



Predictors of Depression for Low-Income African American Single Mothers

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### Abstract

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**Methods:** Cross sectional secondary data analysis of a study of low-income African American single mothers with children ages 2-6. Path analysis was used to test a model of the potential mediating role of negative thinking. It was hypothesized that negative thinking mediates the effects of chronic stressors, general health status, and self-esteem on depressive symptoms

**Finding:** Negative thinking mediated the relationships of chronic stressors and self-esteem with depressive symptoms. **Conclusions:** These findings supported the proposed model with one exception: negative thinking did not mediate the effects of physical health on depressive symptoms. Physical health also had no direct effect on depressive symptoms. Negative thinking may play a pivotal role in the development of depression for these at risk women. Self-esteem, chronic stressors and negative thinking should be important considerations in designing interventions to improve the mental health of at-risk African American women.

### Keywords

African American women; Depression; Depression in women; Low-income single mothers; Negative thinking; Poor; Self-esteem

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## **Predictors of Depression for Low-Income African American Single Mothers**

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The purpose of this study was to test a model of predictors of depressive symptoms in low-income African American single mothers with children between 2 and 6 years of age.

Economic, physical and social disadvantages mark low-income single African American mothers as a vulnerable, at risk population for a variety of health problems, especially depression. Chronic stressors, self-esteem, negative thinking, and physical health status are indicated as critical elements of mental health. While self-esteem and chronic stressors have been historically difficult to influence, negative thinking, in various populations, has been shown to be highly amenable to intervention (Peden, Hall, Rayens, & Beebe, 2000b; Peden, Hall, Rayens, & Grant, 2005). The specific aims of this study were to: (a) evaluate the relationships of sociodemographic characteristics with self-esteem, chronic stressors, negative thinking, general health status, and depressive symptoms in low-income single African American mothers and (b) determine whether negative thinking mediates the effects of self-esteem, chronic stress, and general health status on depressive symptoms. The findings of this study may provide the groundwork for developing and testing culturally relevant interventions to decrease the disparate rates of depression experienced by low-income African American mothers with young children.

Poverty, chronic stress, and overrepresentation in high need populations place many African American women at high risk for poor mental health. Compared to white women, they have higher rates of poverty and unemployment and poorer housing conditions (McAdoo, 1988). The rate of severe poverty among African Americans, i.e., an income at or below 50% of the poverty threshold, is more than three times the rate of whites (U.S. Bureau of Census, 2003). One third of African American families and nearly one half of African American children live below the poverty threshold (U.S. Bureau of Census, 2003). African American children are especially likely to live in mother only families. In 2001, 16.5 million American children lived with a single mother, and a disproportionate 48% of those were African American, while only 12% of the general population is African American (DeNavas-Walt, Proctor, & Lee, 2006). Seventy-seven percent of African American children born to single mothers are poor.

## Depression

Depression is the most common mental illness experienced by women. It is by far more prevalent among women than men (Hirschfield, 1997; Kessler, 2000) with women being twice as likely as men to experience depression (Kessler et al., 2003). African American females experience significantly more

psychological distress than African American males, white females and white males. Empirical research, using a variety of measures and methods, indicates that African American women are more likely than white women to have levels of depressive symptoms sufficiently high for a clinical diagnosis of depression (Brown, & Gary, 1987; Eaton, 1981; Jonas, 1997; Rickert, 2000). In a study of parenting among low-income African American single mothers with young children, 47% of the 193 women had clinical levels of depressive symptoms (McGroder, 2000).

Single mothers of young children are especially vulnerable to depression due to chronic stressors and poverty. Rosman and Yoshikawa (2001), in a study designed to examine the effects of welfare reform in a sample of 1,602 single mothers with children between three and six and one-half years, found that 49% of the mothers had high levels of depressive symptoms as measured by the Center for Epidemiologic Studies Depression Scale (CES-D). Depressive symptoms in this population persist over time. Hall and Sachs (1992), in a longitudinal study of 206 low-income, single mothers with young children, collected data at baseline and 6- and 12-month follow-ups. More than 50% of the women had a high level of depressive symptoms at two or three of the waves; more than 30% had a high level of symptoms at all three time periods. Jayakody, Danziger, and Pollack (2000), surveyed 2,728 single mothers and found that 19% had psychiatric disorders that included major depression.

