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Some correlates of maternal depression.

Jill M. Pickett
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UMI
SOME CORRELATES OF MATERNAL DEPRESSION

A Dissertation
Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in the
Graduate School of the University of Windsor
Department of Psychology

by

Jill M. Pickett, M.A.

University of Windsor
1987
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ABSTRACT

This study investigated the relationship of situational stressors and of personality traits to self-esteem and depression. This proposed relationship was investigated through the administration of measures of the four sets of variables: situational stress, personality traits, self-esteem, and depression. Ninety mothers attending a children's mental health clinic and 30 women volunteers who constituted a comparison group completed a questionnaire made up of six measures.

The first variable-set, situational stress, was assessed through a life-situations questionnaire constructed by the author. The second set of variables, personality traits, was evaluated through three scales measuring the need to be loved, the need to be good, and the need to be strong; these are personality traits posited by E. Bibring (1953) to predispose to depression. The measures were the Succorance subscale from Jackson's Personality Research Form (JSS), Mosher's Guilt-about-Hostility Inventory (MGHI), and the Parenting Sense of Competence Scale (PSOC). Self-esteem was measured by Rosenberg's Self-Esteem Measure (RSE). Finally, depression was assessed by Beck's Depression Inventory (BDI). To control for variables that might mislead one about causal connections among the four variable-sets, the investigator also gathered information about age, marital status, number and age of children, and social status.

The author predicted that the personality trait scores and
the life situation scores would positively correlate with self-esteem and depression. Further, the author predicted that the first two variables would add significantly to the prediction of depression. Finally, it was predicted that personality traits and life situation would interact such that there would be a conditional relationship between these two variables in the prediction of self-esteem and depression.

The PSOC was the only measure of the personality traits that had positive correlations with self-esteem and depression. The Life Situations Questionnaire correlated positively. The self-esteem scores and the life situation scores were found to do better in predicting BDI scores than either one alone, but the personality trait variables did not add to the prediction when added to the other two groups of predictor variables. A path analysis and a LISREL analysis determined results similar to the above. There were no significant interactions between personality traits and life situation in the prediction of self-esteem and depression.

The present study failed to confirm Bibring's hypothesis regarding the mechanisms of depression. Persons having the three preparatory personality traits posited by Bibring do not have lower self-esteem and do not become depressed when faced with frustrating life circumstances. Alternative explanations such as those of Rado (1951) and of Heider (1958) may better describe the data.
ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

Although human beings frequently react to intense life stress by becoming depressed (Habif & Lahey, 1980), not everyone who endures stress becomes depressed. Mendels (1970) suggested that both an experience of stress and some underlying, predisposing factor are needed to produce depression. Many theoretical explanations have been proposed as researchers attempted to identify these factors that predispose to depression. Bibring (1953) suggested that the predisposition consists of a fixation to a feeling of helplessness in regard to one or more of three narcissistically important aspirations (the need to be loved, good, and/or strong). According to Bibring, when a person becomes incapable of achieving these aspirations—an experience that he or she finds stressful—there are a lowering of self-esteem and a resurgence of feelings of helplessness, which then leads to depression. In the present study, the author examines whether Bibring's three hypothesized fixations do predispose to depression; the depression is expected to become manifest under stressful life situations.

The author studied these predisposing factors in a group of mothers who had difficult children. Many of these women, who were attending at a children's psychiatric outpatient clinic, were under a great deal of stress (see Maccoby & Martin, 1983) and many of them also were depressed (see Szatmari, Offord, Siegel, & Finlayson, 1986).
If indeed these mothers are depressed and suffer lowered self-esteem, taking that into account should enable us to plan intervention strategies more effectively. One might need to deal with the depression before one could deal with other problems such as the mothers' inability to use the help offered by professionals. Furthermore, knowing more about what causes depression should help us to do therapy more effectively with any depressed patient.

The Nature of Depression

There is now general agreement about the symptoms that merit the diagnosis of depression. According to the recently adopted Diagnostic and Statistical Manual of Mental Disorders—III (American Psychiatric Association, 1980), the diagnosis of depression should be based on certain observable and objective characteristics or symptoms. The criteria for major depression include the presence of dysphoric mood, or loss of interest or pleasure in ordinary activities, and the presence of a number of other symptoms, such as loss of appetite, sleep disturbance, loss of energy, agitation, psychomotor retardation, loss of interest, self-reproach, guilt, loss of self-esteem, diminished thinking abilities, and thoughts about death or suicide. The type and severity of depression is to be judged by the number of symptoms present and by their duration. Knowing what symptoms are sufficient to diagnose depression does not, however, help us to understand what causes and maintains depression. Although there have been numerous attempts to differentiate subtypes of depression by making use of symptom patterns, these have been
relatively unhelpful for understanding the causes of depression and for planning effective treatments (see Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982). Blatt et al. argued, and I agree, that differentiations among types of depression should be established not through the signs or symptoms of depression but through the subjective experiences of depression—the types of issues that cause individuals to experience dysphoric affect. The authors of several theoretical and experimental contributions attempted to establish what these subjective issues or predisposing factors are.

Both behavioral and psychoanalytic theorists have tried to identify these subjective issues or predisposing factors (Beck, 1967; Bibring, 1953; Blatt et al., 1982; Freud, 1917/1953; Seligman, 1975). Their formulations are surprisingly similar. In general, these theorists describe the course of depression as beginning with the establishment of impaired or distorted modes of adaptation early in the life cycle. These faulty adaptations are perpetuated by subsequent untoward life experiences, and when the individual experiences severe stress related to the issues involved in the initial establishment of the maladaptive modes of coping, they influence his current adaptation. In this way, depression may be seen not as a disease entity, but as a maladaptive coping style that has continuity with normal developmental processes. Both the behavioral and psychoanalytic authors consider helplessness, dependency, and negative feelings about the self and the external world to be central issues in depression. Bibring (1953), however, offers the most succinct
explanation of these processes and issues in his analysis of depression.

Beck (1967) offers a cognitive theory of depression. He asserts that depressed individuals feel as they do because they commit characteristic logical errors, tending to distort whatever happens to them in the direction of self-blame, catastrophes, and the like. Beck believes that the depressive draws illogical conclusions in evaluating himself; this process predisposes him to interpret events in a way that justifies his view that life is utterly hopeless. The depressive's errors in thinking constitute what Beck calls "schemata," characteristic thoughts involving self-deprecation and self-blame, which color how he perceives the world. Beck describes several logical errors committed by depressed people in interpreting reality: arbitrary inference, selective abstraction, overgeneralization, magnification, and minimization. In summary, Beck suggests that the prior establishment of illogical cognitive schemata of helplessness, hopelessness, self-blame and self-deprecation predisposes individuals to view further stressful situations in a way that justifies this distorted view and thus leads to the onset of depression.

Seligman (1975) proposed explaining depression as the result of learning, specifically, of learning to respond helplessly. He suggested that anxiety is the initial response to a stressful situation. He argued that if the person comes to believe that control is unattainable, anxiety is replaced by depression. Seligman believed that individuals acquire what might be called a
"sense of helplessness" in addition to developing feelings of hopelessness when they are repeatedly confronted with uncontrollable, aversive stimulation. Their helplessness later tends seriously and deleteriously to affect their performance in stressful situations that can be controlled. They are deprived of the ability to learn to respond in an effective way to painful stimulation. Seligman believed that the reaction of depression was the result of an individual's predisposition of helplessness when he was later faced with the inability to control such life events as the loss of a loved one or the acquisition of a physical disease.

The psychoanalytic perspective (Abraham, 1924/1966; Fenichel, 1945; Freud, 1917/1953) is far more complex. Early psychoanalytic authors defined the general predisposition to depression in terms of an oral fixation which determined the later reaction to narcissistic shocks. All subsequent depressions follow the pattern established by the first, when there is a "severe injury of infantile narcissism from disappointments in love" (Abraham, 1924/1966, p. 107). The disappointments may take the form of early maternal deprivation, or of real or symbolic losses or rejections. In response, the child becomes more dependent and hungrier for the love denied him and begins to have resentful and aggressive feelings against the mother which conflict with the need for her and love for her. The aggressive feelings or reproaches against the loved object are then withdrawn and shifted on to the individual's own ego through the processes of identification and incorporation and become
self-reproaches, guilt, and grief. The element of hopelessness or despair arises because the only way of alleviating this situation involves admitting aggressive feelings toward the loved object, even though acknowledging these feelings is the one thing that must be avoided at all costs.

As an adult a person who has experienced these disappointments exhibits character traits which have their origin in these childhood experiences. Love, attention, and admiration from other people ("narcissistic supplies") are essential for the self-esteem of such a person, and ambivalent feelings, guilt and self-reproaches still tend to predominate. Later, when there is a loss, either real or symbolic, "the melancholic displays an extraordinary fall of self-esteem, a loss of the ego: the ego itself seems poor and empty, and is inclined to self reproaches" (Freud, 1917/1953, p. 155). The adult responds to this loss in the same way that he responded to the primary loss, turning the "aggression towards the self" and becoming depressed.

The most important modifications of the psychoanalytic view of depression come from Bibring and others influenced by him (Bibring, 1953; Blatt et al., 1982; Nemiah, 1961). Bibring (1953) believed that depression results from the tension between three highly charged narcissistic aspirations (the need to be loved, the need to be good, and the need to be strong corresponding to the oral, anal and phallic phases of psychosexual development, respectively) and the ego's acute awareness of its real and imaginary helplessness and incapacity to live up to these aspirations. The three aspirations will be
described in greater detail below. Bibring assumed that traumatic experiences usually occur in early childhood to establish a fixation of the ego to this attitude of helplessness. This attitude is later regressively reactivated whenever situations arise which resemble the primary shock conditions, that is, when one discovers that one is unloved, bad, inadequate, or helpless in the face of overwhelming odds. Although there are three aspirations and three potential failures in achievement, Bibring viewed the underlying mechanism of depression as identical for all of these. For Bibring, depression is the emotional-attitudinal correlate of the partial or complete collapse of the self-esteem of the ego, the state of broken-down self-regard, and the inhibition or paralysis of the ego.

Nemiah (1961) endeavored to incorporate Bibring's ideas about self-esteem into the psychoanalytic theory of human functioning. Bibring believed that the three sets of conditions were not exclusive of each other but could under certain circumstances coexist in varying combinations in the same individual and at the same time. Nemiah (1961) went further to identify the predisposing character structure (narcissism, dependence, and ambivalence) of the individual who would be sensitive to failures in all three of these normal aspirations.

The person with a narcissistic character disorder reacts with disappointment and anger when they fail to get something they want, but with a difference from the more mature adult that further complicates his already difficult situation. His needs and his demands from others are stronger and more frequent than in the more mature adult, which in itself intensifies his feeling of weakness, helplessness, and inadequacy; there is, therefore, more likelihood of disappointment; he comes to
expect, even to look for, defections in other people, and his sensitivity to slights is heightened. His angry reactions are profound and violent. They are, furthermore, very frightening to him; they conflict with his wish to be good, kind and loving, thereby increasing his already burgeoning sense of inadequacy, helplessness, and guilt; they threaten to hurt, alienate, and drive away the very person needed for help and support, thus further increasing the feeling of insecurity and disappointment. The person is thus trapped in a vicious circle. The narcissistic person is then especially vulnerable to the human crises that none of us can avoid....This abnormal sensitivity and mechanism of defense are due to the heritage of early and immature phases of development. (Nemiah, 1961, pp. 166-167)

The three narcissistic aspirations identified by Bibring and by Nemiah warrant further description and analysis.

The Need To Be Loved

This narcissistic aspiration corresponds to the oral phase of psychosexual development, and may be defined as the wish to be worthy, to be loved, to be appreciated, and not to be inferior or unworthy. It is not the oral frustration and subsequent oral fixation that predisposes an individual to depression, but the infant's or little child's shocklike experience of and fixation to the feeling of helplessness. "The infant has actually no power over its objects and the necessary supplies it has to receive from them. It is entirely dependent on the benevolence of the environment for the gratification of his needs and maintenance of his life. Frequent frustrations may mobilize at first anxiety and anger to be replaced by feelings of exhaustion, of helplessness and depression. This early self-exposure of the infantile ego's helplessness, of its lack of power to provide the vital supplies, is probably the most frequent factor predisposing to depression" (Bibring, 1953, p. 37).
Persons tend to react to this failure to receive love in this phase with a heightened need for love and with an inability to "feed themselves." Thus, they become abnormally dependent on others to be there to assure them of being lovable and they are then especially vulnerable to any disruption in this state of affairs. Depression follows the painful discovery of not being loved, whenever this discovery regressively evokes the primary feelings of helplessness with regard to the gratification of these narcissistic needs. Severe emotional difficulties result when faced with the death of the person upon whom they depend to supply their narcissistic needs. "The resulting tension can be described as a longing for the lost object and love, and a wish to retrieve the loss (maintenance of object and goal). The depression appears to derive from the fact that here too the ego is confronted with an inescapable situation, since it does not have the power to undo the loss" (Bibring, 1953, p. 27).

The Need To Be Good

This narcissistic aspiration corresponds to the anal phase of psychosexual development, and may be defined as the wish to be good, to be loving, and not to be aggressive, hateful, and destructive. Predisposition to depression occurs when there is a failure in the mutuality of the child-mother relationship and when the parents are over-critical or harsh in regard to the child's attempts at control over himself and his environment. Frustration will again lead at first to anxiety and anger to be replaced by feelings of exhaustion, helplessness, and depression.
The child becomes predisposed to future depressions when he is faced with the shocklike experience of and fixation to the feeling of helplessness to have mastery over his body, over his libidinal drives, and over his parents.

The child will react to his apparent failure to be good with feelings of remorse, guilt, and a fear of punishment as well as with a heightened wish to be good. Yet the aggressive feelings have also been heightened by the parents' punitive and critical attitudes, so that the result is a sense of ambivalence toward them. This ambivalence toward others upon whom they depend and the concomitant guilt about their hostility make these individuals especially vulnerable to depression in the future. Depression will occur when the person is faced with the existence in himself of "aggressive impulses, feelings of weakness ('I am too weak ever to control the forbidden impulses or the interfering objects'), or feelings of guilt ('I shall never succeed in being good and loving, I am destined to be hateful, hostile and defiant, and therefore evil')" (Bibring, 1953, p. 38).

The Need To Be Strong

This narcissistic aspiration corresponds to the phallic phase, and may be defined as the wish to be strong, superior, great, secure, and not to be weak and insecure. Predisposition to depression occurs when the child's parents have unrealistically high standards and ideals for him, and he has to face the shocklike experience of and fixation to the feeling of helplessness to fulfill these standards, to compete within the
Here, the narcissistic aspirations stem mainly from the failure in the competitive situation and the resulting heightened wish to be admired, to be the center of attention, to be strong and victorious, and not to be defeated. Unfortunately, the individual's ideals and goals and his demands on himself for performance in the future often are utterly beyond his capacities to achieve, as he internalizes his parents' unrealistically high ideals. Depression will result then when the fear of being defeated and ridiculed for one's shortcomings and defects, or the fear of retaliation seem to come true and the ego proves too weak to prevent the inevitable.

