Maternal Depression and Its Relationship to Life Circumstances, Social Support, Marital Satisfaction and Employment in Mothers of One Year Olds

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I dedicate this effort to my son, McNeil Fiske, III, my husband, McNeil Fiske, Jr. and my parents, John and Katherine Higgins.
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CHAPTER I

INTRODUCTION

The objective of this paper is to use quantitative tools to isolate and understand the causes of a major social issue: high rates of depression among women with children. Several major studies have documented the unusually high incidence of depression among this population segment, while others have demonstrated the profoundly negative, sometimes irreversible, effect of the trend on parenting and child development. Unfortunately, too little of the research has focused on building a comprehensive, statistically based explanation of the problem. Where statistical work has been done, it has tended to focus on one or two key variables, to the exclusion of others which may be as or more important in the final analysis. By looking at a number of demographic and attitudinal variables concurrently, this paper will try to develop a more reliable, statistically robust model of depression than has been available to date. The author hopes the results will contribute to a deeper, actionable understanding of an otherwise intractable, disconcerting social phenomenon.

This thesis utilizes data collected as part of a larger, longitudinal study which began in August, 1989 and
was designed to document and understand depressive symptomatology in mothers. Subjects were 155 mothers of one-year olds who were recruited from a large, midwestern health maintenance organization. Almost 90 percent of the sample were married, with the remainder single but living with the child's father. Each subject was given three questionnaires: the Center For Epidemiological Studies Depression Scale (CESD), the Maternal Self-Evaluation Questionnaire (MSQ), and a family background form. The CESD provides the basis for the "depression" dependent variable. Three subscales were derived from the larger MSQ questionnaire to create three attitudinal independent variables: quality of life circumstances, support from friends and family, and marital satisfaction. Finally, the family background form was used to collect data on key demographic variables, such as income, age, race, employment and education. Frequency distributions, simple correlations, and a multi-variate, step-wise regression will be used to analyze the data.

The following five questions will be answered.

Question One: Will annual family income be a key determinant of maternal depression?

Question Two: Will mothers with more favorable life circumstances show lower rates of depression?

Question Three: Will mothers who receive higher levels of social support have lower depression scores?
Question Four: Will mothers who rate higher on marital satisfaction scores show lower rates of depression?

Question Five: Will employment enter the analysis, given the conflicting pressures and benefits of working outside the home?
CHAPTER II

REVIEW OF RELATED LITERATURE

There is a high rate of depression among mothers of young children, especially among working class and minority women (Gross, 1989). While numerous studies have shown a relationship between depression and marital satisfaction, depression and social support, depression and life circumstances, and depression and employment, few studies have looked at them collectively. Furthermore, the studies concerning social support deal with general emotional type measures rather than with measures that assess the support available to the mother for her mothering role. Therefore, the purpose of this study is to examine the relationship of four factors on maternal depression in mothers of twelve month olds: 1) life circumstances, broadly defined as the set of conditions which make a mother feel relatively comfortable or uncomfortable with her situation; 2) marital satisfaction, including such variables as spousal support, closeness with husband, and the stability of the marriage; 3) family and social support, key components of which are interest in her children and positive reinforcement of her parenting skills shown by friends, parents, and other relatives; and 4) employment, considered as full-time, part-
time, or not employed. For the purpose of this paper, depression is defined as depressive symptomatology and not a clinical diagnosis of depression.

While studies have shown that women are twice as likely as men to exhibit depressive symptoms (Amenson & Lewinsohn, 1981) and that one in ten women can expect to have a serious depression in her lifetime (Belle, 1982; Weissman & Klerman, 1979), women who are mothers experience still higher rates. Four major studies have shown that mothers with children have a higher incidence of depression than those without children (Brown & Harris, 1978; Colletta, 1983; Gross, 1986; Moss & Plewis, 1977). Yet to date, few studies have examined the comprehensive set of demographic, and attitudinal factors that lead to depression in mothers.

Explaining the causes of depression, however, has proved more difficult than documenting its existence. Even after controlling for income differences, for example, mothers with children still exhibit higher rates of depression than those without children. Gross' (1986) study reported 40 percent of middle-income graduate students with children under six years of age showing some degree of depression on the Beck Depression Inventory. In contrast, only 31 percent of the childless women showed some degree of depression. The greatest differences were at the severe levels of depression where six percent of the mothers and only one percent of the childless women were categorized as
depressed.

Since mothers are the primary caretakers of children and have perhaps the greatest influence on them, the implications of the trend extend far beyond the mothers themselves, affecting their children in the short-term and even their grandchildren longer term. Depressive symptoms such as the sad effect, hopelessness, irritability, low self-esteem, and unavailability often compound difficult domestic circumstances, creating an emotional, tense home environment inimical to child development. The family environment of depressed mothers has been characterized by conflict and decreased expressiveness, cohesion, and organization (Billings & Moos, 1983); hostility toward the child (Weissman & Paykel, 1974); and diminished maternal involvement, affection, and communication (Weissman, Paykel, & Klerman, 1972). Maternal depression may affect attitudes about child-rearing that are critical to the perception, assessment, and interpretation of the child's behaviors (Elster, McArney, & Lamb, 1983). In another study (Panaccione and Wahler, 1986) the greatest predictor of a mother's harsh judgement of her child was depression.

Maternal depression has been associated with a wide range of maladaptive parenting behaviors. Clinically depressed mothers tend to be more indifferent, rejecting toward their children, and resentful (Colletta, 1983; Weissman et al., 1972). Often they are distant, punitive,
unaffectionate, and irritable (Weissman et al., 1972). Depressed mothers also talk less to their children and therefore fail to promote their children's language development. Compared with their non-depressed counterparts, depressed mothers are more critical, angry, controlling, and demanding, as well as less responsive (Belle, 1982; Webster-Stratton & Hammond, 1988), and provide less structure, guidance, and rule enforcement than do other mothers (Goodman & Brumley, 1990). Similar conclusions were found by Bettes (1989). In the extreme, depressed mothers abuse their children at a much higher rate (Ghodsian, Zajicek, & Wolkind, 1984).

