Soc Psychiat Epidemiol (2010) 45:77–87
DOI 10.1007/s00127-009-0044-2

ORIGINAL PAPER

The mental health benefits of work: do they apply to poor single mothers?

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Received: 6 February 2008 / Accepted: 13 March 2009 / Published online: 15 April 2009

Abstract
Background The relationship between employment and improved mental health is well documented. However, no research has examined whether this relationship applies to poor single mothers. Given recent changes in the labor market where poor women are disproportionately employed in unstable jobs, the competing demands of work and childcare may operate to prevent poor women from reaping the mental health benefits of employment. Understanding these connections has become more salient not just for mental health epidemiology but for policies targeting employment and poverty.
Methods This study draws on four waves of data from the Welfare Client Longitudinal Study. Generalized estimating equations are utilized to assess the role of current employment and employment continuity on the depression status of poor single mothers over time. Through a comparison of results drawn from a dichotomous categorization of current employment with results drawn from measures of employment continuity, this study is also able to assess whether it is employment per se or the characteristics of employment that matter.
Results Overall, the results from this study suggest that current employment improves the mental health of many poor single mothers. However, the circumstances most likely to improve their mental health are full-time or stable, longer term employment.
Conclusions The results from this study are of concern given that the lack of employment continuity is a growing trend in the U.S. labor market and poor women are disproportionately employed in these types of unstable jobs. These findings, thus, have wide-reaching implications for welfare policy as they provide an important and timely perspective in our understanding of the impact of the changing face of employment on poor women.

Keywords Mental health · Depression · Employment · Poverty · Women

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Introduction

A considerable body of research documents the relationship between employment and mental health [1–9]. In general, this longstanding literature provides strong evidence for a beneficial mental health effect of employment. Further studies have shown that reemployment reverses the negative effects of unemployment and restores the level of mental health that existed prior to the job loss [10–13]. These beneficial effects of employment status are associated with not only lower levels of depression but also greater life satisfaction and higher self-esteem [14].

The evidence, however, that mental health improves with employment among poor women is less clear [15–18]. In a 1991 study that followed general assistance (GA) recipients in Michigan who lost welfare benefits following the termination of the state's GA program, steady work was

positively associated with psychological well-being [16]. However, this sample included both men and women who were by and large living without dependent children in the household. Given the additional demands of child-rearing and the competing roles of breadwinner and caregiver, it is not clear if these findings would be similar for men and women with children in the household.

Other studies indicate that employment does not engender the same mental health benefits for single and married mothers. Baker and North found no evidence that work improves the mental health of single mothers [18]. These findings are consistent with other research that indicates transitions into work are associated with declines in psychological distress among married mothers while single mothers who entered employment received no mental health benefit [17]. Given that single mothers are more likely to be poor, these findings suggest that poverty and single motherhood may operate in tandem and that the additional stress women experience as a result of combining both work and family roles [19] may prevent them from reaping the mental health benefits of employment.

Furthermore, to a great extent, much of the longstanding literature surrounding the mental health advantages of employment is limited to dichotomous distinctions between employment and unemployment. Few studies have examined the multiple facets of employment circumstances. This is an important limitation in the literature that has gained relevance, particularly for poor women. Studies drawing on dichotomous measures of employment to examine the effect on mental health do not account for the fact that all work is not equal. More recent studies suggest that the relationship between mental health and employment is far more complex than dichotomous comparisons can illuminate. Irregular work schedules and part-time employment have been related to mental health problems [20, 21]. Less-than-optimal employment arrangements have also been associated with depression [22, 23]. These findings indicate the importance of accounting for a broader conceptualization of employment in understanding the relationship between employment and mental health.

Moreover, in recent years, the face of employment in the U.S. has changed substantially in such a way that a sizable number of jobs have been intentionally structured to last a limited period of time or for a limited number of hours per week. This facet of the changing labor market and the consequent lack of employment continuity and potential for instability may disproportionately affect poor women as they are more likely to be employed in sporadic, part-time jobs [22, 24, 25]. These emerging employment circumstances suggest that, for large numbers of workers, particularly poor women, income is neither predictable nor sufficient, and employment is not only unreliable, but also highly uncertain. Given that work is the major source of economic well-being and a principal source of identity for many individuals, the potential uncertainty represented by unstable and unpredictable work may constitute a significant source of stress. As a result, psychologically, characteristics of employment instability such as casual, part-time, short-term, and inconsistent work can be as damaging to mental health as unemployment [26].