Depression has a negative effect on mothers' interactions with their children and their perceptions of child behavior. Continuous depression in mothers is associated with chronic behavior problems in their children (Chi, 2002; Gartstein, 2004). This may be due in part to the fact that depressed mothers have low tolerance for misbehavior, leading them to be more negative and report greater child behavior problems. In a study of 156 African American single mothers of 6- to 9- year-old children in the rural South, higher levels of maternal depressive symptoms were linked with lower levels of mother-child harmony for female children (Brody, 1997). These disharmonious mother-child relationships have been associated with a multitude of negative behaviors among children. Depressed mothers also have more unrealistic expectations of their children than do mothers who are not depressed (Sachs, 1991). These expectations often lead them to rate their child's behavior as problematic, yet their perceptions of child behavior problems are not correlated with the observations of independent observers (Gross, 2004). Greater understanding of the mental health of the African American mothers may prove helpful in designing interventions to reduce depressive symptoms in this especially vulnerable population, thereby improving their perceptions

of their children's behavior and ultimately resulting in more favorable parent-child interactions.

### Chronic Stressors

Low-income African American single mothers experience high levels of chronic stressors. They are hindered by lower than average earnings, overrepresentation in low-status occupations, and lower than average levels of education (Napholz, 1999). Other sources of chronic stressors include unemployment, especially for single mothers (Taylor, 1997), having young children in the home (Brown, 1988), and partner violence and social stresses stemming from poverty (Bennett, 1987). The unemployment rate for African Americans is routinely twice that of European Americans, and single mothers who are employed rarely earn enough to bring their families out of poverty (Edin, 1997). Furthermore, there is a high likelihood that child support will not be given to black mothers (Teachman, 1990). The combination of economic stress, role stress, racism, and parenting alone and in poverty means single African American mothers are exposed consistently to extreme levels of chronic everyday stressors.

Chronic stressors have an adverse affect on mothers' mental and physical health (Bateman, 2001; Blum, 2000). In a study that examined multiple sources of chronic stress, general health, and depressive symptoms in a sample of predominantly low-income, African American women, high levels of chronic stress had a significant direct effect on both depressive symptoms and general health (Israel, 2002). Among the 679 women in the study, chronic stress increased depressive symptoms by 5% and decreased self-reported general health status by about 20%.

High levels of chronic everyday stressors are also associated with child behavior problems (Bateman, 2001; Blum, 2000; Garcia, 2000). In a study of 225 low-income single mothers, Hall et al. (1991), found that higher everyday stressors predicted greater depressive symptoms, which in turn, predicted more child behavior problems as reported by the mothers. In a study of 234 low-income African American mother-child dyads, Weis (2002), found that over 50% of the mothers had elevated depressive symptoms. Many of these women exhibited increased rates of harsh discipline and hostility toward their children. McGroder (2000), found that in a sample of low-income, African American single mothers with preschool-age children, the stress related to lack of education, welfare, and teenage parenting placed mothers at risk for dysfunctional parenting. The children of these parents had behavior problems such as aggressive behavior and excessive activity reported by schools and by the parents.

## Health Status

It is well documented that African American women have poorer health status than their white counterparts and suffer chronic illnesses at disproportionate rates. Low-income African American single mothers are at high risk for poor health status related to a number of risk factors. Race, income, education, and living conditions have all been associated with health status (Weinrich, 2001). African Americans and low-income persons have poorer self-perceived health status (Blendon, 1995; Ren, 1996). Financial vulnerability, or being worried about money, has a negative impact on health status (Beale, 1997). Chronic stress associated with family demands and responsibilities is also associated with poor health (Beale, 1997).

## Self-esteem

Self-esteem is a critical element of the mental health of African American women. Given the multiple oppressions these women experience related to both racism and sexism, they have unique needs in this area. Brown and Keith (2003), found that attainment of mental health for the African American woman, due in part to multiple oppressions, means “rejecting distorted, false, denigrating, anti-self, anti-African messages they have internalized, such as negative images related to skin color and physical appearance, as well as stereotypes of sexual promiscuity, domestic servitude, welfare dependence and many, many others” (p. 5). In order to have good mental health they must achieve self-acceptance and self-validation. This is especially relevant for low-income single mothers, as low income is associated with poor self-esteem (Jackson, 2003).

