

of single mothers were employed at the time of interview, the average ratio of the years they had worked full-time and part-time were 39% and 10%, respectively. Compared to White mothers, lower proportions of African American mothers were employed in 1993, and they also had lower full-time employment years.

Table 1 also indicates that White women were economically better off than African American women. Specifically, White women had more labor income, and higher house values, and received less welfare income. White women also received more child support per child. White women and African American women received similar amount of income from the relatives and

the non-relatives. Interestingly, African American women had higher assets income than White women, although both groups of women had very small amounts of assets income.

Further analyses indicated that 73% of the women had labor income, and about 50% received welfare income. Twenty-three percent of the women owned their house, and less than 8% of the sample had asset income. A majority of the women who had houses and assets income were previously married. Only twenty-eight percent of the women received child support. Finally, about 17% of the respondents received financial support from relatives or non-relatives; among them, 54% were African American, and 63% were previously married.

Results from Analysis of Variance

A comparison of mean incomes by the three educational groups is presented in Table 2. The results indicate that the women's average labor income, house values, welfare income, and child support per child varied significantly by educational attainment. For the full sample, the respondents with post-secondary education had significantly higher labor income, house values, child support, and significantly lower welfare income than the respondents with less than a high school degree or with a high school degree. The respondents with a high school degree also had significantly higher labor income, house values, child support and lower welfare income than the respondents with less than a high school degree. The women with higher educational levels were also more likely to be employed at the time of interview and worked more years out of their possible employment years, both part-time and full-time (see Table 2).

White and African American women maintained similar outcomes across the three different educational groups to those found in the full sample (see Table 2). For both White and African American women, there was a significant difference across the three different educational groups in labor income, house values, child support, and welfare income. Thus, post-secondary education plays an important role in boosting both White and African American single mothers' economic well-being and reducing their reliance on welfare income. In terms of the financial support from relatives and non-relatives, for the White women,

Table 2

Analysis of Variance and Chi-Square tests assessing effects of education on different types of income

Dependent Variables	Less than High School	High School Graduates	Post secondary Education	F Values χ^2
Full Sample	n=374	n=386	n=291	
Labor Income ($)	4,808	10,276	17,821	115.4***
Assets Income ($)	13	41.8	214.8	1.53
House Value ($)	6,797	14,672	27,356	21.3***
Welfare Income ($)	4,189	1,949	1,045	87.7***
Support Income ($)	163	289	298	.79
Child support per child	235	564	1001	22.7***
Ratio of yr full-time employed	.28	.43	.52	53.95***
Ratio of yr parttime employed	.08	.09	.13	6.89**
% currently employed	39	60	80	111***
White women	n=127	n=118	n=121	
Labor Income ($)	5,840	12,321	19,349	35.14***
Assets Income ($)	33.5	104.3	90.8	.73
House Values ($)	8,391	27,283	46,733	15.75***
Welfare Income ($)	3,800	1,551	899	30.1***
Support Income ($)	133	73	423	4.62*
Child Support per child	491	1,096	1,578	10.8**
Ratio of yrs full-time employed	.38	.52	.54	9.89***
Ratio of yrs part-time employed	.07	.09	.14	7.02**
% currently employed	46	70	85	44.0***
African American women	n=178	n=237	n=144	
Labor Income ($)	4,210	9,404	16,899	66.04***
Assets Income ($)	.1	16.2	354.7	1.43
House Value ($)	2,947	9,565	12,611	5.9**
Welfare Income ($)	4,074	2,148	1,099	41.84***
Support Income ($)	147	342	129	0.89
Child Support per child	76	351	533	8.5***
Ratio of yrs full-time employed	.22	.39	.51	39.5***
Ratio of yrs part-time employed	.08	.09	.12	2.3
% currently employed	34	56	78	61.3***

*p < .05; **P < .01; ***P < .001.

those with post-secondary education received significantly more income support from the relatives and non-relatives than those without a college education. For African American women the trend was reversed, with those having a college degree receiving the least from relatives and non-relatives.

