ECONOMIC HARDSHIP, SOCIAL SUPPORT, AND MATERNAL DEPRESSION:

A TEST OF THE SOCIAL SUPPORT DETERIORATION MODEL

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Objective: Maternal depression in low-income women is a significant problem because of its negative consequences both to mothers and their children. Although the direct influence of economic problems on maternal depression has been previously noted, there is a more limited base of support that explains potential mechanisms that could explain this association. One theory suggests that economic difficulties could erode perceived social support; a model known as the "social support deterioration model". This research tests this social support deterioration model by examining the direct as well as indirect impact by which economic hardship is associated with depressive symptoms. Methods: A sample of 336 mothers with children in mental health treatment was analyzed. Structural equation modeling was used to examine the hypothesized paths depicted by the deterioration model and relevant demographic variables. Results: First, economic hardship positively predicted depressive symptoms. Second, economic hardship negatively predicted perceived social support. Third, social support negatively predicted depressive symptoms. Finally, social support was found to partially mediate the relationship between economic hardship and depressive symptoms. Being married and working outside the home were also found to have benefits to mothers. Conclusions: Low levels of perceived social support were found to be one mechanism that explains the elevated depressive symptoms of mothers who maintain high levels of economic hardship. Economic hardship also

maintained a direct impact on maternal depressive symptoms in mothers with children in mental

health treatment. Future research should consider social support and economic hardship as

potential targets for prevention and intervention of maternal depression.

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PREFACE

I would like to give a special thanks to the faculty who have helped make this dissertation a reality: Dr. Catherine Greeno, Dr. Nancy Grote, Dr. Kevin Kim, and Dr. Lambert Maguire. All of them have been exemplars for my own professional career as a scholar. They have nurtured my "spirit of inquiry" and for this guidance I am grateful.

I would also extend a special thanks to my wife, Joan, and my mom, Kathleen Matter Gjesfjeld. Their consistent support throughout this process was invaluable to this dissertation's ultimate completion.

1.0   STATEMENT OF THE PROBLEM

1.1   INTRODUCTION

Two prominent risk factors of depression are being female and experiencing high levels of economic hardship. Epidemiological data suggests that the prevalence of depression in women is 1.7 times the rate of men (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). In addition, women experiencing economic hardship are at increased risk of depression compared to women not experiencing economic hardship (Everson, Maty, Lynch, & Kaplan, 2002; Lorant, Deliege, Lynch, Kaplan, & Shema, 1997). Some research has speculated about potential mediating variables that could explain the link between economic hardship and depression. Low social support is one mechanism that has been thought to explain some portion of the relationship between economic hardship and depression (Schulz et al., 2006).

A number of authors have identified low social support as a potential mediator of the relationship between life stressors and emotional distress (Belle, 1990; Cohen, Gottlieb, & Underwood, 2000; Ensel& Lin, 1991; Vaux, 1990), a model known as the "social support deterioration model" (Barrera, 1986, 1988). This dissertation tests the relationships explicit in the deterioration model to determine whether low levels of perceived social support can explain some portion of the association between economic hardship and depressive symptoms in a sample of mothers with children in mental health treatment.

1.2   RISKS AND CONSEQUENCES OF MATERNAL DEPRESSION

Maternal depression is of particular concern because of its negative impact both on mothers and their children. Not only do mothers suffer personally from the effects of depression, maternal depression is associated with greater impairment in their children (Beck, 1999; Forehand & McCombs. 2008; Lovejoy, Graczyk, O'Hare, &Neuman, 2000; Redding, Harmon, & Morgan, 2008; Rishel et al., 2006; Shay & Knutson, 2008). Depression negatively impacts maternal speech, affect, and interactions; and these symptoms can delay child development and impact mothers' child-rearing behaviors (Zuckerman &Beardslee, 1987). The link between mother and child is also demonstrated by evidence suggesting that children experience less impairment if their mothers are either not diagnosed with a mental diagnosis or have received treatment for their mental diagnosis (Rishel, Greeno, Marcus, & Anderson, 2006; Weissman et al., 2006).

Economic hardship maintains a strong association with increased depressive symptoms in women. This association between economic hardship and maternal depression has been researched for over 30 years, beginning with a study by Brown, Bhrolcain, and Harris (1975) that examined differences in the amount of psychiatric symptoms between working-class and middle-class women. Although epidemiological reviews have confirmed the relationship between economic hardship and depression, there has been specific interest in establishing the prevalence of depression in community samples of low-income mothers. These studies suggest that 39-52% of mothers may be at risk for clinical depression (Bassuk, Buckner, Perloff, &Bassuk, 1998; Coiro, 2001; Heneghan, Silver, Bauman, Westbrook, & Stein, 1998; Kalil, Born, Kunz, & Caudill, 2001; Lanzi, Pascoe, Keltner, & Ramey, 1999; Orr, James, Burns, & Thompson, 1989; Pascoe, Stolfi, & Ormond, 2006).

This high prevalence rate is particularly troubling given the large numbers of mothers impacted by economic hardship. The poverty rate in the United States is 12.6% (U.S. Census Bureau, 2006). One in five U.S. households has zero or negative wealth, and economic mobility for low-income individuals is lower than in most other wealthy nations (Mishel, Bernstein, & Schmitt, 1999). Even as "welfare-to-work" programs have attempted to put unemployed mothers into the workforce, one third of former welfare recipients remain unemployed. For those who are employed, the average wage is only six to eight dollars an hour (Boushey, 2002). Thus, economic hardship may remain a salient issue for many mothers even if they have obtained full or part-time employment.

1.3   THE DEPRESSOGENIC IMPACT OF ECONOMIC HARDSHIP

Economic stress, low socioeconomic status, economic disadvantage, financial hardship, low-income, and "poor" are all conceptual terms used to describe individuals experiencing economic hardship. Low socioeconomic status (SES) is the most commonly used indicator of economic hardship; and in large epidemiological studies, low SES individuals have a higher rate of depression than high SES individuals (Roberts, Stevenson, &Breslow, 1981; Toussaint, Williams, Musick, & Everson, 2001; Williams, Yu, Jackson, & Anderson, 1997). In a meta-analysis of 60 studies examining socioeconomic inequalities and depression, individuals in the lowest SES group were nearly twice as likely to experience a current depressive disorder as those in the highest SES group (Lorant, Deliege, Eaton, Robert, Philipport, & Ansseau, 2003).

Although these studies suggest a link between socioeconomic status and depression, there has been some dissatisfaction with socioeconomic status being used as a proxy for economic

well-being. Educational attainment and household income do not consider the specific economic struggles that are damaging to the mental health of mothers. Social epidemiologists have also complained about the conceptual clarity of socioeconomic status and have recognized that household income and education are often confounded with other variables when a measure of economic security is desired (Braveman et al., 2005). An alternative method is to measure the degree to which individuals have access to economic resources. Food insufficiency and material hardship are commonly used to measure access to basic resources. Many studies have found that access to food or other important basic resources are strong predictors of depressive symptoms (Casey et al., 2004; Heflin, Siefert, & Williams, 2005; Hope, Power, & Rodgers, 1999; Vetter, Endrass, Schweizer, Teng, Rossler, & Gallo, 2006; Whelan, 1993; Wu &Schimmele, 2006). In fact, in many of these studies, food insecurity and material hardship were associated with depressive symptoms, whereas income and education attainment did not have significant associations with depressive symptoms.

Considering these problems with using educational attainment and household income as determinants of economic hardship, this research uses a psychometrically tested instrument known as the Hassles of Environmental Poverty Scale (HOEP) to measure economic hardship (Wijnberg, Lagerwey, Applegate, &Reding, 2006). This instrument was developed to measure the economic hardship of mothers and has been psychometrically tested in a large sample of low-income mothers. It is a measure that examines the degree to which mothers have access to various basic resources and is an improvement over other measures because of its conceptual clarity and defined psychometric properties (Oakes & Rossi, 2003). This measure can assist in determining which specific attributes of economic hardship are most detrimental to the mental health of mothers.

1.4   SOCIAL SUPPORT AND ITS BENEFIT TO MOTHERS

Mothers reporting high levels of social support experience fewer depressive symptoms than mothers with low social support (Cairney, Boyle, Offord, & Racine, 2003; Siefert, Bowman, Hefline, Danziger, & Williams, 2000; Silver, Heneghan, Bauman, & Stein, 2006; Surkan, Peterson, Hughes, & Gottlieb, 2006). Two major models have been prominent explaining why social support may offer a protective benefit: the main-effect and the stress-buffering social support models. The main-effect model suggests social support offers a benefit regardless of the level of stress an individual is experiencing. Alternatively, the stress-buffering hypothesis claims that the protective qualities of social support are only realized when individualsexperience high levels of stress. Individuals experiencing low levels of stress receive little or no benefit from social support (Cohen & McKay, 1984). Although the literature examining these two models is extensive (e.g. see review of Cohen & Willis, 1985), this dissertation has a specific interest in examining the effects of social support on the depressive symptoms of women.   When the literature examining social support and depression in women was reviewed, no studies were found to support the buffering model. In other words, the studies reviewed suggest that social support offered a protective effect against depression despite the level of stress women were experiencing. This indicates that perceived social support was acting in accordance with the main-effect social support model.

The theoretical groundwork that explains the benefit of social support is found in appraisal and social-cognitive perspectives (Lakey& Cohen, 2000). According to the appraisal perspective, individuals perceive stressful situations as less stressful because of the social support they perceive. When individuals maintain high levels of social support, they are less likely to perceive threatening events and are better able to cope with those events that are

stressful (Lazarus &Folkman, 1984). The social-cognitive perspective, however, sees the benefits of social support in a slightly different way. Using this perspective, social support perceptions are seen as influenced by our preexisting beliefs about the supportiveness of others. These beliefs are theorized to originate in one's social context. These beliefs of supportiveness, in turn, are thought to influence beliefs about the self, with high levels of supportiveness related to traits such as positive self-esteem.

1.5   THE NEGATIVE IMPACT OF ECONOMIC HARDSHIP ON SOCIAL SUPPORT

Understanding the origins of perceived social support is important because both buffering and main-effect models do not account for variables that could impact social support. A test of the social support deterioration model, however, examines how economic hardship may influence the perception of social support. Social support theorists have noted that economic hardship could debilitate social support resources and hamper the supportive behavior of others (Cohen, Gottlieb, & Underwood, 2000; Vaux, 1990). Research has supported the claim that chronic stressors can impact perceived social support. Household crowding, negative life events, natural disasters, and economic difficulties have all negatively impacted social support perceptions (Lepore, Evans, & Schneider, 1991; Lin & Ensel, 1991; Norris & Kaniasty, 1996; Schulz et al., 2006). The social support deterioration model explicates low social support as a potential mechanism that can explain some portion of the relationship between economic hardship and depressive symptoms. Examining models that consider mediating variables is important because these models may give insight to intervention and prevention efforts.

Several processes may be responsible for the association between high levels of economic hardship and low perceived social support. Facing economic hardship, mothers may report less support because of their inability to reciprocate various social exchanges. The experience of living in hardship may also hamper the beliefs that these mothers could assist others. These beliefs, in turn, can isolate mothers experiencing economic hardship from social relationships (Lepore, Evans, & Schneider, 1991). Mothers may also be excluded from potential social exchanges by their inability to invest economic resources into activities that initiate social relationships (Stack, 1974). Sustaining support often does involve some type of economic investment, such as gym membership, a gift for a birthday, or going to a movie. Economic hardship may make these social-building activities difficult.

The proposed research is unique in that it examines depressive symptoms within a larger model encompassing both economic hardship and social support. This model attempts to confirm both the negative impact of economic hardship and the positive impact of social support. It also examines if low levels of social support are acting as a mediating variable, confirming the social support deterioration model.

1.6   OVERVIEW OF THE STUDY

The social support deterioration model suggests that the relationship between economic hardship and depression is partially mediated by the negative impacts of economic hardship on social support. Prior to noting the four hypotheses used to test the social support deterioration model, key demographic variables associated with depressive symptoms in women will also be examined.