Self-esteem is a factor in the development of depression in single mothers. High self-esteem protects women from depression while low self-esteem is a risk factor for its development. Jackson and Mustillo (2001), examined the psychological impact of a range of social identities among a sample of 288 low-income, African American women. The women with low self-concept reported poor mental health. Low educational attainment, low personal incomes, and less prestigious occupations were associated with poor self-concept.

African American women have uniquely high self-esteem despite adverse conditions such as poverty. In a study of the relationships among self-esteem, health habits, and knowledge of breast self-exam practice, female inmates, who were primarily African American had medium to high self-esteem (Brewer, 2000). This is inconsistent with findings from studies involving primarily Caucasian women in which the inmates had poor self-concept (Polluck-Byrne, 1990).

Research has consistently linked adverse conditions such as poverty, chronic stress, and depression with poor self-esteem among Caucasian women (Brown, Moran, 1997; Peden, Hall, Rayens, & Beebe, 2000b). The opposite, however, has been evidenced in African American women. In a meta-analysis that compared the global self-esteem of Whites, Blacks, Asian Americans, Hispanics, and American Indians, Twenge and Crocker (2002), found that Blacks scored higher than Whites on self-esteem measures, while Whites scored higher than all other minority groups. Black females had higher self-esteem than Black males and the advantage was smallest in childhood and grew larger with age. In a similar study, Gray-Little and Hafdahl (2000), conducted a meta-analytic synthesis of 261 studies that revealed higher self-esteem scores for Black than for White children, adolescents, and young adults. Again, the researchers found that the self-esteem advantage for Black respondents increased with age and was related to sex, with females having an advantage over males.

There is very little research regarding the relationship of African American women's self-esteem with their mental health. Attention to the strengths of African American women is necessary to design interventions that build upon those strengths. Since self-esteem appears to be one of those strengths, this should be pivotal in the design of any intervention related to their mental health. It should also be a focus of the exploratory research aimed at understanding and describing the mental health of the African American woman.

### Negative Thoughts

Negative thoughts, those that are critical and devalue the self, tend to dominate the perceptions of the individual suffering from depression (Peden, 1993; Peden, 1996). They maintain the depressed mood and may continue during remission of the depressive episode (Beck, 1967). Peden et al. (2000b), in a study of 246 predominantly Caucasian female college students, found that negative thinking mediated the effects of self-esteem on depressive symptoms. In a subsequent study involving 205 African American and Caucasian low-income single mothers at risk for depression, negative thinking again mediated the relationship between self-esteem and depressive symptoms (Peden, Hall, Rayens, & Grant, 2005). In addition, it partially mediated the relationship between chronic stressors and depressive symptoms. However, they did not determine whether the predictors of depressive symptoms differed for African American women and Caucasian.



The mediating relationship is important because negative thinking is amenable to interventions. A randomized trial with 92 college women aged 18-24 at risk for depression was conducted to test a 6-week cognitive behavioral intervention designed to reduce negative thinking (Peden, Hall, Rayens, & Beebe, 2000a). Compared to those in a control group, those in the experimental group had a greater decrease in depressive symptoms and negative thinking and a greater increase in self-esteem. Those effects were maintained over six months. The long-term effects of this intervention were observed at an 18-month follow-up (Peden et al., 2001), where the percentage of women in the experimental group with a high level of depressive symptoms was about half that of the control group (15% vs. 29%). An increased understanding of the predictors of depression, including negative thinking as a mediator, as the theoretical framework suggests, will be a first step in designing culturally sensitive interventions that reduce the disparate rates of depression for low income African American women.

### Theoretical Framework

In prior studies, Peden et al. (2000a, 2005), developed and tested a theoretical framework of factors influencing depressive symptoms in two different groups of women. In a study of college women, negative thinking mediated the effects of self-esteem on depressive symptoms (Peden, Hall, Rayens, & Beebe 2000b). In a subsequent study of low-income single mothers, Peden et al. (2005), found that negative thinking mediated the effects of self-esteem and chronic stressors on depressive symptoms, although there was also a direct effect of chronic stressors on depressive symptoms. The current study tested this mediating model in the sample of African American mothers, with the addition of self-reported physical health status as a potential predictor.