Review of the Research Literature

Blatt and his colleagues (1982) reviewed a number of studies that attempted to establish subtypes of depression. Although two definite subtypes were frequently identified, these seem to overlap with the three subtypes delineated by Bibring (1953) and by Nemiah (1961). Blatt named these two subtypes "anaclitic" and "introjective." The anaclitic subtype is a dependent type of depression in which the person is characterized by feelings of helplessness and weakness, by fears of being abandoned, and by wishes to be cared for, loved, and protected. The person belonging to the introjective subtype is self-critical. Such a person is developmentally more advanced, and is characterized by intense feelings of inferiority, guilt, and worthlessness and by a sense that one must struggle to compensate for having failed to
live up to expectations and standards. Obviously, there is a rather exact correspondence between the anaclitic subtype and Bibring's need to be loved subtype, while the introjective subtype appears to correspond to a combination of both the need to be good and the need to be strong subtypes.

Blatt and his colleagues (see Blatt et al., 1982) developed the Depressive Experiences Questionnaire which assesses a wide range of everyday life experiences that (although not direct symptoms of depression) are frequently characteristic of the personal experiences of depressed patients. In several samples of male and female college students, they found three highly stable factors, labelled Dependency, Self-Criticism, and Efficacy (corresponding almost exactly to the need to be loved, the need to be good, and the need to be strong), to have significant differential correlations with independent measures of depression. They next investigated the utility of the dependency and self-criticism factors in differentiating depression in patients (Blatt et al., 1982). They found that there were consistent and statistically significant differences among patients as a function of whether their experience of depression focused primarily on issues of dependence or on self-criticism or on other issues. These two sets of findings are consistent with Bibring's view that there are three subtypes of depression.

Recently Billingsley (1986) examined the differences in predisposition for depression between men and women. Billingsley took Bibring's three narcissistic aspirations as the predisposing personality traits to be studied. He hypothesized that women are
socialized toward these predispositions more than men are; he also proposed that women's greater vulnerability on these predispositions leads to the higher incidence of depression in women that has often been reported. He found that the women were higher only on a test of guilt about hostility, whereas there were no differences between men and women on the measures of dependency and the degree to which one is influenced by others' opinions of one's adequacy or competence. This last scale was the only measure to correlate significantly with Billingsley's measure of depression, the Beck Depression Inventory. Finally, Billingsley found that two demographic indices (age and social status) were highly predictive of depression. This last finding points to the need to identify demographic and situational variables that act in combination with the predisposing personality traits to result in the expression of depression.

As outlined above, all of the theorists believe that stressful events interact with predisposing personality traits to cause depression (Beck, 1967; Bibring, 1953; Freud 1917/1953; Nemiah, 1961; Seligman, 1975). Demographic and situational variables may well be markers of some of the stressful events experienced by those predisposed individuals who subsequently become depressed. Accordingly, for the present study the author will examine the interaction between stressful life situations and the three predisposing personality structures identified by Bibring in determining depression. As noted above, the author will study a group of mothers under stress in this examination of the determining role of the traits and situations.
Mothers Under Stress

Of course, no family operates in total isolation from its environment. The environment of the family may have either positive or negative effects. External events serve as strong sources both of stress on and of support to families. Families that are relatively free from external sources of stress tend to be low in conflict; whereas families that have high stress tend to have parents who are preoccupied, who play less with their children, and who stimulate, support, and help their children less than parents having less stress do (Maccoby & Martin, 1983).

Certainly maternal stress has an impact on parenting capacity. The sources of stress for mothers are varied, including difficulties in regard to parenting itself such as having a difficult or problematic child, restrictions imposed by the parental role, marital relationships that are poor, social isolation, and the impacts of situational factors such as age, number of children, employment, social status, financial concerns, and concerns about physical health.

Having a difficult child is one of the greatest sources of stress that a mother has to cope with. Thomas and Chess (1977) were able to identify three groups of babies according to temperamental pattern: easy, difficult, and slow-to-warm-up. They argued that temperamental individuality is well established by the time the infant is two to three months old. Those babies identified as difficult are a source of stress and of lowered self-esteem to their mothers. Mothers perceiving their baby as easy to take care of reported a greater overall sense of
competence as parents and more satisfaction in the mothering role than those perceiving their baby as more difficult to manage (Gibaud-Wallston & Wandersman, 1978). Mothers of difficult children who conflicted more with the child during play reported lower levels of parenting self-esteem and higher levels of stress (Mash & Johnston, 1983). The mother's parenting was affected as well. Mothers of difficult children did more controlling, warning, prohibiting, removing of objects, and asserting of their power than mothers of children with easy dispositions did (Maccoby & Jacklin, 1985).

As Gerald Patterson (1980) commented after studying mothers as victims, in the normal family mothers are caretakers who share with fathers the routine problems in child management. But in families with a problem child, he pointed out, the mother becomes a lone crisis manager. Patterson (Patterson, 1980; Patterson & Cobb, 1973) studied longitudinally a group of families having a child between 3 and 13 who had such problems as stealing, truancy, arson, and social aggression. Patterson examined data from 27 problem families and 27 matched control families. He found that fathers in distressed families tended to act as resident guests and "good guys," abdicating their responsibilities for serious child-management to their "bad-guy" wives. Mothers in these families were the primary targets of their children's dependency, disapproval, destructiveness, and whining. These mothers came to feel stressed, depressed, and psychologically troubled, and to have lower self-esteem.

The net effect on a family of having a difficult child is...
disruption, aggression, despair and low self-esteem (Patterson, 1980). Such additional stressors as poverty, marital problems, and the absence of a father all can affect how well a mother manages a problem child (Netherington, Cox, & Cox, 1982). Some of these other sources of stress will now be examined.

Conflict in the marital relationship is a major source of stress for mothers. Children and adolescents living with two parents who frequently fight or who hold consistently negative feelings toward each other (even though the parents attempt to hide these feelings) often show worse personal adjustment, more stress, more psychosomatic illnesses, and more delinquency than their peers in happy, divorced families do (Ahlstrom & Havighurst, 1971; Landis, 1970). Hence unhappy parents who stay together for the sake of the children may not be doing their children any favors.

Unfortunately, mothers who separate from their spouses to avoid the stress from marital conflict still have to face the stress of single-parenthood. The divorce rate for parents of preschool children has risen from 8% in 1950 to 20% in 1980. At the present rate, 50% of the children born in the 1980's will spend some time in a single-parent family, usually with the mother (Clarke-Stewart, Friedman, & Koch, 1985). Besides having to endure the stress caused by the divorce itself, the custodial parent usually has to carry on while stripped of the economic, emotional, and labor support of the spouse. Single-parent households with female heads constitute a larger proportion of families at lower-income levels than at higher-income levels.
(Schiamberg, 1985), and the number of these families is increasing.

When examining the effects of divorce on children, Hetherington and others (1982) studied 96 families with children in nursery school, half of them divorced families. They found that in the year following the divorce, divorced mothers grew more authoritarian and less affectionate with their youngsters. Family routine grew more chaotic and the children more unruly. Two years after the divorce, the mothers were growing more patient, the children were more cooperative, and the family routine was more stable. Whether or not children are affected adversely over a long period of time seems to depend on the way the parents handle the divorce and on their relationships with their children afterward (Wallerstein & Kelly, 1980).

Weinraub and Wolf (1983) investigated whether single mothers face more life changes and stresses, have fewer social supports, and have more difficulty coping with their stresses and responsibilities than married mothers do. Weinraub and Wolf found significant differences between the lives of single and of married mothers. Single mothers were under more stress from life changes and from the longer hours they work. Their social networks offered them less support for their role as parents. Married mothers could more easily integrate their roles as mother, worker, and adult woman. Despite the increased pressures they operated under, however, single mothers were much like married mothers in their ability to handle their children. In both kinds of families, mothers who were more stressed were less
nurturant.

For the single-parent mother and the married mother alike, employment can serve as another source of stress or as a source of support. In 1982, 48% of married mothers of preschoolers and 60% of single mothers of preschoolers were in the labor force (Hoffman, 1984). Keith and Schafer (1982) investigated how employment, psychological resources, and management of domestic activities were related to depression in employed, single-parent women and in employed married women. As expected, married women reported somewhat less depression on average than single-parent women, but single-parent women did not experience lower self-esteem. Unmarried women were somewhat more committed to work and spent more hours in the labor force than married women. The unmarried women also confronted greater work-family role strain. For the most part, correlates of depression were quite different for the two groups of women. Traditional sex-role attitudes, less time at work, lower income, high work-family strain, and low self-esteem were associated with high depression among single-parent women. Negative work orientation, low self-esteem, more time spent at work, and dissatisfaction with domestic tasks were linked with higher depression among married women.

The mother's attitude toward work determines whether work will be viewed as a stressor and whether it will have any negative impact on the family (Stuckey, McGhee, & Bell, 1982). A mother's attitude toward her work is an important determinant of her child's responses to the fact of her employment. If she feels positive about her work, her children are more likely to
show positive effects; likewise if a mother feels negative about working, her children are more likely to show negative effects (Hoffman, 1984).

Although lack of support cannot be considered a source of stress, the absence of a social support network affects how mothers can alleviate the stress they experience. In a study of maternal depression, some of the greatest differences between groups of depressed and nondepressed mothers under stressful conditions were in the number of friends, the number of social contacts, and the perception of receiving support from these persons or from the community (Habif & Lahey, 1980). According to Gibaud-Wallston and Wandersman as reported in their study (1978) of mothers with difficult children, mothers who perceived their baby as difficult and their social support as low had a lower sense of competence as parents. For the mothers with easy babies, the absence of social support was not associated with their perceptions of their skill and knowledge in baby care or with their valuing of and comfort in the role of mother.

Poverty and lower socioeconomic status are still other sources of stress for mothers. That socioeconomic status (SES) has a significant influence is shown by the important differences among upper-, middle-, and lower-SES families with regard to usage of health care and quality of shelter, food, and clothing as well as in regard to educational, cultural, recreational, and occupational opportunities. As noted above, living in a single-parent household is likely to be stressful for both parent and child. Things are made even more difficult when the single
parent is poor, which she usually is. Almost 50% of the families headed by women live below the poverty level compared to about 16% of all families with children (Conger, 1981). According to Levitt and Lubin (1975), subjects of lower SES experience significantly more negative events than those from higher SES, and stress reactions such as depression occur more frequently in low- rather than in high-income families.

When one of these various sources of stress occurs singly, the family has a better chance of coping with it. However, as has been noted (Szatmari et al., 1986), the families that attend at a children's psychiatric outpatient clinic typically have a welter of problems—prolonged emotional disturbance, unstable family organization, poverty, and low social status—all of which seem to put a child at high risk for serious emotional, behavioral, or developmental problems. In addition, as noted above, the mothers of these children are themselves at risk for lowered self-esteem and for depression.

Statement of Problem and Research Design

A great deal of research supports the generalization that some persons when faced with difficult situations suffer both a loss of self-esteem and depression, whereas others facing such situations do not. It is likely that those who become depressed have certain personality traits that differentiate them from those who do not. In other words, there is an interaction between a person's personality and the perceived stress of the situation in which she or he lives, such that persons with a vulnerability to depression who are exposed to a
depression-provoking situation will suffer a loss of self-esteem and become depressed.

Bibring (1953), analyzing the mechanisms of depression, hypothesized that those vulnerable persons experiencing a sense of helplessness to achieve their aspirations in life would experience lowered self-esteem and would become depressed. As discussed above, he identified three major goals or aspirations that most persons strive for: the need to be loved, the need to be good, and the need to be strong. Bibring further stated that those persons who previously had failed to attain these goals would then pay inordinate attention to these particular issues and would become predisposed to react to further stressful situations with a sense of helplessness; they would fail to achieve their aspirations, which would lower their self-esteem and lead to depression. Therefore persons with strong dependent traits, with strong feelings of guilt about aggression, and with strong feelings of inadequacy or incompetence (put in other terms, persons having the need to be loved, the need to be good, and the need to be strong, respectively) would be predisposed to depression. The depression would be expressed when they were faced with certain stressful life situations.

It would be expected that women attending a children's mental health centre with their children would be experiencing a stressful life situation. The main cause of their stress would be having to raise a temperamentally difficult child, but their stressors frequently include such other challenges as having to parent without the benefit of support from others, and having to
deal with discord within the marital relationship (Szatmari et al., 1986). Although these mothers no doubt used various strategies to cope with their stressors, they were presumably unsuccessful or were so overwhelmed that they felt a need for the professional assistance available at a children's psychiatric clinic. It is likely that some of these women, because of their repeated experience of failure to achieve the common aspiration of being a "good" mother, would experience an overwhelming feeling of helplessness. It is certainly understandable that they may no longer feel capable of achieving their aspirations to be loved, to be loving and good, and to be competent and strong. This sense of helplessness would diminish their sense of adequacy of self and they would then suffer a loss of self-esteem and would subsequently become depressed. Certainly many of the women attending at a children's psychiatric clinic are found to be suffering from depression (Szatmari et al., 1986).

In summary, there should be an interaction between an individual's personality traits (need to be loved, need to be good, need to be strong) and the perceived stress of a life situation (such as having a difficult child, and so on). A vulnerable person facing this stressful situation will more likely suffer a loss of self-esteem and become depressed, whereas another person facing the same stressful situation will not do so. The interrelations among these four variable groups are presented in Figure 1.

Thus the aim of the present study is to examine both the situational stressors and the personality traits of mothers of
Figure 1. Theoretical model of the interrelations among predisposing personality traits, stressful life situation, self-esteem, and depression.

Stressful Life Situation (e.g., having a difficult child)

(in combination with)

Predisposing Personality Traits (Need to be loved, need to be good, need to be strong)

Lower Self-Esteem

Depression
children attending at a children's psychiatric clinic to determine whether the interaction of these two sets of variables is associated with lower self-esteem and greater depression. This proposed relationship was investigated through the administration of measures of the four sets of variables: situational stress, personality traits, self-esteem, and depression. A clinic group of mothers attending at a children's psychiatric outpatient clinic and a comparison group of female volunteers at the same hospital completed a questionnaire composed of the measures of the four sets of variables.

The first variable-set, situational stress, was assessed through a life-situations questionnaire constructed by the author. The second set of variables, personality traits, was evaluated through three scales intended to measure the need to be loved, the need to be good, and the need to be strong. These are the Succorance subscale from the Personality Research Form (Jackson, 1967), Mosher's Guilt-about-Hostility Inventory (Mosher, 1966), and the Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978). Self-esteem was assessed by Rosenberg's Self-Esteem Measure (Rosenberg, 1965). Finally, depression was measured by Beck's Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

**Hypotheses**

Mothers who bring their children to a psychiatric outpatient clinic for treatment of their emotional problems have been observed to be stressed and to be depressed (Szatmari et al.,...
1936). As an auxiliary hypothesis, it would be expected that mothers of the children in the clinic would be frustrated about the fact that their children are not doing well and that this would make them feel more frustrated overall than a group of mothers not bringing their children to a clinic. Thus, as an auxiliary hypothesis, it would be expected that the clinic group of mothers will provide a group with extreme frustrations overall and therefore they ought to have lower self-esteem and greater depression than the comparison group of mothers. In particular, scores on the life situations questionnaire, on the self-esteem measure, and on the depression scale should be significantly higher for the mothers of children attending the children's psychiatric clinic than for mothers belonging to the comparison group.