Results from regression analyses

To follow up on the results from descriptive analysis and analysis of variance, hierarchical regression analyses were conducted. Before conducting regression analyses, however, regression diagnostics were conducted. We did not include assets income in multiple regression analyses because only 7.6% of the sample had assets income. In addition, this variable was not significantly related with education in bivariate analyses. All other five dependent variables, labor income, house values, welfare income, child support, and support income from relatives and non-relatives, had outliers. The five variables were log transformed but the regression results were very similar to the models without transformation. Therefore, we kept the original models. Each source of income was regressed on the independent variables by race. The results are presented in Tables 3, 4 and 5, for all women, White women and African American women, respectively. Educational status was entered last into the regression to assess the independent effects of women's education after controlling for control variables in the regression.

Full model (with all women included). First, dependent variables were regressed on the control variables. These control variables together explained 53% of the variance in labor income, 12% in house values, 51% in welfare income, 12% in child support, and 2% in income support from relatives and non-relatives.

Next, the independent variable education was added into these models (see Table 3). When the education variable was entered, the R^2 did not change for support income ($R^2=.02$). However, the R^2 increased by 6% (from 53% to 56%) in labor income, 17% (from 12% to 14%) in house values, 2% (from 51% to 52%) in welfare income, and 17% (from 12% to 14%) in child support.

The results indicate that older women had higher house values and received more welfare income. Compared to women who

Table 3

Regression coefficeints (unstandardized) for demographic, employment and education related factors affecting labor income, house values, welfare income, child support per child and financial support from relatives and non-relatives: All women

Independent Variables	Labor Income	House Values	Welfare Income	Child Support	Support Income
Age	37	531*	31.8**	7.5	-7.5
(Never married)					
Previously married (divorced, separated or widowed)	371	2,542	-615**	N.A.	276*
(White)					
African American	-371	-12,282***	-449**	-604***	45.9
Number of adults	292	8,452***	-264*	-111	-24.1
Number of children under 18	-327	2,629*	826***	N.A.	10.1
Age of youngest child	137*	446	-15.9	34.3***	17.9
Employed in 1992	2,877***	-2,633	-1,173***	237*	278*
Ratio of yrs full-time employed	2,127*	5,316	-1,271***	12.5	-83.7
Ratio of yrs part-time employed	-900	8,685	-1,063*	-292	231.6
Working hours in 1992	6.3***	4.7**	-1.13**	-.03	-.20**
County unemployment rate	20.7	-350	135***	-62.4***	1.2
(Less than high school)					
High school graduates	742	8,811**	-603*	237*	162
Post-secondary education	5,496***	16,292***	-733**	605***	88
Model information	$F=93.1$***	$F=12.3$***	$F=81.8$	$F=14.1$***	$F=1.45$
	$R^2=.56$	$R^2=.14$	$R^2=.52$	$R^2=.14$	$R^2=.02$
	$N=982$	$N=982$	$N=982$	$N=982$	$N=982$

*$p < .05$; **$p < .01$; ***$p < .001$. N.A. = not applicable.

were never married, those who were previously married received less welfare income but got more financial support from relatives and non-relatives. White women had higher house values, received more child support and welfare income compared to African American women, after controlling for other variables in the model. Number of children and other adults were both positively related to higher house values. Women with more children received more welfare income, but those with more other adults in households received less welfare income.

Employment status at the time of the interview is a significant predictor of women's economic well-being. Compared with the women who were not employed in 1992, those who were employed had higher labor income, received more child support, more financial support from relatives and non-relatives, and less welfare income. Similarly, those who were working more hours had higher labor income and house values, and also received less welfare income. Women's work history, particularly number of years worked part-time, had weaker impact on women's economic status. Number of years worked full-time is positively related to women's current labor income and negatively related to current welfare income. Past part-time work experience, however, is only negatively related to their welfare income.