The impact of maladaptive parental behavior on child development is as predictable as it is disturbing. Weissman et al., (1972) found that child depressive illness was found to be three times more likely among children who had parents with major depression. Billings and Moos (1983), Ovaschel, Weissman, and Kidd (1980), and Beardslee, Bemporad, Keller and Klerman (1983) also documented the relationship between maternal depression and higher rates of psychological difficulties in children. Similarly Cox, Puckering, Pound, and Mills (1987) showed that two-year-olds with depressed mothers had excessive emotional and behavioral disturbances and delayed expressive language development. Hall, Gurley, Sachs and Kryscio (1991) highlight the cascading impact of depression, arguing that...
maternal depressive symptoms help predict parenting attitudes, which, in turn, predict child behavior.

Other manifestations of a mother's depression include more accidents (Brown & Davidson, 1978), sleep disturbance and childhood behavior problems (Hall & Farrel, 1988; Schaughnesy & Lahey, 1985), child morbidity (Beautrais, Fergusson, & Shannon, 1982), and problems in the child's social functioning (Orvaschel et al., 1980). Research has also shown that maternal depression can effect a young child's competence and preference for challenge (Redding, Harmon, & Morgan, 1990), and adversely affects the quality of the child's emotional attachment to the parents (Gaensbauer, Harmon, Cytryn, & McKnew, 1984; Zahn-Waxler, Cummings, McKnew, & Radke-Yarrow, 1984).

Another reason for studying depression in mothers is that early depression, undiagnosed and untreated, can become reoccurring and persistent. Although 65 percent of major depressive episodes end within six months, a few last as long as five years (Keller, 1988). Moreover, Amenson and Lewinsohn (1981) found that an early episode of depression doubles a mother's chances of experiencing depression later in life, which occurs within two years after recovery in approximately half of the cases (National Institute of Mental Health/National Institutes of Health Consensus Development Panel, 1985). Therefore, a mother could have several episodes that covered a significant portion of her
children's lives. Many women also have "residual symptoms" such as anxiety, dysphoric mood, marital problems, and impaired social functioning after recovery from depression (Cassano & Maggini, 1983; Keller, 1988). As a result, their children continue to be exposed to stress and poor parenting long after the depression subsides.

Other research suggests that depression can become self-reinforcing. Coyne (1985), and Weissman & Paykel (1974), have documented a mother's feeling of guilt, resentment, and ambivalence toward her children and other family members and a general loss of affection towards them, which leads to negative interactions and undermines family support. Yet family support plays a key role in preventing depression. Further research (Weissman, 1983; Weissman et al., 1972) revealed that when a depressed mother does not fully interact with her child, she has feelings of remorse, anxiety, and hostility which deepens her depression still further.

Researchers to date have documented at least five major potential causes of severe depression in mothers: 1) income and other life circumstances; 2) education level; 3) spousal support; 4) family and friend support; 5) age; and 6) ethnicity. Since the early 1970s, the most widely discussed factor has been income, which has dominated the debate for the last 20 years. Others, however, argue that income alone does not account for the variation in maternal
depression levels. Rosenfield (1989) argued that the greatest predictor of depressive symptoms was a high level of everyday stress, a measure related but not identical to income. Colletta (1983) not only demonstrated the link between income and depression, but also the link to adolescence and education, finding that 59 percent of the adolescent mothers in the sample were depressed. Belle (1982) also noted that the least educated have higher depression scores, although colinearity with income was not explicitly addressed. Being single, poorly educated, younger than seventeen and having little social support, were the greatest predictors of depression. Meanwhile, Hall, Williams, and Greenberg (1985) emphasized the importance of social networks, arguing that low-income mothers without a strong social network were most likely to be depressed. Finally, conflicting evidence has been offered by Jenkins, Kleinman & Good (1991), who argue Hispanic women are at higher risk, and Karno (1987), who found non-Hispanic white women under 40 years of age had 2.5 times the rate of the Hispanic sample.

Collectively, these findings suggest that the most vulnerable mothers are those who are younger, less educated, have a lower income, and receive less marital and social support. Unfortunately, little statistical work has quantified the relative importance and interrelationships among these different factors. The initial hypothesis for
the current study was that four of these factors, examined together, are better predictors of depression than any of them individually: 1) quality of life circumstances and income; 2) social support; 3) perceived integrity and soundness of the mother's marriage; and 4) employment status.

**Life Circumstances and Maternal Depression**

One of the earliest studies to explore the relationship between maternal depression and income was conducted in 1975 by Brown, Bhrolchain and Harris. A pivotal work, the study underscored the higher rate of depression among lower income mothers and argued that their higher income counterparts were more resilient to the stresses that eventually lead to depression. Hall and Farrel (1988) found that 57 percent of their sample of low-income adult mothers of 5 and 6-year-old children scored in the high depressive range of the CES-D. In a survey of psychiatric hospitalizations in the United States between 1914 and 1967, Brenner (1973) showed that economic downturns were associated with increased rates of hospitalization. Brown and Harris (1978) found that working class women had a rate of depression four times higher than middle-class women. Similar results have been discussed in Hall et al., (1985) and Frerichs, Anenshensel, & Clark (1981). Other research confirms that the key differentiating factor of low-income mothers with young children is not necessarily
race or education, but lack of money (Makosky, 1982; Pearlin & Johnson, 1977).