1. Both depression and grief can generally be described by feelings of sadness, gloominess, and lowness in spirits. Clinicians however differentiate depression from grief by adding other characteristics such as self-reproach, guilt, and loss of self-esteem to their descriptions of depression (American Psychiatric Association, 1980). While Bibring and others (Bibring, 1953; Nemiah, 1961) agree that diminished self-esteem and greater depression tend to occur together, they further state that self-esteem and depression are causally related. Specifically, ego fixations to a sense of helplessness, hopelessness, or worthlessness cause both a fall of self-esteem and an increase in depressive feelings. Although Bibring's explanation of the causes of depression implies a temporal
relationship between lowered self-esteem and greater depression, both of these are caused by the regressive reactivation of a state of helplessness. Thus it was expected that persons who are depressed will also experience a loss of self-esteem; the author predicted a strong and positive correlation between scores on the depression measure (Beck's Depression Inventory, Beck et al., 1961) and scores on the self-esteem scale (Rosenberg's Self-Esteem Measure, Rosenberg, 1965). High scores on the self-esteem measure relate to poorer self-esteem.

2. Bibring (1953) states that depression occurs not only when one has to face an object-loss (loss of loved one) but also when one has to face defeats in life and losses of various sources of gratification. Bibring however further states that these losses are not sufficient in themselves to produce depression, but will only do so in those persons who have a particular difficulty in dealing with the loss or defeat because of prior developmental fixations. Persons with character structures of dependence, ambivalence, and a sense of powerlessness to cope with the world would be sensitive to failures or defeats in their future aspirations to be loved, to be good, and to be strong. Thus it was expected that persons with the three preparatory personality traits (the need to be loved, the need to be good, and the need to be strong) would also have a poorer self-concept and would be more severely depressed. Therefore a strong and positive correlation should be found between scores on the self-esteem and depression measures and scores on the three trait measures: the Succorance subscale of the Personality Research Form (Jackson,
1967); Mosher's Guilt-about-Hostility Inventory (Mosher, 1979); and the Parenting Sense of Competence Scale (Gibaud-Vallston & Wandersman, 1978). It should be noted that higher scores on the Parenting Sense of Competence Scale relate to higher incompetence as a parent.

3. Life situation stressors can be viewed as frustrating circumstances for people. Bibring (1953) states that one becomes depressed when frustrating circumstances create within one a sense of helplessness to attain what one aspires to. When faced with a situation that displays the ego's incapacity to live up to one's aspirations, Bibring states that a person has three choices. These are: one must lower one's goals and thus be content with what one has; one must try harder and thus achieve one's goals; or one must be overwhelmed by one's sense of helplessness and thus become depressed. Therefore various life frustrations or stressful situations can lead one to a feeling of helplessness and thus in turn to lowered self-esteem and to greater depression. Thus it was expected that persons with stressful life situations would also have a poorer self-concept and would be more severely depressed. Therefore a strong and positive correlation should be found between scores on the life situations questionnaire (as constructed by the author) and scores on the self-esteem measure and between scores on the life situations questionnaire and scores on the depression inventory.

4. As noted in the above two hypotheses, Bibring (1953) feels that lowered self-esteem and greater depression will only occur in those persons who are experiencing a current frustrating
circumstance and who have certain preparatory personality traits. Neither a frustrating circumstance nor a preparatory personality structure are solely sufficient to produce depression. Thus it would be expected that self-esteem, life situation, and personality traits should have additive effects on depression. In particular, there should be some independent contribution to depression of the preparatory personality traits, of the life situation stressors, and of self-esteem. The linear additive nature of this model will be analyzed in three ways: a hierarchical multiple regression analysis, a path analysis, and a LISREL analysis.

a) In the hierarchical multiple regression analysis, it was expected that additive models including self-esteem, life situation, and personality traits as predictors would significantly enhance the ability to predict scores on the Beck Depression Inventory.

b) In the path analysis, it was expected that the interrelations among depression, self-esteem, life situation and personality traits would fit the theoretical model as specified in Figure 1, above. In particular, it was expected that the specific model presented in Figure 2 below would best explain the interrelations among these four variable groups.

c) Similarly in the LISREL analysis, it was expected that the specific model presented in Figure 2 would best explain the interrelations among depression, self-esteem, life situation, and personality traits according to the
Figure 2. Model of the specific interrelations among predisposing personality traits, stressful life situation, self-esteem, and depression.

Stressful life situation
- stress from parenting
- difficult child
- lack of support
- stressful marriage
- raising child alone
- stressful work
- financial stress
- poor health

Actual Success
Incompetence as a parent (Parenting Sense of Competence Scale)

Depression (Beck Depression Inventory)
Lower self-esteem (Rosenberg Self-Esteem Measure)

Need to be strong (unmeasured)
Need to be good (Mosher's Guilt-about-Hostility Inventory)
Need to be loved (Jackson's Succorance Scale)
goodness of fit measures.

5. Bibring (1953) states that an object-loss is not sufficient to produce depression, but will only produce depression in a person who is prepared to deal badly with the object-loss. In other words, there is an interaction between a person's personality and the perceived stress of the situation in which she or he lives, such that persons with a vulnerability to depression who are exposed to a depression-provoking situation will suffer a loss of self-esteem and become depressed. Thus we need to examine not only an additive relationship but also an interactive relationship among these variables. In particular, a greater relationship would be expected between life situation scores and self-esteem scores and between life situation scores and depression scores in those persons attaining high scores on the personality trait measures than in those persons attaining low scores on these measures. Cohen and Cohen (1983) recommend examining the interactive nature of models such as this one through the use of a hierarchical multiple regression analysis.
CHAPTER II

METHOD

Subjects

The 90 subjects for the clinical sample were drawn from the mothers of children on the waiting list for the Children's Services Team at the Chedoke Child and Family Centre in Hamilton, Ontario. All natural mothers and all women who had been stepmothers for more than a year were asked to participate in the study. The Children's Services Team is a psychiatric outpatient clinic for children between the ages of 2 and 13, and it provides direct treatment to the Hamilton area and consultation to the entire Chedoke regional area. All of the children referred to this service have emotional or behavioral disturbances, but some of them may also have other difficulties, such as a physical disability, a learning disability, or a family disruption.

The 30 subjects for the comparison group were drawn from the Volunteer Services Department at the Chedoke Hospital. There were three types of volunteers: students at a local community college who were completing practical experience (46.6%); women receiving financial support from a local mothers' assistance program who were volunteering two to three hours of their time per month (16.6%); and women from the neighborhood surrounding the hospital who were requested to volunteer their time through advertisements in the local newspaper and through notices on bulletin boards in grocery and department stores (36.6%). All of those who volunteered their time to complete the questionnaire were
screened by the coordinator of the Volunteer Services Department at the Chedoke Hospital. From those volunteering, the researcher accepted all mothers with children between the ages of 2 and 16. Although the three subgroups in the comparison sample are dissimilar, altogether they are likely to provide a rather heterogeneous sample. The use of a more heterogeneous sample should improve comparisons because of its better representation of the general population.

The estimate of 120 subjects was established through a sample-size calculation using an alpha level of .05, a beta equal to .1, and an expected effect-size of 0.6 standard deviations (Taylor, 1983).

**Procedure**

The researcher telephoned each prospective subject to explain the research project to her and to ask her to participate in the study. Before the subject began to fill out the questionnaire, the investigator asked her to sign a consent form (see Appendix A). The questionnaire consisted of all the measures listed below and took an average of 20 minutes for each subject to complete. The majority of the subjects filled out the questionnaire in the presence of the investigator on the premises of the Chedoke Hospital. However, a few subjects expressed a preference for being assessed in their own home and the investigator complied with that arrangement. Finally, due to distance and time constraints, a few questionnaires were mailed to subjects to complete at home. The researcher attempted to ensure that the subjects were not influenced by others, that they
understood the questions, and that they answered every item.

**Measures**

1) Situational Stress

*Life Situations Questionnaire (LSQ)*

After consulting the literature discussed above, the investigator constructed the LSQ as an instrument for assessing the various factors in a mother's life that could be stressful to her. This rating scale included items pertaining to eight areas of potential stress. They are: 1) stress from parenting itself, 2) stress from having a temperamentally difficult child, 3) stress from a lack of support, 4) stress from the marital relationship, 5) stress from being a single parent, 6) work-related stress, 7) financial stress, and 8) stress from poor physical health. In addition, there is one final item asking the subject to rate her general level of stress deriving from her overall life situation. The subject is asked to make a rating on each item along a 5-point, visually-presented continuum. There is a descriptive statement for each point along the scale. Two items assess parenting stress; two assess lack of support. Because a subject can be scored only on stress from the marital relationship or on stress from being a single parent, but not on both, there are a total of ten items to be rated on the 5-point scale. Consequently the lowest possible score on the LSQ is 10 and the highest possible score, 50. This scale consists of Questions 8 to 18 in the Life Situations Questionnaire (Appendix B).
The investigator also included in this questionnaire items soliciting information about five other variables that may be related to self-esteem and depression. These questions ask for date of birth, marital status, number and age of children, and level of education and occupation of self and of spouse. Questions 1 to 7 in the Life Situations Questionnaire assess these variables (Appendix B). The social status of each subject was estimated from her educational and occupational level or that of her spouse using Hollingshead's Two-Factor Index of Social Position (Myers & Bean, 1968).

The reliability and validity of the LSQ will be discussed in the Results section below.

2) Personality Traits

Jackson's Succorance Scale (JSS)

Jackson (1967) devised a personality inventory, the Personality Research Form, which comes in several forms, including the PRF:E. This form has a simpler vocabulary level and a shorter format than the other forms. This form consists of 22 scales each made up of 16 items in a true-false format. The items for the PRF:E were carefully selected using substantive and statistical procedures to construct scales having optimal reliability in relation to their length, minimal saturation with the relevant content proper to another scale, freedom from irrelevant variance, lack of ambiguity, readability, and conciseness. One of these scales is the Succorance subscale, which measures an individual's need for succorance (as that word was misused by H. Murray), or more accurately, his or her need to
depend on others. Overall, the Succorance subscale appears to be a good measure of the trait of dependence rather than of a clinically-oriented symptom. The items making up this scale include such statements as, "I prefer not being dependent on anyone for assistance (when marked false)" and "I like to be with people who take a protective attitude toward me (when marked true)." Items are counted positively for statements of dependency. Subjects can receive a score ranging from 0 to 16 on this scale.

Reliability. Jackson's manual (1967) reports split-half reliability coefficients, calculated from data collected from a psychiatric sample and a college sample, ranging between .52 and .91 with the Spearman-Brown correction for the subscales of the PRF:E. He reported a KR-20 coefficient of .73 for the Succorance (Dependence) subscale. Kusyszyn (1968) reported split-half, Spearman-Brown-corrected reliability coefficients ranging between .67 and .86 for various PRF scales.

Validity. When comparing the PRF:E with the original PRF scales, Jackson found reasonably similar patternings of correlations among scales in the original PRF sample and the new PRF:E sample. When he compared the PRF:E to the Jackson Personality Inventory, which comprises a different set of personality variables, he found that the PRF:E scales achieved a relative independence from the scales of that test. When comparing the Bentler Psychological Inventory and the PRF:E, he found that scales bearing similar names and having similar definitions were substantially correlated, even though the
Bentler uses adjectival phrases for items and has a different response format. The multimethod factor analysis for the PRF:E would be quite similar to that reported in Jackson and Guthrie (1968) on the original PRF. Jackson and Guthrie's results were close to the ideal expectations: the 18 factors that were extracted corresponded closely to the 20 scales of the PRF. Jackson (1967) did not compare the PRF-E to a social desirability measure but he does report that instructions to "make the best possible impression" do not markedly elevate scores.

Mosher's Guilt-about-Hostility Inventory (MGHI)

Mosher (1966) developed several self-report measures of guilt about hostility (hereafter called hostility-guilt). Hostility-guilt is conceived of as an affective-cognitive structure that regulates aggressive behavior. Hostility-guilt predisposes the person to inhibit aggressive behavior because the person who is instigated to aggress feels in conflict as a result of his or her hostility-guilt. Hostility-guilt is composed of beliefs that aggressive behaviors are immoral and expectations that one will experience self-mediated punishment, including guilty affect. The hostility-guilt subscale of the Mosher Forced-Choice Guilt Inventory consists of 21 forced-choice items that have been derived from sentence completions and matched for social desirability. Mosher believes that this inventory measures a personality disposition to be guilty rather than a feeling state of currently experiencing guilt. An example item requires the subject to choose between "After an outburst of anger, my tensions are relieved" and "After an outburst of anger,
I am jittery and all keyed up." Each item is keyed in the hostility-guilt direction. Total scores on the test can range from 0 to 21.

**Reliability.** Mosher (1968) claims a corrected split-half reliability coefficient of .96 for the entire Mosher Forced-Choice Guilt Inventory. From the reliability diagonals from his multitrait-multimethod analysis, we learn that the Forced-Choice Hostility-Guilt scale attained a .76 correlation coefficient (Mosher, 1966).

**Validity.** Recently Mosher (1979) reviewed a number of studies that support the construct validity of the measure of hostility-guilt as a measure of an affective-cognitive structure of guilt that inhibits aggressive behavior. In his original study Mosher (1966) conducted a multitrait-multimethod matrix analysis of the Forced-Choice Hostility-Guilt subscale of the Guilt Inventory. He found convergent validity coefficients ranging from .66 to .86, whereas discriminant validity coefficients were much smaller. In another study Mosher (1968) did a multitrait-multimethod matrix analysis and a factor analysis (based on the responses of 62 females) to adduce further evidence for convergent and discriminant validity. In this study, the measures of guilt were not significantly correlated with two measures of social desirability and were factorially dissimilar from responses given under instructions to make a favorable impression.

**Parenting Sense of Competence Scale (PSOC)**

The Parenting Sense of Competence Scale was recently
developed to be a measure of the self-esteem mothers and fathers feel about their parenting (Gibaud-Wallston & Wandersman, 1978). This test has two subscales: Skill/Knowledge and Valuing/Comfort. It should be noted here that the PSOC tends to measure present incompetence and does not appear to adequately measure a long-standing trait of incompetence. This scale consists of 17 statements about parenting asking for responses indicating agreement or disagreement, to be marked on a 6-point scale. An example of an item is "If anyone can find the answer to what is troubling my child, I am the one." A total score on this scale can range from 17 to 102, with higher scores relating to a higher level of perceived incompetence.

**Reliability.** Gibaud-Wallston and Wandersman (1978) reported test-retest reliabilities ranging from .46 to .82. They reported an alpha coefficient of .83 for the total score. Mash and Johnston (1983), administering the PSOC to mothers of older normal children and mothers of disturbed children, found satisfactory internal consistency and reported a test-retest reliability of .84 for the total score.