1.6.1   Description of Data Set

Data used for the proposed research were previously collected for a study at the University of Pittsburgh supported by the National Institute of Mental Health (R24MH56858 "Caring for mothers with children seeking care"). This data comes from this research grant that initially has sought to understand the mental health service needs of mothers who have a child in community mental health treatment. Conducted by principal investigators Carol Anderson, Ph.D. and Catherine Greeno, Ph.D., the major aims of this project were to: 1) identify major barriers to the mental health treatment engagement of mothers and their children; and 2) find out the degree to which mothers took a mental health referral, if needed; and 3) if not, find out the reasons for referral refusal. Participants of this study were identified as mothers who had a child receiving mental health services. Although 340 mothers received a battery of instruments, 336 of these mothers contributed to the analyses reported because of their valid scores for all three variables of interest: economic hardship, social support, and depressive symptoms.

Economic hardship was measured using the Hassles of Environmental Poverty Instrument money subscale (HOEP) (Wijnberg, Lagerwey, Applegate, & Reding, 2006). Social support was measured using the Medical Outcomes Survey's Social Support Survey (MOS-SSS), and depressive symptoms were assessed using the Beck Depression Inventory (Sherbourne & Stewart, 1991; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Demographic variables were also examined to determine their impact on depressive symptoms. Martial status and work status were of particular interest because of previous research in this area.

1.6.2   Description of the Social Support Deterioration Model

The social support deterioration model suggests that economic hardship can have a direct and indirect impact on depressive symptoms. The direct impact between economic hardship and depressive symptoms confirms previous research that demonstrates the psychologically damaging impact of economic hardship. The indirect impact of economic hardship is a unique contribution of the social support deterioration model. This indirect impact suggests that some impact of the main relationship between economic hardship and depression is due to the negative effect that economic hardship has on social support perceptions.

Based on the criteria of Baron and Kenny (1986), three hypothesized relationships must be met to confirm mediation is occurring in this research (Barrera, 1998) (see Figure 1.1 for complete model):

Path a: Economic hardship will positively predict depressive symptoms.

Path b: Economic hardship will negatively predict with social support.

Path c: Social support will negatively predict depressive symptoms.

If these hypothesized relationships are confirmed, a statistical test will be used to determine if social support is partially mediating the relationship between economic hardship and depressive symptoms. In addition to examining these four hypotheses, marital status and work status are included in the model because of the impact that these variables have on maternal depression as evidenced by previous research. The inclusion of these demographic variables adds potential explanatory power to the proposed model and reduces potential noise from the model. These four additional relationships are included in the model based on literature review and preliminary screening of these variables (Hope, Power, & Rodgers, 1999; Pascoe, Stolfi, & Ormond, 2006;

Ross &Mirowsky, 1989; Sachs-Ericsson & Ciarlo, 2000; Turner & Marino, 1994; Wu & Schimmele, 2005):

Path d: Married mothers will perceive more social support than unmarried mothers.

Path e: Married mothers will experience less depressive symptoms than unmarried mothers.

Path f: Working mothers will perceive more social support than unemployed mothers.

Path g: Working mothers will experience less depressive symptoms than unemployed mothers.
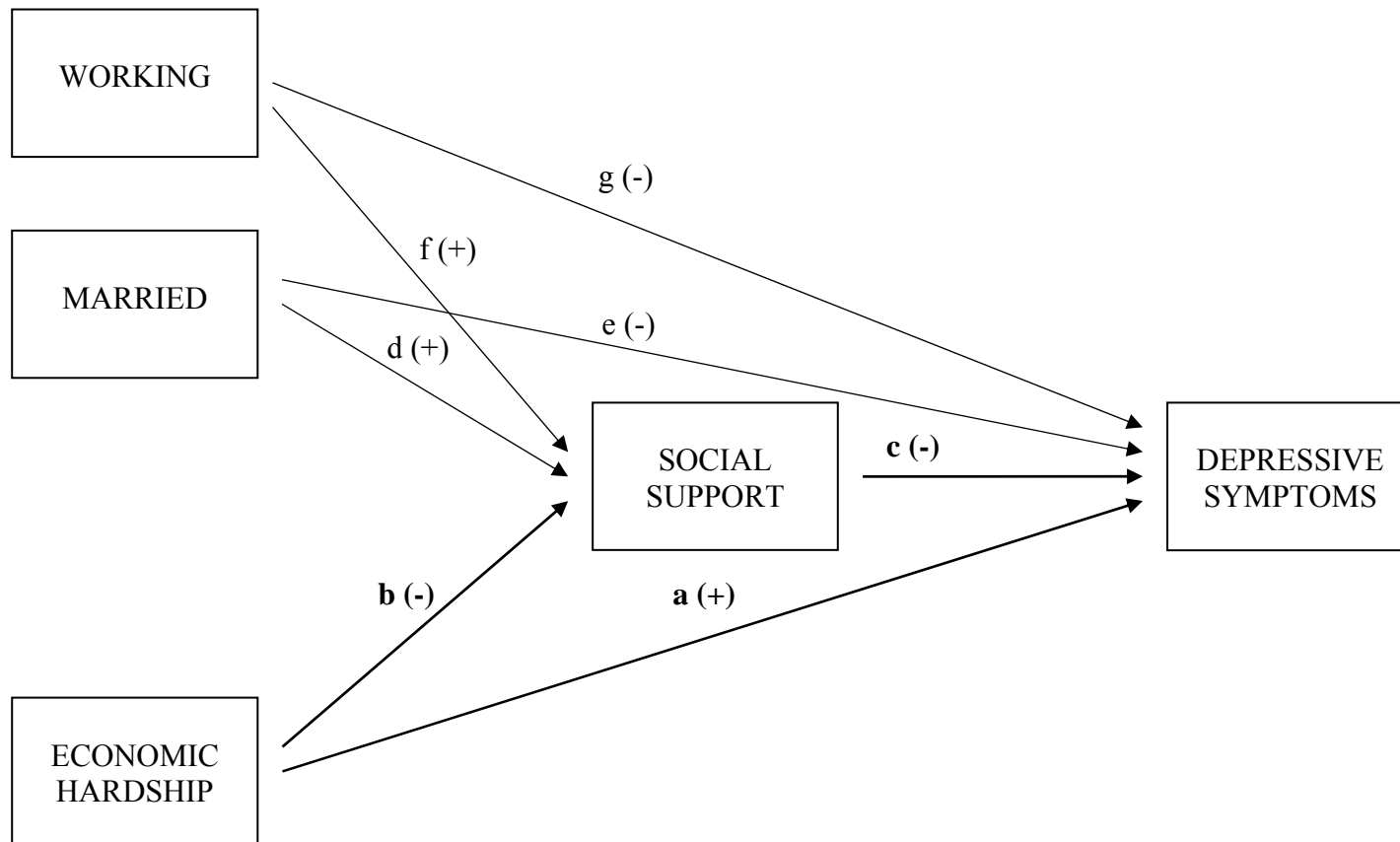
Figure 1.1: Social Support Deterioration Model and Relevant Demographic Variables

1.7   RELEVANCE TO SOCIAL WORK

Social workers in various settings interact daily with mothers who experience some degree of depressive symptoms. Finding the pathways and key predictors of depressive symptoms in high-risk groups such as these mothers is an important aim to researchers attempting to prevent and treat maternal depression and its consequences. This research specifically examines the social support deterioration model in a sample of mothers with children in mental health treatment, a sample with similar attributes to individuals served by community mental health agencies (Segal, Hardiman, & Hodges, 2002). Community mental health providers serve clients with psychiatric symptoms who live in social contexts that have multiple stressors. The proposed research specifically examines how the depressive symptoms and support perceptions of these mothers are embedded in a larger context of economic hardship.

This research aims at bringing more attention to the economic context within which maternal depression is embedded. If the relationships within the social support deterioration model are confirmed, this research suggests two issues relevant to mental health practice and policy. One, it emphasizes the damaging impact that economic hardship can have on the mental health of mothers. This should encourage social workers at all levels of practice to consider macro-level solutions that can assist individuals in securing and maintaining economic resources. Two, this research suggests that low levels of social support are associated with economic hardship. This insight is important as we attempt to understand how protective factors could be eroded by factors such as economic hardship.

2.0   LITERATURE REVIEW

2.1   INTRODUCTION

This literature review provides an important background for this dissertation's hypotheses and is discussed in five sections. In the first section, I address why maternal depression is a significant problem and demonstrate the degree to which it impacts low-income mothers. Second, I review the literature that demonstrates that mothers with high levels of economic hardship maintain higher levels of depressive symptoms than mothers who maintain economic security. Third, I review the evidence that notes that high levels of social support are beneficial to the mental health of mothers. In this section, I also define perceived social support and present the current theoretical understandings that explain perceived social support's benefit. Fourth, I review research that supports the social support deterioration model which asserts that low social support is one mechanism to explain the association between economic hardship and depression. Finally, I review evidence about how key demographic variables impact study variables.

Testing a model that incorporates these relationships advances our current understanding of how maternal depression is embedded in the greater social world. This review examines research demonstrating the direct impact of economic hardship on depressive symptoms and considers one mechanism, low social support, which may explain some part the relationship between economic hardship and maternal depression (Belle, 1990). The social support

deterioration model asserts the harmful psychological impact of economic hardship and suggests that hardship may impair the acquisition of perceived social support.

2.2   CONSEQUENCES AND PREVALENCE OF DEPRESSION IN LOW-INCOME MOTHERS

This section reviews the consequences of maternal depression as well as the degree to which maternal depression is a significant problem in low-income mothers.

2.2.1   Prevalence of Maternal Depression

Depression comprises a host of symptoms that frequently includes sadness, irritability, loss of pleasure, and difficulties with sleep and energy (American Psychiatric Association, 2000). It has been projected that depression will be the second leading cause of world-wide disability by 2020 (Murray & Lopez, 1997). In studies examining quality of life, individuals being treated on an outpatient basis for depression experience comparable functional impairment as individuals with chronic conditions such as hypertension, diabetes, or heart disease (Hays, Wells, Sherbourne, Rogers, &Spritzer, 1995; Wells &Sherbourne, 1999). Besides quality of life, depression can affect work productivity. Stewert, Ricci, Chee, Hahn, and Morganstein (2003) have documented that employees with depression have reduced work productivity compared with those without depression, and workers with depression are 2.5 times more likely to miss work due to illness (Kessler et al., 1999). This lost productivity costs U.S. employers an estimated $44 billion dollars each year (Stewart et al., 2003).

In the nationally representative National Comorbidity Study (NCS), women were found to be 1.7 times more likely to experience depression over their lifetime than men. Twenty-one percent of women will experience a depressive episode in their lifetime, and 13% of women will have experienced clinical depression in the last 12 months (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). Although women maintain a higher risk of experiencing depression than men, mothers experiencing economic hardship are at an even greater risk because of their gender and their limited access to basic resources.

Some research has attempted to examine the prevalence of maternal depression in low-income mothers. Two studies, for example, have examined the rate of high depressive symptoms in mothers receiving public welfare. Coiro (2001), in her study of 173 single African American mothers on public assistance, found that 40%of these mothers experienced levels of depressive symptoms indicative of clinical depression.Kalil, Born, Kunz, and Caudill (2001), in a sample of 580 first-time welfare recipients, also found a high prevalence rate of depression with 52% of mothers reporting a score indicative of clinical depression.

Two additional studies examine the depressive symptoms of low-income mothers in various settings and contexts: mothers of children attending Head Start and mothers attending a well-child visit for their toddlers. Using a validated three-item depression screen in 5820 mothers of Head Start kindergartners, Lanzi, Pascoe, Keltner, and Ramey (1999) found that 40% of the mothers screened positive for depressive symptoms. Additionally, in a sample of 279 mothers attending a routine visit for their child in an inner-city hospital, 39% percent of mothers scored 20 or higher on the Psychiatric Symptoms Index (PSI), indicating a high level of psychiatric symptoms (Heneghan, Silver, Bauman, Westbrook, & Stein, 1998).