Income, however, is not the only contributor to maternal depression. While Brown and Harris' (1978) landmark study found depression was extremely common among London working class women, they also identified a set of specific vulnerability factors characteristic of the life circumstances of depressed women. These include lack of employment outside the home; absence of an intimate or confiding relationship with a husband/boyfriend; and three or more small children in the home.

Income is also an absolute not relative measure and as a result suffers some key weaknesses. The mother of three in Brooklyn making $15,000 a year faces a very different standard of living than the mother of three making $15,000 a year in New Mexico. Further, income almost invariably elicits differing views on what is comfortable or uncomfortable for women who may otherwise have identical socio-economic conditions. From the researcher's standpoint, income can be quantitative, measurable and objective on the one hand, and full of highly subjective beliefs and values on the other. The lack of precision in the income variable has led researchers to look for more predictive, comprehensive concepts such as "life circumstances" or "everyday circumstances" -- concepts which tend to be more inclusive and attitudinal in nature.
Perhaps the best early testing of life circumstance variables took place in the Stress and Families Project (Belle, 1982), where low-income mothers were interviewed and asked what they saw as everyday problems. The project tested 11 stressors designed to identify chronic conditions that lead to a depressive day-to-day environment: education, employment, living environment, law, parenting, friends, family, intimate relations, physical health, mental health, and money. The resulting conditions score reflected such problems as paying bills, finding a decent place to live, putting food on the table, and getting adequate medical and child care. Particularly useful were the security and predictability dimensions of a mother's monetary situation not covered in broad income variables. Finding that money was by far the most significant stressor among the eleven, the authors revealed that 42 percent of the respondents knew less than a month ahead of time how much money they would have for their family, another 42 percent reported that no one in the household had a savings account, and one-third did not know whether they could get $100 on short notice. The authors also found that the continual lack of security and knowledge about their future monetary situation was more predictive of depression than key life events such as deaths of relatives or friends.

In fact, the Stress and Families project found that although negative life events are linked to negative mental
health, they are generally less indicative of depression than everyday stressors. Death of loved ones and mortgages are all contributors to depression, but study after study has shown that lack of money, difficulty in getting good childcare, and appropriate housing are more strongly correlated with higher depression scores (Pearlin & Johnson, 1977; Brown et al., 1975; Hall et al., 1985). Similar results were found by Mueller, Edwards, & Yaris (1977), Rabkin and Struening (1967), and Turner and Avison (1985). Remarkably, the Stress and Families Project (Belle, 1982) found that despite having life event scores more than 3.5 times greater than their middle class counterparts, life events were less predictive of depression in low income mothers than life circumstances. Supporting the hypothesis that persistent life strains and everyday problems are more closely related to mental health are works by Dean, Lin, & Ensel (1981); Kanner, Coyne, Schaefer & Lazarus (1985); Pearlin and Johnson, (1977), Hall (1990), and Hall et al., (1985).

**Social Support and Maternal Depression**

Gross (1989) argues that social and marital support are key factors in predicting rates of depression in women. While her earlier work (1986) points out that mothers and non-mothers appear to receive the same level of overall support, Gross emphasizes that the strains of the mothering role invariably require higher and more consistent levels of
help, encouragement and emotional reinforcement. Schonkoff (1984) and Garbarino and Gilliam (1980) confirm that social networks help stimulate childhood development and foster better parenting. Cohen and Wills (1985) argue that social support correlates positively with physical and psychological health, with strong networks diminishing a mother's sense of helplessness and weak support systems exacerbating anxiety and depression. In the extreme, Turner and Avison (1985) cite evidence of the link between a lack of social support and child abuse, holding age, ethnicity, and social class constant.

The positive effects of social support on alleviating maternal depression can be either direct or indirect. Direct support provides a mother with a place to turn with immediate emotional or household problems, almost a confidant or counseling role. Indirect support, on the other hand, helps the mother become a better parent and feel a stronger sense of satisfaction in raising her child. The second order effect of this higher parental satisfaction is often a greater buffer against depressive stimulus. Barnard, Maygary, Sumner & Booth (1988), for example, argue that as the quantity and quality of support declines, parental tolerance decreases. Women who do not experience supportive, nurturing environments have difficulty in providing such circumstances for their children -- a finding consistent with the literature suggesting that parental
histories of social deprivation are associated with later child abuse. Thus, positive emotional relationships seem important for child development and the avoidance of maladaptive parenting behavior.

The direct and indirect effects of support networks, then, can be mutually reinforcing, as mothers with highly functioning networks develop better parenting skills and become more likely to seek support, which, in turn, provides a stronger base from which to nurture their children. Unfortunately, the reverse must also be true: lack of a good support system reduces parental effectiveness, which increases depression, which, without a close confidant relationship, further undermines parental effectiveness.

Throughout the literature, at least four sources of maternal support have been identified: 1) spouse; 2) parents and other family members; 3) friends; and 4) formal social networks, such as parenting groups and social services. While spousal support clearly relates also to marital satisfaction, discussed below, its importance warrants discussion on the specific types of support spouses provide.

In a survey of 43 mothers of 13 month-old infants, Levitt, Weber, & Clark (1986) showed that among a mother's support network of 13 people, husbands provide by far the greatest emotional support and have a slight advantage in providing the most child care assistance. Following
husbands, were mother, friend, other relative, sibling, father, children, mother-in-law, and father-in-law. Citing Crowther (1985) and Schafer (1985), Gross (1989) argues that link between depressed mothers and less supportive, involved spousal participation takes on particular importance, given that mothers often judge their marriage by how much their husbands help out with childcare. Women feel vulnerable to depression, in part, because a significant cause -- their spousal support system -- may be beyond their control.