Overall, while the relationship between employment and improved mental health is well documented, it remains unclear as to whether poor single mothers reap this benefit. Understanding the connections between employment circumstances and mental health among single mothers living in poverty has become more imperative given recent changes in the labor market. This is a particularly salient issue not only for psychiatric epidemiology but also for labor market and economic policies as well as for social policies that target employment and poverty.

This study seeks to better understand the longitudinal relationship between current employment and mental health among a sample of women in poverty. The objective of this study is to empirically investigate how characteristics of current employment influence the mental health of poor single mothers over time. The effects of a dichotomous categorization of current employment status as well as characteristics of employment that reflect job continuity are examined. Through a comparison of results from the dichotomous categorization of current employment with results from the characteristics of job continuity, this analysis is able to determine whether it is employment per se or the characteristics of employment stability that influence the mental health of poor mothers.

Methods

Study sample and data

This study draws on data from the Welfare Client Longitudinal Study (WCLS), an in-depth community-based case study of welfare recipients in a large Northern California county. While the WCLS is representative of only a segment of women in poverty, namely those with children seeking public aid, it may provide better sample coverage of poor households than many general population surveys which predominate in the literature given that the latter may under-represent the poor [27, 28]. Furthermore, by drawing on WCLS data where aid recipients were followed over a 4-year period of observation, this study is able to examine how employment circumstances unfold over time in relation to mental health. Moreover, the WCLS study county has been the setting for numerous published studies,

having served as a "community laboratory" for population-based research since the 1980s [29–32].

The WCLS includes a representative sample of the entire county population applying for and receiving cash aid, which consists of recipients of the federal Temporary Aid for Needy Families (TANF) program as well as recipients of locally-funded General Assistance (GA). At baseline in 2001, adult welfare applicants were systematically sampled, taking every "*n*th" welfare applicant, from the daily intake rosters at all seven of the study site's welfare offices. In-person interviews with selected participants took place either before or after the welfare intake interview and always preceded the final determination of acceptance onto aid. Welfare department records of study participants who provided informed consent were examined in order to document which applicants received aid and which did not. A sample of 1,786 applicants was eligible for the survey; 1,510 applicants were successfully interviewed, yielding a response rate of 85%.

Aid recipients in the baseline survey ($n = 955$) provided the sampling frame for the longitudinal arm of the WCLS. Due to the expense of following low-income populations, a sub-sample of 718 study participants was randomly selected to track and re-interview on a yearly basis. Attrition bias due to loss to follow-up is a potential source of bias in cohort studies [33] and the best method of eliminating this form of bias is by minimizing losses to follow-up. Through intensive fieldwork tracking efforts, the WCLS has been able to limit loss to follow-up and has maintained a response rate of $\sim$82% of baseline throughout follow-up. These intensive follow-up tracking efforts have provided for a less biased sample [34, 35]. Further, the overall refusal rate is below 2%, the mortality rate is 2%, and there is no evidence of marginalization or biased attrition on measures of depression or employment used in this analysis [35]. Because TANF recipients are exclusively mothers with dependent children who, under welfare reform, are required to seek work as a condition of receiving aid, the sample includes only women who received TANF benefits and who were selected for longitudinal follow-up ($n = 419$). Thus, GA recipients were excluded as were the very few men who received TANF. The sample is therefore representative of women who received federally-funded public aid.

Structured survey interviews were administered in English and Spanish by professional survey interviewers with comparable survey instruments at baseline and each wave of follow-up. At baseline, the hour-long interviews were conducted face-to-face in private places within welfare offices or in adjacent private locations. Special provisions were made to clearly distinguish interviewers from welfare department staff, to assure complete privacy during interviews, and to clarify that participation in the study was completely voluntary, had no bearing on the receipt of aid and that individuals could withdraw from the study at any time. All study participants provided informed consent and are protected by a federal Certificate of Confidentiality. A $40 honorarium was given to all study respondents for their participation.