These current findings suggest that mothers who access public welfare, Head Start, or use services at an inner-city hospital health care may be at a higher risk of experiencing depression than higher-income mothers. Elevated rates of depressive symptoms were found in 39-52% of mothers. These findings suggest that mothers with few economic resources appear to be a high-risk group vulnerable to depressive symptoms.

2.2.2 Consequences of Maternal Depression

One of the most concerning consequences of maternal depression is that it affects mothers as well as their children (Rishel et al., 2006; Rishel, Greeno, Marcus, & Anderson, 2006; Zuckerman &Beardslee, 1987). Maternal depression has been associated with child behavior problems, child depressive symptoms, and negative parental behavior. In a meta-analysis of 33 studies examining the association between maternal depression and child behavior problems in children age one to eighteen, Beck (1999) found a moderate positive relationship between maternal depression and child conduct problems. Additionally, in a meta-analysis of 46 observational studies examining the association between depression and parenting behavior, Lovejoy, Graczyk, O'Hare, and Neuman (2000) found that depressed mothers had higher levels of negative parental behaviors than non-depressed mothers, indicated by threatening gestures and negative facial expressions.

These findings have been supported by recent research. Redding, Harmon, and Morgan (2008) found high levels of maternal depression were associated with deficits in infants' mastery behaviors in a non-clinical sample of 1- and 2-year old infants. Infants whose mothers had high depressive scores had greater difficulty and were less persistent in completing certain tasks than infants with non-depressed mothers. In a sample of 122 economically disadvantaged mothers,

clinical depressionwas found to be associated with higher rates of physical discipline (Shay &

Knutson, 2008). Finally, Forehand and McCombs (2008) using longitudinal data on 99 mothers

and adolescents found that maternal depression predicted adolescent problems one year later.

These recent findings confirm prior findings that untreated maternal depression has negative

consequences on children.

2.3   ECONOMIC HARDSHIP AND MATERNAL DEPRESSION

This section reviews the research that examines the association between economic hardship and

depression.   Besides the common approach of examining socioeconomic status, this review

examines other methods of measuring economic hardship such as material hardship and food

insecurity. I describe the use of the Hassles of Environmental Poverty (HOEP) in this research

which assesses the degree to which individuals can obtain important basic resources (e.g.

housing, food, and clothing).

2.3.1   The Relationship between Economic Hardship and Depression

In large community samples, low socioeconomic status (SES) has been associated with an

increase in depression. In these studies, SES is generally measured by using either household

income or educational status. Reviewing three large epidemiological studies, Everson, Maty,

Lynch, and Kaplan (2002) note a graded relationship between these two indicators and

depressive symptoms.   Individuals who maintained either low income or low levels of

educational attainment had significantly more depressive symptoms than more highly educated

or higher income individuals. In the Alameda County Study, a community based longitudinal study of nearly 7000 adults, those individuals in the lowest quartile of education had a prevalence rate of depression twice that of those in the top quartile of education (Roberts, Stevenson, &Breslow, 1981). In a meta-analysis of 51 prevalence studies, five incidence studies, and four persistence studies published after 1979 that examine socioeconomic inequalities and depression, those in lowest SES group were 1.8 times more likely to experience depression than the highest SES group. This SES gradient was even more pronounced in this meta-analysis for studies specific to women (Lorant, Deliege, Eaton, Robert, Philippot, &Ansseau, 2003).

Not only is low SES associated with current depressive symptoms, itappears to predict the development of depressive symptoms. Those non-depressed individuals at the start of the Alameda study without a high school diploma were 53% more likely to become depressed than those individuals with a high school diploma or college degree (Kaplan, Roberts, Camacho, & Coyne, 1987). In addition, the impact of sustained low SES was examined. If a respondent was below 200% of the poverty line during the first three waves of the study in 1965, 1974, and 1983, Lynch, Kaplan, and Shema (1997) found they were 2.5 times more likely to suffer clinical depression in 1994 after adjusting for age, sex, and other risk factors.

Besides these quantitative research findings that have shown a strong relationship between socioeconomic status and depression, qualitative accounts from mothers confirm these findings. Low-income mothers readily acknowledge that their psychological distress is due to external causes such as poverty and negative life events (Anderson, Robins, Greeno, Cahalane, Copeland, & Andrews, 2006).

2.3.2 Measuring Economic Hardship: Material Hardship and Food Insecurity

Even though the relationship between SES and depressive symptoms is informative, other measures of economic hardship have been used and may offer greater predictive value in predicting health outcomes (Anderson &Armstead, 1995). Critics of using SES as the main measure of economic difficulties claim that household income or educational attainment may inappropriately categorize individuals into a socioeconomic group that obscures the actual economic difficulties that influence psychological well-being (Braveman et al., 2005; Oakes and Rossi, 2003). For example, due to differences in personal savings, access to government benefits, family size, and the utilization of bartering, an individual's educational attainment or household income may not accurately measure the degree to which an individual maintains certain basic resources.

While previously noted research had shown the relationship between SES and depression, household income has been a poor predictor of depression in smaller studies compared with other economic hardship predictors (Siefert, Bowman, Heflin, Danzinger, & Williams, 2000; Skapinakis, Weich, Lewis, Singleton, & Araya, 2006; Vetter, Endrass, Schweizer, Teng, Rossler, & Gallo, 2006). Whereas no "gold standard" for economic hardship is universally used, two economic hardship predictors have been shown to predict depressive symptoms: material hardship and food insufficiency.

2.3.2.1 Material Hardship

One surprisingly simple method for assessing the accessibility to basic resources is to ask individuals what basic resources they currently have. Even though there is no single definition used to define material hardship, researchers have attempted to assess how the acquisition of

basic resources or lack thereof influences psychological health. As to be expected, much of the debate over the measurement of material hardship has concerned itself with which "basic resources" are most responsible for the impact hardship has on psychological health.

Whelan (1993) examined the relationship between material hardship and psychological distress, defining a concept known as "primary deprivation", in 3,294 Irish households. Primary deprivation was defined as "the enforced absence of items defined as social necessities by a substantial majority of respondents" (p. 91). Valued items included having two pairs of shoes, a roast or its equivalent once a week, or living in a household that does not sustain severe debt. The number of primary life-style deprivations was shown to have strong positive prediction with psychological distress.

Material hardship and psychological distress were also measured in a sample of 5,453 drawn from the Swiss Household Panel. Material hardship was considered a "restricted standard of living", defined as the lack of 2 or more of 10 items considered necessary by Swiss residents. Some of these items included: going to a dentist, access to a private car, being able to save 100 Swiss Francs monthly, and being able to contribute to a pension fund. Women with "restricted standard of living" were found to be at an increased risk of psychological distress compared to women who maintained valued resources (Vetter, Endrass, Schweizer, Teng, Rossler, & Gallo, 2006).

In a study specific to mothers, Hope, Power, and Rodgers (1999) examined 33-year-old mothers in the 1958 British birth cohort. Seven indicators were used to account for material hardship. Mothers were considered to experience a high level of material hardship if they were renters, had no savings, and could not access a telephone in their home. Mothers experiencing high levels of material hardship were at a greater risk of experiencing psychological distress than

women who maintained certain economic and housing assets. All of these studies suggest that resources are important to the psychological health of individuals. The measurement of "material hardship" is relatively uncommon in research within the United States, however one specific resource has been of interest to some U.S. researchers: food.

2.3.2.2 Food Insecurity

During some portion of 2005, 11 percent of U.S. households were considered food insecure by the U.S. Department of Agriculture. Food insecurity describes a condition by which a household's members do not have "access at all times to enough food for an active, healthy life" (Nord, Andrews, & Carlson, 2006, p. 4). This measure specifically examines whether the household had enough food for the entire year. Households who are classified as food insecure experience food shortages and endorse inadequate monetary resources to purchase food. While food quality is also concerning to low-income communities due to the low levels of nutritional value in many inexpensive food products, food insecurity, as measured by the U.S. Department of Agriculture does not account for the quality of the food in the household.

Casey et al. (2004) examined various predictors of maternal depression in a convenience sample of 5,306 mothers who brought a child less than 3 years of age into hospital clinics or emergency departments in five states and the District of Columbia. Using a validated three-item screen for depression and controlling for demographic characteristics, the authors found that those mothers reporting food insecurity in their household were 2.6 more likely to have depression. In the National Population Health Survey (NPHS), Wu and Shimmele (2006) also examined depression and food insecurity in over sixty-five thousand Canadians. Food insecurity in this study was found to be a significant independent predictor of major depressive disorder after controlling for socioeconomic status, social resources, demographics, and health conditions

of respondents. Canadians who had run out of food and used food assistance were nearly three times (2.7) more likely to experience major depressive disorder than individuals who were food secure. An interaction between food insufficiency and gender was also present in the study, indicating that women were found to be at even greater risk to the effects of food insufficiency.

Although these cross-sectional findings demonstrate an association between food insecurity and depression, a recent longitudinal study has demonstrated that food insecurity may cause the onset of depression. In a 3-year study of 753 female welfare recipients in an urban Michigan county, food insecurity was shown to significantly predict a greater likelihood of experiencing depression (Heflin, Siefert, & Williams, 2005). The authors suggest that policy-level interventions that reduce the impact of food insufficiency may improve mental health.

2.3.3   Basic Resources and the HOEP Scale

These measures of economic hardship, food insecurity and material hardship, evaluate the access that individuals have to basic resources. The previously noted studies have documented the strong association between resource deprivation and depression. This research has had access to a measure of resource acquisition known as the Hassles of Environmental Poverty (HOEP) instrument (Wijnberg, Lagerwey, Applegate, &Reding, 2006). This instrument examines the resources that mothers have difficulty obtaining and consists of similar items to material hardship and food insufficiency measures. After psychometric methods were utilized to test this instrument in a sample of 668 mothers, the authors found the presence of a 18-item factor that measured the economic hardships experienced by mothers. Items on this scale include: "Money to buy clothes for children", and "Having money to pay rent" (see Appendix A). This scale accurately reflects the daily economic hardships experienced by mothers and is a remedy to non-

psychometrically tested measures with unreported reliability and validity. This research intends on examining economic hardship, using this HOEP instrument, and determining its impact on social support and depression.

2.4 SOCIAL SUPPORT AND DEPRESSIVE SYMPTOMS

This section of the literature review examines evidence that high levels of perceived social support are a protective force against experiencing depression and/or depressive symptoms when encountering stressful experiences. Social support definitions and theoretical understandings will be specifically addressed, because there is "considerable heterogeneity of existing theoretical formulations and a lack of conceptual specificity" in the social support area (Schwarzer&Leppin, 1991, p. 100). These theories explain how perceived social support may impactdepression.

2.4.1 Social Support Theory

Lakey and Cohen (2000) note that the appraisal and social-cognitive theoretical perspectives can explain the beneficial impact derived from high levels of perceived social support. The appraisal perspective claims that the emotional consequences of stress are a consequence of how individuals' perceive stressful situations and determine their coping response, known as primary and secondary appraisal, respectively (Lazarus &Folkman, 1984). During primary appraisal, individuals attempt to decipher if a given situation is threatening. Is this situation a threat to me? Secondary appraisal considers the specific actions that could be enacted by the individual to cope

with the given situation. How will I respond to this threat? High levels of perceived social support are theorized to encourage positive primary and secondary appraisals. These positive appraisals, in turn discourage emotional distress.

For example, take the loss of a loved one. If one does not perceive available support, one potential appraisal could be: "They were the only person that cared about me." As expected, this appraisal could cause considerable emotional distress. However, if an individual feels that they have support from others, they may have a more positive appraisal such as: "They may be gone but I do know others who care about me." This appraisal may facilitate less emotional distress. Although this theory offers an explanation that may explain the relationship between social support and emotional distress, this theory is difficult to verify because of the lack of well-developed measures that can measure appraisal over the course of the stress process (Monroe & Kelley, 1995).

In contrast to the appraisal theoretical perspective, the social-cognitive perspective suggests a different mechanism. This perspective suggests that social support perceptions are created from our preexisting beliefs about the supportiveness of others. These beliefs are thought to have been molded through early social attachment experiences as well as impressions that are constructed through our interactions with others (Lakey& Cohen, 2000). Perceived social support, from this framework, is seen as a concept this is created and modified by the individual within a social context. These beliefs "prime the cognitive pump" through which social support perceptions are developed. In turn, these perceptions can stimulate positive or negative beliefs about the self. This theory suggests that an individual who perceives they have available support will be more apt to maintain positive internal representations about themselves. These positive internal representations, in turn, are associated with less emotional distress.