### Summary

By virtue of their economic and social disadvantages, low-income single African American mothers of young children are a vulnerable population. They are exposed to high levels of chronic stressors, multiple oppressions affecting their self-esteem, and various other factors that contribute to disparities in mental health. The personal, financial, and societal costs of these illnesses are astounding. Although the health disparities experienced by African American women have been well documented, mediating models such as the one proposed in this study warrant testing to identify variables influencing mental health that may be amenable to intervention, such as

negative thinking. Thus, research is needed to examine negative thinking as a potential mediator of the effects of self-esteem, chronic stressors, and general health status on the mental health of African American mothers. This research is one step toward the development of culturally sensitive interventions to improve the mental health of this vulnerable, disadvantaged population.

## Methods

### Design and Sample

A secondary analysis of existing data was conducted using data from the NINR-funded study, "Prevention of Depression in Low-income Single Mothers" (Grant # R01NINR-funded study). The University's human subjects review committee approved the study. Data were collected between September 2000 and October 2002 as part of the baseline data collection for a randomized controlled clinical trial (Peden et al., 2005). In order to participate in the study, the single mothers had to have at least one child between the ages two and six years living with them and be at or below 185% of the poverty level. Additional inclusion criteria were: not currently receiving psychiatric care or counseling; not taking antidepressant medication; not suicidal; not currently pregnant; and not having a child less than one year of age. Recruitment took place in WIC, child health, and other health department clinics. Information about the study was placed in housing offices, food stamp offices and other social service agencies. Letters were sent to the women participating in a self-sufficiency program for single parents seeking their participation. A total of 205 women completed the baseline survey. Forty-eight percent of those women were African American ( $n = 98$ ), and the data collected from those women were used for this secondary analysis.

### Measures

**Depressive Symptoms.** The Beck Depression Inventory (Beck, 1978) is a 21-item tool designed to assess affective, behavioral, cognitive, motivational, and vegetative aspects of depression. Each item consists of four statements, scored from 0 to 3. Subjects rate each item in terms of how they felt in the last week. The greater the score, the higher the level of depressive symptoms. Beck recommended a cutoff score of 10 or above as indicative of at least mild depression and 18 or above indicating moderate depression (Beck, 1963; Kendall, 1987). The BDI showed good concurrent validity when compared to psychiatric ratings of severity of depression in both clinical populations

(Hollon, 1986; Ogles, 1995). The BDI demonstrated good internal consistency and test-retest reliability 50. In the study of single mothers Cronbach's alpha was .91 (Peden et al., (2005). Cronbach's alpha for this sample was .90.

**Negative Thinking.** The Crandell Cognitions Inventory (1986), was used to measure negative thinking. The 45-item CCI was developed with both depressed and non-depressed psychiatric patients. Only the 34 negative self-statements are scored; 11 buffer items are not counted. The negative self-statements are rated from almost never (0) to almost always (4). Total scores range from 0-136, with greater scores indicating greater frequency of negative thinking. Crandell and Chambless (1986), reported a Cronbach's alpha of .95 in a sample of depressed, psychiatric, and normal individuals. Cronbach's alpha was .97 in the study of college women (Peden et al., 2005). Cronbach's alpha for this sample was .97.

**Self-esteem.** The 10-item Rosenberg Self-esteem Scale (1965), was used to measure self-worth/self-acceptance. The items are rated on a scale ranging from strongly disagree (1) to strongly agree (4). A cumulative score is derived by reversing the five positive items and summing them with the five negative items. The higher the score, the higher the self-esteem. This measure has been used extensively in a variety of populations including African American women (e.g., Andrews et al., 1993; Brody, 1997). Cronbach's alpha for this sample was .84.