**Validity.** From the original study Gibaud-Wallston and Wandersman (1978) found correlations of .54 and .62 with two other self-esteem measures. The correlation of .09 with a social desirability scale was not significant. These findings provide some evidence for the convergent and discriminant validity of the PSOC. Mash and Johnston (1983) reported additional data that supports the convergent and discriminant validity of the measure.
3) Self-Esteem

Rosenberg's Self-Esteem Measure (RSE)

Rosenberg's (1965) scale was chosen for the present study because it concentrates on the self-acceptance aspect of self-esteem and thus is a measure of an individual's sense of self-worth. Wylie (1974) noted that the RSE's brief and direct approach was impressive because high reliability was attained with only 10 items and because such a short scale yielded relationships supporting its construct validity. This scale consists of 10 statements about personal self-esteem, each requiring responses on a Likert scale. An example item is, "I feel that I am a person of worth, at least on an equal plane with others." The RSE is frequently scored by treating the alternatives to each item as an ordinal scale, and adding these scores. This procedure yields results similar to those obtained when the Guttman procedure with contrived items is used, as Rosenberg chose to do originally (Rosenberg, 1979). Using a total score obtained by adding item scores, we obtain scores ranging from 10 to 40, with higher scores indicating poorer self-esteem.

Reliability. Rosenberg (1965) reports a Guttman reproducibility coefficient of .92 in his analysis of internal consistency. Silber and Tippett (1965) found a test-retest reliability coefficient of .85 for a group of college students retested after 2 weeks.

Validity. Acquiescence response-set is somewhat controlled by the fact that there are equal numbers of items for which
"agree" and "disagree" responses indicate high self-esteem and by the fact that these are presented alternately.

Kaplan and Pokorny (1969) factor analyzed the items, finding two uncorrelated factors which together accounted for 45% of the total variance. The first factor was self-derogation, and the second factor was, they said, a reflection of "a posture of conventional defense of individual worth, a stance which is apparently compatible with either high or low scores on the self-derogation factor" (Kaplan & Pokorny, 1969, p. 425). Several other researchers replicated their findings (Carmines & Zeller, 1974; Kohn, 1969).

Silber and Tippett (1965), having conducted a multitrait-multimethod analysis of the RSE, reported convergent validity coefficients of .67, .83, and .56 with three other self-esteem measures, including an interview. Silber and Tippett also presented an evaluation of the discriminant validity of the RSE. The convergent validity coefficients exceeded the correlation of .53 between two different traits measured by the same method. Moreover, they exceeded the three heterotrait-heteromethod correlation coefficients. Further evidence of convergent validity was supplied by Crandall's (1973) finding that the correlation of the RSE and the Coopersmith Self-Esteem Inventory (Coopersmith, 1967) was .60.

4) Depression

Beck's Depression Inventory (BDI)

The Beck Depression Inventory has been viewed as one of the better self-report measures of depression and has been widely...
used in clinical research. The author chose it for the present study because it is comprehensive and is clinically relevant. The Beck Depression Inventory (BDI), first described by Beck, Ward, Mendelson, Mock, and Erbaugh (1961), consists of 21 items, each corresponding to a specific category of symptoms and attitudes. An example of one of the items from this scale is, "I don't cry any more than usual/I cry more now than I used to/I cry all the time now/I used to be able to cry, but now I can't cry even though I want to." The subject is asked to choose which of these responses best describes the way he or she has been feeling in the past week. A subject can score as many as three points per item; thus her total score will range from 0 to 63.

Reliability. After constructing the original scale, Beck and his colleagues (1961) reported a split-half reliability of .93 based on a sample of 97 psychiatric patients. Reynolds and Gould (1981) reported a coefficient alpha of .85 for the BDI.

Validity. A factor analysis identified five meaningful factors which accounted for over 53% of the total variance and almost 90% of the common variance. These factors were: negative affect toward self, negative physiological symptoms, performance difficulties, general unhappiness, and loss of personal and social interest. Reynolds and Gould (1981) reported a convergent validity coefficient of .67 with the Self-Rating Depression Scale (Zung, 1974). Discriminant validity information was demonstrated when researchers found the relationship between the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) and the Beck Depression Inventory to be small.
CHAPTER III

RESULTS

Characteristics of the Samples

Demographic Information

The clinical sample consisted of 90 mothers of children at a mental health centre whereas the comparison sample consisted of 30 mothers who were volunteers. In the clinic group, 64.4% of the women were married, 27.8% were separated or divorced, 5.6% had never married, and 2.2% were widows. In the volunteer group: married, 63.3%; separated or divorced, 30.0%; never married, 6.7%; and widows, 0.0%. When comparing the groups on the basis of whether they were married, the author found no significant difference between the groups $\chi^2(1, N = 120) = 0.01$, n.s. The marital covariate did not correlate with any of the remaining variables and was therefore dropped from all other analyses.

Summary data for the remaining covariates which were measured are presented in Table 1. The average age in the clinic group was 33.1 years, whereas the average age of the comparison group was 34.5. Ages ranged from 21 to 46 years in the clinic group and from 23 to 42 in the volunteer group. From Table 1, there was no significant difference between the two groups.

The average number of children for the clinic group was 2.4 (1=14%; 2=48%; 3=29%; 4=3%; 5=4%; 6=1%) and the average for the comparison group was also 2.4 (1=13%; 2=50%; 3=27%; 4=7%; 5=0%; 6=3%). The average age of the youngest child for the clinic group was 72.7 months (6 years, 7 months), whereas the average
Table 1
Means and Standard Deviations of Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Clinic (n=90)</th>
<th>Comparison (n=30)</th>
<th>t-test df(118)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>33.1 ( 5.3)</td>
<td>34.5 ( 6.6)</td>
<td>-1.07</td>
</tr>
<tr>
<td>Number of Children</td>
<td>2.4 (1.0)</td>
<td>2.4 (1.0)</td>
<td>0.08</td>
</tr>
<tr>
<td>Age of Youngest Child (Months)</td>
<td>72.7 (41.5)</td>
<td>85.0 (52.6)</td>
<td>-1.16</td>
</tr>
<tr>
<td>Age of Oldest Child (Months)</td>
<td>126.2 (47.8)</td>
<td>133.5 (76.6)</td>
<td>0.06</td>
</tr>
<tr>
<td>Education Index</td>
<td>4.3 (1.2)</td>
<td>3.6 (1.1)</td>
<td>2.93**</td>
</tr>
<tr>
<td>Occupation Index</td>
<td>4.9 (1.5)</td>
<td>4.2 (1.7)</td>
<td>1.87</td>
</tr>
<tr>
<td>Two-Factor Index of Social Position</td>
<td>51.2 (13.8)</td>
<td>43.6 (15.6)</td>
<td>2.39*</td>
</tr>
</tbody>
</table>

Note. Means are shown plain, and standard deviations are given in parentheses.

* p<.05. ** p<.01.
for the comparison group was 85.0 months (7 years, 10 months). The average age of the oldest child for the clinic group was 126.2 months (10 years, 6 months), whereas the average for the volunteer group was 133.5 months (11 years, 2 months). From Table 1 it can be seen that there were no significant differences between the two groups on any of these three variables.

The mean Hollingshead Two-Factor Index (a social-status index) score for the clinic group was 51.2, which by Myers and Bean's (1968) classification puts the average of this group in the upper—lower class, whereas the volunteer sample had a mean score of 43.6, corresponding to the lower-middle class. The average scale score for education for the clinic group was 4.3 (corresponding to a high school graduate), whereas the volunteer group had a mean of 3.6 (corresponding to one to three years of college). The mean score on the occupation scale for the clinic group was 4.9, whereas the mean for the volunteers was 4.2. Both of these scores correspond to occupations such as clerical and sales workers, technicians, owners of little businesses, and farmers. From Table 1 it can be seen that two of these variables significantly differentiated the two samples.

When examining the three subgroups of the comparison sample, there were significant differences for only two of the five covariates: age ($F[2,27] = 8.05, p<.01$) and social status ($F[2,27] = 4.11, p<.05$). There were no significant differences between the subgroups on any of the substantive variables.

Comparison of Groups to Normative Samples

Table 2 presents the summary statistics for the clinic group
Table 2

Means and Standard Deviations of Substantive Variables

<table>
<thead>
<tr>
<th>Scale</th>
<th>Clinic (n=90)</th>
<th>Comparison (n=30)</th>
<th>Normative (from test norms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSE</td>
<td>19.6* (4.3)</td>
<td>18.1 (4.8)</td>
<td>14.1 (6.2)</td>
</tr>
<tr>
<td>JSS</td>
<td>7.9 (3.6)</td>
<td>7.3 (3.1)</td>
<td>7.6 (3.6)</td>
</tr>
<tr>
<td>MGHI</td>
<td>14.8 (3.9)</td>
<td>13.6 (4.6)</td>
<td>11.7 (4.7)</td>
</tr>
<tr>
<td>PSOC</td>
<td>54.0*** (9.0)</td>
<td>46.0*** (8.2)</td>
<td>71.8 (9.2)</td>
</tr>
<tr>
<td>BDI</td>
<td>8.1 (7.2)</td>
<td>6.5 (5.4)</td>
<td>---</td>
</tr>
</tbody>
</table>

Note. Means are shown plain, and standard deviations are given in parentheses.

a Key to labels of the scales:

RSE: Rosenberg Self-Esteem Measure (higher scores indicate poorer self-esteem); JSS: Jackson's Succorance Scale; MGHI: Mosher's Guilt-about-Hostility Inventory; PSOC: Parenting Sense of Competence Scale (higher scores relate to greater incompetence); BDI: Beck's Depression Inventory.

*p<.05. ***p<.001.
and the comparison group for each of the five main measures of the study. The psychometric properties of the LSQ will be discussed below. In addition to showing the means and standard deviations for each measure for the two groups, the table reports the means and standard deviations for normative samples.

We learn from Table 2 that neither the clinic group nor the comparison group differ more than a standard deviation from the mean of the normative sample for three of the tests: Rosenberg's Self-Esteem Measure; Jackson's Succorance Scale; and Mosher's Guilt-about-Hostility Inventory. Surprisingly, both the clinic and the comparison group have deviated by two standard deviations from the normative mean for the Parenting Sense of Competence Scale. The author expected that the clinic group would get higher scores on this scale because the mothers in this group had sought help in dealing with their children.

In his original study, Beck (1967) classified 409 patients into four groups based on their scores on the BDI: 115 were not considered to be depressed (M=10.9, SD=8.1); 127 were classified as mildly depressed (M=18.7, SD=10.2); 134 subjects were moderately depressed (M=25.4, SD=9.6); and 33 subjects were severely depressed (M=30.0, SD=10.4). From Table 2 the clinic group attained a mean score on the BDI of 8.1, whereas the comparison group attained a mean score of 6.5. Both groups fall within the non-depressed range according to Beck's classification, and these women would not be considered clinically depressed. Individually however, there were three women (10%) in the comparison group who fell within the mildly depressed range,
whereas the clinic group had eight women (9%) in the mildly depressed range, one woman (1%) in the moderately depressed range, and two women (2%) in the severely depressed range.

**Life Situations Questionnaire**

Initially, the author simply added up the 10 item scores on the Life Situations Questionnaire to get a total score. It should be pointed out again that as a subject can get a score only on Stress from the marital relationship or on Stress from being a single parent but not on both; as a result, effectively there are only 10 items. The author would not argue, however, that stress from these two sources is equivalent. After the simple-adding technique, the author did an item analysis on the 10-item questionnaire (Specht, 1981) to derive a more homogeneous composite of items. Finally, a discriminant function analysis was done to discover the weighted composite of the 10 items that would best discriminate the clinic group and the comparison group. Although the two items noted above were combined in the item analysis and in the discriminant function analysis, all other analyses below keep the two items separate.

The results of the item analysis of the original Life Situations Questionnaire are presented in Table 3. In this analysis we found an alpha coefficient of .529 for the original scale, fairly low. Also from this analysis, it appears that the dropping of two items from the scale would substantially improve its homogeneity because these items are not correlated with other items. The item-scale correlations are negligible for Item #15.
<table>
<thead>
<tr>
<th>Item</th>
<th>Item-Total Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Original Scale</td>
</tr>
<tr>
<td>8. Overall stress</td>
<td>.502</td>
</tr>
<tr>
<td>9. Stress as parent</td>
<td>.473</td>
</tr>
<tr>
<td>10. Health</td>
<td>.386</td>
</tr>
<tr>
<td>11. Difficult child</td>
<td>.337</td>
</tr>
<tr>
<td>12. Job as parent</td>
<td>.313</td>
</tr>
<tr>
<td>13. Help from father</td>
<td>.217</td>
</tr>
<tr>
<td>15. Help from other</td>
<td>-.153</td>
</tr>
<tr>
<td>16. &amp; 18. Stressful marriage/Raising child alone</td>
<td>.341</td>
</tr>
<tr>
<td>17. Stress from work</td>
<td>-.073</td>
</tr>
</tbody>
</table>

\(^a\) \(N = 120.\)
(—.153) and for Item #17 (—.073), Stress from lack of support from others and Stress from work. As these items are measuring something different, possibly factors external to the home and self, they were omitted for the second item analysis, also presented in Table 3. The new alpha coefficient is .728, a reasonable level for this type of scale, especially considering how few items it has. Consequently, for all further analyses I will use this new 8-item Life Situations Questionnaire as a composite measure as well as using the individual items. The overall mean for the first 10-item scale is 27.70 (SD=5.32) and the grand mean for the 8-item scale is 22.96 (SD=5.33).

The results of a discriminant function analysis of the original 10-item Life Situations Questionnaire are presented in Table 4. The Wilks-Lambda of .75 for this discriminant function is significant, $\chi^2(10, N = 120) = 32.52, p<.001$. The standardized discriminant function coefficients represent the relative contribution of each item to the function of discriminating the clinic group and the comparison group while also taking into account the effects of the remaining items. From Table 4 we find that five items moderately discriminate the two groups. The higher a person's score is on Stress from having a difficult child, on Stress from one's job as a parent with this child, and on Stress from a lack of support from others, the more likely this person is to be in the clinic group. The higher a person's score is on Overall stress and on Overall stress as a parent, the more likely this person is to be in the comparison group. One additional item offers a small discrimination (higher scores
Table 4
Standardized Canonical Discriminant Function Coefficients of the Individual Items of the Life Situations Questionnaire

<table>
<thead>
<tr>
<th>Item</th>
<th>Discriminant Function Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Overall stress</td>
<td>-.385</td>
</tr>
<tr>
<td>9. Overall stress as parent</td>
<td>-.359</td>
</tr>
<tr>
<td>10. Health</td>
<td>.225</td>
</tr>
<tr>
<td>11. Difficult child</td>
<td>.521</td>
</tr>
<tr>
<td>12. Job as parent</td>
<td>.584</td>
</tr>
<tr>
<td>13. Help from father</td>
<td>.178</td>
</tr>
<tr>
<td>14. Money stress</td>
<td>.005</td>
</tr>
<tr>
<td>15. Help from other</td>
<td>.485</td>
</tr>
<tr>
<td>16. &amp; 18. Stressful marriage/ Raising child alone</td>
<td>-.073</td>
</tr>
<tr>
<td>17. Stress from work</td>
<td>-.075</td>
</tr>
</tbody>
</table>

Note. N = 120.

The higher a given person's score on these items is, the more likely she is to be in the comparison group.

The higher a given person's score on these items is, the more likely she is to be in the clinic group.

* Wilks-Lambda = .75; $X^2(10, N = 120) = 32.52$, p<.001.
indicate membership in the clinic group): Stress from one's physical health. The remaining four items do not contribute to the accurate prediction of group membership when the other items are used; there is too much overlap between what they measure and what the other items with higher weights measure.