2.4.2　Defining Perceived Social Support

Research examining social support commonly uses one of the following conceptual categories: social networks, supportive behaviors, or perceived social support (Cohen, 1992). All three of these concepts have been shown to have relationships with mental health, however different theoretical foundations underlie the measurement of each of these concepts. Measurement of social networks examines the diversity of social relationship to which one regularly relates. An individual with multiple social roles (e.g. parent, brother, friend, and soccer coach) is more socially integrated than an individual with few social roles. Measuring supportive behaviors, however, examines the actual receipt of certain support behaviors. This approach assesses the actual types of assistance received or provided to others. This research often attempts to determine the behaviors that are most successful in reducing symptoms associated with emotional distress.

Perceived social support, also known as functional support, assesses "the psychological and material resources available from an individual's interpersonal relationships" (Rodriquez & Cohen, 1998, p. 536). To assess perceived social support, individuals are asked what types of support would be available to them if such support were needed. Whereas this type of measure does not determine whether social support is actually being provided, perceived social support has been shown to be a stronger predictor of a positive adjustment to stress than the receipt of actual support behaviors (Wethington& Kessler, 1986). Two possible explanations have been considered to account for this. One, support recipients often fail to note that they have received support, and two, the receipt of support is confounded with the need for support (Bolger, Zuckerman, & Kessler, 2000; Wethington& Kessler, 1986).

2.4.3   Popular Social Support Models: Main-effect and Stress-buffering

Although social support research rarely explicates these theoretical mechanisms, the great majority of research literature tests one of two main social support models: the main-effect model and stress-buffering model (Barrera, 1988). The main-effect model claims that support will have a beneficial impact protecting individuals from depression regardless of stress level. The stress-buffering model, however, notes that social support is only influential in reducing emotional distress when individual are experiencing high levels of stress. High levels of social support buffer the impact of high levels of stress; whereas high levels of support are ineffective when individuals are not experiencing stressful experiences. The statistical test for stress-buffering, also known as a test for moderation, is an interaction term (stress*support) (Cohen & Willis, 1985).

Given the large amount of research examining various social support measures and their association with a variety of health outcomes, this research is specifically interested in the association between perceived social support and maternal depression and/or depressive symptoms. When studies were confined to those in which perceived social support and maternal depression were measured, no studies were found that could support the stress-buffering model (Cairney, Boyle, Offord, & Racine, 2003; Cutrona, 1984; Siefert, Bowman, Heflin, Danzinger, & Williams, 2000; Silver, Heneghan, Bauman, & Stein, 2006; Surkan, Peterson, Hughes, Gottlieb, 2006). In the most rigorous study examined, a longitudinal study of 2163 female twins, Wade and Kendler (2000) noted that their study, "would not support even the more limited generalization that buffering occurs only in the context of functional measures of SS [perceived social support], or between uncontrollable life events and emotional support" (p. 972).

2.4.4 Cross-Sectional Research on Social Support and Maternal Depression

Surkan, Peterson, Hughes, and Gottlieb (2006) examined the depressive symptoms in a multiethnic sample of white (40%), Hispanic (41%), and African-American (19%) mothers from 6 weeks to 24 months after the birth of their child. The authors found social support, measured using the Medical Outcome Study Social Support Survey (MOS-SSS), was negatively associated with maternal depressive symptoms after adjusting for other variables in the study.

In a sample of 279 mothers of children 6 months to 3 years old attending a well-child visit, Silver, Heneghan, Bauman, and Stein (2006) analyzed predictors of depressive symptoms, measured with the Psychiatric Symptoms Index (PSI) (Heneghan, Silver, Westbrook, Bauman, & Stein, 1998). The portion of mothers (42%) that reported "some or almost no social support" were 2.3 times more likely to report levels of distress indicative of clinical depression than mothers reporting higher levels of social support availability.

Siefert, Bowman, Heflin, Danzinger, and Williams (2000) examined predictors of maternal depression in 705 welfare recipients. The risk of clinical depression increased when mothers experienced more than three prominent social risk factors (e.g. food insufficiency, domestic violence). Mothers maintaining high levels of perceived social supportwere 38% less likely to experience major depressive disorder, measured by the World Health Organization's (WHO) Composite International Diagnostic Interview, Version 1.0 (CIDI) (WHO, 1990).

Finally, in an analysis from the 1994-95 National Population Health Survey of 2,921 Canadian mothers, Cairney, Boyle, Offord, & Racine (2003) found that perceived social support, assessed using 4-items, was a significant predictor of clinical depression, whereas social involvement and the frequency of contact with one's social network were not significant predictors of clinical depression. With all variables accounted for, mothers with high levels of

perceived social support had a 24% less risk of experiencing a major depressive episode over the past year. All of these studies demonstrate that mothers who perceived high levels of social support maintained less depressive symptoms. No evidence in these studies was found for the stress-buffering model.

2.4.5   Longitudinal Research on Social Support and Depression

All these studies conclude that high levels of perceived social support are associated with either less maternal depressive symptoms or a reduced risk of clinical depression. Given issues of causality in cross-sectional designs, it is plausible that depressive symptoms may be causing individuals to report that they have less social supports. Although longitudinal data examining predictors of maternal depression is fairly limited, I will note a few longitudinal studies that demonstrate that social support has been shown to predict depression.

Cutrona (1984) found that the total social support scores at baseline for new mothers negatively predicted depressive symptoms at 8 weeks postpartum, indicating the beneficial impact of social support. In a clinical study of 34 students receiving brief therapy, Mallinckrodt (1996) found that improvements in social support over treatment were associated with symptom reduction. Finally, in a study of 506 cardiac patients, high levels of social support during hospitalization were associated with decreased depressive symptoms at 1 month follow-up after depression at baseline, gender, age, and disease severity were statistically controlled (Brummett et al., 1998). Although only one of these three studies is specific to mothers, longitudinal research does challenge the claim that the social support and depression relationship is merely the consequence of depressed individuals reporting lower levels of social support. These studies

suggest that high levels of social support may reduce the likelihood of lower levels of psychological distress in the future.

2.5   SOCIAL SUPPORT DETERIORATION: MOTHERS IN CONTEXT

In the following section, I will describe the current evidence for the social support deterioration model and describe how this model is a natural extension of the main-effect model. First, I explain the shift in theoretical understanding that must accompany the testing of such a model. Second, I review the evidence that chronic stressors can deteriorate social support perceptions, with emphasis on one study (Schulz et al., 2006) that examined financial stress. Finally, I conclude with some plausible explanations that may give theoretical guidance to why economic hardship may deteriorate social support.

2.5.1   Social Support is Dynamic, not Static

Both stress-buffering and main-effect social support models evaluate perceived social support as a trait-like variable, akin to a personality construct (Sarason, Pierce, &Sarason, 1990). As a consequence, perceived social support is usually analyzed as an independent variable. The social support deterioration model, however, notes that social support can be negatively impacted by stress. In a review of studies that have shown a negative association between stress and social support, Barrera (1986) writes:

> It is not clear why there are not more data consistent with the support deterioration model
>
> for measures of social embeddedness. Many forms of stress (not only social losses)

could conceivably precipitate changes in social network structure. For example, job strains or unemployment could be linked to marital disruptions that, in turn, could lead to further social embeddedness deterioration. Evaluations of this process await further research (p. 427)

Since this review of social support models by Barrera (1986), there has been a growing literature that demonstrates that various stressors can erode the social support perceptions of individuals. Stressors such as household crowding, life events, natural disasters, and economic difficulties have been shown to erode social support (Ensel& Lin, 1991; Lepore, Evans, & Schneider, 1991; Norris &Kaniasty, 1996; Schulz et al., 2006).

If low perceived social support is a mediator between stress and emotional distress, new questionsare raised about the acquisition of perceived social support: What stressful experiences are most detrimental to perceived social support? Why do they impact social support in a negative way? Would social support interventions or economic support bolster perceived social support?Unfortunately, stress-buffering or main-effect models do not suggest that stressful life eventscould impact social support perceptions (Barrera, 1988). Social support must be conceptualized as a dynamic variable that can both influence emotional distress and be influenced by various stressors. The section reviews research that has examined social support as a mediating variable. A brief review of these studies is important to understanding the key principles of social support deterioration.

2.5.2 Current Evidence for Social Support Deterioration

Quitter, Glueckauf, and Jackson (1990), in their study of 214 parents of both deaf and non-deaf children, found that social support mediated the relationship between parental stress and

psychological symptoms. The relationship between high parental stress and high levels of psychological problems was partially explained by the negative impact that parental stress had on social support. Although this study had a cross-sectional design, the authors speculated that "chronic stressors might alter perceptions of emotional support, which in turn would lead to increased symptoms of distress" (p. 1276).

In a study that examined crowding, social support, and psychological distress in a sample of 173 college students, Lepore, Evans, and Schneider (1991) found evidence that social support acted as a mediating variable when crowding occurred for over 8 months. Increased crowding was strongly correlated with less social support measured at 8 months indicating that crowding may be eroding support when it occurs for a significant period of time. This reduction in social support was associated with greater distress, indicating that low levels of social support were partially mediating the crowding-distress relationship.

Norris and Kaniasty (1996) examined the variables of disaster scope, perceived support, and distress in a sample of nearly one thousand individuals who had experienced either Hurricane Hugo or Hurricane Andrew. While the greater impact of the disaster was associated withgreater psychological distress, low social support mediated this relationship. In other words, the enduring impact of the hurricanes reduced perceptions of social support. As a consequence, this reduction in social support offered less psychological protection from mental health problems.

In the most rigorous longitudinal study examining social support as a mediator, Ensel and Lin (1991) examined 677 upstate New York residents in 1979, 1980, and 1982. They collected variables such as stressful life events, perceptions of social tie availability, and depressive symptoms and tested six plausible based on theories of the life stress process. First, the authors

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found direct effects from both life events and social support, confirming the protective qualities of social support and the negative aspects of stressful life events. Second, the authors tested interaction terms and found no evidence for the stress-buffering effect of social support. In conclusion, the authors found support for the social support deterioration model. Social support was negatively affected by antecedent stressful life events. Given this erosion of social support, less social support was associated with increased depressive symptoms.

2.5.3 Social Support Deterioration Model and the Schulz Study

These studies demonstrate that low levels of social support can mediate the relationship between chronic stressors and psychological distress. Few studies, however, have examined the specific chronic stressor of economic hardship and studied its influence on social support and depression in a high-risk group, such as low-income mothers. One study is unique in its interest in financial strain, measured by "five items assessing worries about having enough money for daily necessities" (Schulz et al., 2006, p. 514).

In a sample of 679 African-American mothers living on Detroit's Eastside, financial stress, social support, and depressive symptoms were measured (Schulz et al., 2006). The authors found that financial stress had a direct positive association with depressive symptoms, confirming the main effect of economic hardship. Second, instrumental social support had a negative association with depressive symptoms, confirming the psychological benefits of social support. Finally, financial stress maintained a negative association with instrumental social support, suggesting the erosion of social support. Schulz et al. (2006) reported a significant indirect effect of financial strain through the erosion of social support, indicating that partial mediation was occuring. The authors conclude that improvements in household income may

reduce financial strain and promote increased social support. Although causality could not ultimately be implicated due to the cross-sectional design of the study, the authors do speculate that financial stress may erode resources, such as social support, that are necessary to sustaining mental health.

2.5.4 Why Might Social Support Deterioration Occur?

If the proposed model suggests that the deterioration of social support is one mechanism through which economic hardship impacts depression, why is deterioration occurring? Given that there is no general consensus for this phenomenon, I will note a few possibilities that could encourage future theoretical development in this area.