Other research supports the findings of Gross (1989) and Levitt et al., (1986). Cohen and Wills (1985) and Belsky (1984) also found that the availability of a close confiding relationship provides a crucial buffering role for women and that husbands or boyfriends are more effective than others. Finally, according to Levitt et al., (1986), strong spousal support helps foster maternal well-being and decreases depressive anxiety.

The Zur-Szpiro and Longfellow study (1982) defines spousal support more explicitly along four dimensions: (1) financial support; (2) help with child care; (3) help around the house; and (4) emotional support. Not surprisingly, the women who described their partners in more positive terms on these dimensions scored lower on depression. The study highlighted the particular importance of emotional support, demonstrating that those mothers who could turn to their spouse with emotional and personal
issues consistently scored lower on depression measures. In short, the more emotional support her husband gave, the less depressed she felt, and the less stressed she felt about her parenting situation. At the same time, the other three measures also showed a positive relationship between spousal support and maternal depression, although somewhat weaker than the emotional variable.

While less of the literature is dedicated to non-spousal support networks, comprised of immediate family and friends, these networks may be as, or perhaps more significant than spousal support. An important question not addressed in Levitt et al., for example, is whether the non-spousal network in total provides more emotional and child care support. Brown et al., (1975) found that when women experienced difficult life circumstances and suffered important losses, the availability of a confidant was an effective buffer against depression. While the confidant is often a spouse, in many instances it is not. An important research objective, therefore, is to assess the relative importance of the spousal and non-spousal support systems.

The final area of support is formal -- for example, parenting groups and social services. Perhaps the best example is the study by Lyons, Connell, & Grunebaum (1990), which showed that infants of depressed mothers developed far more favorably if their mother participated in a program of in-home visiting services. Infants of mothers involved in
the program outperformed the control group by a mean of ten points on the Bayley Mental Development Index -- almost two-thirds of the standard deviation. They were also twice as likely to be classified as securely attached in their relationships with their mothers -- 61 percent compared with 23 percent of the non-served group. Again, the benefits on depression can be either direct through depression counseling or indirect by increasing parenting involvement and satisfaction.

Marital Satisfaction and Depression

Closely related to spousal support is marital satisfaction, a broader concept encompassing factors such as marital discord, intimacy, and the equilibrium and definition of marital roles. Brown and Harris (1978), for example, found that issues of marital life extend beyond support, with emphasis often placed on intimacy.

Several studies have documented the relationship between marital satisfaction and depression. Henry and Overall (1975) found that severely depressed patients at psychiatric clinics complain about marital problems more frequently than any of the other patients. Henry and Overall (1975) and Overall and Woodward (1974) demonstrated that dysfunctional marital relationships often precede depressive symptoms. In an outpatient study, Coleman and Miller (1975) also found a significant negative correlation between depression and marital adjustment, as did Weiss and
Aved (1978) in their examination of the relationship between reported health status, marital satisfaction, and depression. Finally, Crowther's (1985) evaluation of depressed in-patients revealed a significant negative correlation between self-reports of depression and marital adjustment, with depressed women perceiving their marriages to be more negative and less satisfying. Crowther (1985) also suggests the problem may be more acute for women than men, since depressed women consistently rated their marriages worse than did depressed men.

Others have documented the relationship between progress in psychotherapy and progress in marital relationships. Rounsaville, Weissman, Prusoff, & Herceg (1979) found that depressed women in bad marriages did not do as well in psychotherapy as those with good domestic environments unless their marriage improved as well. In a separate study, Rounsaville, Prusoff, and Weissman (1980) argued that recovered formerly depressed patients with unimproved marriages are more likely to relapse than recovered patients whose marriages have also improved over the course of therapy.

Perhaps the biggest source of marital dissatisfaction is a high level of marital discord — a factor which has been repeatedly identified as a vulnerability factor for depression. While only 20 percent of all married couples report marital distress (Beach, Arias, & O'Leary, 1983),
almost half of depressed, married individuals claim to have this problem (Rounsaville et al., & Herceg-Barton, 1979). Crowther (1985) shows a similarly strong correlation between marital distress and depression in a series of cross-sectional studies. Paykel, Myers, Dienelt, Klerman, Lindenthal, & Pepper (1969) noted that depressive episodes are frequently preceded by an increase in arguments with a spouse, and that marital discord represents the most frequent life event in the six months prior to depression. Cause and effect, however, can not always be isolated. For example, Weissman and Paykel (1974) almost imply the reverse causality, noting that when a mother experiences a depressive episode, she reports a variety of interpersonal difficulties with families, including arguments and quarrels. Once again, depression can lead to actions and isolation which only serve to further augment the depressive episode.

A second major source of marital dissatisfaction is role ambiguity, tension, and instability. Schafer (1985) argued that depression is in part an emotional consequence of the problems of role interaction. Conflict and dissatisfaction with a spouse's marital roles frequently upsets the equilibrium of the marriage relationship, generating stress and anxiety that can build over time. When a couple disagrees over role identities and responsibilities, the wife internalizes the conflict,
elevating her negative impression of herself. Similarly, Hinchcliffe, Hooper, and Roberts (1978) argue that depression represents the manifestation of interactional conflicts, misunderstandings, and role ambiguity unsolvable by the resources of the existing interpersonal system.

**Employment and Maternal Depression**

In contrast to the three variables considered above, research on the relationship between employment and maternal depression is more complex and inconsistent. One school of thought suggests that with employment mothers gain autonomy and control over their lives, additional outlets for creativity and productive energies, more balance, and a social support network over and above what she would otherwise develop. If the mother is the sole earner for the household, moreover, unemployment brings the same emotional distress as it traditionally has had for men. At the same time, however, a significant body of research argues that employment outside the home increases depression through role overload -- that is, the compounding effects of increased responsibilities with no offsetting reduction in expectations. The two sets of offsetting circumstances lead many researchers, such as Barnett and Baruch (1985) and Cleary and Mechanic (1983), to find no significant differences in depression between employed women and housewives. Demonstrating correlation becomes even more difficult when activity and desired activity are not the
same. Demeis, Hock, and McBride (1986), for example, showed that a woman's preference to be employed or to remain home caring for her child is a more critical factor than actual employment status in predicting depressive symptomatology.

