

Employment Patterns, Family Resources, and Perception: Examining Depressive Symptoms among Rural Low-Income Mothers

Yoshie Sano

Washington State University Vancouver

Elizabeth M. Dolan

University of New Hampshire

Leslie Richards

Oregon State University

Jean Bauer

University of Minnesota

Bonnie Braun

University of Maryland

ABSTRACT

Using family stress management theory, this longitudinal study examined how employment patterns, family coping resources, and perceptions of financial well-being influenced depressive symptoms of rural low-income mothers. We identified four employment patterns among 233 rural mothers: stable employment, switching employment, intermittent employment, and continuous unemployment. The results indicated that two of the employment patterns were correlated with, but did not predict, maternal depressive symptoms over the time span of this study. Instead, hierarchical regression analysis suggested that physical health status at Time1 and change in perceived income significantly impacted mothers' mental health. The results demonstrate that employment alone cannot improve mental health of rural low-income mothers. Implications for practitioners and policy makers are discussed.

INTRODUCTION

The relationship between employment and depression has been examined from two different perspectives. While one body of research focuses on how depression interferes with an individual's ability to obtain employment (Hammarstrom & Janlert, 1997; Mastekaasa, 1996), it is also argued that unemployment causes depression. For example, Simmons-Wescott (2004) found economic well-being may be a better predictor of depression than depression is a predictor of economic well-being among rural, low-income mothers. Similarly, by following welfare mothers for two years, Gyamfi, Brooks-Gunn, and Jackson (2005) found that minor depressive symptoms were not predictive of finding employment, but once the mothers were employed they reported fewer depressive symptoms. Although it is difficult to determine which factor is cause

and which is effect, it is apparent that depression and unemployment are both part of vicious cycle preventing individuals from becoming self-sufficient.

Most previous studies examining the relationship between employment status and mental health dichotomized employment patterns into simple constructs of employment and unemployment. Dooley (2003) argued that this dichotomization was too narrow and did not clearly depict the employment situation for low-income families. According to Dooley, employment should be considered a continuum ranging from economically adequate jobs to economically inadequate jobs (underemployment) to unemployment. Due to lack of education, training, opportunities, as well as work-family conflicts, many rural low-income women, especially mothers with young children, must work under less than desirable conditions with low wages, few or no benefits, and irregular work hours. As a result, their employment fluctuates over time: some mothers remain in work force by switching from one poorly paid job to another, other mothers are “intermittently employed” (Berry, Katras, Sano, Lee, & Bauer, in press) where the mothers are employed on-and-off, and still other mothers give up working altogether. Changing employment and irregular employment patterns causes irregular family income which hinders rational planning in family life (Wilson, 1996) and increases vulnerability of families (Bok & Simmons, 2002).

Yet, only a few studies have explicitly included the influence of the employment continuum on mental health. Kim, Seiling, Stafford, and Richards (2005) used working hours to reflect different employment situations and found that fewer working hours were associated with more depressive symptoms. This study, however, was cross-sectional and thus did not identify the effect of long-term employment context on mental health. Investigating the effect of various employment trajectories which better captures the complexity of work situations of low-income families will contribute significantly to the knowledge base on employment and mental health.

The purpose of this paper, therefore, is to examine mental health of rural low-income mothers in the context of various employment trajectories. Based on data from three waves of a longitudinal study, mothers' employment was classified as one of four employment categories or contexts: stable employment, switching employment, intermittent employment, and continuous unemployment. Mothers who remained employed as the same workplace over the course of the study were identified as having ‘stable employment.’ Mothers who remained employed throughout the course of the study but changed employers were classified as ‘switching employment.’ Mothers who were employed and also unemployed for some period over the course of the study were designated as having ‘intermittent employment.’ Finally, mothers who remained unemployed over the course of the study were categorized as being ‘continuously unemployed.’

Conceptual Framework

Family stress management (FSM) theory serves as the guiding framework for this study. Boss (2002) updated the original ABC-X model proposed by Hill (1949), emphasizing the influence of contextual factors on families' ability to cope with stressful events. The rural context presents unique economic and social such as lack of job availability, fewer transportation options, and fewer social resources which negatively impact a family's ability to cope with stress associated with poverty.

Boss defines family stress as “pressure or tension in the family system—a disturbance in the steady state of the family (p.16)”. The stressor can be positive or negative, a discrete event or a series of events. For example, a mother’s job loss is a discrete negative event which creates stress among family members. Changing jobs can also be stressful, even if the new job offers higher wages, more benefits, and better working conditions, because a person has to adjust herself to a new environment, coworkers, responsibilities, and possibly a different family routine. Instability of maternal employment over time is considered as a series of stressful events which disturb the steady state of the family system.