2.5.4.1 Reciprocation

Mothers who experience economic hardship may feel limited in their ability to reciprocate certain social exchanges. Given their own difficulty "making ends meet", mothers experiencing economic hardship may remove themselves from important social exchanges because of their own beliefs that they have little to share or provide to others. Some mothers experiencing economic hardship may also feel they have "used up" social favors from friends and family and perceive themselves as a burden. In order to preserve their personal integrity, these mothers may distance themselves from supportive others (Lepore, Evans, & Schneider, 1991). As a consequence, isolation from support members may be a consequence. In addition, peers, in a similar economic position, may not have the ability to provide tangible support. The absence of resource-rich supports may facilitate a "defeatist" or "apathetic" orientation to engaging with potential supports.

2.5.4.2 Resources Impact Resources

The inability to invest economic resources may also be responsible for the association between high economic hardship and low social support. Hobfoll (1998) has noted that investing resources is vital to the maintenance of existing resources. If money is plentiful, individuals can invest disposal income in activities that may provide beneficial social exchanges. A gym membership, an internet connection, or being a regular customer at a restaurant requires some economic investment, and these investments can be conduits for new social connections. Social relationships may also require some financial cost: a cup of coffee, a phone call, or the cost of a meal. Economic hardship may put a damper on these social exchanges, isolating the individual with hardship from being able to participate in exchanges that may facilitate positive social support perceptions.

2.6   DEMOGRAPHIC VARIABLES AND KEY RESEARCH VARIABLES

Some research has investigated the demographic variables that are associated with the acquisition of social support and depressive symptoms. Two demographic variables have been previous explored in research: marital status and work status. Based on this review and preliminary review of the demographic variables, these two variables are included in the model to improve the explanatory power of the model and reduce potential statistical noise. At the end of each section, I note the hypothesized relationships between the demographic variable and key study variables.

2.6.1 Marital Status

In studies specifically examining maternal depression, there is evidence that being married is associated with less depressive symptoms. In a two-wave study that examined 2227 mothers, 15% of married mothers maintained high levels of depressive symptoms at both waves, whereas 35% of unmarried mothers maintained a high levels of depressive symptoms (Pascoe, Stolfi, & Ormond, 2006). In addition, Wu and Schimmele (2005) found that married mothers raising their children had less risk of experiencing a depressive disorder and fewer depressive symptoms than single women. Hope, Power, and Rodgers (1999) examining a 1958 British birth cohort also found that married mothers had less risk of psychological distress than single mothers. Finally, in a large survey of 2,479 women that utilized the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981), Sachs-Ericsson and Ciarlo (2000) found that married women had a significantly lower rate of anxiety and depression disorders than unmarried women. A quarter of unmarried mothers (24.9%) maintain a *DSM* disorder over the last month, while only fourteen percent (14.1%) of married mothers had disorder. Given the research findings that havenoted the association between being married and fewer psychological difficulties, the proposed model hypothesizes that being married will be associated with less depressive symptoms than being unmarried.

There is also evidence that higher levels of social support are found in individuals that are married. For example, Ross and Mirowsky (1989), in a community sample of 809 individuals in the Chicago metropolitan area, found that being married was significantly associated with higher levels of perceived social support. Turner and Marino (1994) also found that married women reported a higher level of social support than women who were not currently married. Given

these research findings, the proposed model also hypothesizes that being married will be associated with higher levels of social support than being unmarried.

2.6.2   Work Status

Working outside the home is also a factor found to be related to maternal depression. Lanzi, Pascoe, Keltner, and Ramey (1999), in a sample of 5280 mothers with children attending a Head Start program, found that unemployed mothers were 37% more likely to have a positive depression screen than their employed counterparts. Hope, Power, and Rodgers (1999) also found that unemployed mothers were 43% more likely to have a high score of psychological distress. Although depressed mothers may certainly have difficulty finding work, there is evidence that even low-income jobs offer mothers emotional benefits. Theoretical work on social ties has noted that individuals who maintain multiple social identities (e.g. spouse, parent, employee, student, church member, and friend) maintain less psychological distress than individuals who have few social identities (Thoits, 1983). Given these findings, I hypothesize that working mothers will maintain higher levels of social support and less depressive symptoms.

2.7   THE PRESENT RESEARCH

This study tests a path model (See Figure 1.1) using structural equation modeling to predict depressive symptoms in a sample of mothers with children in mental health treatment. The social support deterioration model suggests that high levels of economic hardship will negatively impact both social support perceptions as well as depressive symptoms. The economic hardship-

social support association will partially explain why mothers with elevated levels of economic hardship have higher levels of depressive symptoms. This research also attempts to confirm research that has already demonstrated the benefits of social support as well as the harmful effects of low socioeconomic status on depressive symptoms. The research also attempts to confirm the findings that being married and employed offer some benefit.

2.8   RESEARCH HYPOTHESES

These path relationships have been developed from a literature review that examined the social support deterioration model and important demographic predictors. The proposed study uses cross-sectional data to address seven hypothesized path relationships (paths a-g) and to test if social support is a mediating variable:

Path a: *Economic hardship will positively predict depressive symptoms.*

Path b: *Economic hardship will negatively predict social support.*

Path c: *Social support will negatively predict depressive symptoms.*

Path d: *Married mothers will perceive more social support than unmarried mothers.*

Path e: *Married mothers will experience less depressive symptoms than unmarried mothers.*

Path f: *Working mothers will perceive more social support than unemployed mothers.*

Path g: *Working mothers will experience less depressive symptoms than unemployed mothers.*

Social support will also be tested statistically in order to determine whether it partially mediates the relationship between economic hardship and depressive symptoms.

3.0   METHOD

3.1   OVERALL DESIGN

This research uses data collected for a study funded by the National Institute of Mental Health with methods approved by the University of Pittsburgh Institutional Review Board. Conducted by principal investigators Carol Anderson, Ph. D. and Catherine Greeno, Ph.D., major aims of these projects included: 1) identifying major barriers to mental health treatment engagement of mothers and their children; and 2) assessing the impact that social/environmental factors have on mothers' psychiatric status, child psychiatric status, and treatment attendance. Mothers were recruited through community mental health clinics that provided treatment for their children. Data were collected for both children and their mothers. The data collected included demographic information, self- and interviewer- administered questionnaires that assessed psychiatric symptoms in mothers and children, and other psychosocial variables of interest. Mothers with elevated psychiatric symptoms were referred to treatment. Three months later, questions were asked about their use of mental health services since the baseline meeting. Whereas the initial aim of the study was to understand the prevalence of mental health problems and the utilization of mental health treatment, this research examined the relationships among economic hardship, social support, and depressive symptoms in this sample of mothers.

3.2   SAMPLE SELECTION CRITERIA

Participants of this study were mothers, who had consecutively consented for the study at five community mental health clinics between June, 2001 and August, 2003. All of these women were at the clinic for mental health treatment for their children. In order to be included in the initial study, mothers had to be the biological or adoptive parent, have custody of the child, and live with the child. Children also needed to be between the age of four and seventeen for mothers to be eligible for the study. One important characteristic of this sample is the fact that all participants had a child in mental health treatment. This was a defining characteristic of the sample because the primary focus of the initial study was to understand the prevalence of mental health problems in mothers with a child in mental health treatment.

3.3   DATA COLLECTION PROCEDURES

Six hundred and forty-four mothers were approached to participate in the study. Due to the eligible criteria previously described, 58 mothers were considered ineligible for the study. Of the remaining eligible mothers (N=586), 58% of mothers (N=340) participated in the study. The non-participating (N=246) mothers either refused to participate (N=199) or were unable to be contacted (N=47). Of the 340 mothers who participated in the study, 99% percent (N=336) had complete data for the three variables: economic hardship, social support, and depressive symptoms. The collection of these variables was obtained by trained interviewers whom explained the project to participants and obtained written informed consent. The interview was

often conducted at the participant's home. Mothers received financial compensation for their participation in the study.

3.4   MEASUREMENT OF STUDY VARIABLES

Besides demographic variables, all mothers in this study completed the Hassles of Environment Poverty Instrument money subscale (HOEP-M), which assessed economic hardship; the Medical Outcomes Study's Social Support Survey (MOS-SSS), which assessed perceived social support; and the Beck Depression Inventory (BDI), which assessed depressive symptom.

3.4.1   Dependent Variable: Depressive Symptoms

The dependent variable in this study, depressive symptoms, was measured using the Beck Depression Inventory (BDI). The BDI was designed to be used to detect the severity of 21 symptoms and attitudes correlated with depression in psychiatric patients; some of these symptoms included sadness, sleep problems, and loss of energy (Beck, Ward, Mendelson, Mock, &Erbaugh., 1961). Used as a self-report questionnaire, respondents reported the intensity of a symptom over a one-week period on a 4-point scale from 0 to 3. A total depression score was determined by summing the 21 items, with a highest possible score of 63. In a meta-analysis of nine psychiatric samples and a meta-analysis of 15 nonpsychiatric samples, high coefficient alphas have been reported of 0.86 and 0.81, respectively (Beck, Steer, &Garbin, 1988). The BDI has also demonstrated strong concurrent validity. For example, the meta-analysis also indicated

a mean correlation of the 0.72 for the BDI and clinician ratings for psychiatric patients and a correlation of 0.60 for nonpsychiatric patients.

For measuring the severity of depressive symptoms, the Beck Depression Inventory has some advantages. It allows researchers to examine various levels of depressive symptoms because it is a continuous measure of depressive symptoms. This also allows various statistical techniques to be utilized. Even so, it is emphasized that the proposed study examines factors associated with depressive symptoms and makes no conclusions regarding predictors of clinical depression.

3.4.2   Independent Variable: Economic Hardship

The economic hardships of women are generally assumed when standard SES methods are used. The Hassles of Environmental Poverty Instrument (HOEP), however, was developed to improve the precision of measuring stressors experienced by mothers (Wijnberg, Lagerwey, Applegate, &Reding, 2006; Wijnberg&Reding, 1999). Utilizing exploratory factor analysis in a sample of 488 rural and urban mothers who had received public welfare assistance in the last 12 months, the authors found that forty-eight of the items loaded onto 3 different factors: money, time, and children (Wijnberg et al., 2006).

The 18-item money scale from the HOEP was used in the proposed research (see Appendix A for instrument items) because of specific interest in the impact of economic hardship. This scale measured the degree of difficulty or "hassle" to which certain material goods, such as food, housing, and clothing could be obtained. Participants responded to the following interview prompt: "Please tell me the number that describes how much of a hassle it has been for you in the past 30 days". The 5-point response scale was: 0 = "Does not apply to

me," 1 = "Not a hassle for me," 2 = "Somewhat of a hassle," 3 = "A moderate hassle," and 4 =

"A big hassle for me," and was reduced to a 4-point scale (0, 1, 2 ,3) by collapsing the "0" and

"1" categories. This technique was also performed by the scale's authors prior to psychometric

analysis (Wijnberg et al., 2006). The instrument was scored by finding an average score which

ranges from 0-3 based on the 18 items. High numbers indicated a high degree of economic

hardship, indicating that acquiring basic needs was big hassle. A low score indicated an

individual did not have difficulty when attempting to access certain basic needs for themselves

and their family.

Wijnberg et al. (2006) found the 18-item money factor to have good psychometric

properties. Internal consistency reliability of the Money scale was 0.93. In addition, concurrent

validity was assessed by examining the correlation between the money scale and the CES-D self-

report depression scale (Radloff, 1977) and an alternative measure of stressors, the DeLongis

Hassles Scale (DeLongis, 1985). The correlation with the DeLongis Hassles Scale was 0.68, and

the correlation between the money scale and the CES-D was 0.54. Although these psychometric

properties have only been recently been reported, the scale items had been available prior to data

collection (Wijnberg&Reding, 1999).