The level of education, especially post-secondary education, had significant effects on women's labor income, house values, welfare income, and child support per child, after their demographic characteristics and employment-related variables were controlled. Compared to women without a high school degree, those with a high school degree had higher house values and child support, and less welfare income; and those with post-secondary education had much higher house values and child support, and much lower welfare income. Those with postsecondary education also had significantly higher labor income compared with those without a high school degree. In 1992, women with post-secondary education had $5,496 more in labor income and $605 more in child support compared to the ones without a high school degree. Similarly, women with postsecondary education had $16,292 more in their house values compared to the ones without a high school degree. At the same time, women with

postsecondary education received $733 less in welfare compared to those without a high school degree.

White women. Similar to the full sample, White women with higher levels of education had significantly more labor income, house values, child support, and less welfare income, after controlling for other variables in the model. Women with higher education also received more support income. Compared to women with less than a high school degree, those with a high school education had homes worth $18,060 more and those with a college education had homes worth $30,686 more. At the same time, the women with a high school education received $653 less in welfare income and those with a college education received $870 less in welfare income compared to those without a high school degree. White women with a college education had significantly higher labor income ($5,014) and received more child support ($818) and support income ($331) compared to their counterparts without a high school degree.

African American Women. Similar to White women, postsecondary education had significantly positive effects on African American women's labor income, child support and welfare income. Compared with those without a high school degree, those with postsecondary education had more labor income. They also received more child support and less welfare income. For example, compared to those without a high school degree, African American women with postsecondary education had $5,734 more in labor income and received $309 more child support per child. Women with postsecondary education also received $565 less in welfare income compared to those without a high school degree. Those with a high school degree received significantly less welfare income compared to those without a high school degree, but there were no significant differences in terms of their labor income and child support income compared to those without a high school degree.

Discussion

This study examines the economic well-being of single mothers and related factors. The findings shed new lights in understanding factors that contribute to the economic status of

Table 4

Regression coefficients (unstandardized) for demographic, employment and education related factors affecting labor income, house values, welfare income, child support per child and financial support from relatives and non-relatives: White women

Independent Variables	Labor Income	House Values	Welfare Income	Child Support	Support Income
Age	128	1,010*	-3.9	11.8	-2.5
(Never married)					
Previously married (divorced, separated or widowed)	-1,596	-6,759	.07	N.A.	278
Number of adults	291	12,795**	-412*	-120	-101
Number of children under 18	-293	7,572*	479**	N.A.	-38
Age of youngest child	150	903	-30	57.1*	-7.03
Employed in 1992	2,639*	624	-2,042***	472	-34.7
Ratio of yrs full-time employed	4,729*	10,535	-1,503**	-66	-372
Ratio of yr part-time employed	2,949	30,563	-1,119	-438	194
Working hours in 1992	6.9***	7.4*	-.10***	-.08	-.06
County unemployment rate	-273	160	173**	-134**	-13.1
(Less than high school)					
High school graduates	367	18,060*	-653*	288	-32.2
Post-secondary education	5,014***	30,686***	-870*	818**	331*
Model information	F=29.2***	F=6**	F=32***	F=5.5***	F=1.7
	R^2=.52	R^2=.18	R^2=.54	R^2=.14	R^2=.06
	N=341	N=341	N=341	N=341	N=341

$*p < .05$; $**p < .01$; $***p < .001$. N.A. = not applicable.

Table 5

Regression coefficeints (unstandardized) for demographic, employment and education related factors affecting labor income, house values, welfare income, child support per child and financial support from relatives and non-relatives: African American women

Independent Variables	Labor Income	House Values	Welfare Income	Child Support	Support Income
Age	3.7	249	45**	-4.05	-11.2
(Never married)					
Previously married (divorced, separated or widowed)	1,091	5,424*	-890**	N.A.	269
Number of adults	243	2,786	-132	-21.4	122
Number of children under 18	-465	1,227	869***	N.A.	28
Age of youngest child	116	160	-15	30.9***	26
Employed in 1992	3,538***	-1,590	-719**	-28.9	410
Ratio of yr full-time employed	1,026	7,757	-1,073***	292*	-55
Ratio of yr part-time employed	-1,512	1,516	-1,019	-162	210
Working hours in 1992	5.5***	1.2	-1.1***	.03	-.30**
County unemployment rate	288*	-468	96.3*	-2.05	-19.3
(Less than high school)					
High school graduates	994	5,106	-553*	118	291
Post-secondary education	5,734***	6,144	-565*	309**	26
Model information	F=54.8***	F=3.51***	F=44.6***	F=5.6***	F=1.3
	R²=.56	R²=.08	R²=.51	R²=.10	R²=.03
	N=526	N=526	N=526	N=526	N=526