Using the coefficients generated in this analysis, 84 cases (93.3%) in the clinic group, 12 cases (40.0%) in the comparison group, and 96 cases (80.0%) overall were correctly classified. According to chance, of the 102 cases that were predicted to be in the clinic group, 76.5 cases (75.0%) should actually be in the clinic group. Also, of the 18 cases that were predicted to be in the comparison group, by chance 4.5 cases (25.0%) should actually be in the clinic group. Using this split of cases, this gives us a total of 81 cases (67.5%) that would be correctly classified by chance. Thus the classification based on the discriminant analysis gives us an improvement of 12.5% over chance, which is 38.5% of the total possible improvement available using this split of cases.

The canonical correlation is another measure of the function's ability to discriminate between the two groups. From this analysis, the canonical correlation coefficient is .50 and the proportion of the variance explained by the groups is 25%. This coefficient can be positively biased through random sampling fluctuations due to a small sample size or due to a high number of independent variables. A more realistic estimate is the adjusted (population) coefficient. For this analysis, the adjusted canonical correlation coefficient is .43, which still
indicates a moderate ability to discriminate the groups. This discriminant function was examined by a $t$ test, $t(113) = 7.14$, $p < .001$, and by an analysis of covariance, $F(1,113) = 42.71$, $p < .001$.

Based on the discriminant function coefficients presented in Table 4 above, the Life Situations Questionnaire was also divided into two new subscales according to those items which predicted membership in each sample. Specifically, the clinic group's subscale is comprised of six items (Items 10 to 15, inclusive), whereas the comparison group's subscale is comprised of four items (Items 8, 9, 16/18, & 17).

**Differences between the Clinic and the Comparison Groups**

As auxiliary predictions, it was expected that the clinic group would experience greater life stress than the comparison group would. Because of their additional life stress, it was also expected that the clinic group would have significantly higher scores on the self-esteem and depression inventories than the comparison group would. Table 5 presents the differences between the clinic group and the comparison group on these variables.

From Table 5, using the revised 8-item scale for the LSQ, we can see that there were no significant differences between the two groups, $t(118) = 1.15$, n.s. When the five covariates (age, number and age of oldest & youngest children, and social status) were taken into account by using an analysis of covariance, scores for the clinic group still were not significantly higher than scores for the comparison group, $F(1,113) = 0.05$, n.s.
Table 5

Differences between Clinic Group and Comparison Group on Main Variables

<table>
<thead>
<tr>
<th>Scale</th>
<th>Group</th>
<th>n</th>
<th>Unadjusted Data</th>
<th>Adjusted a for Covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unadjusted Data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adjusted a for Covariates</td>
</tr>
<tr>
<td>LSQ</td>
<td>Clinic</td>
<td>90</td>
<td>23.2</td>
<td>23.0</td>
</tr>
<tr>
<td>(8-item)</td>
<td>Compar.</td>
<td>30</td>
<td>22.1</td>
<td>1.15</td>
</tr>
<tr>
<td>LSQ: Clinic</td>
<td>Clinic</td>
<td>90</td>
<td>17.9</td>
<td>17.9</td>
</tr>
<tr>
<td>Subscale</td>
<td>Compar.</td>
<td>30</td>
<td>15.6</td>
<td>3.51***</td>
</tr>
<tr>
<td>LSQ: Compar.</td>
<td>Clinic</td>
<td>90</td>
<td>10.8</td>
<td>10.7</td>
</tr>
<tr>
<td>Subscale</td>
<td>Compar.</td>
<td>30</td>
<td>11.5</td>
<td>1.37</td>
</tr>
<tr>
<td>RSE</td>
<td>Clinic</td>
<td>90</td>
<td>19.6</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>18.1</td>
<td>18.3</td>
</tr>
<tr>
<td>BDI</td>
<td>Clinic</td>
<td>90</td>
<td>8.1</td>
<td>6.9</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>6.5</td>
<td>0.72</td>
</tr>
</tbody>
</table>

a Covariates are age, number and age of oldest & youngest children, and social status.

b Key to labels of the scales:

LSQ: Life Situations Questionnaire; RSE: Rosenberg's Self-Esteem Measure (higher scores indicate poorer self-esteem);

BDI: Beck's Depression Inventory.

c Re-expressed variable using 10·Log10 transformation of Beck scores.

** p<.01. *** p<.001.
These results were substantially the same for the 10-item LSQ. However, when examining differences between the groups based on the two subscales in Table 5, there was a significant difference for the clinic subscale, but not for the comparison subscale. These relationships held when the covariates were taken into account.

Group differences on the individual items making up the Life Situations Questionnaire are presented in Table 6, where both the $t$ and the $F$ statistics are treated as one-tailed tests predicting the clinic group to have higher scores. Initially, only 3 of the 11 items significantly differentiated the two groups in the predicted direction. Two of these three items had moderate effect sizes whereas the third item had a small effect size. Also presented in Table 6, from the analysis of covariance where the effects of the covariates were accounted for in the relationship, these same three items still significantly differentiated the two groups in the predicted direction. These three items are: Stress from having a difficult child, Stress from one's job as a parent with this child, and Stress from lack of support from others. Each of these three analyses of covariance satisfied the homogeneity of regression assumption. Interestingly, the analysis of covariance of Item #8 (Overall stress) indicates a significant difference between groups (a small effect size) but with the comparison group experiencing the greater stress.

Turning to self-esteem and depression, from Table 5 we find that the two groups were not different from each other for the
Table 6

Differences between Clinic Group and Comparison Group on Individual Items of Life Situations Questionnaire

<table>
<thead>
<tr>
<th>LSQ Item</th>
<th>Group</th>
<th>n</th>
<th>( \bar{X} )</th>
<th>( \bar{X} )</th>
<th>( \bar{X} )</th>
<th>( \bar{X} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>( df(113) )</td>
<td>( df(1,113) )</td>
<td>( df(1,113) )</td>
<td>( df(1,113) )</td>
</tr>
<tr>
<td>Overall stress</td>
<td>Clinic</td>
<td>90</td>
<td>3.2</td>
<td>-1.75</td>
<td>3.7</td>
<td>7.20</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>3.5</td>
<td>-3.2</td>
<td>3.2</td>
<td>7.20</td>
</tr>
<tr>
<td>Stress as parent</td>
<td>Clinic</td>
<td>90</td>
<td>3.2</td>
<td>0.97</td>
<td>3.1</td>
<td>0.46</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>3.0</td>
<td>0.97</td>
<td>3.0</td>
<td>0.97</td>
</tr>
<tr>
<td>Health</td>
<td>Clinic</td>
<td>90</td>
<td>2.0</td>
<td>0.99</td>
<td>1.9</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>1.8</td>
<td>0.99</td>
<td>1.9</td>
<td>0.38</td>
</tr>
<tr>
<td>Difficult child</td>
<td>Clinic</td>
<td>90</td>
<td>3.0</td>
<td>3.60***</td>
<td>2.4</td>
<td>10.16**</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>2.4</td>
<td>3.60***</td>
<td>2.4</td>
<td>10.16**</td>
</tr>
<tr>
<td>Job as parent</td>
<td>Clinic</td>
<td>90</td>
<td>3.0</td>
<td>4.42***</td>
<td>2.3</td>
<td>11.79***</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>2.3</td>
<td>4.42***</td>
<td>2.3</td>
<td>11.79***</td>
</tr>
<tr>
<td>Help from father</td>
<td>Clinic</td>
<td>90</td>
<td>3.3</td>
<td>0.87</td>
<td>3.2</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>3.0</td>
<td>0.87</td>
<td>3.2</td>
<td>0.00</td>
</tr>
<tr>
<td>Money stress</td>
<td>Clinic</td>
<td>90</td>
<td>2.9</td>
<td>-0.74</td>
<td>2.9</td>
<td>-0.74</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>3.1</td>
<td>-0.74</td>
<td>3.1</td>
<td>0.73</td>
</tr>
<tr>
<td>Help from other</td>
<td>Clinic</td>
<td>90</td>
<td>3.8</td>
<td>2.88**</td>
<td>2.8</td>
<td>12.72***</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>30</td>
<td>2.9</td>
<td>2.88**</td>
<td>2.8</td>
<td>12.72***</td>
</tr>
<tr>
<td>Stress marriage</td>
<td>Clinic</td>
<td>61</td>
<td>2.1</td>
<td>-1.11</td>
<td>1.6</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>20</td>
<td>2.5</td>
<td>-1.11</td>
<td>1.7</td>
<td>0.10</td>
</tr>
<tr>
<td>Work stress</td>
<td>Clinic</td>
<td>63</td>
<td>2.4</td>
<td>-1.74</td>
<td>1.7</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>22</td>
<td>2.8</td>
<td>-1.74</td>
<td>1.9</td>
<td>0.44</td>
</tr>
<tr>
<td>Raising child alone</td>
<td>Clinic</td>
<td>29</td>
<td>3.6</td>
<td>-0.43</td>
<td>1.1</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>Compar.</td>
<td>10</td>
<td>3.8</td>
<td>-0.43</td>
<td>1.5</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Covariates are age, number and age of oldest & youngest children, and social status.

\( ** p < .01 \), \( *** p < .001 \)

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RSE at the .05 level, $t(118) = 1.44$, n.s. When the covariates were partialled out using an analysis of covariance, the clinic group still did not have significantly different scores from the comparison group, $F(1,113) = 1.15$, n.s. As seen in Table 5, for Beck's Depression Inventory the two groups were also not different from each other at the .05 level, $z(118) = 0.72$, n.s. Again, when the covariates were partialled out, the clinic group did not have significantly different scores from the comparison group, $F(1,113) = 0.00$, n.s.

Overall, this auxiliary hypothesis has not been supported. Only three individual items and the 6-item clinic subscale of the LSQ significantly differentiated the clinic group from the comparison group, whereas the three main measures did not do so.

**Examination of Hypotheses**

The author first computed descriptive statistics for each variable. This close examination of the distributions is recommended in order to "feel what the data are like" and to discover irregularities and abnormalities in the distributions (Tukey, 1977). The author examined the kurtosis and skewness of each variable to decide which variables needed re-expression before further analysis (Bliss, 1967). Correlation coefficients among the five demographic variables (marital status, age, number and age of oldest & youngest children, and social status) and the other variables were computed to determine which covariates should be used in further data analyses. A significance level of .05 was accepted for all confirmatory data analysis.
Comparisons between groups were performed through the use of the t statistic. For the Life Situations Questionnaire, the author compared the clinic group and the comparison group on the homogeneous 8-item scale and the two subscales, using t tests. She also compared the responses of the two groups on each item separately. In order to control for the effects of the covariates (age, number and age of oldest & youngest children, and social status), she computed analyses of covariance, both for total scales and for separate items. A t test and an analysis of covariance was performed on each of the five substantive variables.

For within groups comparisons, correlations between variables were computed through the use of Pearson's r. Then a partial correlation procedure was employed to control for the effects of the covariates (age, number and age of oldest & youngest children, and social status) on each bivariate relationship. The revised homogeneous version, the two subscales, and the individual items of the Life Situations Questionnaire were used for this analysis.

A series of multiple regressions were performed to analyze the linear additive relationships among the four variable sets of depression, self-esteem, personality traits, and life situation. In the multiple regression analysis, the author used the 8-item scale of the Life Situations Questionnaire.

A path analysis was performed on the specific model presented in Figure 2 above using the Simon-Blalock technique (Asher, 1976). Based on the information from this analysis, one
additional model was examined using the same technique. Moreover, both of these models were examined using LISREL, an analysis of linear structural relationships by the method of maximum likelihood (Jöreskog & Sorbom, 1984). This analysis provides a "goodness of fit" test of the model. For the LISREL analysis, a partial correlation matrix was used to hold out the effects of social status on the remaining variables. The individual items of the LSQ were used for both of these analyses in order to have enough variables for the model to be identified. Not all of the individual items were used for this analysis because some of the items were dropped or were combined with other items for clarity in the model.

For the interactional analysis, a hierarchical multiple regression procedure was used as recommended by Cohen and Cohen (1983). They do not recommend dichotomizing variables at the median for an interactional analysis because information and statistical power are lost. Cohen and Cohen note that the products of two variables carry the needed interaction information and should thus be used in this type of analysis. The 8-item scale of the LSQ was used for this analysis.

**Hypotheses 1: Self-Esteem and Depression**

It was hypothesized that a strong and positive correlation would be found between scores on the depression measure (Beck Depression Inventory, Beck et al., 1961) and scores on the self-esteem inventory (Rosenberg's Self-Esteem Measure, Rosenberg, 1965). Table 7 presents the correlation between self-esteem and depression. From this table, the Pearson
Table 7
Predicting Self-Esteem and Depression from Personality Trait Measures (Zero-Order and Partial Correlations)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Criterion Measure</th>
<th>RSE</th>
<th>BDI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>df(118)</td>
<td>df(1,113)</td>
</tr>
<tr>
<td>JSS</td>
<td></td>
<td>.05</td>
<td>.06</td>
</tr>
<tr>
<td>MGHI</td>
<td></td>
<td>.20*</td>
<td>.20**</td>
</tr>
<tr>
<td>PSOC</td>
<td></td>
<td>.54***</td>
<td>.50***</td>
</tr>
<tr>
<td>RSE</td>
<td></td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Note. N = 120.

a Covariates are age, number and age of oldest & youngest children, and social status.

b Key to labels of the scales:

- JSS: Jackson's Succorance Scale
- MGHI: Mosher's Guilt-about-Hostility Inventory
- PSOC: Parenting Sense of Competence Scale (higher scores relate to greater incompetence)
- RSE: Rosenberg's Self-Esteem Measure (higher scores indicate poorer self-esteem)
- BDI: Beck's Depression Inventory

* p<.05. *** p<.001.
correlation coefficient for the RSE and the BDI is .46 which is significant at the .001 level, \( df(113) \). Table 7 also presents the partial correlation coefficients, holding the effects of the covariates (age, number and age of oldest & youngest children, and social status) out of the relationship. From Table 7, when the covariates were partialled out, the relationship between RSE and BDI was still moderate with a partial correlation coefficient of .45 which is still significant at the .001 level, \( df(1,113) \). Similar correlations were found when examining the clinic and the comparison groups separately.

In summary, the first hypothesis has been supported by the correlational analysis.

**Hypothesis 2: Personality Traits and Depression**

It was hypothesized that a strong and positive correlation would be found between scores on the three trait measures and scores on the self-esteem and depression measures. Table 7 presents the correlations between personality traits and self-esteem and depression. Table 7 shows that only the Parenting Sense of Competence Scale correlated positively and significantly with both the self-esteem (\( r_{118} = .54, p<.001 \)) and depression measures (\( r_{118} = .40, p<.001 \)). Mosher's Guilt-about-Hostility Inventory correlated significantly with the RSE (\( r_{118} = .20, p<.05 \)), but not with the BDI (\( r_{118} = .13, n.s. \)). However significance between MGHI and RSE was not achieved in either the clinic group or the comparison group alone, only when the two groups were combined. The JSS did not correlate significantly
with either the self-esteem measure ($r_{[113]} = .05, \text{n.s.}$) or the depression measure ($r_{[113]} = .03, \text{n.s.}$). Partial correlation coefficients for these relationships were computed, controlling for the covariates; these are also presented in Table 7. Examining this table, we find that the coefficients are substantially the same.

To sum up: Of the three personality trait measures, only the PSOC had a moderate correlation with the RSE and the BDI.