When a family faces a stressor, the family has to find a means of coping with the situation. FSM theory suggests that how much a family pulls themselves together is affected by family coping resources or strength. Family coping resources can be individual or collective strength of family members and include psychological, physical, social as well as economic assets. In the case of job loss, the family’s ability to cope depends to some degree on their human and social capital as well as access to financial resources. Middle-class families may survive with limited income by using savings and credit, returning to the middle-class lifestyle after a new job is found. In contrast, job loss may be a devastating event for a low-income family, whose family finances were already vulnerable. Family resources can also include a family member’s abilities and characteristics such as health. A mother with good health who has lost her job can immediately take steps to re-enter the job market, while another mother suffering health problems may lack the energy to put into a stressful job search. Though maternal health status is an individual resource, it is viewed as family resource which significantly contributes to overall family strength.

Recent family stress theorists emphasize the importance of the perception of an event. While traditional theorists such as Lazarus and Launier (1987) suggested that how an individual interprets or perceives a situation is equally important as her actual resources, Boss (2002) claimed the perception (or meaning) of the event is the central focus of the theory. Boss argues that a stressful event does not become a stress unless a family recognizes it as such. An optimistic person may perceive a stressful event as a manageable challenge while another person with pessimistic tendencies may consider the event devastating. Different perceptions clearly determine the individual’s reaction toward the event.

Crisis is different from a stress. A crisis occurs when a family cannot maintain their regular functions due to the stressor. Boss identified specific indicators of family crisis: “(a) inability of family members to perform usual roles and tasks, (b) inability to make decisions and solve problems, (c) inability to care for each other in the usual way, and (d) focus shifting from family to individual survival” (p. 64). Boss broadened the definition of crisis to include long-term family disorganization resulting in “chronic crisis.” Examples of chronic crisis can be posttraumatic stress disorder, anxiety, or depression which immobilizes regular family function. FSM theory points out that whether a family enters crisis-state is determined by their family strengths and perceptions and how they cope with the stressor.

Background

Poverty is a source of chronic stress for those living with limited resources (Boss, 2002). When coupled with instability of employment, it may potentially lead to a chronic crisis such as maternal depression. Depressed individuals may be caught in a vicious cycle whereby symptoms of depression make finding or maintaining stable employment difficult, leading to increased depression. FSM theory suggests that family coping resources and perceptions may be key determinants of whether she remains in or is able to escape from this cycle.

Mental Health

Ample evidence exists regarding the association between poverty and mental health. For example, Stromwall (2001) found that many individuals participating in Temporary Assistance for Needy Families (TANF) had mental health problems which placed additional stress on them when trying to navigate the requirements of the welfare system. Others studies have indicated that 42% of welfare-to-work program participants were clinically depressed (Moore, Zaskow, Coiro, Miller, & Magenheimer, 1995) and half of welfare recipients were at moderate or high risk of depression (Polit et al., 2001).

Gender and geographical location also play a role in depressive symptoms. The impact of both acute and chronic stress on depression was found to be larger among women than men (Elliott, 2001). Rural residents have been found to be at higher risk for mental health problems than their urban counterparts. Braun, Rudd, and Bower (2002) found that approximately 50% of a sample of rural mothers were at-risk for clinical depression. Factors such as social isolation, fewer social services, limited transportation choices (Katrass, 2003), lack of affordable childcare (Katrass, Zuiker, & Bauer, 2004; Reschke & Walker, 2006), are endemic to rural communities and may increase stress for rural residents. In addition, many rural counties have few or no mental health facilities (Wagenfeld, Goldsmith, Stiles, & Manderscheid, 1998) and rural women are less likely to be diagnosed for depression by a rural primary care physician and less likely to receive treatment once they are diagnosed (Mulder, Kendel, & Shellenberger, 1999).

Past research indicated that employment helps reduce women's risk for depression (Gyamfi, Brooks-Gunn, & Jackson, 2005; Jackson, Brooks-Gunn, Huang, & Glassman, 2000; London, Scott, Edin, & Hunter, 2004). Stability of employment is related to higher self-esteem, sense of independence, feeling of being connected to society, and the desire and confidence to be good role models for their children for many women. All of these factors can act to decrease the likelihood of depression (London et al, 2004). Among former welfare recipients, increased work hours were also associated with greater life satisfaction (Jackson et al., 2000) and fewer depressive symptoms among low-income mothers (Kim et al., 2005). Furthermore, mothers with stable employment were less stressed than those experiencing intermittent employment (Polit et al., 2001). For rural low-income women, employment can be a key determinant of their psychological state.