Hock and DeMeis (1990) have found that women who prefer employment but nevertheless remain at home have higher rates of depression. However, much of the research has focused on middle-class women (Birnbaum, 1975; Belle, 1982), with little emphasis on low-income or poverty level women. One of the few studies (Tebbets, 1977) within this economic group found that work status was positively correlated with depression when other demographic variables were held constant — that is, working women were much less depressed than those who were not. The same study argued that women with more extensive work histories had lower depression scores than those who had worked less. Gore and Mangione (1983), Kantor (1977), Birnbaum (1975), and Horowitz (1982) demonstrated positive associations between employment and lower depression levels.

For those mothers dependent on their employment for a large share or primary share of the family income, loss of a job tends to produce the same depressive symptoms as it does in men. Brenner's (1973) study examined the psychiatric admission rates to hospitals and in relationship to unemployment rates over a forty year period for both men and women. While men's rates have shown a direct relationship
with unemployment since the early 1900's, women's rates did not begin showing a correlation with unemployment until women began assimilating into the workforce more rapidly. As women represent an increasingly larger share of the workforce, dependence on their income will likely keep growing, generating a new set of anxieties that historically was disproportionately male-oriented. Brenner (1981) concludes that employment status will become an increasingly important factor in determining depressive vulnerabilities for low income, uneducated women.

Those who argue that employment correlates negatively with depression tend to focus on the problem of role overload. Employment, while giving a mother increased power, also gives her increased demands. Many researchers (Aneshensel, Frerichs, and Clark, 1981; Barnett and Baruch, 1985; Cleary and Mechanic, 1983; Gove and Gerkin, 1977) argue that women, either in caring for children or in combining children with employment, suffer from greater demands than men. Highlighting the link back to support, Pleck (1984) argues that employed women do somewhat less housework than housewives, but often receive little or no increase in support from their husbands. The net result is a near doubling of the workload (Kessler and McRae, 1982; Ross, 1983).

The increase in power with employment, then, is often offset by increased demands and a lack of control over time
and schedules. The resulting frustration, role conflicts, and overall fatigue may contribute to women's higher rate of depressive symptoms (Aneshensel et al., 1981; Gove and Gerkin, 1977). Rosenfield (1989) argues that perceived lack of personal control is probably the biggest factor in leading to higher rates of depression. Others support Rosenfield's findings (Abramson and Sackheim, 1977; Miller and Seligman, 1973; Radloff, 1975).

Work by Krause and Markides (1985) and Ross and Mirowsky (1983, 1988) also raises questions of whether the net depressive effect of employment depends on the quality of the support network. The authors found the level of symptoms among employed women with the major responsibilities for child care and/or housework equals the high levels of symptoms among housewives and exceeds those of employed women with fewer demands. Similarly, Ross and Mirowsky (1983) show that sex differences in depression are greatest in married couples where the wife is employed and also responsible for childcare and housework. In fact in a later study, Ross and Mirowsky (1988) show that sex differences all but disappear when they have no difficulty in arranging childcare and husbands share a greater part of the child raising burden. Rosenfield (1989) concludes that when job and family demands are low, employed women are one of the groups least at risk for depression.

For many mothers unable to augment their support
network, part-time work may represent the path of least anxiety, combining greater power with relatively lower demands. Part-time employment when children are in the home brings the positives of employment without the overload of work responsibilities. Of course, women can also reduce the anxiety of a full time load by pursuing a more balanced division of tasks within as well as outside the home.

**Summary**

The review of the current literature highlights a number of important reasons for studying in more detail the issues surrounding maternal depression. First, considerable research documents the profound impact of maternal depression on parenting, child development and the mothers themselves. Particularly disconcerting is the self-reinforcing effects of depression -- that is, depression limits a mother's nurturing capacity, while the guilt, frustration and estrangement which result only serve to deepen the depressive anxiety. The second important reason is that while several studies have documented the importance of different factors -- income, race, education level, social support, and spousal support -- little has been done to integrate these factors into a statistically robust quantitative model. As a result, interrelationships between these variables have not been well explained, and it is difficult to isolate the relative importance of each factor. Finally, no clear consensus has emerged on whether
some variables -- particularly employment -- contribute to or reduce maternal depression.
CHAPTER III

METHODS

Hypotheses

Based on the review of the literature on maternal depression, a number of hypotheses need to be tested for further corroboration. Table one lists the relevant variables to test the hypotheses.

Hypothesis One: Annual family income is a key determinant of maternal depression, with lower income mothers showing higher rates of depression.

Hypothesis Two: The broader measure of "life circumstances" is related to household income but it is a more powerful predictive tool, given its subjective, situation-specific orientation. Mothers with more favorable life circumstances will show lower rates of depression.

Hypothesis Three: Social support is the second most important variable in light of the research conducted to date, with mothers receiving higher levels of support showing lower depression scores.

Hypothesis Four: Mothers who rate higher on marital satisfaction scores will show lower rates of depression.

Hypothesis Five: Employment will drop out of the analysis, given the conflicting pressures and benefits of
working outside the home. An interesting test, however, will be whether controlling for differing levels of social support helps clarify the relationship between employment and maternal depression.