**Hypothesis 3: Life Situation and Depression**

It was hypothesized that a strong and positive correlation would be found between scores on the Life Situations Questionnaire and scores on the self-esteem measure and between scores on the LSQ and scores on the depression inventory. Table 8 below presents the zero-order and the partial correlation coefficients for the revised 8-item scale and for the two subscales of the Life Situations Questionnaire. From Table 8, we see that the revised 8-item Life Situations Questionnaire correlated moderately with both the RSE ($r_{[118]} = .46, p < .001$) and the BDI ($r_{[118]} = .53, p < .001$). As seen in Table 8, both of these relationships held even after the covariates (age, number and age of oldest & youngest children, and social status) were partialled out for the self-esteem measure ($pr_{[1,113]} = .43, p < .001$) and for the depression inventory ($pr_{[1,113]} = .51, p < .001$). Similar correlations were found when examining the clinic and the comparison groups separately. From Table 8, we find moderate correlations with the RSE and the BDI for both of the subscales. These relationships also hold after the covariates
Table 8

Predicting Self-Esteem and Depression from the Life Situations Scales (Zero-Order and Partial Correlations)

<table>
<thead>
<tr>
<th>Life Situations Questionnaire</th>
<th>RSE</th>
<th></th>
<th>BDI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( r )</td>
<td>df(118)</td>
<td>( r )</td>
<td>df(118)</td>
</tr>
<tr>
<td></td>
<td>( r )</td>
<td>df(1,113)</td>
<td>( r )</td>
<td>df(1,113)</td>
</tr>
<tr>
<td>8-Item Revised Scale</td>
<td>.46***</td>
<td>.43***</td>
<td>.53***</td>
<td>.51***</td>
</tr>
<tr>
<td>6-Item Clinic Subscale</td>
<td>.42***</td>
<td>.40***</td>
<td>.39***</td>
<td>.38***</td>
</tr>
<tr>
<td>4-Item Compar. Subscale</td>
<td>.33***</td>
<td>.31***</td>
<td>.47***</td>
<td>.48***</td>
</tr>
</tbody>
</table>

Note. \( N = 120 \).

a Covariates are age, number and age of oldest & youngest children, and social status.

b Key to labels of the scales:

RSE: Rosenberg's Self-Esteem Measure (higher scores indicate poorer self-esteem; BDI: Beck's Depression Inventory.

\(* * * * * p < .001\).
are partialled out.

Correlations and partial correlations with the RSE and the BDI for the individual items of the Life Situations Questionnaire are presented in Table 9. From this table, we see that 8 of the 11 items correlated significantly with Rosenberg's Self-Esteem Measure; 7 of these 8 relationships were still significant when the five covariates were partialled out. The BDI, also, correlated significantly with 7 of the 11 items; and these 8 items were significant when the covariates were taken into account.

Overall, this hypothesis has been supported. Results for the revised 8-item Life Situations Questionnaire and for the two subscales are consistent with the hypothesis for the correlational analysis. The individual items of the Questionnaire substantially support the hypothesis as well.

**Hypothesis 4: Linear Additive Models**

**Multiple Regressions**

It was hypothesized that additive models including self-esteem, life situation, and personality traits as predictors would significantly enhance the ability to predict scores on the Beck Depression Inventory. Table 10 below presents the multiple regression results predicting depression from various combinations of these variables. Table 10 shows how well each of the three groups of variables (five measures) and how well all of the three groups of variables predict depression. It also shows the additive contribution of each of the three groups of
Table 9
Predicting Self-Esteem and Depression from Items of the Life
Situations Questionnaire (Zero-Order and Partial Correlations)

<table>
<thead>
<tr>
<th>Item</th>
<th>Criterion Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RSE</td>
</tr>
<tr>
<td></td>
<td>( r ) df(118)</td>
</tr>
<tr>
<td></td>
<td>( r ) df(118)</td>
</tr>
<tr>
<td>8. Overall stress</td>
<td>0.23*** 0.19*</td>
</tr>
<tr>
<td>9. Stress as parent</td>
<td>0.24*** 0.23***</td>
</tr>
<tr>
<td>10. Health</td>
<td>0.35*** 0.36***</td>
</tr>
<tr>
<td>11. Difficult child</td>
<td>0.07 0.06</td>
</tr>
<tr>
<td>12. Job as parent</td>
<td>0.34*** 0.33***</td>
</tr>
<tr>
<td>13. Help from father</td>
<td>0.29*** 0.25***</td>
</tr>
<tr>
<td>14. Money stress</td>
<td>0.23*** 0.22*</td>
</tr>
<tr>
<td>15. Help from other</td>
<td>0.03 0.06</td>
</tr>
<tr>
<td>16. Stressful marriage</td>
<td>0.22*** 0.25***</td>
</tr>
<tr>
<td>17. Stress from work</td>
<td>-0.09 -0.04</td>
</tr>
<tr>
<td>18. Raising child alone</td>
<td>0.18* 0.13</td>
</tr>
</tbody>
</table>

Note. \( N = 120. \)

a Covariates are age, number and age of oldest & youngest children, and social status.

b Key to labels of the scales:
RSE: Rosenberg's Self-Esteem Measure; BDI: Beck's Depression Inventory.

* \( p < .05. \) ** \( p < .01. \) *** \( p < .001. \)
Table 10

Predicting Depression from Various Combinations of Trait, Situational, and Attitudinal Variables

<table>
<thead>
<tr>
<th>Predictor Variable(s)</th>
<th>R</th>
<th>F (df)</th>
<th>F to Remove (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSE</td>
<td>.47</td>
<td>33.48(1,118)***</td>
<td></td>
</tr>
<tr>
<td>LSQ (8-item)</td>
<td>.53</td>
<td>8.09(1,118)***</td>
<td></td>
</tr>
<tr>
<td>JSS + MGHI + PSOC</td>
<td>.42</td>
<td>8.31(3,116)***</td>
<td></td>
</tr>
<tr>
<td>RSE + LSQ + JSS + MGHI + PSOC</td>
<td>.78</td>
<td>7.58(5,114)***</td>
<td></td>
</tr>
</tbody>
</table>

RSE 12.48(1,118)***  
LSQ 4.10(1,118)*  
JSS + MGHI + PSOC 0.21(3,115)

Note. Dependent variable is Beck's Depression Inventory.

a Key to labels of the variables:
RSE: Rosenberg's Self-Esteem Measure; LSQ: Life Situations Questionnaire (8-item scale); JSS: Jackson's Succorance Scale; MGHI: Mosher's Guilt-about-Hostility Inventory; PSOC: Parenting Sense of Competence Scale.

b The additive contribution of each set of predictor variables over and above the other two sets of variables is indicated by the F to Remove value.

* p<.05. ** p<.01. *** p<.001.
variables when coupled with the other two sets of variables (indicated by the F to Remove value).

From Table 10, each individual set of variables significantly predicts depression. In addition, the total ensemble of predictor measures (RSE, LSQ, JSS, "IGHI, & PSOC) predicts depression (BDI) with a multiple $R$ of .78. This prediction accounts for 61% of the variance, $F(5,114) = 7.56, p < .001$. When examining the significance of the additive effects for each set of predictor variables based on the "F to Remove" value for it, we see in Table 10 that two of the three coefficients are significant at the .05 level. The only value failing significance is the coefficient that involves adding the trait variables to the other two variable sets.

To sum up, the self-esteem scores and the life situation scores do better in predicting BDI scores than either one alone, but the personality trait variables do not add to the prediction when added to the other two groups of predictor variables.

Path Analysis

It was expected that the specific model as outlined in Figure 2 above would best explain the interrelations among depression, self-esteem, life situation, and personality traits. Figure 3 below presents a specific model, which was derived from Figure 2 by adding two major covariates, age and social status. Each variable is assigned a label in the series $X_a$ to $X_m$, and $Y_1$ to $Y_3$. For the purposes of clarity, stress from work was dropped from the life situation variables thus leaving eight of these variables ($X_a$ to $X_h$). The individual items of the Life

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Figure 3. Specific model of the interrelations among the four variable groups, with age and social status as covariates.

Overall stress (Xₐ)

Overall stress as a parent (Xₐ)

Difficult child (Xₑ)

Money stress (Xₐ)

Marriage stress (Xₑ)

Health stress (Xₑ)

Stress from raising child alone (Xₐ)

Stress from lack of support (Xₐ)

Social status (Xₑ)

Age (Xₑ)

Dependency (Xₑ)

Guilt-about-hostility (Xₑ)

Incompetence as a parent (Y₁)

All stress except social status (Xₑ)

Depression (Y₃)

Self-esteem (Y₂)

* p<.05.

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Situations Questionnaire were used in order to have enough variables for the model to be identified. The Stress from Work Item was omitted because it did not relate to any of the other variables and because it did not differentiate the two groups. Personality traits are represented by Dependency, by Guilt-about-hostility, and by Incompetence as a parent ($X_1$, $X_2$, $Y_1$). The disturbance variables in the model are represented in Figure 3 by the pathways to the three Y variables from $R_u$, $R_v$, and $R_w$. The structural equations derived from Figure 3 are presented in Appendix C. The path coefficients derived from the multiple regression of these structural equations are written in on the arrow pathways in the model in Figure 3. It should be noted that Figure 3 is a recursive model and as a result is identified, according to Asher (1976). This model was tested using the Simon—Blalock technique of path analysis (Asher, 1976) which includes four steps: examination of the unexplained variance; examination of those relationships not included in the model; examination of the causal and noncausal covariance of the bivariate relationships of the model; and the examination of negligible bivariate relationships in the model.

The first test of the completeness of this model was to compute the proportion of unexplained variance from the disturbance variables for each regression. Thus for depression (BDI, $Y_3$), there is 53% of unexplained variance remaining when using this model. For self-esteem (RSE, $Y_2$), there is 58% of unexplained variance remaining. For parenting competence (PSOC, $Y_1$), there is 50% remaining. Although a figure of 50% to 58% of
unexplained variance seems large, this amount of unexplained variance is not greater than the level found in other models that have been deemed acceptable (Asher, 1976).

The next test of the model is to examine those bivariate relationships that are not included in the model to ascertain if any should have been included. Altogether we find that only five of the missing pathways have significant and unique contributions to the relationships. These are: Social status and Stress from raising a child alone ($X_jX_i$); Guilt-about-hostility and Overall stress as a parent ($X_qX_m$); Dependency and Overall stress ($X_aX_k$); Parenting competence and Social status ($Y_iX_j$); and Depression and Overall stress ($Y_jX_o$). From this information, it appears obvious that the two relationships with the covariate should be included in the model ($X_jX_i$; $Y_iX_i$). Clearly, the Depression and Overall stress pathway should have been included in the original model ($Y_jX_o$). However, it is not clear that the relationship between Dependency and Overall stress and between Guilt-about-hostility and Overall stress as a parent should be included, or if included, what direction of cause should be assumed. Thus, in any further models, these three pathways should be included.

For the next step in testing the model, the author decomposed the causal and noncausal covariance of the bivariate relationships, presented in Table 11. The causal covariance of a bivariate relationship is determined by totaling the direct and the indirect (if any) influence of one variable upon the other. The noncausal covariance (if any) is determined by subtracting the total causal effect from the total covariance between the two
### Table 11

Decomposition of the Causal and Noncausal Covariance of the Bivariate Relationships for the Model in Figure 3

<table>
<thead>
<tr>
<th>Bivariate Relationship</th>
<th>Total Covariance (A)</th>
<th>Causal</th>
<th>Noncausal (A-D)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct (B)</td>
<td>Indirect (C)</td>
<td>Total (D=B+C)</td>
</tr>
<tr>
<td>( Y_2 X_m )</td>
<td>.19</td>
<td>none</td>
<td>.19</td>
</tr>
<tr>
<td>( X_h X_k )</td>
<td>-.04</td>
<td>none</td>
<td>-.01</td>
</tr>
<tr>
<td>( Y_2 X_k )</td>
<td>.04</td>
<td>( p_{hk} = .04 )</td>
<td>.00</td>
</tr>
<tr>
<td>( Y_3 X_k )</td>
<td>.03</td>
<td>( p_{3k} = -.05 )</td>
<td>.07</td>
</tr>
<tr>
<td>( X_k X_j )</td>
<td>-.03</td>
<td>none</td>
<td>-.02</td>
</tr>
<tr>
<td>( Y_3 X_j )</td>
<td>-.09</td>
<td>( p_{3j} = -.08 )</td>
<td>none</td>
</tr>
<tr>
<td>( X_a X_i )</td>
<td>.18</td>
<td>( \xi_{ai} = .18 )</td>
<td>none</td>
</tr>
<tr>
<td>( X_b X_i )</td>
<td>.07</td>
<td>( \xi_{bi} = .07 )</td>
<td>none</td>
</tr>
<tr>
<td>( X_d X_i )</td>
<td>.19</td>
<td>( \xi_{di} = .19 )</td>
<td>none</td>
</tr>
<tr>
<td>( X_e X_i )</td>
<td>-.05</td>
<td>( \xi_{ei} = -.05 )</td>
<td>none</td>
</tr>
<tr>
<td>( X_h X_i )</td>
<td>.10</td>
<td>( \xi_{hi} = .10 )</td>
<td>none</td>
</tr>
<tr>
<td>( Y_2 X_i )</td>
<td>.23</td>
<td>( p_{2i} = .07 )</td>
<td>.08</td>
</tr>
<tr>
<td>( Y_1 X_h )</td>
<td>.15</td>
<td>( p_{1h} = .10 )</td>
<td>.05</td>
</tr>
<tr>
<td>( Y_3 X_h )</td>
<td>.05</td>
<td>( p_{3h} = -.02 )</td>
<td>.06</td>
</tr>
<tr>
<td>( Y_1 X_3 )</td>
<td>.21</td>
<td>( \xi_{13} = .21 )</td>
<td>none</td>
</tr>
<tr>
<td>( Y_2 X_3 )</td>
<td>.12</td>
<td>( p_{23} = .07 )</td>
<td>none</td>
</tr>
<tr>
<td>( Y_3 X_3 )</td>
<td>.31</td>
<td>( p_{33} = .18 )</td>
<td>none</td>
</tr>
<tr>
<td>( Y_1 X_7 )</td>
<td>.36</td>
<td>( \xi_{17} = .36 )</td>
<td>none</td>
</tr>
<tr>
<td>( Y_2 X_7 )</td>
<td>.35</td>
<td>( p_{27} = .19 )</td>
<td>none</td>
</tr>
</tbody>
</table>

Table 11 cont'd...
<table>
<thead>
<tr>
<th>Bivariate Relationship</th>
<th>Covariance (A)</th>
<th>Direct (B)</th>
<th>Indirect (C)</th>
<th>Total (D=B+C)</th>
<th>A - D</th>
</tr>
</thead>
<tbody>
<tr>
<td>( Y_3X_f )</td>
<td>.40</td>
<td>( p_{3f} = .08 )</td>
<td>( h = .06 )</td>
<td>.14</td>
<td>none</td>
</tr>
<tr>
<td>( Y_1X_e )</td>
<td>.22</td>
<td>( p_{1e} = .03 )</td>
<td>none</td>
<td>.03</td>
<td>.19</td>
</tr>
<tr>
<td>( Y_2X_e )</td>
<td>.38</td>
<td>( p_{2e} = .23 )</td>
<td>( (p_{1e})(p_{2e}) = .02 )</td>
<td>.25</td>
<td>.13</td>
</tr>
<tr>
<td>( Y_1X_d )</td>
<td>.21</td>
<td>( p_{1d} = .05 )</td>
<td>none</td>
<td>.05</td>
<td>.16</td>
</tr>
<tr>
<td>( Y_1X_c )</td>
<td>.61</td>
<td>( p_{1c} = .61 )</td>
<td>none</td>
<td>.61</td>
<td>none</td>
</tr>
<tr>
<td>( Y_1X_b )</td>
<td>.56</td>
<td>( p_{1b} = .21 )</td>
<td>none</td>
<td>.21</td>
<td>.35</td>
</tr>
<tr>
<td>( Y_1X_a )</td>
<td>.27</td>
<td>( p_{1a} = .04 )</td>
<td>none</td>
<td>.04</td>
<td>.23</td>
</tr>
<tr>
<td>( Y_2Y_1 )</td>
<td>.52</td>
<td>( p_{21} = .51 )</td>
<td>none</td>
<td>.51</td>
<td>.01</td>
</tr>
<tr>
<td>( Y_3Y_2 )</td>
<td>.47</td>
<td>( p_{32} = .24 )</td>
<td>none</td>
<td>.24</td>
<td>.23</td>
</tr>
</tbody>
</table>

**Key to labeling of variables:**

- \( X_a \) = Overall stress
- \( X_b \) = Overall stress as a parent
- \( X_c \) = Difficult child
- \( X_d \) = Stress from money matters
- \( X_e \) = Stress from marriage
- \( X_f \) = Stress from poor health
- \( X_g \) = Stress from raising child alone
- \( X_h \) = Stress from lack of support
- \( X_i \) = Social status
- \( X_j \) = Age
- \( X_k \) = Dependency
- \( X_m \) = Guilt about hostility
- \( Y_1 \) = Parenting competence
- \( Y_2 \) = Self-esteem
- \( Y_3 \) = Depression

\( b = (c_{ij}) \), total covariance as standardized by the variances of the variables.