At each wave of annual follow-up, participants were interviewed by telephone if possible, but those without phones or who could not otherwise be reached were interviewed in-person in a variety of private locations, including their homes, jails, prisons, treatment facilities, shelters, and even parks in cases where study participants were homeless. Study participants who were relocated after having missed a follow-up interview, <5% of the sample, were administered an expanded interview to obtain key missing data retrospectively.

Table 1 presents the baseline demographic characteristics of the sample and the bi-variate correlations. The women in the WCLS sample of TANF recipients are relatively young with an average age of 29 years. Most of the women are unmarried, single parents of a young child and of ethnic minority background. While two-thirds of the women have a high school education, only 10% were currently employed at welfare entry (For a further description of this sample, see [36, 37]).

Measures

In light of recent studies that indicate depression is a common mental health problem associated with lower rates of employment among poor single mothers [38–45], this study assesses mental health with a measure of current depression symptoms. The WCLS evaluated current depression utilizing the Brief Symptom Inventory (BSI) [46]. The BSI is a standard survey instrument for mental health screening and assessment consisting of 53-items profiling nine dimensions of psychopathology, including depression. The reliability and validity of the depression subscale has been found to be very good [47–49]. Scaling of depression symptoms was guided by Derogatis' standard protocol for case definitions. A "case" was defined following the recognized cut point protocol for depression (*t* score in the upper tenth percentile) as described by Derogatis [46]. A respondent was therefore classified with symptoms of depression if she was assessed as being above the cut point of the depression score range.

For purposes of this study, a range of independent variables reflecting characteristics of current employment is of interest. The WCLS obtained detailed information surrounding employment at each wave of data collection. At the baseline interview and each wave of follow-up, study participants provided their current employment

Table 1 Demographic characteristics and bi-variate correlations at baseline, 2001

Demographic characteristics	Unwtd. *n*	%	Correlations						
			Age	Race/ ethnicity	High school education	Married or cohabitating	3+ Children	Youngest child ≤3 years	Family support
Age (mean 28.9)			–	0.017	0.225**	0.232**	0.424**	–0.623**	–0.012
18–24	145	33.9							
25–34	163	38.7							
35+	108	27.4							
Race/ethnicity				–	0.029	–0.091	0.063	0.006	0.050
White	125	29.1							
Black	163	38.2							
Latina	77	19.0							
Other minority	54	13.7							
High school education					–	–0.069	–0.003	–0.199**	0.114*
Yes	280	69.6							
No	138	30.4							
Married or cohabitating						–	0.241	–0.095	–0.012
Yes	87	22.6							
No	332	77.4							
3+ Children							–	–0.174**	–0.079
Yes	142	33.7							
No	277	66.3							
Youngest child ≤3 years								–	0.024
Yes	254	60.5							
No	162	39.5							
Family support									–
Yes	186	45.0							
No	233	55.0							
Unweighted *n*	419								

Results are weighted for sampling design

* $P \leq 0.05$, ** $P \leq 0.01$

status. Study participants were classified as currently employed full-time if they worked 35 or more hours per week and currently employed part-time if they worked <35 h/ week. For some analyses, employment status was dichotomized into employed, including both full- and part-time workers, and unemployed. Individuals who indicated that they were unemployed, disabled, retired, homemakers, or students were classified as unemployed. Analyses surrounding employment characteristics representative of job continuity include the number of jobs held and the number of months employed during the past 12 months. The number of jobs held was classified into 0, 1, and 2 jobs held during the year. Surrounding the number of months employed, a continuous number of months employed during the year was used for some analyses and a categorical number of months employed (i.e., 0, 1–3, 4–6, 7–9, and 10–12) was used for analyses designed to assess a threshold effect.