TABLE 1
MEASURES OF KEY VARIABLES

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<tr>
<td>Education Level</td>
<td>Family Background Form</td>
</tr>
<tr>
<td>Employment</td>
<td>Family Background Form</td>
</tr>
<tr>
<td>Income</td>
<td>Family Background Form</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Family Background Form</td>
</tr>
<tr>
<td><strong>Attitudinal</strong></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>Center for Epidemiological Studies Scale (CESD)</td>
</tr>
<tr>
<td>Support from family/friends</td>
<td>Maternal Self Evaluation Questionnaire (MSQ) -- Subscale on Support</td>
</tr>
<tr>
<td>Life circumstances</td>
<td>MSQ -- Subscale on Life Circumstances</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>MSQ -- Subscale on Marital Satisfaction</td>
</tr>
</tbody>
</table>

Subjects
The subjects were 155 mothers of one year olds, who were: 1) married or living with the father of the toddler;
2) were 20 years of age or older; 3) could read and speak English; and 4) had a biological or adopted child living with her. These women were recruited from a large, midwestern health maintenance organization. The mean maternal age was 30 years (standard deviation = 4.75). Married mothers accounted for eighty-seven percent of the respondents, with the remainder being single but living with the father of the toddler.

Most participants were from minority ethnic groups. Forty-five percent were black; 10 percent were Hispanic; four percent were Asian; one percent were Native American; 38.2 percent were White; and two percent were not categorized. Median educational level was some college attainment.

The majority of mothers were working outside of the home. Fifty-six percent of the participants worked full-time and 22 percent worked part-time. Median annual incomes were $31,000-$40,000.

Mean parity was two children (range = one to six children). Forty-four percent of the toddlers were first-borns. Girls accounted for 53 percent of the toddlers.

Instruments

All participants in the study completed three questionnaires which measured the major study variables: maternal depression; life circumstances; support from family and friends; and marital satisfaction. The
employment status was derived from the Family Background Form. These measures are described below:

1. The Center for Epidemiologic Studies Depression Scale (CES-D) is a 20-item measure of depression intended for use in the general population (Radloff, 1977). The items assess the mother's depressed mood, feelings of guilt, worthlessness, loneliness, hopelessness, psychomotor retardation, and disturbances in concentration, sleeping, and appetite. Mothers are asked to rate the extent to which they have experienced each symptom in the past week. The summed scores range from 0 to 60 with a cutoff score of 16 or greater as indicative of depression (Radloff, 1977).

Validity of the CES-D is supported by its significant correlations with other measures of depression (Myers & Weissman, 1980). Weissman et al. (1977) reported a 99 percent sensitivity rate among acutely depressed individuals and a specificity rate of 56 percent among recovered individuals. Cronbach's alpha coefficient for this subscale was .88. Using the CES-D, Eaton and Kessler (1981) estimate that 21 percent of adult American women are depressed, although depression rates among mothers of young children tend to be higher than in the general population (Gross, 1989).

2. The Maternal Self-Evaluation Questionnaire (MSQ) contains seven subscales that assess a woman's mothering abilities. The MSQ was adapted from the Postpartum Self-
Evaluation Questionnaire (Lederman, Weingarten and Lederman, 1981) by Kutzner (1984) to make the wording more appropriate to mothers with young children. For example, the item "It bothers me to get up for my baby at night" was changed to "It bothers me to get up for my toddler at night." The MSQ is scored on a 4-point scale ranging from "not at all" to "very much so." Although mothers completed the entire MSQ, only three subscales were used to test variables in this study: 1) the "Satisfaction with Life Situation and Circumstances"; 2) the "Support from Family and Friends" subscale; and 3) the "Quality of Relationship with Husband" subscale.

The "Life Situation and Circumstances" subscale was used to measure the chronic stressors in a woman's life, including specific financial and income measures. Scores on this 10-item subscale have been related to maternal confidence, support from family and friends, and marital quality. Cronbach's alpha coefficient for this subscale was .87.

The "Support from Family and Friends" subscale was used to measure the mother's perception of the support she received specific to her parenting from friends and family members. Scores on this 12-item subscale have been related to the perceived quality of life circumstances (Kutzner, 1984). Cronbach's alpha coefficient for this subscale was .84.
The "Quality of Relationship with Husband" subscale was used to measure marital satisfaction. Scores on this 12-item subscale have been related to the mother's perception of her husband's participation in childcare, to her overall parenting confidence, and quality of life circumstances (Kutzner, 1984). Cronbach's alpha coefficient for the "Quality of Relationship with Husband" subscale in this study was .93.

3. The Family Background Form contained items requesting data on toddler's age, birth order, and sex; the mothers' educational level, age, employment status, and ethnic background; and annual family income.

Data Collection

Mothers were sent information concerning the study, the three questionnaires, and a stamped self-addressed envelope one month prior to their toddlers' first birthdays. The cover letter stated that the purpose of the study was to explore factors in the mothers' daily lives that affected how they felt about raising their toddlers. The mothers were instructed to answer all of the questions within the same two hour timespan and to return the completed questionnaires within two days of receiving them. Following receipt of the questionnaires, mothers were sent $20 as payment for their participation.
CHAPTER IV
ANALYSIS AND RESULTS

A multiple, stepwise regression was conducted to determine whether maternal depression was related to the following variables and to assess each variable's relative importance: life circumstances, marital satisfaction, support from family and friends, and employment status. Statistical frequencies and simple correlations were also run on the demographic variables.