**Chronic Stressors.** The Everyday Stressors Index (ESI) (Hall, 1993), a 20-item instrument that assesses common problems faced on a daily basis by mothers with young children, was used to measure chronic daily stressors. The instrument was derived from literature review, expert consultation, and adaptation of some items from the Hassles Scale (Kanner, 1981). The domains measured by this scale include financial concerns, role overload, employment problems, parenting worries, and interpersonal conflict. On a 4-point scale from not at all bothered (0) to bothered a great deal (3) mothers rate how each problem worries, upset, or bothers them from day-to-day. A summary score with a possible range of 0-60 is computed; higher scores indicate more stress. Internal consistency coefficients using Cronbach's alpha ranged from .80-.85 (Hall, Gurley, Sachs, & Kryscio, 1991; Hall, Williams, & Greenberg, 1985). Construct validity was supported by discrimination of everyday stressors from measures of maternal depressive and psychosomatic symptoms using factor analysis (Hall, 1983). The scale has been used in a number of studies with low-income mothers (Hall, 1990; Hall, Kotch, Browne, & Rayens, 1996; Peden, Hall, Rayens, & Grant, 2005). Cronbach's alpha for this sample was .88 (Ware, 1992).

**General Health Status.** Health status was measured using a single, self-report item that asks respondents whether, in general, their health is excellent (5), very good (4), good (3), fair (2), or poor (1). The question comes from the Medical Outcomes Study 36-Item Short-Form Health Survey (Stewart, 1992; Ware, 1992). This single-item measure of general health status has been used extensively in a variety of populations (Israel, 2002). Similar single-item measures have been used in numerous studies to assess self-rated health status (Lenert, 2001; Sheu, 2003). This measure is a predictor of mortality at the population level (Idler, 1997).

**Personal/sociodemographic variables.** As part of the interview, data on employment status, education level, income, age, and number of children were collected.

**Data Analysis.** The study data were summarized using descriptive statistics, including mean and standard deviation or frequency distribution, as appropriate. Pearson's product moment correlation was used to determine associations among the study variables. Relationships between the study variables and demographic characteristics were assessed using two-sample t-tests or Pearson's product moment correlation. Path analysis models, developed using multiple linear regression, were used to test the direct and indirect effects of self-esteem, general health status, and chronic stressors on depressive symptoms with the potential mediator of negative thinking. The standardized beta weights and significance of the path coefficients were determined from the multiple regression models, which provided an estimate of the significance of each path in the full model. The final path model estimated path coefficients only for those paths that remained significant after nonsignificant paths in the initial model were removed sequentially. Personal and sociodemographic characteristics, including maternal age, education, and employment status, were included in each regression as control variables. The presence of multicollinearity in the regression models was assessed using variance inflation factors (VIFs). All statistical analyses were performed using SPSS, version 11.5; an alpha level of .05 was used throughout.

## Results

The sample of 98 African American single mothers had a mean age of 26.4 (SD = 5.6). As shown in Table 1, the majority of the women had never been married (78%) and more than 25% of the women had not completed high school. More than half were employed (58%); of these women working

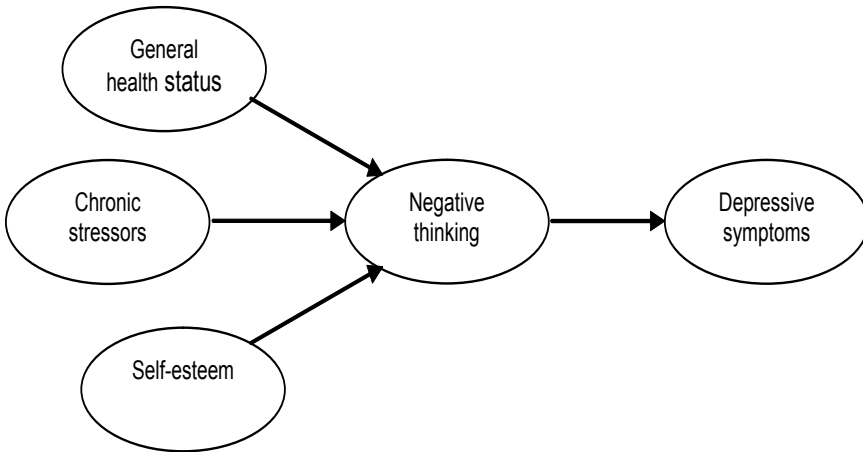
outside the home, more than half worked full time (54%). However, an overwhelming majority of the women had incomes less than \$15,000 (87%).