Family Coping Resources

Economic strength

Although family financial resources are an important component for coping with stress, mothers living in rural areas may be economically disadvantaged. In general, rural communities present fewer employment opportunities. Furthermore, occupational segregation by gender is more common than in urban areas (Semyonov, 1983; Flora, Flora, Spears & Swanson, 1992) and part-time work or temporary employment may be considered appropriate for women (Gringeri, 1995). Thus, fewer employment choices and less-than full-time work negatively impact rural women trying to support their families.

Physical Health

Physical health is another important resource which helps one cope with stress in life. Rural residents experience a higher incidence of health issues including chronic illness, diabetes, cancer, hypertension, heart disease, stroke, and lung disease (Mulder et al., 1999) than their urban counterparts. Health care services are more limited in rural areas increasing the odds that people will not receive adequate care to prevent problems or reduce their severity in a timely manner (U.S. Department of Health and Human Services, 2002).

Health status and employment are related. The likelihood of keeping or getting a full-time job increases with increased positive health for both men and women (Ross & Mirowsky, 1995). A number of studies concluded that women working full-time are healthier than those working part-time, and women working either full-time or part-time are healthier than those not working (Bird & Fremont, 1991; Herold & Waldron, 1985; Verbrugge & Madans, 1985). Health status along with access to, and affordability of, health care are major factors related to full-time or part-time employability. Access to health insurance is linked to full-time employment. This cycle of employability, health, and access to not only medical care but also medical insurance to pay for it, contributes to the ability to be financially self-sufficient through earned income for many rural families.

Perception of Financial Well-Being

According to FSM theory, whether the individual thinks the household is, comparatively speaking, doing better/doing worse/or remaining the same is the key determinant of the individual's mental outlook on life and plays a critical role in her ability to cope with stressors. Relatively few studies, however, have focused on the contribution of perception to family coping ability. Perception of income is a micro-level measures whereby an individual compares his or her financial situation to the previous year (Piescher, 2004). Both actual economic hardship and perception of financial distress have been linked to higher levels of depression (Ross & Huber, 1985).

Hypothesis

The focus of this analysis is to examine the extent to which different employment contexts, family coping resources, and perception of financial well-being influence rural low income mothers' symptoms of depression. The central hypothesis for this study was that rural mothers who are employed consistently over time, who are in relatively good physical health, and who perceive that their financial situation has improved over time, will exhibit fewer depressive symptoms.

METHODS

Data were drawn from the multi-state, longitudinal study, *Rural Families Speak*, (Bauer, 2004). In brief, the overall goal of this study was to examine family well-being and functioning of rural low-income families in the context of welfare reform. Mothers from 23 rural counties in 14 states were recruited as a baseline sample through programs such as Food Stamps, WIC, Head Start, work centers, social service offices, technical schools, and adult education and literacy programs. Cooperative Extension educators assisted in recruitment in many of the states. The primary qualifying criteria for inclusion in the study were income below 200% poverty threshold and presence of at least one child under the age of 13 at the time of the initial interview.

Rural counties were identified by researchers in each state based on the Butler and Beale (1994) coding scheme. Utilizing the definition of metropolitan and non-metropolitan counties as determined by the Office of Management and Budget, Butler and Beale grouped all U.S. counties into a rural-urban continuum codes ranging from "0" (dense population) to "10" (sparse population). Counties included in this study were coded as 6, 7 or 8. Codes 6 and 7 indicate counties that are nonmetropolitan with an urban population of 2,500 to 19,999. Code 8 counties are completely rural with no population center of more than 2,500 people.

Data Collection

Trained researchers collected Time 1 (baseline) data in 1999-2000 and followed up at Time 2 (2001-2002) and Time 3 (2002-2003) using qualitative-quantitative protocols in face-to-face interviews with the mother of a household. Interviews were administered in either English or Spanish, and were conducted in the participants' homes or public places, such as an organization's office or public library. Interviews were audio-taped and transcribed. Quantitative data were obtained from the transcripts and supplemental survey instruments regarding employment, wages, symptoms of depression, and health.

Sample Selection for This Study

The sample for this study was selected based on interview status and employment history of participants over the three time points. Among 413 original participants interviewed at Time 1, 253 participants were re-interviewed at both Time 2 and Time 3. Seven participants who were migrant workers were dropped from the study. Another 24 participants for whom employment

patterns could not be ascertained were also dropped from the study. As a result, 233 participants were included in this analysis. The study participants were categorized into four groups based on their employment trajectories over the years: (1) stable employment ($n=41$), (2) switching employment ($n=57$), (3) intermittent employment ($n=81$), and (4) continuous unemployment ($n=54$).