*p < .05; **p < .01; ***p < .001. N.A. = Not applicable.

single-mother families, and their differential effects on White and African American single mothers.

First, among demographic factors, marital status, number of children and number of other adults in the household, had varying effects on the economic well-being of single mothers across race. Previously married African American single mothers had significantly higher house values and received lower welfare income than those who were never married. This documents that never married African American single mothers fared worse than their previously-married counterparts, which is consistent with previous findings (Nichols & Krysik, 1997; U.S. Bureau of the Census, 1997). This may indicate that previously-married single mothers received financial resources from their previous marriages.

However, after controlling for other factors, there were no statistically significant differences in the economic status of never married and previously married White mothers. Additional analyses indicate that for both African American and White single mothers, previously married women were older, better educated, and had more years of work experience than never married ones. The differential effect of marital status on the economic well-being by race may be partly due to the sample size. Only 19% of White women in the sample were never married compared to 54% of African American women who were never married. Additional research is needed to examine how marital status affects the economic well-being of White and African American women after controlling for their educational attainment.

Number of children and number of adults in the household also had different effects on the economic well-being of White women and African American women. Number of children positively affected White women's house values, but it had no effect on the house values of African American women. Because a majority of the women who had houses were previously married, it is possible that house values were accumulated through divorce settlements and that African American men may have lower house values (Oliver & Shapiro, 1995). Number of adults in the household has positive effect on house values and negative effect on the welfare income of White women only. Further analysis indicated that a majority of other adults living in the households

of White women were their parents (65%), and for African American women, a majority of these adults included their siblings (46%) and parents (44%). Further studies are needed to examine how different living arrangements of single mothers affect their economic well-being, and if they influence the well being of White and African American women differently.

Second, it is worth mentioning that when effects of other variables were controlled, African American single mothers received less welfare income compared to their White counterparts (see Table 3). This finding is not surprising since the amount of cash assistance varies by states with Alabama paying the lowest amount in AFDC benefits and Alaska paying the highest amount. Ozawa (1991) documents that states that are poorer and have a higher concentration of African Americans provide lower AFDC payments than the states that are wealthier with higher concentration of Whites. Therefore, geographic variations may explain this finding.

Third, current employment status and work hours are significantly related to labor income and welfare income of both White and African-American women. The effect of previous work experience on current economic well-being, however, is weaker across the board. For example, for White women, previous full-time work experience was positively related to their labor income and negatively related to their current welfare income, but it had no significant effect on their house values and child support income. For African-American women, earlier full-time work experience was not related to their labor income. It is possible that many of these women were employed in jobs at the lower rungs of the economic ladder with little opportunity for advancement. Surprisingly, previous years of part-time work experience has no significant effect on the labor income of either White or African American single mothers. This finding challenges the assumption that the work-first approach will eventually improve the economic well-being of low-income single women.

Finally, educational status, especially postsecondary education, is positively related to various economic sources of both White and African American single mothers. Education strongly correlates with single mothers' labor income, child support income and welfare income. Postsecondary education has a very

strong effect on African American women's labor income. The average African American women with postsecondary education received $5,734 more in annual labor income compared to those without a high school degree (for White women, the difference was $5,014) (see Tables 4 &5). Postsecondary educational attainment has an effect on White women's house values but this relationship is not significant for African American women. This is possibly because the house values were relatively low across three different educational groups for African American women. Further research is needed to understand how education influences house values and other assets of African American single mothers. The impact of postsecondary education on White women's support income is statistically significant. Better-educated White women received more from their relatives and friends. This relationship, however, is not significant for African American women. Again, further studies examining financial support exchange patterns among White and African American single women will help elaborate on this issue.