**Table 1. Demographic characteristics of the sample (N=98)**

Variable	n	%
Marital status		
Never married	76	77.6%
Divorced	12	12.2%
Separated	10	10.2%
Education		
Some high school	25	25.5%
HS grad or GED	27	27.5%
Some post-secondary education	36	36.7%
Community college or vocational/ technical school grad	7	7.2%
Bachelor's degree	3	3.1%
Employment Status		
Full-time	31	31.6%
Part-time	26	26.5%
Not employed	41	41.8%
Annual Income		
< \$5000	34	34.7%
\$5,001 – 10,000	31	31.6%
\$10,001 – 15,000	20	20.4%
\$15,001 – 20,000	8	8.2%
\$20,001 – 25,000	2	2.0%
>\$ 25,000	1	1.0%

Sixty-three percent of the women ( $n = 65$ ) scored 10 or above on the BDI, which is indicative of at least mild depression. More than 40% of the sample ( $n = 47$ ) had BDI scores of 18 or above; scores in this range correspond to depressive symptoms that are moderate to severe. The mean BDI score was 17.2 ( $SD = 10.5$ ), with a range from 1 to 41 out of a possible total of 63. The average chronic stressors score was 23.8 ( $SD = 12.4$ ), with a range from 0 to 58 out of a potential total score of 60. Self-esteem scores ranged from 9 to 40, with a mean score of 28.6 ( $SD = 8.2$ ), out of a possible total of 40. The mean negative thinking assessment was 47.3 ( $SD = 31.6$ ), with scores on the CCI ranging from 0 to 132 out of a possible total of 136. Two-thirds of participants rated their health as either 'good' or 'fair' (see Figure 1).

**Figure 1. Proposed path model of predictors of depressive symptoms in low-income, single mothers.**



### Bivariate analysis

Mothers with some education beyond high school reported significantly fewer chronic stressors ( $M = 20.2$ ,  $SD = 11.1$ ) than those who did not ( $M = 26.9$ ,  $SD = 12.8$ ,  $t = 2.8$ ,  $p = .007$ ). There was also a difference between these two groups for negative thinking. Mothers with more than a high school education had significantly lower negative thinking scores ( $M = 39.1$ ,  $SD = 29.1$ ) than those who did not ( $M = 54.5$ ,  $SD = 32.3$ ,  $t = 2.5$ ,  $p = .02$ ). The two education groups did not differ on depressive symptoms, self-esteem, or general health status.

There were differences between women who were employed outside the home and those who were not on most of the study variables. Mothers employed either full or part time outside the home had lower depressive symptoms ( $M = 13.0$ ,  $SD = 8.2$ ), fewer chronic stressors ( $M = 19.2$ ,  $SD = 11.1$ ), and lower negative thinking scores ( $M = 35.9$ ,  $SD = 29.8$ ), compared with those not employed outside the home (depressive symptoms  $M = 23.2$ ,  $SD = 10.5$ ,  $t = 5.2$ ,  $p < .0001$ ; chronic stressors  $M = 30.1$ ,  $SD = 11.3$ ,  $t = 4.8$ ,  $p < .0001$ ; negative thinking  $M = 63.1$ ,  $SD = 27.3$ ,  $t = 4.6$ ,  $p < .0001$ ). In addition, the employed women had higher self-esteem scores ( $M = 31.2$ ,  $SD = 7.9$ ) compared to unemployed women ( $M = 25.2$ ,  $SD = 7.4$ ,  $t = 3.8$ ,  $p < .0001$ ). There was no difference between women who were employed outside the home and those who were not on health status. Maternal age was not correlated with depressive symptoms, negative thinking, chronic stressors, self-esteem, or health status.

There were strong correlations among the study variables (see Table 2). All the relationships were positive with the exception of the association between self-esteem and each of the remaining variables. All correlation coefficients were significant with p-values less than .004.