Table 2 compares the frequencies of five major demographic variables in the depressed sample (those with CESD scores greater than 16) versus the total sample (n=155). The five variables are age, annual family income, employment status, education, and race. The comparative index is measure of the "skew" in the depressed sample, and is derived by dividing the percentage of the depressed sample in a certain category by the percentage of the total sample in that category and then multiplying by 100. An index of 150 on income under $20,000, for example, suggests that women in this category have a 50 percent greater incidence of depression. Higher index scores at the lower income range and correspondingly low index scores at the upper income range strongly suggest that lower income women...
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n of total sample</th>
<th>% of total sample</th>
<th>n of mothers &gt; 16 CESD</th>
<th>% of mothers &gt; 16 CESD</th>
<th>Index of &gt; 16 CESD to total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-24</td>
<td>13</td>
<td>8.4</td>
<td>4</td>
<td>9.1</td>
<td>108</td>
</tr>
<tr>
<td>25-29</td>
<td>61</td>
<td>39.4</td>
<td>17</td>
<td>38.6</td>
<td>98</td>
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<tr>
<td>30-34</td>
<td>46</td>
<td>29.7</td>
<td>13</td>
<td>29.5</td>
<td>100</td>
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<tr>
<td>35+</td>
<td>31</td>
<td>22.6</td>
<td>10</td>
<td>22.8</td>
<td>101</td>
</tr>
<tr>
<td>Annual family income ($K)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>&lt; 20</td>
<td>30</td>
<td>19.6</td>
<td>13</td>
<td>29.5</td>
<td>150</td>
</tr>
<tr>
<td>20-30</td>
<td>29</td>
<td>19.0</td>
<td>10</td>
<td>22.7</td>
<td>120</td>
</tr>
<tr>
<td>30-40</td>
<td>34</td>
<td>22.2</td>
<td>7</td>
<td>15.9</td>
<td>72</td>
</tr>
<tr>
<td>40-50</td>
<td>30</td>
<td>19.6</td>
<td>7</td>
<td>15.9</td>
<td>81</td>
</tr>
<tr>
<td>50-60</td>
<td>11</td>
<td>7.2</td>
<td>3</td>
<td>6.8</td>
<td>94</td>
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<tr>
<td>&gt; 60</td>
<td>19</td>
<td>12.4</td>
<td>3</td>
<td>6.8</td>
<td>55</td>
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<td>Full time employment</td>
<td>79</td>
<td>51.0</td>
<td>18</td>
<td>40.9</td>
<td>80</td>
</tr>
<tr>
<td>Part time employment</td>
<td>34</td>
<td>21.9</td>
<td>7</td>
<td>15.9</td>
<td>73</td>
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<tr>
<td>Homemaker</td>
<td>35</td>
<td>22.6</td>
<td>16</td>
<td>36.4</td>
<td>161</td>
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<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>22</td>
<td>14.0</td>
<td>9</td>
<td>20.5</td>
<td>146</td>
</tr>
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<td>Some College</td>
<td>52</td>
<td>33.1</td>
<td>14</td>
<td>31.8</td>
<td>102</td>
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<tr>
<td>College</td>
<td>58</td>
<td>36.9</td>
<td>16</td>
<td>36.4</td>
<td>99</td>
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<td>Advanced Degree</td>
<td>35</td>
<td>14.6</td>
<td>5</td>
<td>11.4</td>
<td>78</td>
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<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>6</td>
<td>3.8</td>
<td>3</td>
<td>6.8</td>
<td>178</td>
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<tr>
<td>Black</td>
<td>71</td>
<td>45.2</td>
<td>23</td>
<td>52.3</td>
<td>115</td>
</tr>
<tr>
<td>Hispanic</td>
<td>16</td>
<td>10.2</td>
<td>2</td>
<td>4.5</td>
<td>44</td>
</tr>
<tr>
<td>White</td>
<td>60</td>
<td>38.2</td>
<td>16</td>
<td>36.4</td>
<td>95</td>
</tr>
</tbody>
</table>
most at risk; higher income women least at risk. Education shows a similar pattern, with less educated women being overrepresented in the depressed group (index = 146). Simple frequencies also suggest women who stay home have a higher incidence of depression (index = 161). Finally, Asians appear to have a higher incidence of depression (index = 178), while Hispanics seem have an unusually low incidence (index = 44). No skew was found by age. None of the simple frequencies take account of relationships among variables -- for example, education and income. Demographically, therefore, depressed mothers tend to have lower incomes, less education, and are more likely to stay at home rather than work either full or part time.

Table 3 shows a correlational matrix between demographic variables and the four subscale and inventory measures. Life circumstances, marital satisfaction, and social support have the three strongest correlations with the depression variable (r = -.5237, -.5089, and -.4571, respectively; p = 000). Income explains considerably less of the variance in depression scores than the life circumstances measure. Employment has lower explanatory value than these four variables (r = -.1355, p = .046).

Table 4 gives the results of a stepwise regression of the major variables with depression as the dependent variable. Only three variables emerged as significant, but together they explain over 43 percent of the variance in
### TABLE 3