3.4.3   Mediating Variable: Social Support

Social support was measured using the Social Support Survey from the Medical Outcomes Study

(Sherbourne& Stewart, 1991). The scale was developed based on nearly three thousand patients

with chronic medical conditions. Respondents were asked 18 items regarding the type of support

that would be available to them, if needed (See Appendix B for instrument items). Responses

ranged from 1 (*none of the time*) to 5 (*all of the time*), with high scores indicating a high level of

social support availability. Sherbourne and Stewart (1991) reported four factors of social support: *emotional/informational support*, characterized by both emotional support and guidance or advice; *tangible support*, characterized by material aid or assistance, *affectionate support,* characterized by expression of love and affection, and *positive social interaction,* characterized by the availability of individuals with whom to do fun things together. Although the subscales of support can be examined separately, the total average score of the 18 items is commonly used to measure global social support. The scale authors have indicated that both global support and its subscales can be appropriately examined with this scale.

The reliability of the MOS-SSS has been demonstrated through high internal consistency (subscale and total scale alphas were over 0.90), and the test-retest stability was 0.72 to 0.76 over a one-year period. This instrument maintained convergent validity, as evidenced by moderate-sized correlations, with variables including loneliness (-0.67), family functioning (0.53), marital functioning (0.56), and mental health (0.45).

3.4.4   Control Variables: Demographics

Besides these three main variables of interest, women were asked to complete basic demographic information. These variables include age, race, marital status, work status, education, and income. These demographics were preliminarily tested prior to be included in the hypothesized model. The mental health benefits of marital and work status had been found in previous research. Given that the HOEP money scale measures economic hardship, education and income (traditional socioeconomic variables) were not evaluated for inclusion in the hypothesized model.

3.5 DATA ANALYSIS

The hypothesized path model composed of study variables was evaluated using structural equation modeling (SEM). I describe three steps by which analysis was performed. First, preliminary analysis of important demographic variables was preformed to determine which variables should be included in the model.Second, model specification was conducted based on theoretical considerations and the current research base for the hypothesized relationships as previously outlined. Third, I examined the specific tests for the significance of each path in the model.

3.5.1   Data Analysis Phase I: Preliminary Data Analysis

First, the relationships between depressive symptoms and demographic variables were examined. If any of the demographic variables were significantly associated with depressive symptoms, they were included in model testing. As guided by literature review and theory, it was speculated that working and being married would offer some benefit to mothers. This initial analysis was performed to confirm that these variables, and not other demographic variables, were indeed the most important variables to be included in predicting depressive symptoms.

3.5.2   Data Analysis Phase II: ModelSpecification

Given that I examined all of the relationships among the study variables, the proposed model is said to be just-identified, or a saturated model. Although a saturated model does suggest that the theorized model has a perfect fit with the observed variables (df = 0), it <u>does not</u> suggest that

every relationship in the model is statistically significant. Non-significant relationships among demographic variables werenot removed from the model because these demographic variables could influence the test of mediation.This test of mediation was of primary interest to this research. Given that the data does departed from normality (Mardia's Coefficient = -3.90), robust statistics were reported for the relationships among the hypothesized relationshipsto correct for non-normal data (Satorra&Bentler, 1994).

3.5.3   3.5.3   Data Analysis Phase III: Path Testing and Test of Mediation

EQS 6.1 for Windows software (Bentler, 2004) was used to analyze the hypothesized relationships. The significance of these paths was analyzed to determine the size of their relationships within the model. The relationships among the variables were assessed in paths a-f and a statistical test of mediation.

Path a: Economic hardship will positively predict depressive symptoms.

The standardized and unstandardized coefficients are reported for the relationship between economic hardship and depressive symptoms. These coefficients measure the degree of change by which economic hardship is associated with depressive symptoms.

Path b: Economic hardship will negatively predict social support.

The standardized and unstandardized coefficients are reported for the relationship between economic hardship and social support. These coefficients measure the degree of change by which economic hardship is associated with social support.

Path c: Social support will negatively predict depressive symptoms.

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The standardized and unstandardized coefficients are reported for the relationship between social support and depressive symptoms. These coefficients measure the degree of change by which social support is associated with depressive symptoms.

Test of Mediation: Social support will partially mediate the relationship between economic hardship and depressive symptoms.

A test of mediation is preformed to determine if social support mediated the relationship between economic stress and depressive symptoms. Full mediation would indicate that the association between the independent and dependent variables would disappear after accounting for the mediator, however partial mediation indicates a significant reduction in the size of the relationship between the independent (economic hardship) and dependent variable (depressive symptoms). Partial mediation is more plausible because as Baron and Kenny (1986) note, "most areas of psychology, including social, treat phenomena that have multiple causes, a more realistic goal may be to seek mediators that significantly decrease . . . [the relationship between the independent and dependent variable] rather than eliminating the relation between the independent and dependent variables altogether" (p. 1176). For partial mediation to be found, path a, b, and c must be significant (Baron & Kenny, 1986), and the economic hardship and depressive symptom association should be significantly reduced in size. This reduction in size of the independent/dependent relationship will be reflected by economic hardship having a significant indirect impact on depressive symptoms through its influence on social support.

Paths d: Married mothers will perceive more social support than unmarried mothers.

The standardized and unstandardized coefficients are reported for the relationship between marital status and depressive symptoms. These coefficients measure the degree of change to which being married is associated with perceived social support.

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Path e: Married mothers will experience less depressive symptoms than unmarried mothers.

The standardized and unstandardized coefficients are reported for the relationship between marital status and depressive symptoms. These coefficients measure the degree of change to which being married is associated with depressive symptoms.

Path f: Working mothers will perceive more social support than unemployed mothers.

The standardized and unstandardized coefficients are reported for the relationship between working status and depressive symptoms. These coefficients measure the degree of change to which working is associated with perceived social support.

Path g: Working mothers will experience less depressive symptoms than unemployed mothers.

The standardized and unstandardized coefficients are reported for the relationship between work status and depressive symptoms. These coefficients measure the degree of change to which working is associated with depressive symptoms.

4.0 RESULTS

This dissertation tested the social support deterioration model in a sample of mothers with children in mental health treatment. This model suggests that one pathway by which economic hardship may be associated with depression is the association between high levels of economic hardship and low levels of social support. This chapter is divided into three sections. First, I examined missing data and describe descriptive results of the demographic characteristics of the sample and the key study variables. I used statistical tests and relevant literature to determine which demographic variables should be included in the models that predict depressive symptoms. Second, I specified the model to be tested. Finally, I tested the significance of paths within this model.

4.1 PHASE I: PRELIMINARY DATA ANALYSIS

4.1.1 Examination of Missing Variables

Although 340 mothers provided demographic information and the variables of interest, four mothers had a key missing variable. Four cases were missing a key variable of interest. A social support score was missing from two cases, and an economic hardship score was missing from one case. An additional case was missing both a hardship and support score. Given that only

these four cases had a missing variable, listwise deletion was performed. Data from three hundred and thirty-six mothers were examined and analyzed in the following sections.

4.1.2   Sample Description

Demographic characteristics of the sample are shown in Table 4.1. Household income and education were not used in subsequent analyses because of the utilization of economic hardship in this research. Maternal age ranged from 20 to 61 with a mean age of 37.32. Thirty-five percent (N=119) of mothers reported that they were currently married, whereas 15% (N=49) of mothers indicated they were divorced. Nineteen percent (N=64) of mothers noted that they had never been married. Fifteen percent (N=49) noted that they were currently cohabitating. Fourteen percent (N=46) reported being currently separated, and three percent (N=9) were widowed. Nearly three-quarters (N=247) of these women reported their race as "white" (74%). Twenty-three percent (N=78) of mothers identified themselves as African-American, and three percent (N=11) of mothers identified themselves as Asian, Hispanic, American Indian, or "other". Fifty-four percent (N=180) of mothers indicated that they worked outside of the home. Mothers had a mean of 2.49.

Table 4.1: Demographic Characteristics of Mothers

Maternal Variables	N (%) or M (SD)
Maternal Age (N=336)	37.32 (7.62)
Maternal Marital Status (N=336)	
Number (%) Married	119 (35.4)
Maternal Education (N=336)	
Number (%) College Degree	23 (6.9)
Maternal Household Income (N=335)	
Number (%) Greater than $30,000	98 (29.3)
Maternal Race (N=336)	
Number (%) White	247 (73.5)
Working Status (N=336)	
Number (%) Working Outside Home	180 (53.6)
Number of Children (N=335)	2.50 (1.28)

Note: Means and (SDs) are shown for continuous variables

4.1.3   Descriptive Results of Main Study Variables

Descriptive results for the three variables of interest were examined. The variables will be examined the following order: depression, measured by the Beck Depression Inventory, economic hardship, measured using the Hassles of Environmental Poverty – Money Subscale, and social support, measured using the Medical Outcome Study Social Support Survey.

4.1.3.1 Dependent Variable: Depressive Symptoms

Depressive symptoms were operationalized using the Beck Depression Inventory (BDI). The descriptive results are noted in Table 4.2. Guidelines published by Beck (1996) have been used to determine the severity level of these symptoms. Nearly half (49%) of the women note a severity of depressive symptoms that may warrant clinical attention (BDI $\geq$ 14). The mean depressive score on the BDI was 15.19 with a standard deviation of 10.42. Depressive scores in this sample ranged from 0 to 47. Cronbach alpha indicating internal consistency was 0.91.

Table 4.2: Beck Depression Inventory Scores for Mothers (N=336)

Depression Severity	N (%)
Severe (29-63)	43 (12.80)
Moderate (20-28)	62 (18.45)
Mild (14-19)	60 (17.86)
Minimal (0-13)	171 (50.89)

4.1.3.2 Independent Variable: Economic Hardship

Economic hardship was operationalized using the money subscale of the Hassles of Environmental Poverty instrument (HOEP) (Wijnberg, Lagerwey, Applegate, &Reding, 2006). With a total mean score ranging from 0 to 3, the mean economic hardship score was 0.79 with a standard deviation of 0.61 (N=338). The original scale, as reported by Wijnberg et al. (2006), maintained a mean of 0.77 with a standard deviation of 0.67 in their sample of mothers. The mean score in my sample of 336 mothers did not significantly differ for the mean score of mothers used in the initial development of this instrument, t (822) = .53, p = .59, Cohen's d =

.03. The mothers (N=488) in the instrument development research were all receiving some amount of federal or state assistance over the past 12 months. The similarity in hardship scores between my sample of mothers and the instrument development research suggest a similar level of economic hardship between these two groups of mothers. The instrument was also able to distinguish between mothers who maintained a household income under $30,000 dollars a year (M= 0.91) and mothers with household income over $30,000 dollars (M= 0.49), t (333)= 6.11, p < .01, Cohen's d = 0.77. This indicates that the HOEP, in our sample of mothers, has strong concurrent validity with a measure of household income.Cronbach alpha was 0.89.

4.1.3.3 Mediating Variable: Perceived Social Support

Social support was measured using the Medical Outcome Study Social Support Survey (Sherbourne& Stewart, 1991). With a potential range from 1 to 5, the mean social support score in this sample (N=336) was 3.73 with a standard deviation of 0.94. Cronbach Alpha was 0.96.

4.1.4   Impact of Relevant Control Variables

Prior to examining the relationships among the key variables, an examination of important demographic variables was important to see if they predicted depressive symptoms. Given that some of these demographic variables were continuous and others categorical, Table 4.3 shows the bivariate correlations among continuously measured variables (depressive symptoms, maternal age, and the number of children in the home), whereasTable 4.4 reports the relationships between categorical variables (marital status, race, and working status) and depressive symptoms. Maternal age, the number of children in the home, and race were not found to be significantly associated with depressive symptoms, yet being married and working

outside the home were associated with less depressive symptoms. Given these preliminary analyses as well as the literature review, marital status and working status were included in the hypothesized model. Variables such as race, number of children in the home, and maternal age were not included.

Table 4.3: Correlation of depressive symptoms, maternal age, and number of children

Variables	M	SD	(1)	(2)	(3)
(1) depressive symptoms	15.19	10.43	1.00		
(2) maternal age	37.28	7.61	-.05	1.00	
(3) number of children	2.49	1.27	.04	-.21	1.00

Table 4.4: Depressive symptoms scores by marital status, race, and working status

Variables	M	SD	t	df	p	d
Marital status			3.48	337	.001	.395
Married (N=121)	12.59	9.77				
Not currently married (N=218)	16.64	10.53				
Race			.75	337	.455	.092
White (N=249)	14.94	10.19				
Non-white (N=90)	15.90	11.10				
Working status			5.61[a]	287.2[a]	<.001	.620
Working outside home (N=180)	12.29	8.44				
Not working outside home (N=159)	18.48	11.47				

[a]The t and df were adjusted because variances were not equal.