**Table 2. Pearson's product moment correlations among study variables (N = 98).**

Variables	Depressive Symptoms	Chronic Stressors	Self-esteem	Negative thinking
Chronic Stressors	.74***			
Self-esteem	-.67***	-.70***		
Negative thinking	.80***	.73***	-.79***	
General Health	.43***	.38**	-.29**	.37***

\*\*p < .004; \*\*\*p < .001

### Path analysis

The initial multiple regression model included chronic stressors, self-esteem, general health status, and negative thinking as potential predictors of depressive symptoms. Maternal age, employment status (employed full or part time vs. unemployed) and education (high school or less vs. some post secondary education and above) were included as control variables. Together with the control variables, chronic stressors, self-esteem, general health, and negative thinking explained 72% of the variability in depressive symptoms ( $F(7, 87) = 32.7, p < .0001$ ). Of the four potential predictors of depressive symptoms in this model, chronic stressors, and negative thinking were significant ( $p < .0001$  for each), while self-esteem and health status were not. The VIFs for this model were all below 4, indicating multicollinearity was not present in the model.

Next, path analysis was performed with depressive symptoms as the dependent variable, negative thinking as the potential mediator, and chronic stressors, self-esteem, and general health status as independent variables. The control variables described above also were included in the model. Chronic stressors, general health status, and self-esteem, together with the control variables, accounted for 70% of the variability in negative thinking and the model was highly significant ( $F(6, 88) = 33.9, p = < .0001$ ). Controlling for maternal age, education and employment status, self-esteem and chronic stressors each predicted negative thinking ( $p < .0001$ ), while health status did

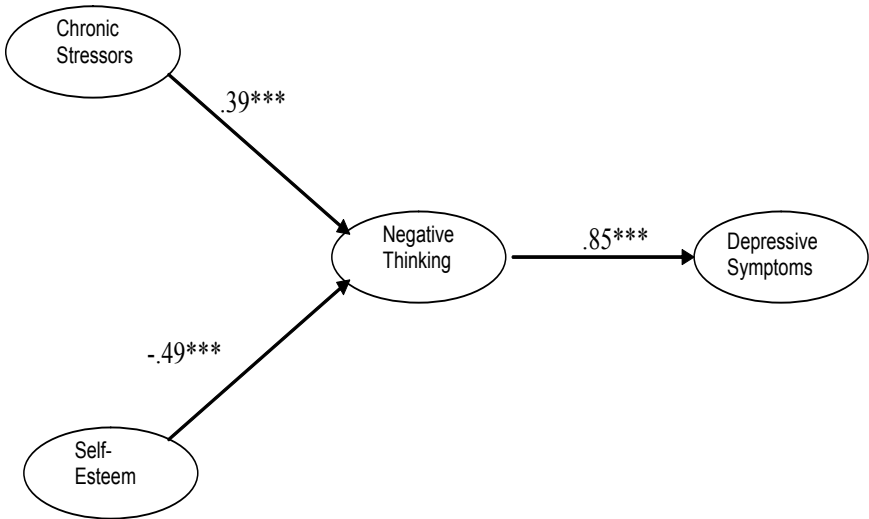
not. For this model, all VIFs were below the threshold of 4, so it was unlikely that multicollinearity was causing any distortion of regression estimates. With depressive symptoms as the dependent variable, the total effect of chronic stressors was .50 (with a direct effect of .35 plus an indirect effect of .15); the total effect of self-esteem was -.30 (including a direct effect of -.03 plus an indirect effect of -.27); the total effect of general health status was .05 (with a direct effect of .03 plus and indirect of .02); and the total effect of negative thinking, with only a direct effect because of the model specification, was .51. The effect of self-esteem was almost totally indirect, that is, mediated through negative thinking, while chronic stressors exerted both direct and indirect effects.

Refitting of the path model consisted of sequentially removing self-esteem and health status as predictors of depressive symptoms in the first model and health status as a predictor of negative thinking in the second since these were not significant in the two initial models described above. Chronic stressors and negative thinking, together with the control variables, accounted for 73% of the variability in depressive symptoms and the model was significant ( $F(5, 92) = 50.1, p < .0001$ ). The VIFs were low ( $< 4$ ), so multicollinearity was not influencing regression estimates. For the final regression of negative thinking on chronic stressors, self-esteem, and the control variables, the overall model was significant ( $F(5, 92) = 42.3, p < .0001$ ) with an  $R^2$  of 0.70, and the VIFs were small. For this final path model, shown in Figure 2, the total effect of chronic stressor on depressive symptoms was .53 (with a direct effect of .36 and an indirect effect of .17); the total effect of self-esteem on depressive symptoms was -.29 (indirect only); and the total effect of negative thinking on depressive symptoms was .54 (direct only).