CORRELATIONS OF ATTITUDINAL AND DEMOGRAPHIC VARIABLES

<table>
<thead>
<tr>
<th>CESD</th>
<th>Life Circumstances</th>
<th>Social Support</th>
<th>Marital Satisfaction</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CESD</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Life Circumstances</td>
<td>-.5237 (.000)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Social Support</td>
<td>-.4571 (.000)</td>
<td>.2580 (.001)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>-.5089 (.000)</td>
<td>.4910 (.000)</td>
<td>.2511 (.001)</td>
<td>X</td>
</tr>
<tr>
<td>Employment</td>
<td>-.1355 (.046)</td>
<td>.0511 (.264)</td>
<td>-.1219 (.066)</td>
<td>.1097 (.087)</td>
</tr>
<tr>
<td>Income</td>
<td>-.3022 (.000)</td>
<td>.5089 (.000)</td>
<td>.0257 (.377)</td>
<td>.3246 (.000)</td>
</tr>
<tr>
<td>Education</td>
<td>-.1905 (.009)</td>
<td>.2545 (.001)</td>
<td>.0416 (.304)</td>
<td>.1097 (.087)</td>
</tr>
<tr>
<td>Maternal Age</td>
<td>-.0580 (.239)</td>
<td>.0675 (.205)</td>
<td>-.1334 (.052)</td>
<td>.0096 (.453)</td>
</tr>
</tbody>
</table>
maternal depression. Most important was life circumstances with an adjusted $R^2$ of .274. The standardized Beta of -.305 suggests that for each one point increase in the life circumstances, a mother's CESD score will fall by .305 points. Next, the support variable explains another 10 percent of the variance, bringing the cumulative $R^2$ to .377. Here again the variables are negatively correlated, with a one point increase in the support subscale leading to a .307 point decrease in the CESD score. Finally, marital satisfaction explains another six percent of the variance, bringing the cumulative $R^2$ to .433. The Beta of -.283 suggests that an increase in the marital subscale of one point will decrease the CESD score by .283 -- a reduction somewhat lower than the first two variables. F statistic for the final equation is 40.0, with a standard error of 6.97.

**TABLE 4**

**STEPWISE REGRESSION RESULTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step</th>
<th>Adj. $R^2$</th>
<th>Beta</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Circ.</td>
<td>1</td>
<td>.274</td>
<td>-.305</td>
<td>.0000</td>
</tr>
<tr>
<td>Support</td>
<td>2</td>
<td>.377</td>
<td>-.307</td>
<td>.0000</td>
</tr>
<tr>
<td>Marital Sat.</td>
<td>3</td>
<td>.433</td>
<td>-.283</td>
<td>.0001</td>
</tr>
</tbody>
</table>
The final stepwise regression shows that maternal depression is most affected by life circumstances. This finding is consistent with the numerous works documenting the relationship between income and depression (Makosky, 1982; Pearlin & Johnson, 1977; Brown et al., 1975; Hall and Farrel, 1988; Brown and Harris, 1978; Hall et al., 1985; and Frerichs et al. 1981). At the same time, however, it is also clear from the correlation matrix that life circumstances as a concept explains considerably more variation than traditional income variables (r = -.5237 for life circumstances and -.3022 for annual family income).

Second and third in order of importance were social support variables and marital satisfaction. These findings support the general conclusions documented by a rich body of literature: Gross (1989); Schonkoff (1984); Garbarino and Gilliam (1980); and Cohen and Wills (1985). The stepwise regression, however, takes the analysis a step further by quantifying the relative importance of the two subscales. While both are significant, controlling for several other variables simultaneously reduces the apparent explanatory
power of both social support and marital satisfaction. Although simple correlations suggest that each factor explains almost 25 percent of the variance, the stepwise model suggests that support explains about ten percent of the variance and marital satisfaction another six percent.

Interestingly, employment did not enter the stepwise equation (F statistic was not greater than 4.0), even when controlling for differing levels of life circumstances and social support. One explanation may be that a categorical, binary variable like employment does not capture the part-time option or more subtle aspects of the depressive stimulus. The lack of a clear relationship, however, makes sense given the conflicting, inconsistent findings to date (Barnett & Baruch, 1985; Cleary & Mechanic, 1983), suggesting that previously claimed correlations may have been spurious -- perhaps reflecting other variables with significant colinearity with employment.

This is not to suggest, however, that employment is not important. Further research needs to refine what is actually being measured in this variable. One improvement would be to add a variable on the respondents preference similar to that suggested by Demeis et al., (1986) -- i.e., does the mother want to work or does she want to stay home and is that consistent with her behavior? Isolating the question of desire versus practice could shed important insight on the employment question. Resolving the
employment issues will add additional explanatory power to the model. A second, similar refinement would be to add a variable on job satisfaction.

The correlational matrix and frequencies found in Tables 2 and 3 add additional insight to the stepwise regression and raise a number of important questions for future research. Particularly noteworthy is the apparently low level of depression among Hispanic mothers (index = 44) -- a finding which appears to contradict prior research (Zavalla, 1987; Vega, 1984) identifying Hispanic mothers as high risk for depression.

Although life circumstances has a predominantly monetary orientation, Annual Family Income explains only 25 percent of the variance in life circumstances. This finding confirms the importance of using attitudinal, subjective variables as well as absolute measures. The high correlations between life circumstances and social support and marital satisfaction suggest that women who have more perceived financial security and comforts also view their social networks and marriages more positively. Ironically, those mothers who will mostly likely need support to mitigate the depressive effects of difficult life circumstances appear least likely to get it.

**Summary**

This study has investigated the reputed and actual causes of a disturbing social problem: high rates of
depression in women with children. Data was collected as part of a larger longitudinal study by Deborah Gross, DNSc and the National Center for Nursing Research. Depression, the dependent variable in the multivariate regression, was measured using the Center For Epidemiological Studies Depression Scale (CESD). Independent demographic variables were captured using the Family Background Form, while three attitudinal variables were created from the Maternal Self-Evaluation Questionnaire (MSQ): "life circumstances"; "social support"; and "marital satisfaction."

Results showed that "life circumstances" is by far the most important factor in explaining variation in depression scores and represents a more powerful explanatory concept than annual family income. Social support is second in importance, followed by marital satisfaction. All three independent variables were negatively correlated with depression -- implying that those with more "comfortable" life circumstances, greater social support, and better marriages will tend to be less depressed. Employment did not appear to be statistically significant, although more work needs to be done on this important factor.
REFERENCE LIST


Rosenfield, S. (1989). The effects of women's employment:


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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is, therefore, accepted in partial fulfillment of the requirements for the degree of Master of Arts.

April 12, 1992  
Date  

[Signature]  
Director's Signature