The study analyses also include controls for a range of background demographic characteristics and other factors that are associated with employment and depression [4, 9, 50–55]. Demographic characteristics assessed include: maternal age, race/ethnicity, marital status, family size, age of youngest child, number of children in the household, education, income, and family support. Due to the limited variability of these characteristics over the study period, baseline characteristics were utilized in all analyses. Thus, changes in the characteristics were not included. Further, due to issues of collinearity among the demographic characteristics, only those that offered a meaningful or significant contribution to the relationship between employment and depression were included in the models presented. Among the characteristics that remained in the final models is family support which was defined as feeling close to three or more relatives. Other demographic

characteristics are self-explanatory (e.g. high school education, three or more children in the home).

Data analysis

This analysis explores the influence of current employment on depression over time as well as the impact of characteristics reflective of employment continuity. Drawing from four waves of data from the WCLS, the analysis begins with a simple assessment of rates of employment and depression over time, at baseline and each year of follow-up. Pearson chi-square tests are utilized to assess significant changes over the 4-year study period. The analysis proceeds with a series of generalized estimating equation (GEE) models that assess the longitudinal relationship between employment and depression over the observation period. Average effects of current employment are evaluated that collapse both the cross-sectional and the longitudinal influences into a single effect. Further models then tease apart the cross-sectional effects between subjects from longitudinal changes in employment within individuals. The analyses also examine the influence of type of current employment (i.e., full-time, part-time vs. unemployment), changes in employment status (i.e., obtaining a job) and factors related to employment continuity (i.e., number of jobs held during the year, number of months employed during the year). One of the clear benefits of a GEE approach to modeling is that the procedure does not discard cases with incomplete data. This allows for all participant data, including those participants who did not complete every wave of follow-up, to be included in the analyses. Statistical weights are utilized throughout the WCLS analyses to account for sampling design, non-response, and attrition.

Results

Rates of current employment and depression over time

Figure 1 presents the rates of employment and depression among TANF women at each wave of data collection. Overall, the graph shows that both rates of employment and depression changed significantly over time. The rate of employment rose steadily and substantially since baseline, in 2001, with most of the increase in employment occurring during the first year of follow-up, in 2002. With regard to depression, at both baseline and the first year of follow-up, over 20% of women reported symptoms of depression. It is not until the second year of follow-up, in 2003, that the rate of depression fell below 20%. No evidence of biased attrition over time among the depression and employment measures was found [35].

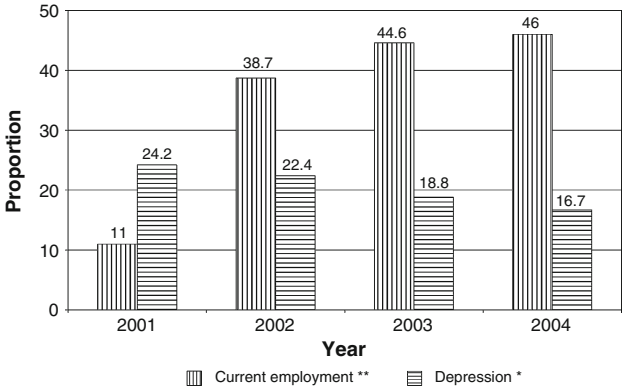

Fig. 1 Rates of depression and current employment over time. Results are weighted for sampling design and non-response. Statistical tests compare changes across study years where $*P < 0.05$ and $**P < 0.01$. Unweighted Ns: Baseline/2001: $N = 419$; 2002: $N = 367$; 2003: $N = 357$; 2004: $N = 340$

The longitudinal relationship between current employment and depression

In order to more fully assess the longitudinal relationship between employment and depression, the analysis turns to a multivariate repeated measures analysis that controls for the correlation between observations as well as the impact of baseline demographic characteristics. Table 2 presents the results from a GEE model examining the average association between current employment and depression over the 4-year study period. The results indicate that current employment is related to a reduced odds of depression. On average, the odds of depression among employed women are 27% less than the odds of depression among unemployed women. In addition, the odds of depression are improving with time (i.e. study year). With respect to demographic characteristics, Black women and those with family support have a reduced odds of depression, compared to white women and those without family support, while women with three or more children have an increased odds of depression. These results, however, collapse both the cross-sectional and longitudinal influences of work into a single effect.