Analysis Variables

Outcome Variable

The 20 item Center for Epidemiologic Studies—Depression Scale (CES-D) scale (Radloff, 1977) was administered to measure depressive symptoms of participants. The scores for Time 3 were used as an outcome variable for this analysis. Respondents were asked to rate how often they experienced specific situations or feelings in the past week. For example, one item stated, “I felt that everything was an effort.” Response choices were: (a) rarely or none of the time (score=0), (b) a little of the time (score=1), (c) a moderate amount of time (score=2), or (d) most or all of the time (score=3). Among the 20 items, four items on the measure were reverse scored, with total scores potentially ranging from 0 to 60. Scores of 16 or higher are considered at risk for clinical depression. Cronbach’s alphas on this scale was 0.93.

Employment Patterns

Four employment patterns described in previous section were entered as stressors: stable employment, switching employment, intermittent employment, and continuous unemployment. For this analysis, the mothers with stable employment were used as a reference group and the other three groups were entered as dummy variables.

Resources

Income difference between Time 1 and Time 3. The difference in inflation-adjusted dollars of per capita household income between Time 1 and Time 3 was entered into the model. Monthly income for Time 1 was first adjusted to 2002 dollars based on the Consumer Price Index (CPI). Secondly, monthly household income for both Time 1 and Time 3 was divided by the number of household members to obtain the per capita household income. Finally, the difference between Time 1 per capita income (expressed in 2002 dollars) and Time 3 per-capita income was calculated and divided by 100 to make the range more comparable to other variables in the model.

Health Status. A health status index was created based on the chronic health conditions used by Sturm and Wells (2001). A variable was constructed by summing the index of fifteen chronic, severe health conditions at Time 1, with higher scores indicating more health problems. The health conditions were: heart problems, high blood pressure, diabetes, cancer, seizure disorder, liver problems, hepatitis, asthma, bladder problems, back problems, chronic pain, permanent disability, reproductive problems, migraines/headaches, and arthritis.

Perception. Perceived financial situation change was measured by a question asking participants to compare their incomes at Time 3 to their previous situation, “Compared with last year, would you say that your family’s financial situation has: improved a lot, improved a little, remained the same, gone down a little, or gone down a lot.” Responses were coded perception of financial gain, financial stability, or financial loss.

Control Variable

To control previous depressive symptoms, scores for CES-D scale at Time 1 was entered in the model. The scales and questions were the same as the measure for depression at Time 3.

Analytical Strategies

First, correlations between depressive symptoms at Time 3 and predictors were examined. Next, hierarchical linear regression was utilized to assess the impact of each focus predictor variable on depressive symptoms. In the first model, the control variable was entered. Then, following the framework of family stress theory, the variables were entered into sequential models in the following order: stressors (employment patterns), family coping resources (income difference and health status), and perceived financial well-being. Missing values, which ranged between 0 and 9 percent, were imputed by Stata 9 utilizing an iterative multivariable regression technique.

RESULTS

Descriptive Statistics

Characteristics of the sample by employment status are given in Table 1. At the time of the first interview, the rural low-income mothers were, on the average, 30 years of age. Mothers with stable employment were a little older than those in other employment patterns. Similarly, the youngest children of mothers with stable employment were a little older compared to those in other groups. The majority of mothers had a partner (58%) and mothers without partners reported being single (22.3%), divorced (9.9%), or separated (5.6%).

Two thirds of our sample were non-Hispanic White, followed by Hispanic/Latino and African American. Their modal level of education was high school or G.E.D.

Mothers employed at Time 1 worked primarily in the service industry, as administrative support, or as laborers and helpers. The average per hour wage at Time 1 varied by employment status, with the continuously employed having the highest wages.

Table 1. Demographic Characteristics of Mothers by Employment Status at Time 1 (N=233)