\( c = (c_{ij}) \), computed total effect coefficients.

\( a = (c_{ij}) \), total covariance as standardized by the variances of the variables.

\( d = (p_{n\ell})(p_{\ell\ell})(p_{2\ell})(p_{3\ell}) + (p_{n\ell})(p_{3\ell}) \)

\( e = (p_{m\ell})(p_{n\ell})(p_{\ell\ell})(p_{2\ell})(p_{3\ell}) + (p_{m\ell})(p_{2\ell})(p_{3\ell}) + (p_{n\ell})(p_{3\ell}) \)

\( f = (p_{a\ell})(p_{1\ell})(p_{2\ell}) + (p_{b\ell})(p_{1\ell})(p_{2\ell}) + (p_{a\ell})(p_{1\ell})(p_{2\ell}) + (p_{c\ell})(p_{1\ell})(p_{2\ell}) + (p_{d\ell})(p_{1\ell})(p_{2\ell}) + (p_{e\ell})(p_{1\ell})(p_{2\ell}) + (p_{f\ell})(p_{1\ell})(p_{2\ell}) + (p_{g\ell})(p_{1\ell})(p_{2\ell}) + (p_{h\ell})(p_{1\ell})(p_{2\ell}) \)

\( g = (p_{1\ell})(p_{2\ell})(p_{3\ell}) + (p_{2\ell})(p_{3\ell}) \)

\( h = (p_{1\ell})(p_{2\ell})(p_{3\ell}) + (p_{2\ell})(p_{3\ell}) \)

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variables. Perusing Table 11, we find seven variables where the correlation coefficients (column $A/c_{ij}$) are much larger than the computed effect coefficients (column $D/c_{ij}$). Two of these variables already have indirect causal pathways included in the model; this form of correction can only be used with the remaining five variables. The two bivariate relationships with indirect pathways are: Social status and Self-esteem ($Y Exxon$); and Stress from poor health and Depression ($Y Exxon$). The five bivariate relationships where the noncausal component of the relationship is quite substantial are: Stress from marriage and Parenting competence ($Y Exxon$); Stress from money matters and Parenting competence ($Y Exxon$); Overall stress as a parent and Parenting competence ($Y Exxon$); Overall stress and Parenting competence ($Y Exxon$); and Depression and Self-esteem ($Y Exxon$). In summary, for each of these relationships, there is some other variable or variables not incorporated into the model that have a substantial causal impact on the relationship, or there are indirect pathways that need to be incorporated into the model. New variables or new indirect pathways should be considered in any modifications of this model.

Also from Table 11, we can identify those bivariate relationships that are negligible and have very little causal impact. These are: Social status and Stress from marriage ($X Exxon$); Depression and Age ($Y Exxon$); Overall stress as a parent and Social status ($X Exxon$); Stress from lack of support and Depression ($Y Exxon$); Dependency and Self-esteem ($Y Exxon$); Dependency and Depression ($Y Exxon$); and Dependency and Age ($X Exxon$). In any future
alterations of this model, these pathways should be considered for possible omission from the model.

Retest of the Revised Model. In view of the findings of the previous section, a new model was created and then retested using the same Simon-Blalock technique (Asher, 1976). This new model was created through three major alterations and is presented in Figure 4 below. These three changes are: the inclusion of the three significant and unique relationships previously left out of the model; the inclusion of a pathway between Depression and Parenting competence; and the omission of the seven pathways where the relationship was negligible. The structural equations for Figure 4 are presented in Appendix C below. Appendix D presents the decomposition of the causal and the noncausal effects of each bivariate relationship for this new model presented in Figure 4.

The unexplained variance for the major variables for this new model are: Depression, 54%; Self-esteem, 58%; and Parenting competence, 52%. This slight increase in unexplained variance is due to the omission of two variables, Age and Dependency, which have now become disturbance variables. When one examines the decomposition of the causal and noncausal covariance of the bivariate relationships presented in Appendix D, one finds that there is only a slight improvement in the explanation of the noncausal (spurious) variables. There are now only six bivariate relationships where the correlation coefficients are much larger than the computed effect coefficients whereas there had been seven of these relationships previously (see Table 11).
Figure 4. Revised model of the interrelations among the four variable groups.

Overall stress (X\(a\))

Overall stress as a parent (X\(b\))

Difficult child (X\(c\))

Money stress (X\(d\))

Marriage stress (X\(e\))

Health stress (X\(f\))

Stress from raising child alone (X\(g\))

Stress from lack of support (X\(h\))

Social status (X\(i\))

Guilt-about-hostility (X\(j\))

Incompetence as a parent (Y\(_1\))

Depression (Y\(_3\))

Self-esteem (Y\(_2\))

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\(*_{p<.05}\)
In summary, Figure 4 is a slightly better model than Figure 3 is for the explanation of the present data.

Two other models were briefly examined in an attempt to improve further on this model and they are presented in Appendix E. The first model includes three additional pathways from Self-esteem to Overall stress, to Overall stress as a parent, and to Money stress ($Y_aX_a; Y_bX_b; Y_cX_c$). The second model alters Figure 4 by including Overall stress as a parent as a mediating variable between Parenting competence and between Overall stress, Difficult child, and Money stress; this creates three additional pathways ($X_aX_a; X_bX_b; X_cX_c$). However both of these models made matters worse and did not improve on the explanation of the data. It is still possible that some other model that was not considered here could fit just as well if not better.

**LISREL Analysis**

The specific model presented in Figure 3 was analyzed using the maximum likelihood method of LISREL (Jöreskog & Sorbom, 1984). The model used for this particular analysis is presented in Figure 5 below (see Appendix C for the structural equations). This model differs from Figure 3 in that for convenience sake Age was dropped, and Marriage stress and Stress from raising a child alone were combined into one item (in the second case, as a person can only be scored on one or the other of these items, no information is lost). Of note, it is also possible to determine a latent eta variable for stress in this model. This alternative model was attempted here but it could not be computed by LISREL. Additionally, a partial correlation matrix was used for the
Figure 5. Specific model of the interrelations among the four variable groups used for the LISREL analysis.

\[
\begin{align*}
&\text{Overall stress } (X_n) \\
&\text{Overall stress as a parent } (X_{1}) \\
&\text{Difficult child } (X_c) \\
&\text{Money stress } (X_d) \\
&\text{Marriage/Single stress } (X_p) \\
&\text{Health stress } (X_f) \\
&\text{Stress from lack of support } (X_d) \\
&\text{Dependency } (X_h) \\
&\text{Guilt-about-hostility } (X_i)
\end{align*}
\]

\[
\begin{align*}
\text{Incompetence as a parent } (Y_1) \\
\text{Depression } (Y_3) \\
\text{Self-Esteem } (Y_2)
\end{align*}
\]

\[
\begin{align*}
&\text{Overall stress } (X_n) \\
&0.43^* \\
&0.03 \\
&0.13 \\
&0.09 \\
&0.23^* \\
&0.15 \\
&0.02 \\
&0.13 \\
&0.24^*
\end{align*}
\]

\[
\begin{align*}
&\text{Depression } (Y_3) \\
&0.38^* \\
&0.20^* \\
&0.39^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Overall stress as a parent } (X_{1}) \\
&0.24^* \\
&0.73 \\
&0.43^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Difficult child } (X_c) \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.23^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Money stress } (X_d) \\
&0.03 \\
&0.09 \\
&0.15 \\
&0.02 \\
&0.13 \\
&0.24^* \\
&0.43^* \\
&0.73 \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Marriage/Single stress } (X_p) \\
&0.13 \\
&0.09 \\
&0.15 \\
&0.02 \\
&0.13 \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Health stress } (X_f) \\
&0.09 \\
&0.02 \\
&0.13 \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Stress from lack of support } (X_d) \\
&0.23^* \\
&0.15 \\
&0.02 \\
&0.13 \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Dependency } (X_h) \\
&0.02 \\
&0.13 \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[
\begin{align*}
&\text{Guilt-about-hostility } (X_i) \\
&0.13 \\
&0.24^* \\
&0.38^* \\
&0.20^* \\
&0.81
\end{align*}
\]

\[\%<.05.\]

\[\chi^2(13, N = 120) = 26.23, p<.05.\]

Social status partialled out of correlation matrix.
analysis partialling out the effects of social status. The
determinant of the correlation matrix, a measure of the
dispersement of the values in the cells or multicollinearity, was
adequately different from zero for this matrix. Figure 5
presents the path coefficients determined in the LISREL analysis
through the maximum likelihood method.

According to the LISREL analysis, the proportion of
unexplained variance for the major variables for the model in
Figure 5 are: Depression, 71%; Self-esteem, 65%; and Parenting
competence, 54%. Additionally, the whole measurement model
attained a reliability coefficient of .59, which would appear to
be adequate. Examination of the various goodness of fit measures
indicates that the model in Figure 5 only moderately fits the
data. Although the goodness of fit index for the whole model is
.97, the adjusted goodness of fit index, which removes the
effects of sampling errors, is .80. Also the chi-square
statistic for the whole model was significant, $X^2(13, N = 120) =
26.23, p < .05$ (this is not considered to be a good sign according
to Jöreskog & Sorbom, 1984). From the LISREL analysis, several
alterations to the model were indicated, such as the inclusion
and the omission of several pathways. Because this model will be
reexamined following the model in Figure 4 above, the alterations
indicated in the LISREL analysis will be ignored for the moment.
In summary, the model presented in Figure 5 only moderately
describes the data and has a number of flaws in its makeup.

When analyzing the clinic group and the comparison group
separately for the model in Figure 5, a number of problems become
apparent. Although there is a good fit of the model overall for the comparison group, there is only a moderate fit for the clinic group. However the chi-square statistic for the goodness of fit of the model is not significant for either the clinic group ($\chi^2_{13, N = 90} = 20.23, p = .09$) or for the comparison group ($\chi^2_{13, N = 30} = 16.49, p = .22$). When the similarity between the two groups for this model was analyzed using LISREL, the chi-square statistic was significant ($\chi^2_{43, N = 120} = 74.56, p = .002$), indicating a significant difference between groups.

Re-test of the Revised Model. Figure 6 below presents the revised model of Figure 5 incorporating a number of changes: Dependency has been dropped as a variable; the pathway between Stress from a lack of support and Depression has been omitted; and the pathways between Overall stress and Depression and between Parenting competence and Depression have been included. Again, a partial correlation matrix was used for the LISREL analysis with the effects of social status partialled out of the relationships. There is a slight improvement in the determinant for this correlation matrix and thus the determinant is still adequately different from zero. Figure 6 presents the path coefficients determined in the LISREL analysis through the maximum likelihood method (see Appendix C for the structural equations).

According to the LISREL analysis, the proportion of unexplained variance for the major variables for the model in Figure 6 are: Depression, 61%; Self-esteem, 65%; and Parenting competence, 54%. This is an improvement for Depression only. The
Figure 6. Revised model of the interrelations among the four variable groups used for the LISREL analysis.

Overall stress ($X_g$)

Overall stress as a parent ($X_p$)

Difficult child ($X_c$)

Money stress ($X_m$)

Marriage/Single stress ($X_f$)

Health stress ($X_h$)

Stress from lack of support ($X_s$)

Incompetence as a parent ($Y_1$)

Depression ($Y_2$)

Self-Esteem ($Y_2$)

Guilt-about-hostility ($X_h$)

$\chi^2(11, N = 120) = 8.19, p=.696.$

Social status partialled out of correlation matrix.
whole measurement model attained a reliability coefficient of .63; this is an improvement from the measurement model in Figure 5. Examination of the various goodness of fit measures indicates that the model in Figure 6 fits the data very well. The goodness of fit index for the whole model is .988, and the adjusted goodness of fit index is .927. The chi-square statistic for the whole model is not significant, $\chi^2(11, N = 120) = 8.19, p = .696$. All of these goodness of fit measures are an improvement from the model in Figure 5, and also are describing an excellent fit of the model to the data.

From the LISREL analysis, very few alterations to the model in Figure 6 were indicated. According to the modification indices, the model already incorporates all of the unique and significant relationships. Also the examination of the normalized residuals informs us that the model already accounts for all relationships sufficiently well. According to the LISREL analysis, two variables could be omitted from the model. These are: Money stress and Stress from a lack of support. Although there are other bivariate relationships that are not significantly different from zero according to their $t$-values, these other variables still indirectly add to the total effects of a bivariate relationship and thus can not be omitted. Overall the model in Figure 6 is a substantial improvement over the model presented in Figure 5.

When analyzing the clinic group and the comparison group separately for the model in Figure 6, similar results to the combined group are obtained. There is a good fit of the model to
the data for both groups. The chi-square statistics are not significant for either the clinic group ($\chi^2[11, N = 90] = 5.99, p=.11$) or for the comparison group ($\chi^2[11, N = 30] = 16.94, p=.80$). The comparison group, the clinic group, and the total combined group are all very similar to each other according to the pattern of results of the $t$-values, of the normalized residuals, and of the modification indices. When the similarity between the clinic group and the comparison group for the model in Figure 6 was analyzed using LISREL, the chi-square statistic was not significant ($\chi^2[38, N = 120] = 36.57, p=.54$) indicating no significant difference between the groups. Again, all of these indicators are improved upon in comparison to the results of the model in Figure 5.