4.2 PHASE II: MODEL SPECIFICATION

Given previously noted research examining the social support deterioration model and analysis of the demographic variables, a model that included the relationships among demographic variables and key study variables was tested. Table 4.5 presents the correlation matrix for all variables used in the analysis and Figure 4.1 illustrates the model.

Table 4.5: Correlation Matrix Study Variables

Variables	1	2	3	4	5
1. Working	--				
2. Married	.12*	--			
3. Economic hardship	-.10	-.23*	--		
4. Social support	.18*	.23*	-.47*	--	
5. Depressive symptoms	-.29*	-.20*	.50*	-.41*	--

Note. $* p \leq .05$

All hypothesized paths were suggested, thus specifying a fully saturated model. Independent variables were allowed to covary, which is standard in testing structural equation models. Instead of dropping paths post-hoc, I examined the results of all seven hypothesized relationships and performed a test of partial mediation to determine if social support deterioration was occurring.

4.3   PHASE III: PATH TESTING AND TEST OF MEDIATION

Table 4.6 reports the significance tests for each relationship in the hypothesized model. Figure 4.1 is a graphical depiction of this model with standardized coefficients reported. The non-significant relationship is notated with a dashed line.

Table 4.6: Maximum Likelihood Parameter Estimates for Model

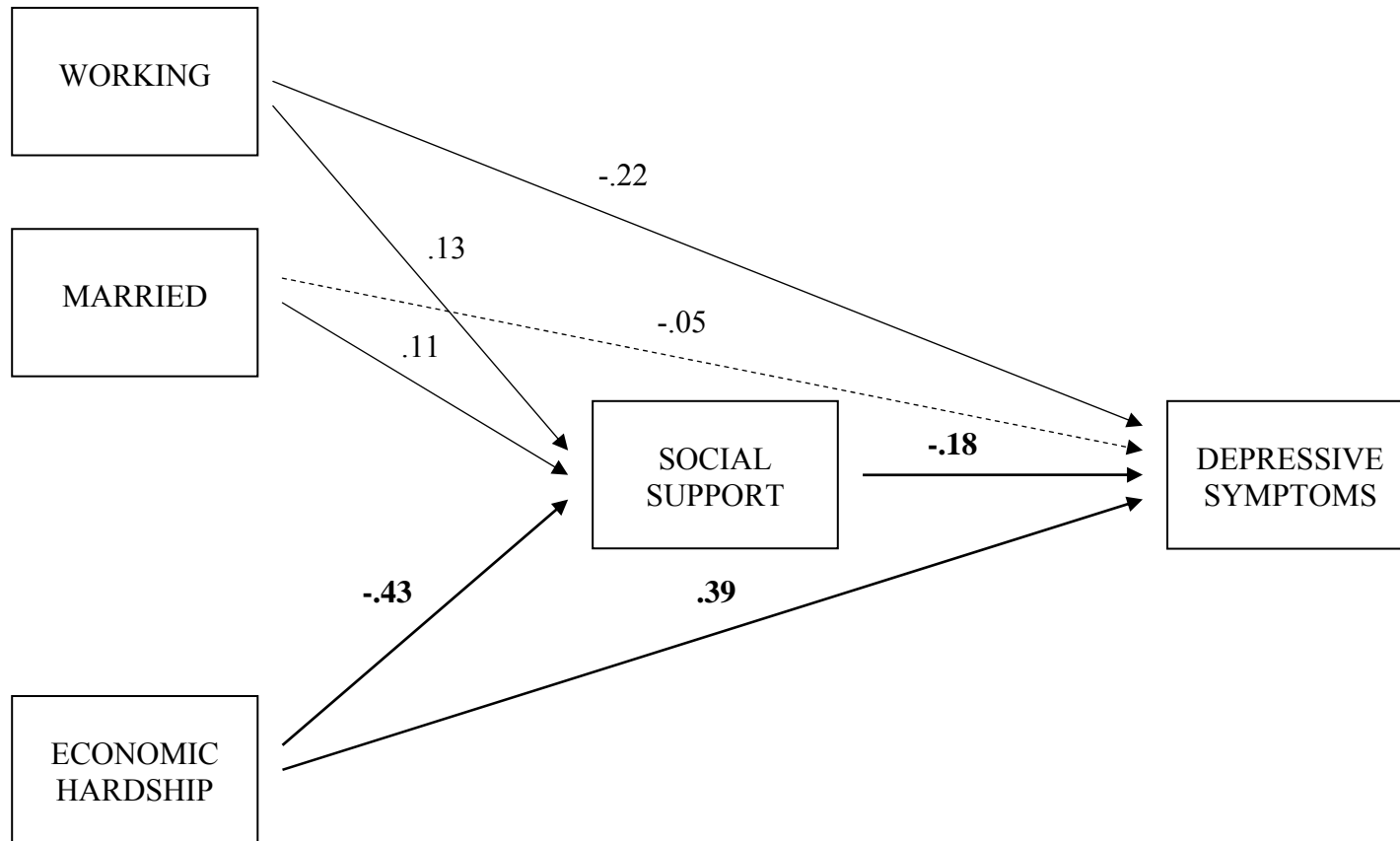| DV	IV	B	SE	Beta	z	p	R^2
Depression							**.34**
	Hardship	6.59	.79	.39	8.34	<.01	
	Social Support	-1.95	.57	-.18	-3.43	<.01	
	Married (=1)	-1.07	.99	-.05	-1.08	.28	
	Working (=1)	-4.53	.92	-.22	-4.91	<.01	
Social Support							**.25**
	Hardship	-.66	.08	-.43	-8.07	<.01	
	Married (=1)	.22	.09	.11	2.42	.02	
	Working (=1)	.24	.09	.13	2.63	<.01	

Figure 4.1: Path Model of Hypothesized Relationships with Standardized Coefficients

Path a: Economic hardship will positively predict depressive symptoms.

Economic hardship was found to be a positive predictor of depressive symptoms (*Beta*= .39, *z* = 8.34, *p* < .01).

Path b: Economic hardship will negatively predict social support.

Economic hardship was found to be a negative predictor of perceived social support (*Beta*= -.43, *z* = -8.07, *p* < .01).

Path c: Social support will negatively predict depressive symptoms.

Social support was a negative predictor of depressive symptoms (*Beta*= -.18, *z* = -3.43, *p* < .01) after adjusting for economic hardship.

Test of Mediation: Social support will partially mediate the relationship between economic hardship and depressive symptoms.

Social support was found to partially mediate the prediction of depressive symptoms by economic hardship (*Beta* = .08, *z* = 3.17, *p* < .01). When the demographic variables were removed, social support also partially mediated the relationship in this three variable model (*Beta* = .10, *z* = 3.91, *p* < .01). Given that the direct path between economic hardship and depressive symptoms remains significant after social support is accounted for, social support is acting as a partial mediator in the relationship between economic hardship and depression.

Path d: Married mothers will perceive more social support than unmarried mothers.

Married mothers were found to have higher social support scores (*Beta*= .11, *z*= 2.42, *p* = .02) than unmarried mothers.

Path e: Married mothers will experience less depressive symptoms than unmarried mothers.

Being married was found to have no direct relationship on depressive symptoms (*Beta*= -.05, *z* = -1.08, *p* = .28).

Path f: Working mothers will perceive more social support than unemployed mothers.

Mothers who worked outside the home had higher levels of perceived social support than mothers not working outside the home (*Beta*= .13, *z* = 2.63, *p*< .01).

Path g: Working mothers will experience less depressive symptoms than unemployed mothers.

Mothers who worked outside the home had less depressive symptoms than mothers who were either unemployed or working within the home (*Beta*= -.22, *z* = -4.91, *p*< .01). When direct and indirect effects were considered, working outside the home accounted for a 5 point (B = -4.99, *z*= -5.25, *p*< .01) decrease on the BDI.

5.0   DISCUSSION

5.1   DISCUSSION OF FINDINGS

This dissertation found support for the social support deterioration model in a sample of mothers with children in mental health treatment. This model suggests that low social support is one mechanism that explains the association between economic hardship and maternal depressive symptoms. Support was found for the negative impact of economic hardship and the benefits of perceived social support. In addition, being married and working were found to be associated with more social support and less depressive symptoms.

5.1.1   Economic Hardship Predicts Depressive Symptoms

As hypothesized, economic hardship positively predicted depressive symptoms in mothers. Previous research has noted the importance of economic hardship. Makosky (1982) found that mothers reporting economic hardship had significantly worse mental health. Even a small increase in financial resources (an additional $500 dollars a year) was found to be associated with fewer mental health symptoms. In my research, mothers who reportedhigh levels of economic hardship were more likely to have higher levels of depressive symptoms than those mothers who did not haveeconomic difficulties. This finding confirms previous research that has examined the negative mental health implications of economic hardship.   This strong

relationship between economic hardship and depressive symptoms suggests that social work practitioners and researchers should recognize the important ties between economic well-being and mental health. Providers of mental health services and individuals interested in the mental health prevention should consider through what means can the economic strains of mothers be alleviated.

5.1.2 Low Social Support Predicts Depressive Symptoms

This research confirmed previous findings that demonstrate that high levels of social support predict fewer depressive symptoms in women (Cairney, Boyle, Offord, & Racine, 2003; Cutrona, 1984; Siefert, Bowman, Heflin, Danzinger, & Williams, 2000; Silver, Heneghan, Bauman, & Stein, 2006; Surkan, Peterson, Hughes, Gottlieb, 2006). Perceived social support was found to have a main-effect relationship with maternal depression in our literature review. No studies that would indicate a stress-buffering model were found in my literature review. Thesocial support main-effect indicates that social support has a common impact on depressive symptoms. Although this main-effect relationship has been consistently found in research examining social support and maternal depression, it is not consistent with the claimthat perceived social support operates as a stress-buffer (Cohen & Willis, 1985).

5.1.3 Support for Social Support Deterioration

The social support deterioration model was confirmed. Economic hardship had a strong negative association with perceived social support. After testing the indirect effect of hardship on

depression through social support, low social support was found to mediate some part of the relationship between hardship and depressive symptoms. This research is consistent with other research that has found that less perceived social support is common in the face of chronic stressors (Ensel& Lin, 1991; Lepore, Evans, & Schneider, 1991; Norris &Kaniasty, 1996; Schulz et al., 2006).

5.1.4   Deterioration and Connections to Previous Research

Other researchers have found support for social support deterioration, yet there is relatively little discussion in the current literature about why deterioration may occur. I will briefly note some previous work that may help explain this phenomenon.

5.1.4.1 All Our Kin

The swapping of basic resources within social relationships has been a common survival strategy whereby individuals experiencing economic hardship maintain basic needs. In research that has focused both on urban, black mothers and rural, white mothers, research has noted the importance of certain unspoken rules of reciprocation (Nelson, 2000; Stack, 1974). Stack (1974), in her description of a black community within a urban Midwest city, describes the concept of *swapping*, defined as the trading of resources, possessions, and services in that community. Although the trading of various goods is often initiated as a voluntary gift, an unspoken rule obliges the receiver of the gift to reciprocate the goods that were initially acquired. The consequences of not reciprocating certain basic resources can initiate the decline of or removal from certain social relationships. Stack (1974) notes that important social relationships are dependent on these regular transactions of exchange between various individuals. These

observations suggest that the inability to swap and/or reciprocate swapping may encourage problems within one's social relationships.

The observations by Stack (1974) suggest some rationale that can explain the negative association between economic hardship and social support found in the deterioration model. If mothers maintain a poverty of basic resources (high economic hardship), it is possible that sharing these limited resources may be more difficult than mothers who maintain all their basic resources and a surplus. The impoverished women may, in turn, be more likely to be excluded from social groups because of a social requirement of swapping.