Variable	Stable employmen t (n=39)	Switching employment (n=57)	Continuous unemployment (n=56)	Variable employe nt (n=81)	Total
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Mothers' age	34.35 (7.39)	27.70 (5.82)	30.39 (7.17)	29.09 (6.61)	29.93 (7.01)
Number of children	2.64 (1.16)	1.95 (1.20)	2.45 (1.22)	2.42 (1.28)	2.35 (1.24)
Age of youngest child in a household	4.69 (3.04)	2.95 (2.59)	3.11 (2.61)	3.51 (3.09)	3.47 (2.90)
Total number of family members	4.46 (1.47)	4.04 (1.69)	4.48 (1.80)	4.53 (1.99)	4.39 (1.79)
Mothers employment					
Wage per hour	7.98 (3.22)	6.66 (1.83)	N/A	6.98 (1.89)	7.11 (2.39)
Hours per week	30.23 (11.94)	26.26 (11.68)	N/A	34.12 (12.79)	29.90 (12.46)
Weeks per year	47.97 (4.90)	50.47 (4.90)	N/A	46.92 (11.54)	48.58 (7.66)
	N	N	N	N	N
Marital Status					
Single	8	16	9	19	52
Married	18	18	28	33	97
Living with partner	6	10	10	13	39
Divorced/Separated	7	13	9	16	45
Mothers' Ethnicity					
Non-Hispanic White	28	46	37	46	157
Hispanic/Latino	9	3	9	23	44
African American	1	5	3	7	16
Other	1	3	7	3	14
Information missing	0	0	0	2	2
Mothers' Education					
Less high school	6	6	16	21	49
High school or GED	8	18	19	25	70
Specialized training after high school	8	8	5	17	38
Some college	11	24	14	17	66
Above bachelor's degree	6	1	2	1	10
Job types					
Laborers and helpers	3	2	N/A	12	17
Transportation	1	4	N/A	0	5
Production/Mechanics	0	0	N/A	5	5
Service	17	31	N/A	18	66
Administrative support	11	14	N/A	4	29
Sales	3	4	N/A	4	11
Professional/ management	5	2	N/A	1	7

Note. Data are based on baseline information.

The average score on the CES-D was 16.7 at Time 1, and 14.4 at Time 3. Raw mean monthly household income was \$1474.64 at Time 1, \$1956.58 at Time 2, and \$2020.65 at Time 3. The average number of chronic health issues at Time 1 was 1.7 with the number ranging from zero to nine. At the Time 3 interview, 53% of the participants answered that their financial situation had improved over the previous year, 21% reported no change, and 26 % replied that their financial situation had declined.

Correlations between Study Variables

Pairwise partial correlation between study variables is presented in Table 2. As expected, depressive symptoms at Time 1 were strongly correlated to that of Time 3 ($r=.45$, $p>.001$). As hypothesized, continuous unemployment was associated with higher CES-D at Time 3 ($r=.21$, $p>.001$), compared to stable employment. Contrary to the hypothesized relationship, switching employment was associated with lower scores at Time 3 ($r=-.17$, $p>.01$) compared to stable employment. No significant association was shown between depressive symptoms and intermittent employment. Finally, the number of chronic health problems at Time 1 was significantly correlated to CES-D scores at Time 3 ($r=.30$, $p>.001$), and perception of income gain was negatively correlated to the scores at Time 3 ($r=-.21$, $p>.001$). Actual income difference between Time 1 and Time 3 was not related to depressive symptoms at Time 3.

Table 2. Bivariate Correlation of Study Variables (N=233)

	1	2	3	4	5	6	7	8
1. Depression at W3	—							
2. Depression at W1	.45***	—						
3. Switching employment ^a	-.17**	-.15*	—					
4. Intermittent employment ^a	.03	.05	-.42***	—				
5. Continuous unemployment ^a	.21***	.20**	-.32***	-.41***	—			
6. Income difference between T1 & T3	-.11	-.06	.14*	-.01	-.08	—		
7. Number of health problems	.30***	.27***	-.14*	-.02	.22***	-.20**	—	
8. Perceived income change	-.21***	-.10	.06	-.04	.04	.18**	-.22***	—

Note. ^a Reference group is stable employment.

* $p<.05$. ** $p<.01$. *** $p<.001$.

Hierarchical Regression Analysis

Table 3 shows the results of the hierarchical regression models. First, scores for depressive symptoms at Time 1 were entered into Model 1 in order to control for existing depressive conditions. Time 1 depressive symptoms accounted for 20% of the variance at Time 3 data [$F(1, 231) = 57.83$, $p = .000$]. Model 2 contained factors related to employment patterns only with stable employment as reference group [$F(4, 228) = 16.17$, $p = .000$]. In Model 3, family resource variables represented by actual income change and number of health problems were included,

increasing the explanatory power to 25% [$F(6, 226) = 12.56, p = .000$]. Finally, mothers' perception toward income change was added in Model 4, resulting in explanation of 27% of the variance in depressive symptoms at Time 3 [$F(7, 225) = 11.89, p = .000$].

Our final model indicated that previous depressive symptoms are significantly related to depression at Time 3 ($\beta = .36, p > .001$). Contrary to our hypothesis, when controlling for depressive symptoms at Time 1, no employment pattern predicted depression at Time 3. However, a higher number of health problems at Time 1 predicted higher depressive symptoms at Time 3 ($\beta = .14, p > .05$). Interestingly, while actual income difference between Time 1 and Time 3 did not impact depression at Time 3, mothers' positive perceptions of improvement in financial situation significantly lowered depressive symptoms at Time 3 ($\beta = -.15, p > .05$) as hypothesized.