Table 3 presents the GEE results that pull apart the cross-sectional effects *across* individuals from the longitudinal change effects of work *within* individuals. While not statistically significant at the 0.05 level, the cross-sectional effect of employment is modestly associated with a reduction in depression. Here, the odds of depression among women employed at baseline are, on average, 43% less than the odds of depression among unemployed women. With respect to the longitudinal effects of changes in employment within the individual, losing work during the follow-up period is associated with an increased odds

Table 2 Combined cross-sectional and longitudinal effects of employment on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.65	0.1397527	0.043	(0.42, 0.99)
Latina	0.84	0.2199327	0.497	(0.50, 1.40)
Other minority	0.82	0.2321939	0.484	(0.47, 1.43)
High school education	1.05	0.1983751	0.789	(0.73, 1.52)
3+ Children (vs. 0–2)	1.77	0.2502748	0.000	(1.34, 2.33)
Family support	0.56	0.1019065	0.001	(0.39, 0.80)
Study year	0.88	0.0454967	0.009	(0.79, 0.97)
Currently employed	0.73	0.0913638	0.011	(0.57, 0.93)

Results are weighted for sampling design and non-response

Wald χ^2, 8 df = 47.34, P = 0.0000

of depression, whereas obtaining work is associated with a borderline reduction in the odds of depression, as compared to women whose employment status did not change over time.

The longitudinal effects of work are further examined with an assessment of the differential impact of obtaining full-time and part-time work as compared to no change in employment status. As shown in Table 4 obtaining full-time work during the follow-up period is, on average, associated with a significant reduction in depression. The odds of depression among women who obtained full-time work are 29% less, on average, than the odds of depression among women whose employment status did not change. No relationship between part-time employment and depression was found.

The longitudinal relationship between characteristics of job continuity and depression

The analysis next turns to the influence of employment characteristics that are reflective of job continuity, i.e., the number of jobs held and the number of months employed during the year. As shown in Table 5, there is no significant relationship between the number jobs held during the year and depression.

There is, however, a significant relationship between the number of months of employment during the year and depression. The results presented in Table 6 show that, on average, as the number of months of employment increases, the odds of depression decreases, with a 3% reduction in the odds of depression for each month of employment, compared to unemployed women.

While the model presented in Table 6 assumes a linear relationship between the number of months of employment and depression, the results presented in Table 7 suggest a threshold relationship. Here, it is not until women are employed for 10 or more months during the year that employment is associated with a mental health benefit. No significant differences in the rates of depression among women who are employed for <10 months during the year, compared to unemployed women, were found.

Discussion

This study has examined the mental health consequences of employment over a 4-year period of observation among a representative sample of poor single mothers in a large California county. Given recent changes in the labor market and the consequent employment circumstances

Table 3 Separate cross-sectional and longitudinal effects of employment on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.64	0.1396357	0.043	(0.42, 0.99)
Latina	0.84	0.2232753	0.523	(0.50, 1.42)
Other minority	0.82	0.230496	0.470	(0.47, 1.42)
High school education	1.05	0.1984858	0.779	(0.73, 1.52)
3+ Children (vs. 0–2)	1.77	0.2500679	0.000	(1.34, 2.33)
Family support	0.56	0.1024354	0.002	(0.39, 0.80)
Study year	0.86	0.0479347	0.007	(0.77, 0.96)
Cross-sectional effects of employment				
Current employment, at baseline				
	0.57	0.1837793	0.082	(0.30, 1.07)
Longitudinal effects of changes in employment (vs. no change in employment)				
Obtained work	0.78	0.1130599	0.090	(0.59, 1.04)
Lost work	1.91	0.6175802	0.045	(1.01, 3.60)