5.1.4.2 Deborah Belle

Some of the first theoretical discussions of social support in low-income mothers are noted in a 1982 book edited by Deborah Belle, entitled *Lives in Stress.* The main findings of this book were drawn from a mixed-method study known as the Stress and Families Project. Forty-three low-income mothers and their families were interviewed for this project. Belle (1982) notes that the social support networks of low-income women were oftentimes unhelpful at providing support due to the economic difficulties and emotional demands of their own lives. The economic difficulties in one's own network may explain the association between high levels of economic hardship and low levels of perceived social support.

5.1.4.3 Fatalism and Self-Protection

Cattell (2001), in her qualitative study of 2 East London neighborhoods, also emphasizes the negative consequences that economic hardship can have on social relationships. A sense of fatalism may be experienced by many individuals in a low-income community as they attempt to build social relationships. Someone familiar with the study participants in the Cattell (2001)

study noted: "A few of the mothers find it difficult to cope with their children. Poverty gets them down. . . they give up. Some mothers are struggling because they don't get help from the fathers" (p. 1509). Due to these economic pressures, Cattell (2001) suggests that some mothers may perceive they have little to offer other mothers in similar situations as themselves. As a consequence of these perceptions, mothers may become less engaged with their social networks.

In addition, some mothers may protect their own integrity by not asking or being involved in supportive relationships. Nelson (2000), in her study of poor, rural mothers, found that asking for help was an action that was negotiated within the context of preserving one's own identity and integrity. Asking for too much help would imply a level of dependency that many mothers were uncomfortable with. Both these observations of Cattell (2001) and Nelson (2000) suggest that being embedded in relationships of social reciprocity require some levels of economic security. It is this security that allows mothers to enter relationships in which social support can be both provided and accepted. Enduring chronic economic difficulties can make positive social exchanges difficult, as mothers perceive their dependence on others.

5.1.5 Demographic Variables of Interest

5.1.5.1 Impact of Work Status

Mothers who indicated they worked outside the home had lower depressive symptoms than those who were not in the workforce. This finding confirms previous research that has noted that employed women, even working-class women, derive a mental health benefit from working (Sales & Frieze, 1984). Tebetts (1982) found that mothers who worked outside the home had improved mental health and reported less loneliness than mothers who were unemployed. Given that longitudinal data on mothers is scarce, it is not known whether starting employment would

reduce depressive symptoms or if less symptomatic mothers would merely be more likely to work. Mothers who worked did maintain more social support. This is consistent with previous research that has noted that individuals with more social roles maintain more perceived social support (Turner & Marino, 1994).

5.1.5.2 Impact of Marital Status

This research did not find marriage to have a direct impact on depressive symptoms; however, being married was associated with less economic hardship and slightly more social support than those that were unmarried. It is possible that marriage was particular helpful for the mothers in this sample because these women experienced two significant stressors: child behavior problems and some degree of economic hardship.

5.2   STRENGTHS AND LIMITATIONS OF STUDY

5.2.1   Strengths

This research examined a sample of mothers who have children in mental health treatment. Nearly half of these mothers maintained a level of depressive symptoms that would be of concern to mental health treatment providers (≥ 14 on the BDI). These depressive symptoms are an important intervention target for researchers and clinicians; because it has previously been documented that maternal depression can have a harmful impact on mothers and their children. This research fills an important gap in the development of models that are relevant to high-risk

groups, such as low-income mothers. This model suggests two intervention targets for researchers and clinicians: reducing economic hardship and increasing perceived social support.

5.2.2 Limitations

Although the model tested for this research supports the plausibility that economic hardship and social support contribute to the development of depressive symptoms, the data utilized for this research is cross-sectional, and therefore the causal order of the relationship suggested can not be implied. However, I have attempted to suggest that the relationships among these variables are more plausible than alternative models, given the literature concerning the model relationships. I have tested one plausible model, social support deterioration, in this sample of mothers. This research supported 7 of the 8 hypothesized relationships in this study, yet alternative models could also be developed, tested, and confirmed.

In addition, the contribution of child stressors was not analyzed in the following research. The stress of parenting a child with behavior problems could also erode social support or increase depressive symptoms. However, in follow-up analyses of the data, no bivariate correlations were found to be significant between child behavior scores (e.g. external CBCL, internal CBCL, total CBCL) and maternal depressive symptoms.

5.3   IMPLICATIONS FOR PRACTICE, POLICY, AND NEW RESEARCH

5.3.1   An Ecological Framework for Social Support

A number of authors have maintained concerns that social support has become to narrowly defined at the individual-level of analysis (Felton & Shinn, 1992; Vaux, 1990). This individual bias implies that social support processes are not influenced by factors in the individual's social world. Felton and Shinn (1992) note that one important step to conceptualizing social support beyond the individual-level is to explore the context in which social support is derived. To meet this aim, they suggest that social support should be explored as a dependent variable as well as an independent variable. This dual conceptualization appropriately demonstrates that social support can impact individual well-being but can also be influenced by the social influence of one's community. Some research has already demonstrated that social support is unequally distributed across individuals who maintain different levels of socioeconomic status, with greater social support being associated with higher levels of socioeconomic status (Cohen, Kaplan, &Salonen; Turner & Marino, 1994)

This dissertation research gives support for this conceptualization. Future research that examines both stressful situations and social support should not dismiss the relationship between these two variables. This research encouragesaunderstanding of social support that is broader and more dynamic than previously understood. If various stressors can deteriorate support perceptions, it is important that social workers involved in practice and clinical research be aware of how these stressors can be alleviated.

5.3.2   Mental Health Policy and the Emotional Consequence of Poverty

This research confirms previous knowledge that individuals with low socioeconomic status have worse mental health outcomes than individuals with high socioeconomic status.   Low socioeconomic status has been shown to predict psychological health, yet policy solutions to eliminating these health disparities between socioeconomic groups are not readily apparent in the current political and social environment.   Given the strong relationship between economic hardship and depressive symptoms, it is advised that mental health policy consider the basic needs of low-income mothers and directly address these needs.   Policies that improve the economic situation of mothers may have an impact on the presence and severity of depressive symptoms.   Experimental research that examines the emotional impact of receiving financial assistance (e.g. vouchers, food stamps) is encouraged to demonstrate if there are positive emotional outcomes due to the provision of public assistance.   However, it is also conceivable that public assistance could be associated with negative outcomes, due to stigma attached to such assistance.   More research is needed to understand which methods for decreasing economic hardship are more beneficial to mothers' mental health.   It is possible that mental health benefits may only be realized when mothers are solely responsible for their own reduction in economic hardship. This remains an unanswered question.

5.3.3   Holistic Models of Care

When mental health treatment in the community is not found to be effective, the influence of economic hardship is often not considered. For example, Zaya, McKee, and Jankowski (2004) discuss plausible explanations for the ineffectiveness of a psychosocial intervention used to

reducing depressive symptoms in low-income women. They focus on issues such as the structure of the intervention sites, the fidelity of the intervention, client adherence to the intervention, and the provision of a full dosage of the intervention. These are important components of interventions, however, little discussion was provided that explained the specific economic challenges of their sample. Given the strong relationship between economic hardship and depressive symptoms, attempting to treat depression in low-income women without an understanding of their economic difficulties is shortsighted. In fact, there is some research to support the assertion that low-income individuals may maintain a different treatment response than middle or upper-class individuals. For example, in a secondary analysis of 248 older adults treated with psychotherapy and medications, individuals who resided in a low-income census tract were less likely to respond to treatment and more likely to report suicidal ideation (Cohen, Houck, Szanto, Dew, Gilman, & Reynolds, 2006). Perhaps treatment to low-income individuals needs to look different if it is to be ultimately effective.

Smyth, Goodman, and Glenn (2006) have introduced the "full-frame approach", a model of care that attempts to address relational, material, and an "identity context" in which low-income women live. This model is seen as a remedy to highly specialized services that only target specific "problem areas". These authors note that specialized services that focus on specific goals have undermined the relevancy of services to address the larger issues of women's lives. The "full-frame approach" suggests four principles that must guide programs and initiatives that attempt to impact marginalized women. One, programs must recognize the interplay between external material conditions (e.g. poverty) and internal psychological dynamics. Two, the relationships that woman have with their greater social world must be understood and respected. Three, women need to have a greater voice in framing their problems

and addressing these concerns. Finally, programs addressing women must assist in creating a community that sees marginalized woman as more than the sum of their problems.

These principles are not currently being integrated into service delivery to low-income women, yet programs utilizing these principles may have greater success at reducing the incidence of maternal depression. These principles echo two findings from this my research. One, economic hardship had a strong association with the psychological health of mothers. The "full-frame approach" suggests that some acknowledgement and assistance with the economic realities of low-income women lives is vital to the care of women's psychological health. Two, social support from one's network protects women from psychological distress. The "full-frame approach" suggests that providers must understand the network of women's social relationships and encourage their participation in healthy social relationships. In light of the previous discussion of mental health treatment aimed at low-income women, treatment that focuses on maternal depression mustconsider the various factors that impact the lives of low-income mothers.

APPENDIX A

HASSLES OF ENVIRONMENTAL POVERTY – MONEY SUBCALE

This appendix includes the money subscale items from the Hassles of Environmental Poverty instrument developed by Wijnberg, Lagerwey, Applegate, and Reding (2006).

Interviewer Prompt: Hassles are irritants that can range from minor annoyances to fairly major pressures, problems, or difficulties. They can occur a few or many times. Below are some sentences that list a number of ways in which a person can feel hassled. For each item, please tell me the number that describes how much of a hassle it has been for you <u>in the past 30 days.</u>

	Not apply	Not a hassle	Somewhat a hassle	Moderate hassle	Big hassle
1. Getting to the store to buy food	0	1	2	3	4
2. Having money to buy food	0	1	2	3	4
3. Paying bills is too complicated	0	1	2	3	4
4. Having money to pay the rent	0	1	2	3	4
5. Having money to pay utility bills	0	1	2	3	4
6. Having money to buy clothes for your child(ren)	0	1	2	3	4
7. Having money to put gas in the car	0	1	2	3	4
8. Having money to buy things you need for yourself	0	1	2	3	4
9. Getting a better paying job	0	1	2	3	4
10. Lack of job security	0	1	2	3	4
11. Getting a job with benefits	0	1	2	3	4
12. Money for car insurance	0	1	2	3	4
13. Having money for over-the-counter medications	0	1	2	3	4
14. Knowing where to go to get help in the community	0	1	2	3	4
15. Having the right clothes to wear	0	1	2	3	4
16. Having money to buy things the child(ren) want	0	1	2	3	4
17. Having health insurance for yourself	0	1	2	3	4
18. Having health insurance for your child(ren)	0	1	2	3	4

APPENDIX B

MEDICAL OUTCOMES STUDY SOCIAL SUPPORT SURVEY

This appendix includes the items from the MOS-SSS originally developed by Sherbourne *&* Stewart (1991).

Interviewer Prompt: People sometimes look for companionship, assistance, or other types of support. How often is each of the following types of support available to you if you need it?

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. Someone who can help you if you were confined to a bed	1	2	3	4	5
2. Someone you can count on to listen to you when you need to talk	1	2	3	4	5
3. Someone to give you good advice	1	2	3	4	5
4. Someone to take you to the doctor if you needed it	1	2	3	4	5
5. Someone who shows you love and affection	1	2	3	4	5
6. Someone to have a good time with	1	2	3	4	5
7. Someone to give you information to help you understand a situation	1	2	3	4	5
8. Someone to confide in or talk about yourself or your problem	1	2	3	4	5
9. Someone who hugs you	1	2	3	4	5
10. Someone to get together with for relaxation	1	2	3	4	5
11. Someone to prepare your meals if you were unable to do it yourself	1	2	3	4	5
12. Someone whose advice you really want	1	2	3	4	5
13. Someone to help you with daily chores if you were sick	1	2	3	4	5
14. Someone to share your most private worries and fears with	1	2	3	4	5
15. Someone to turn to for suggestions about how to deal with a personal problem	1	2	3	4	5
16. Someone to do something enjoyable with	1	2	3	4	5
17. Someone who understands your problem	1	2	3	4	5
18. Someone to love and make you feel wanted	1	2	3	4	5

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