Table 3. Summary of Hierarchical Regression Analysis for Variables Predicting Depressive Symptoms at Time 3 (N=233)

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Depression at T1	.48	.06	.45***	.44	.06	.41***	.40	.07	.37***	.39	.07	.36***
Switching employment				-1.53	2.24	-.05	-1.14	2.23	-.04	-.85	2.21	-.03
Intermittent employment				.93	2.12	.04	.92	2.09	.04	1.11	2.07	.04
Continuous unemployment				3.51	2.30	.12	2.74	2.29	.10	3.34	2.23	.12
Income difference							-.13	.20	-.04	-.06	.20	-.02
Health problems							1.29	.47	.17**	1.08	.47	.14*
Perceived income change										-2.10	.85	-.15*
R^2		.20			.22			.25			.27	
F		57.83***			16.17**			12.56***			11.89***	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

DISCUSSION

Following the framework of FSM theory, this study examined how long-term employment patterns, family coping resources, and mothers' perceptions of financial well-being influence depressive symptoms among rural low-income mothers. The central hypothesis was that rural

mothers who were continuously employed, who were in relatively good physical health, and who perceived that their financial situation had improved over time, would exhibit fewer depressive symptoms. The findings showed mixed results for our hypotheses.

We considered rural low-income mothers' employment experiences to be a potential stressor. Changing jobs, being employed intermittently, or being continuously unemployed have the potential to increase stress in family life. The results of this analysis indicated that, as hypothesized, continuous unemployment was correlated with a greater number of depressive symptoms at Time 3 compared to mothers with continuous employment. Contrary to our hypothesized relationships, however, those who changed employment over the years were found to have fewer symptoms of depression at Time 3 when compared to those who were continuously employed. Furthermore, no difference in depressive symptoms was apparent between those who were intermittently employed compared to those who were continuously employed. Despite some correlation between employment and depressive symptoms over time, however, hierarchical regression analysis revealed that, employment patterns did not predict the level of depressive symptoms for these rural mothers.

FSM theory posits that family resources and perceptions can play a vital role in an individual's and family's ability to cope with stressors. In this analysis, physical health was seen as playing a crucial role in the mental health of rural low-income mothers. Indeed, the key predictive variable for mothers' depressive symptoms at Time 3 was the number of chronic health conditions. Those who had more physical health issues at Time 1 were more likely to exhibit more symptoms of depression at Time 3. Interestingly, financial resource—actual income gain or loss—did not predict depression. Rather, how mothers perceived their financial situation significantly impacted their mental health. Specifically, mothers who perceived their financial situation to be declining were more likely to score higher on the CES-D scale. This result is consistent with a previous study which found that perception of income was more important than actual income (Piescher, 2004), and perception of financial hardship was linked to depression (Ross & Huber, 1985). The results of this study support Boss' (2002) contention that a family's perception or interpretation of a situation is the key determinant of how effectively a family manages stress.

Although previous studies mostly focused on the bivariate relationship between employment and mental health, this study points to the importance of considering types of family coping resources and perception of situation when examining psychological well-being of rural low-income mothers. Future investigations may want to explore the individual's perception of health, in addition to reported health conditions.

Lack of statistical significance relative to the employment patterns in the hierarchical regression model, however, does not mean employment patterns do not influence maternal mental health. Significant correlations with varying directions between various employment patterns and depressive symptom imply that different employment patterns may have different impacts on depression. Consistent with previous research (for review see Murphy & Athanasou, 1999), unemployment was associated with higher scores on the CES-D scale, indicating a greater incidence of depressive symptoms. One of the unique findings of this analysis is that those who changed employment over the three year period were found to have lower CES-D scores at Time 3 than those whose employment was stable. Rather than being a negative factor, as hypothesized,

switching jobs appears to have been perceived as a positive event for these rural, low-income mothers, improving the mental outlook. This positive perception may have resulted from an increase in wage or benefits, greater flexibility and/or better hours, or any combination of these. Closer examination of the decision by low-income mothers to change jobs and investigation of the impact of job change on mental health is warranted in future studies.

Although this research is one of the few studies which attempted to capture various long-term employment experiences of low-income mothers in relation to their depressive symptoms, a number of limitations restrict generalizability of this study. First, due to relatively small sample size for each employment group, the number of predictors that could be entered into the models was limited. A larger and more nationally representative sample would allow future research to include more potentially influential variables such as partner status, education level, as well as life skills assessment into regression models. One of the employment categories, intermittent employment, included various employment patterns which did not fall into other categories. Categorizing complicated long-term employment patterns is challenging since employment patterns can vary widely. Developing clearer concepts of different employment patterns would advance our knowledge of employment literature. Despite these limitation, this analysis contributes to the understanding of psychological well-being of rural low-income mothers. Particularly, taking contextual approach into mental health research by recognizing and considering various employment situations were highlighted, as recent FSM theory emphasizes.