This model confirms that the effect of self-esteem on depressive symptoms was completely mediated by negative thinking. The relationship between chronic stressors and depressive symptoms was only partially mediated by negative thinking. While the significance of chronic stressors as a predictor of depressive symptoms was slightly lower with negative thinking in the model (compared to the model that did not include this variable: the t-value for chronic stressors dropped to 4.4 from 9.2 when negative thinking was included in the regression), there was still a direct effect of chronic stressors on depressive symptoms as shown in the path diagram, demonstrating that the mediation of the relationship between chronic stressors and depressive symptoms by negative thinking was only partial.



**Figure 2. Final Path Model of predictors of depressive symptoms in low-income single mothers (N= 98)**



## Discussion

This study was conducted to test a model of predictors of depressive symptoms in a sample of low-income single African American mothers. The prevalence of depressive symptoms in these single mothers was high: two-thirds scored at least in the mild depressive symptoms level on the Beck Depression Inventory. This rate is disproportionate when compared with other studies of single mothers of various ethnicities, where rates range from 49% to 60% (Rosman, 2001; Hall, 1002; Hall, 1991). Depressive symptoms scores at these levels may have devastating affects on the lives of these women and their children economically, socially, and personally. Previous research in this area has demonstrated that poor mental health interferes with daily functioning, lowers the wage rate individuals command in the job market and influences their ability to engage in labor related activities (Lehrer, 2002). In addition, the adverse effects trickle down to the children, contributing to impoverishment, child behavior problems and disharmonious parent/child relationships.

A higher level of education and working outside the home were associated with lower levels of depressive symptoms. This is consistent with other research that has shown that levels of depression among welfare recipients and low-income women are much higher than in the general population (Hobfoll et al., 1995; Ritchey, 1990). A study of the role

of depression as a potential barrier to economic self-sufficiency in minority inner-city mothers, researchers concluded that repeated episodes of a high level of depressive symptoms were strongly associated with an elevated risk of subsequent welfare dependency (Lehrer, 2002). African American women and their children have profound rates of poverty. A high level of depressive symptom rates and their interference with employment are important issues with regard to correction of the disparate health and living conditions of these families. Attention to the mental health of this group may have far-reaching economic implications at personal and societal levels.

Negative thinking, chronic stressors, and self-esteem explained a large amount of the variability in depressive symptoms, and negative thinking completely mediated the relationship between self-esteem and this outcome, in addition to partially mediating the relationship between chronic stressors and depressive symptoms. Chronic stressors for low-income African American single mothers include things like poverty, unemployment, partner violence, parenting children alone, and racism. Interventions designed to address these specific problems would perhaps need to be on a broad societal level; these stressors are difficult to decrease on a personal level. On the other hand, the high self-esteem of African American women as a group is a strength that can be used to empower these at-risk mothers. In a society where they face multiple oppressions, assume multiple roles, and experience chronic stressors, empowerment can be key in preventing depression and other chronic illnesses. The findings of this study can be used to develop interventions that are culturally sensitive and may lead to improved health outcomes, including decreased depressive symptoms. Negative thinking has been shown to respond to interventions in other samples (Peden, 2000b; Peden, 1996). For at-risk African American women, interventions that have a combined focus on bolstering self-esteem while decreasing negative thinking could be important in improving the overall mental health of these women by decreasing depressive symptoms.

## Conclusion

The results of this study provide additional evidence that low-income African American single mothers suffer disproportionately from poor mental health. While this relatively small, homogeneous sample limits the ability to generalize these findings to broader populations, the results are intriguing and underscore the need for further research in this area. There is little in the literature that examines the effect of negative thinking on depressive

symptoms, particularly among African American women. Clinicians and researchers should be cognizant of this population's increased risk for poor mental health outcomes and continue to explore ways to positively affect it, including perhaps tailoring interventions to boost self-esteem while decreasing negative thinking. Improving the mental health of low-income African American women has implications not only for the lives of the women and their children, but also society as a whole.

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