Results are weighted for sampling design and non-response

Wald χ^2, 10 df = 48.20; P = 0.0000

Table 4 The effects of full-time and part-time work on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.64	0.1394297	0.042	(0.42, 0.98)
Latina	0.84	0.222192	0.505	(0.50, 1.41)
Other minority	0.81	0.2291638	0.455	(0.46, 1.41)
High school education	1.06	0.1988685	0.774	(0.73, 1.53)
3+ Children (vs. 0–2)	1.79	0.2536142	0.000	(1.35, 2.36)
Family support	0.57	0.1025705	0.002	(0.39, 0.80)
Study year	0.86	0.0479974	0.007	(0.77, 0.96)
Cross-sectional effects of employment				
Current employment, at baseline				
	0.57	0.1835944	0.081	(0.30, 1.07)
Longitudinal effects of changes in employment (vs. no change in employment)				
Obtained full-time work	0.71	0.1219654	0.049	(0.51, 1.00)
Obtained part-time work	0.88	0.1843994	0.538	(0.58, 1.33)
Lost work	1.91	0.6185065	0.045	(1.02, 3.61)

Results are weighted for sampling design and non-response

Wald χ^2, 11 df = 49.42; P = 0.0000

Table 5 The effect of number of jobs on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.66	0.1442424	0.058	(0.43, 1.01)
Latina	0.82	0.2199833	0.468	(0.49, 1.39)
Other minority	0.80	0.2278751	0.437	(0.46, 1.40)
High school education	1.04	0.1989439	0.820	(0.72, 1.52)
3+ Children (vs. 0–2)	1.75	0.2498767	0.000	(1.32, 2.31)
Family support	0.56	0.1019982	0.001	(0.39, 0.79)
Study year	0.83	0.0440573	0.000	(0.75, 0.92)
Number of jobs held during the year (vs. 0)				
1 job	0.90	0.1124487	0.380	(0.70, 1.15)
2 or more jobs	0.92	0.2252956	0.729	(0.57, 1.49)

Results are weighted for sampling design and non-response

Wald χ^2, 9 df = 44.43; P = 0.0000

Table 6 The effect of a continuous number of months employed on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.66	0.1445325	0.060	(0.43, 1.02)
Latina	0.83	0.2218682	0.487	(0.49, 1.40)
Other minority	0.82	0.2323717	0.482	(0.47, 1.43)
High school education	1.09	0.2112196	0.640	(0.75, 1.60)
3+ Children (vs. 0–2)	1.73	0.2477739	0.000	(1.31, 2.29)
Family support	0.55	0.1015448	0.001	(0.38, 0.79)
Study year	0.84	0.0429141	0.001	(0.76, 0.93)
Months employed (vs. 0, range 0–12)				
	0.97	0.0136511	0.021	(0.94, 1.00)

Results are weighted for sampling design and non-response

Wald χ^2, 8 df = 48.54; P = 0.0000

available to poor women, this analysis has examined the mental health impact of obtaining work as well as the impact of characteristics of employment that reflect job continuity. By comparing results drawn from a dichotomous categorization of current employment with results drawn from measures of employment continuity, this study has also been able to evaluate whether it is employment per se or the characteristics of employment that matter for poor mothers.

Factors associated with changes in depression over time

In bivariate analyses, depression problems appeared to diminish with time while rates of employment rose steadily. This finding is in keeping with the longstanding tradition of literature regarding the mental health benefits of employment. In multivariate models, evidence of factors associated with both an increase and a decrease in the odds of depression were found. Black women and those with family support were less likely to be depressed compared to white women and those without family support. However, women with large families were significantly more likely to report problems with depression. Notably, the salutogenic effects of family support on depression were larger than those of work.

Current employment and depression

After taking account of these factors, it was found that current employment was associated with a mental health

Table 7 The effect of a categorical number of months employed on depression

	Adj. OR	Semi-robust SE	*P* value	95% C.I.
Race/ethnicity (vs. white)				
Black	0.67	0.1455391	0.063	(0.43, 1.02)
Latina	0.82	0.2207639	0.466	(0.49, 1.39)
Other minority	0.81	0.2309265	0.469	(0.47, 1.42)
High school education	1.12	0.2165055	0.567	(0.76, 1.63)
3+ Children (vs. 0–2)	1.75	0.2535343	0.000	(1.32, 2.33)
Family support	0.54	0.1007879	0.001	(0.38, 0.78)
Study year	0.84	0.0435584	0.001	(0.76, 0.93)
Months employed (vs. 0)				
1–3 months	0.77	0.1353565	0.136	(0.54, 1.09)
4–6 months	0.88	0.175183	0.527	(0.60, 1.30)
7–9 months	0.97	0.1983743	0.890	(0.65, 1.45)
10–12 months	0.59	0.1022636	0.002	(0.42, 0.82)