The results of this study have important implications for practitioners and policy makers. For practitioners, and especially extension educators working with welfare-to-work or related programs, results from the correlations analysis is promising in that it reinforces the value of staying in the labor force *vis a vis* mental health. However, more importantly, these results demonstrate that employment alone cannot improve mental health of rural low-income mothers. Family coping resources, particularly, physical health, and mothers' perception of financial circumstances play critical roles in psychological well-being. In addition to disseminating knowledge and providing services to improve the physical health status, programs which help increase mothers' life skills as well as knowledge of community resources would likely improve mothers' interpretation of the situation during stressful times. For example, knowledge about how to get by with limited income, how to stretch groceries, and how to find a good health provider could buffer the impact of negative events on mental health.

The findings of this study also suggest that having stable employment may not always benefit the psychological well-being of low-income mothers, many of whom earn only minimum wage or near minimum wage. Rather, switching to a job with better working conditions can have a positive effect on mental health. Recent welfare-related studies have claimed that the current political effort to promote self-sufficiency through employment for low income mothers may fail to work unless policy makers "make work pay" (Edin & Lein, 1997; Gymfi et al., 2001; Jackson et al., 2000). "Any job" is not good enough to improve depressive symptoms for rural low-income mothers. The quality of a job needs to be strongly considered in policies targeting rural low-income families.

Depression is a serious mental condition which interferes with regular family functioning. In a time of stress such as job loss, job change, or continuous unemployment, family coping

resources and individual perceptions of the situation play an important role in mediating the impact of stress on maternal depression. Unfortunately, rural communities offer limited mental health services and resources to meet these mothers' needs. Since symptoms of depression may make it difficult for rural, low-income mothers to be consistently employed, diagnosis of depressive symptoms and access to mental health service must be a priority in rural communities. If, as a nation, we are serious about helping families to become economically self-sufficient, support for mental and physical health care in rural areas should be of primary concern.

REFERENCES

- Bauer, J. W. (2004). *Basebook report: Low income rural families, Tracking their well-being and functioning in the context of welfare reform*. St. Paul, MN: University of Minnesota.
- Berry, A. A., Katras, M. J., Sano, Y. Lee, J., & Bauer, J. W. (in press). Job volatility of rural, low-income mothers: A mixed methods approach. *Journal of Family and Economic Issues*.
- Bird, C. E., & Fremont, A. M. (1991). Gender, time use, and health. *Journal of Health and Social Behavior*, 32, 114-129.
- Bok, M., & Simmons, L. (2002). Post-welfare reform, low-income families and the dissolution of the safety net. *Journal of Family and Economic Issues*, 23, 217-238.
- Boss, P. (2002). *Family stress management: A contextual approach, 2nd edition*.
- Braun, B., Rudd, M., and Bowler, R. (2002, September) Individual and family factors associated with depressive symptoms among rural, low-income women. Rural Women's Health Conference, Washington, D.C.
- Butler, M. A., & Beale, C. L. 1994. *Rural-Urban Continuum Codes of Metro and Non-Metro Counties, 1993*. (Staff Report No. 9425), Agriculture and Rural Economy Division, Economic Research Service, Washington, DC:USDA.
- Dooley, D. (2003). Unemployment, underemployment and mental health: Conceptualizing employment status as a continuum. *American Journal of Community Psychology*, 32, 9-20.
- Edin, K., & Lein, L. (1997). *Making ends meet: How single mothers survive welfare and low-wage work*. New York: Russell Sage Foundation.
- Elliott, M. (2001). Gender differences in causes of depression. *Women & Health*, 33, 163-179.
- Flora, C. B., Flora, J., Spears, J., & Swanson, L. (1992). *Rural communities: Legacy and change*. Boulder, CO: Westview Press.
- Gringeri, C. (1995). Flexibility, the family ethic, and rural home-based work. *Affilia*, 10, 70-86.

Gyamfi, P., Brooks-Gunn, J., & Jackson, A. P. (2005). Moving towards work: The effects of employment experiences on welfare-dependent women and their children. *Journal of Human Behavior in the Social Environment*, *13*, 39-62.

Hammarstrom, A. & Janlert, U. (1997). Nervous and depressive symptoms in a longitudinal study of youth unemployment—selection or exposure? *Journal of Adolescence*, *20*, 293-305.

Herold, J. & Waldron, I. (1985). Part-time employment and women's health. *Journal of Occupational Medicine*, *27*, 405-412.