In conclusion, never-married African American mothers, single mothers with young children, and those who were not working and had lower education levels are the most economically disadvantaged among all single mothers. The results of this study signify that the effect of postsecondary education in improving economic well-being of both White and African American single mothers is substantial. In comparison, the impact of women work history is weaker. The labor force attachment model emphasizing job search and immediate work participation became popular in the 1980s and 1990s (Freedman, Friedlander, & Riccio, 1993; Mead, 1986, 1998). It was seen as preferable over the human capital development model. The human capital development model, which encourages low-income women to participate in educational and training programs, was considered expensive and ineffective, whereas "the work-oriented model is generally preferable on grounds of both impact and cost" (Mead, 1998, p. 299). Welfare caseloads did in fact decline dramatically after the passage of PROWRA with its emphasis on work-first. However, studies examining the economic well being of welfare leavers indicate that the rate of poverty among low-income women with children continues to remain high and many are only one paycheck away

from losing their job and returning to welfare. Interestingly, of the women who have exited welfare, those with higher education are likely to earn significantly higher levels of income and are less likely to return to welfare. Our study further reinforces the need to invest in the education of women, particularly single women with children in order to help them improve their economic status.

Implications

The significant impact of single mothers' postsecondary education on their economic well-being has important implications for social welfare policy. The 1996 welfare policy changes have limited education and training options for poor women with children. The PRWORA allows women only up to 12 months of vocational training while on welfare. The strict work requirements and time limit are detrimental to welfare recipients who are attending college (Pandey, Zhan, Neely-Barnes, & Menon, 2000). As a result, since the passage of PRWORA in 1996, community colleges, universities and adult education programs have seen dramatic declines in enrollment among welfare recipients (Mathur, 1998; Schmidt, 1998). This legislation places the emphasis on immediate jobs for poor women but falls short of acknowledging the importance of investing in the education of poor women with children. The studies that evaluate welfare-to-work programs indicated these poor single mothers with low educational status are more likely to get low-wage jobs with few benefits, and these jobs do not necessarily benefit their family and children in the long-run (e.g., Bloom & Michalopoulos, 2001; Cancian, 2001; Carnevale & Desrochers, 1999). Our study also concludes that past part-time work experience has no significant effect on women's economic well-being and past full-time work experience has no significant effect on African American women's current labor income.

In general, college attendance among women has increased over the last three decades probably in response to their increasing need for financial independence. Today, women are more likely than men to complete college among Whites, Blacks, and Hispanics (Coley, 2001). A college degree is critical to exit poverty, especially for single women with children. Historically, many women have attended college while on welfare (Schmidt,

1998). We can substantially enhance their opportunities for post-secondary education with a minor change in the 1996 welfare legislation by treating participation in education as a form of employment. Another option would be to lift the 60 month lifetime limit while these women are attending college. In this way, the current federal and state benefits (including cash assistance, childcare and transportation) would continue while they are participating in education and training. Some states are already moving toward this goal (Pandey, Zhan, Neely-Barnes & Menon, 2000). For example, the state of Maine utilizes its maintenance of effort (MOE) dollars to support a "Parents as Scholars Program" that allows women on welfare to attend college and receive cash assistance and support services (Deprez & Butler, 2001). Allowing states to utilize federal dollars to support postsecondary education of women in their states will not require additional federal monies and will give more flexibility to the states to support real progress toward poverty reduction.

Note

1. These two variables were calculated in the following way: (actual years a woman part-time or full-time employed) / (possible years a woman could work). Possible years a woman could work equal her age minus 18. For example, if a 45-year old woman had worked full-time for 15 years, the average ratio she had worked full time is 15/(45–18)=.56. Hence, the possible range for these two variables is from 0 to 1, with 0 meaning a woman never worked after the age 18, and 1 indicating she worked every year after the age 18.

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