Results are weighted for sampling design and non-response
Wald χ^2, 11 df = 54.90; P = 0.0000

advantage among poor single mothers. These results are consistent with the longstanding literature. Given that the economic circumstances among women who have left welfare for work generally do not improve with employment [56], these findings lend support to other research suggesting that the effect of employment on mental health may not operate via income [57, 58]. What is encouraging about this finding is that for poor single mothers who are depressed, employment may very well contribute to a decline in mental health problems. Furthermore, given the well-documented association between maternal and child depression [59–61], the findings could also have implications for child mental health.

This study also found evidence that not all employment operates in the same way. Obtaining part-time employment was not associated with a mental health advantage. Women who obtained less than full-time work were no better off than the women who remained unemployed. Only full-time work was related to a mental health benefit.

Job continuity and depression

With regard to employment characteristics reflective of job continuity, the findings were mixed. While the number of jobs held during the year had no relationship to depression, the number of months worked during the year did. Only employment during at least 10 out of 12 months was associated with a mental health advantage from employment. While other studies have found that factors related to job instability may influence psychological distress [20, 24, 62], this study suggests that it is not the number of jobs held, but the ability to gain and remain employed throughout much of the year that matters. This study provides further support for the notion that employment stability may have a role in mental health, particularly when considered in the context that most of the women in the sample who were employed during the previous year were employed at only one job and that among those who worked more than one job, few worked two or more jobs concurrently. These findings are of concern given that the lack of employment continuity is a growing trend in the U.S. labor market and sizable numbers of U.S. workers are employed in jobs that are intentionally structured to last a limited period of time or to provide limited hours of work [25]. It is worth noting, however, that no evidence of a further deterioration in mental health from part-time or unstable employment was found.

Methodological limitations

Although results from this longitudinal community-based survey cannot be generalized beyond the community of focus, the WCLS data offer a significant advantage in that they allow for a more detailed opportunity to better understand the mental health consequences of employment among poor single mothers within the county where jobs are most likely to be obtained. Furthermore, given that the WCLS has followed study participants annually for 4 years, more refined analyses can address issues such as time-ordering and changes over time. While the main objective of this study was to examine whether employment is beneficial or detrimental to the mental health of poor single mothers, issues of selection and causation mechanisms surrounding how employment is associated with depression are of concern. Given the purpose of the study, the longitudinal analyses did not directly address the temporal relationship between employment and depression. It is therefore important that the results be interpreted as associations over time rather than causally.

Although the WCLS is particularly well suited to the aims of this study, several important limitations should be noted. First, the WCLS sample is confined to cash aid recipients in a single county, which limits the generalizability of the results. The WCLS study county was specially selected not only for its large population size of nearly one million people but also for its representation of the full demographic diversity of the U.S. [63]. Rates of health problems and welfare experiences in this sample are roughly similar to other samples of comparable welfare populations, both at the national and local levels (for comparisons, see [63, 64]). Second, the sample is confined to poor women with children, the majority of whom are single parents. While the results from this study are not generalizable to all women in poverty, they are consistent

with other similar research among a general population sample of poor women [65].

Other limitations of this study concern the measures used and loss to follow-up. This study relies on a dependent variable of interest that does not provide for a clinical diagnosis of depression, but rather a measure of current symptoms. Symptom measures, however, are widely used [66–70] as they reflect a representative range of indicators for clinical illness and are associated with considerable limitations in functioning [71–73]. Furthermore, in general, all the BSI subscales have good reliability and validity, particularly the depression subscale [47–49].