Hill, R. (1949). *Families under stress*. New York: Harper and Brothers.

Jackson, A. P., Brooks-Gunn, J., Huang, C., & Glassman, M. (2000). Single mothers in low-wage jobs: Financial strain, parenting and preschoolers' outcomes. *Child Development*, *71*, 1409-1423.

Katras, M. J., Zuiker, V. S., & Bauer, J. W. (2004). Private safety net: Childcare resources from the perspective of rural low-income families. *Family Relations*, *53*, 201-209.

Katras, M. J. B. (2003). *The private safety net: How rural low-income families access and use resources to make ends meet in the era of welfare reform*. Unpublished doctoral dissertation. University of Minnesota.

Kim, E. J., Seiling, S., Stafford, K., & Richards, L. (2005). Rural low-income women's employment and mental health. *Journal of Rural Community Psychology*, *E8* (2).

Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment. In L. A. Pervia & M. Lewis (eds.). *Perspectives in Interactional Psychology* (pp. 360-392). New York: Plenum.

London, A. S., Scott, E. K., Edin, K., & Hunter, V. (2004). Welfare reform, work-family tradeoffs, and child well-being. *Family Relations*, *53*, 148-158.

Mastekaasa, A. (1996). Unemployment and health: Selection effects. *Journal of Community & Applied Social Psychology*, *6*, 189-205.

Moore, K.A., Zaslow, M., Coiro, M.J., Miller, S., & Magenheimer, E. (1995). The JOBS evaluation: How well are they faring? AFDC families with preschool-aged children in Atlanta at the outset of the JOBS evaluation. Washington, DC: US Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

Mulder, P. L., Kendel, M. B., & Shellenberger, S., (1999) The behavioral health care needs of rural women. *American Psychological Association*. [On-line]. Available at: <http://www.apa.org/rural/ruralwomen.pdf>

Murphy, G. C., & Athanasou, J. A. (1999). The effect of unemployment on mental health. *Journal of Occupational and Organizational Psychology*, 72, 83-99.

Piescher, K. N. (2004). Economic, social, and community factors indicating depressive symptomatology in rural, low-income mothers. Unpublished master's thesis. University of Minnesota.

Polit, D. F., Widom, R., Edin, K., Bowie, S., London, A. S., Scott, E. K., & Valenzuela, A. (2001, November). Is Work Enough? The experiences of current and former welfare mothers who work. Manpower Demonstration Research Corporation. Available on line at: <http://www.mdrc.org/Reports2001/UC-Is-WorkEnough/IsWorkEnough.htm>

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1 (3), 385-401.

Reschke, K., & Walker, S. (2006). Mothers' child caregiving and employment commitments and choices in the context of rural poverty. *Affilia: The Journal of Women and Social Work*, 21 306-319.

Ross, C. E. & Huber, J. (1985). Hardship and depression. *Journal of Health and Social Behavior*, 26, 312-327.

Ross, E. E. & Mirowsky, J. (1995). Does employment affect health? *Journal of Health and Social Behavior*, 36, 230-43.

Semyonov, M. (1983). Community characteristics, female employment, and occupational segregation: small towns in a rural state." *Rural Sociology*, 48 (1), 104-119.

Simmons-Wescott, L. (2004). Well-being in a rural context: A model of select factors influencing health and economic well-being in rural, low-income mothers. Unpublished dissertation. University of Georgia.

Stromwall, L. K. (2001). Mental Health Needs of TANF Recipients. *Journal of Sociology and Social Welfare*, 28, (3), 129-137.

U.S. Department of Health & Human Services. (2002). One Department Serving Rural America: Rural Task Force Report to the Secretary. Available at: <http://www.ruralhealth.hrsa.gov/PublicReport.htm>

Verbrugge, L. M. & Madans, J. H. (1985) Women's roles and health. *American Demographics*, 7, 36-9.

Wagenfeld, J. O., Goldsmith, H. F., Stiles, D., & Manderscheid, R. W. (Eds.), (1988). Inpatient mental health services in metropolitan and non-metropolitan counties. *Journal of Rural Community Psychology*, 9, 14-16.

Wilson, W. J. (1996). *When work disappears: The world of the new urban poor*. New York: Vintage Books.

Acknowledgement

Support for this research was provided by the Agricultural Experiment Stations and Cooperative Extension in the cooperating states, and Ohio University, Maryland Department of Human Resources, American Association of Family and Consumer Sciences., and U.S. Department of Agriculture ((NRICGP2001-35401-10215, NRICGP2002-35401-11591). Cooperating states are: California, Colorado, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, Ohio, Oregon, and Wyoming.