The WCLS is also limited in its reliance on self-report data over a 12-month time frame. Although the reliability of retrospective self-report data on employment may be a cause for concern, the results from a validity study surrounding patterns of welfare receipt [74–76] suggest that measures of employment dynamics (i.e., number of months employed and number of jobs held) are fairly accurate.

Finally, attrition bias due to loss to follow-up is another potential limitation of the WCLS. As previously discussed, loss to follow-up is a major source of bias in cohort studies [33]. The best method of eliminating this form of bias is by minimizing losses to follow-up. Through intensive field-work tracking efforts, the WCLS has limited loss to follow-up and these intensive follow-up tracking efforts have provided for a less biased sample [34, 35].

Conclusion

The results from this study provide important insight not only into the epidemiology of depression among poor women but to welfare policy as well. With the advent of welfare reform, most welfare recipients are required to obtain work. Given that welfare reform is unfolding in a labor market context where broad trends in employment are being restructured that may disproportionately impact poor women, the results from this study provide a timely perspective in our understanding of the impact of employment on single mothers living in poverty.

As evidenced from this study, a welfare policy that favors women's employment can have a positive impact on women's mental health. Clearly, welfare policy has the opportunity to shape the environment in which poor women live. However, as suggested by the findings from this study, the environment in which poor women live may also be influenced by characteristics of the broader labor market. Given this, the principal welfare policy goal of economic self-sufficiency for aid recipients may be better served through policies that recognize the role of labor market conditions in achieving welfare reform objectives.

Most welfare programs have adopted a "work first" model that promotes the use of employment programs for the majority of their caseload. Within the current welfare-to-work program, recipients are encouraged to seek employment, without regard for the characteristics of the employment or the other circumstances in their lives. Unfortunately not all jobs are created equally. The pursuit of business efficiency has led to employment characteristics that may undermine the mental health of poor women with concomitant costs both to the business and health sectors. Given findings from this study suggesting that the characteristics of employment and the continuity of employment are crucial factors in the mental health of poor single mothers, the current "work-first" model may be short-sighted as the broader circumstances of the job may play a role not only in the mental health of women but also in their subsequent ability to become and remain economically self-sufficient. Short of major structural changes in employment where all jobs are "good", steady, full-time jobs that pay a living wage, welfare policy may benefit in the long run with a welfare-to-work program that is not only more considerate of the circumstances of the job but also evaluates a woman's risk for depression prior to advocating any employment without regard to the characteristics of employment.

Although some may argue that the goal of welfare reform is economic self-sufficiency, not improved mental health, this study does not rule out concerns surrounding cycles of employment and welfare receipt due to the detrimental effect of depression on employment. One important functional impact of depression is its effect on an individual's ability to work. Depression problems have been associated with reduced productivity at work [77], time lost from work due to illness [73], and lower rates of employment [78]. Given the impact of depression on employment, if the type of employment depressed women on welfare are likely to obtain does not facilitate improved mental health, then these women may be at risk of losing their job, returning to welfare, and over time, exhausting their lifetime limits on aid. This cycle of difficulties will undoubtedly have implications not only for welfare policy but also for the well-being of poor women and their children, as they are plunged into severe poverty once their social safety net is eliminated. Improving connections to mental health services within the welfare system, particularly for women who obtain part-time, or irregular employment, may help to ameliorate these concerns.

While this study has presented a refined picture of the influence of employment among poor single mothers and the results provide an important contribution to our understanding of the complex relationships between employment and depression among a particularly vulnerable population, it remains unclear if the results from this

study are generalizable over time to the general population of poor women. In light of regional differences in characteristics of employment, examining a wide range of employment circumstances among a national sample of poor single mothers, and how they vary across regions of the country, is an important task for future research.

Acknowledgments This study was made possible by grants from the U.S. National Institutes on Health, National Institute on Alcohol Abuse and Alcoholism to the Alcohol Research Group, Public Health Institute, including: Center Grant (AA-05595), R01 Project Grant (AA-10015), R21 Grant for Secondary Analysis of Existing Health Services Data (AA-12159) and T32 Training Grant (AA-007240). The author is grateful to Laura Schmidt and Jim Wiley for their comments on earlier versions of this manuscript.

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