To sum up: When using the maximum likelihood method in the LISREL analysis, the model in Figure 6 does an excellent job of describing the present data and is a substantial improvement over Figure 5. There are no substantial differences for either the clinic group or for the comparison group when these groups are analyzed separately. Although the model in Figure 6 appears to fit the data very well, it should be noted that it is still possible that some other model that was not considered in the present study could fit just as well if not better.

**Hypothesis 5: Interaction between Variables**

It was expected that there would be an interaction effect between life situation scores and personality trait scores in the prediction of both self-esteem and depression scores. A series of
Hierarchical multiple regressions was performed for this analysis (Cohen & Cohen, 1983). Table 12 below presents the $R^2$ change results for each interaction effect. These figures are obtained by adding the product of the two variables to the regression equation having already partialled out the individual effects of the two variables ($R^2$ change = $R_{Y,12z}^2 - R_{Y,12}^2$ where $3 = 1 \cdot 2$). Thus if the $R^2$ change value is significant, then the interaction effect is significant.

Perusing Table 12, we find that none of the $R^2$ change values are significant at the .05 level. Thus there are no conditional relationships between personality traits and life situation in relation either to self-esteem or to depression.

**Other Findings**

When examining the relationship between the LSQ (8-item revised scale) and the personality trait measures, only one correlation is significant. The Pearson correlation coefficients for these relationships are: LSQ and JSS, $r(118) = .02$, n.s.; LSQ and MGIII, $r(118) = .13$, n.s.; and LSQ and PSOC, $r(118) = .58$, $p < .001$. When the covariates (age, number and age of oldest & youngest children, and social status) were partialled out, the relationship between LSQ and PSOC was still moderate with a partial correlation coefficient of .56 which is still significant at the .001 level, df(1,113). Similar correlations were found when examining the clinic and the comparison groups separately.

Not too surprisingly, the intercorrelations among the personality trait measures did not produce any significant correlations. Although the correlation between JSS and MGIII was
Table 12

**Interaction Effects for Personality Traits and Life Situations with Self-Esteem and Depression as Dependent Variables**

<table>
<thead>
<tr>
<th>Trait Measure</th>
<th>$R^2$ Change</th>
<th>$\Sigma(1,115)$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>for Interaction Term</strong></td>
<td><strong>for Interaction Term</strong></td>
<td></td>
</tr>
<tr>
<td>JSS·LSQ</td>
<td>.0021</td>
<td>0.33</td>
</tr>
<tr>
<td>MGIII·LSQ</td>
<td>.0095</td>
<td>1.49</td>
</tr>
<tr>
<td>PSOC·LSQ</td>
<td>.0001</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**BDI as Dependent Variable**

<table>
<thead>
<tr>
<th>Trait Measure</th>
<th>$R^2$ Change</th>
<th>$\Sigma(1,115)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS·LSQ</td>
<td>.0031</td>
<td>0.44</td>
</tr>
<tr>
<td>MGIII·LSQ</td>
<td>.0093</td>
<td>1.34</td>
</tr>
<tr>
<td>PSOC·LSQ</td>
<td>.0002</td>
<td>0.03</td>
</tr>
</tbody>
</table>

**RSE as Dependent Variable**

Note. $N = 120$.

a. Key to labels of the scales:

BDI: Beck's Depression Inventory; JSS: Jackson's Succorance Scale; LSQ: Life Situations Questionnaire (3-item scale); MGIII: Mosher's Guilt-about-Hostility Inventory; PSOC: Parenting Sense of Competence Scale (higher scores relate to greater incompetence); RSE: Rosenberg's Self-Esteem Measure (higher scores indicate poorer self-esteem).

b. $R^2$ Change = $R^2_{Y,123} - R^2_{Y,12}$, where 1 is personality trait score, 2 is LSQ score, and 3 is the interaction term (1·2). Thus, this table presents the interaction terms for 6 separate multiple regressions.
initially significant with a small relationship ($r(118) = .16, p < .05$), it did not remain so when the covariates were taken into account ($pr(1,113) = .15, n.s.$). The remaining two relationships were not significant: JSS and PSOC, $r(118) = -.04, n.s.$; MGHI and PSOC, $r(118) = .10, n.s.$.

The clinic group and the comparison group were significantly different from each other on PSOC scores ($t(118) = 4.52, p < .001$), but they were not significantly different from each other on either JSS scores ($t(118) = 0.77, n.s.$) or on MGHI scores ($t(118) = 1.33, n.s.$). When the five covariates were taken into account by using an analysis of covariance, scores for the clinic group still were significantly different from scores for the comparison group on the PSOC measure, $F(1,113) = 15.98, p < .001$. This last result fits with the author's expectations that the clinic group would get higher scores ($M=54.0$) on the Parenting Sense of Competence Scale than the comparison group would ($M=46.0$) because the mothers in the clinic group had sought help in dealing with their children.
CHAPTER IV

DISCUSSION

Bibring's Three Aspirations and Depression

It was expected that persons with strong dependent traits, with strong feelings of guilt about aggression, and with strong feelings of inadequacy or incompetence (put in Bibring's terms, persons having the need to be loved, the need to be good, and the need to be strong, respectively) would be predisposed to depression. It was also expected that there would be an increase in the accuracy of prediction of depression from knowledge of an individual's three aspirations. According to the results of this study, only one of the three measures corresponding to the three aspirations—namely the parenting competence measure—related positively and moderately to greater depression and poorer self-esteem. When the three aspirations were taken as a group, the accuracy in the prediction of depression did not increase significantly. Also, these personality trait variables did not add to the prediction of depression when added to the self-esteem and the life situation measures as predictor variables. Overall, parenting competence was the only variable that supported the hypothesis, whereas dependency and guilt about aggression did not.

It is possible that dependency and guilt about aggression did not relate to poorer self-esteem and to greater depression because of faults in the measures used. Although the creators of these measures state otherwise, it is possible that Jackson's
Succorance Scale and Mosher's Guilt-about-Hostility Inventory may both be poor instruments for determining a long-term predisposing personality trait rather than a short-term situational personality state. In addition, difficulties with the JSS may arise because it was not corrected for or examined for the influence of social desirability. Jackson only examined the effects of instructions to make a favorable impression. Difficulties with measurement appear to be especially salient for the JSS as it did not relate to any other variables in any meaningful way in the present study, nor was it useful in any of the prediction analyses. Although the MGHI was not helpful in the present study, Billingsley (1986) did find this measure to be the only one to relate to depression in his study. Thus, the lack of support for the guilt about aggression hypothesis in the present study may not be due to faults in the instrument, but rather due to differences between the groups used or in the theoretical explanation. Certainly in any future research it would be recommended that other instruments be used if available, especially to replace the JSS. Nevertheless, although deficiencies in the measures may be a reasonable explanation for the lack of support of the hypothesis, these of course may not be sufficient to account for the results.

Parenting competence may relate to poorer self-esteem and greater depression whereas dependency and hostility-guilt do not because of erroneous assumptions about the nature of the groups examined. Bibring (1953) hypothesized that when persons encountered a new stress related to the issues involved in the
initial establishment of the maladaptive modes of coping, this new stress would trigger the old maladaptive coping method and thus influence the person's current coping abilities. For example, he proposed that new issues of dependency would trigger the old issues of dependency which in turn would trigger the maladaptive coping mechanism of depression. For the present group of mothers of difficult children and the comparison group of mothers, it is possible that the new issues of dependency and hostility-guilt related to their children are not exactly the same as the women's old issues related to their own parents and to their own childhood. Thus although a difficult child may be more dependent on his or her mother, this fact may not trigger in the mother a dependency response of her own. Also, although a difficult child may make a mother feel angry with him or her more often, this stress may not be similar enough to feelings of aggression, and subsequently of guilt, towards one's own parent. However, it is to be expected that a difficult child would make one feel more incompetent as a parent, which would in turn, reasonably trigger the old issue of incompetence and competition in relation to one's parent (I'm not as good at being a parent as my parents were/are). Thus, it is possible that a different group encountering a different sort of situational stress would better support the presence of Bibring's three hypothesized aspirations than the present group does. Certainly in any future research endeavor the selection of subjects should be closely examined.

There is a second difficulty with the choice of subjects in
this study. Neither the clinic group nor the comparison group could be designated as depressed according to Beck's (1967) classification system. Because these women were not depressed, it is possible that Bibring's theory that personality traits predispose one to depression has not been adequately tested in the present study. Although we assumed that the clinic group would be more depressed than the comparison group would be because of the clinic mothers' additional life stressor of having a difficult child, both groups turned out to be equally depressed. Thus the groups for this study may not be adequately addressing the issues posited in Bibring's (1953) analysis of the mechanisms of depression. Certainly Giovanni and others (Giovanni, Fava, & Glenys, 1986) found that hostility improves with the treatment of depression; Mosher's Guilt-about-Hostility Inventory may not relate to depression in the present study because the groups were not depressed. Nevertheless, although my making erroneous assumptions about the subject groups may be a reasonable explanation for the lack of support of the hypothesis, my doing so may not be a sufficient explanation of the results.

Notwithstanding the potential explanation of measurement and sampling difficulties, parenting competence may relate to depression whereas dependency and hostility-guilt do not because Bibring's theoretical explanation of the predisposition of these personality traits for depression is inadequate. The Parenting Sense of Competence Scale was the only measure to correlate with depression. Moreover Billingsley (1986) found that depression correlated significantly with his measure of the degree to which
one is influenced by others' opinions of one's adequacy or competence. Thus it is possible that one's sensitivity to or fixation to the feeling of helplessness to obtain one's goals of strength, capability, and competence predisposes one to depression; fixations to dependency and/or to ambivalence do not do so. It may be then that Bibring is correct in his assumption that there is a blow to one's self-esteem that leads subsequently to depression only when one's sense of competence is jeopardized. This finding is consistent with other psychoanalytic theories of depression (Rado, 1951) which state that the person prone to depression is one whose self-esteem depends primarily on the approval and support of others in regard to one's own sense of accomplishment and effectiveness. It is when this system fails that the individual may be thrown into a state of depression.

Finally we should point out that all of the personality traits failed to add to the prediction of depression in the multiple regression analysis and they also failed to have a conditional relationship with life situation in the interactional analysis. These results tend to support the disconfirmation of Bibring's hypothesis outright, rather than accepting his theory piecemeal. Rather several alternative explanations for depression may be relevant to the results in the present study.

First, a current situational stress reaction of depression may explain the present results better than a long-standing predisposing personality vulnerability to depression. The Parenting Sense of Competence Scale appears to more accurately measure a current state of incompetence rather than a
long-standing trait of incompetence; this may explain the solitary positive finding. The other two instruments are purportedly measuring long-standing traits (here assuming no problems with the measurement instruments of course). The finding that current situational factors are related to depression is consistent with the findings of Billingsley and others (Billingsley, 1986; Parry & Shapiro, 1986).

A current stress reaction explanation of depression would perhaps follow the model of the general adapatation syndrome put forward by Hans Selye (1974). This model explains depression as occurring during the exhaustion stage of the coping response to situational life stress. Specifically, following numerous, but fundamentally unsuccessful, attempts at coping adaptively with the stressor during the resistance stage, the person finally exhausts his resources (of ideas, energy, or coping strategies) and thus falls into a state of exhaustion or depression. Although this cycle can take some time, depression/exhaustion is not thought to be a long-standing or chronic trait but is thought to be a current maladaptive coping mechanism.

Alternatively, it is possible that although there are long-standing predisposing personality traits for the onset of depression when the person is exposed to certain stressful situations, these personality traits do not take the forms hypothesized by Bibring but rather would fit those forms put forward by others such as Beck (1967) and Seligman (1975). It is possible that these predispositions for depression take the form of "characteristic logical errors" or of "learned helplessness,"

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neither of which were measured in the present study. Certainly, if these variables could be measured, the inclusion of such instruments would strengthen any further attempts at researching this theoretical area. Additionally, a time series analysis would perhaps clarify these issues.

Finally, these findings may be more consistent with the attribution literature (Heider, 1958). It is possible that parents are willing to agree that there are problems with their children and that this situation adds to their stress as a parent (a situational attribution), but they are not willing to acknowledge that the child's difficulties are because of their faulty parenting (a dispositional attribution). Thus, all of the difficulty or blame lies with the child and it would be reasonable to assume that the mother would not admit to any other difficulties within herself, nor would the child's difficulties be allowed to trigger any other long-standing issues such as dependency needs or guilt about her aggression. Therefore, if such a mother blames only the child, she would request that professionals deal only with the child in their therapeutic endeavors. This latter supposition is consistent with the literature (Szatmari et al., 1986) which reports that many parents request clinicians to "fix the kid." This explanation is also substantiated by the fact that having a difficult child does not lower the self-esteem or greatly increase the depression in the mothers in the present study, whereas the mothers' perceived stress from their job as a parent with this child did relate to lowered self-esteem and increased depression.
Life Situation and Depression

It was expected that persons with stressful life situations would also have a poorer self-concept and would be more severely depressed. Accordingly the author believed that life stress would be predictive of depression. From the results, the 8-item Life Situations Questionnaire correlated positively and moderately with both self-esteem and depression. Further, the two subscales of this measure, which were derived from the discriminant analysis, correlated positively and moderately with self-esteem and depression. The individual items of the Questionnaire substantially gave the same results as the scale. For the multiple regression analysis, the addition of the items from the Life Situations Questionnaire significantly increased the accuracy of prediction of depression above that attained from using self-esteem alone and from using both the self-esteem and the three aspiration measures together.

In all respects the hypothesized relationship between life situation stressors and depression is supported. This finding is consistent with results reported by Billingsley (1986) and by others (Szatmari et al., 1986). Billingsley found that demographic variables such as age and social status correlated significantly with depression; these variables certainly may be indicators of situational stress. Incidentally, age and social status were also found to correlate moderately with depression in the present study. Again, these findings are consistent with a current situational stress model of depression rather than the long-term predisposing personality trait model.
Two items dropped because of the item analysis also did not correlate with poorer self-esteem or with greater depression. These items did not add to the homogeneity of the scale, possibly due to their being external to the home and to the self: stress from work, and stress from a lack of support from others. It is not surprising then that these items do not relate either to self-esteem or to depression because self-esteem and depression are both very much related to the self.

It is also interesting to note that not all of the remaining items measuring stress in one's life situation related both to poorer self-esteem and to greater depression. Perceived stress from having a difficult child and from having to raise one's children alone related modestly to greater depression, but not to diminished self-esteem. Perceived stress from a lack of support from the father of one's children related to diminished self-esteem, but not to depression. The remaining six items related to both greater depression and to poorer self-esteem. From the pattern of results, perceived responsibility for the situation appears to be the key variable in self-esteem, whereas the perceived effect of the situation appears to be the key variable in depression. These findings also corroborate both the attribution explanation for self-esteem and the exhaustion of coping mechanisms explanation for depression. Because self-esteem is correlated with depression, either explanation could account for the results.

**Analysis of the Linear Additive Models**

It was expected that there should be a combined effect of an
individual's personality traits (need to be loved, need to be
good, need to be strong) and of the perceived stress in a life
situation (such as having a difficult child, and so on). Further
the vulnerable person facing the stressful situation would suffer
a loss of self-esteem and would become depressed. It was also
expected that the interrelations among depression, self-esteem,
life situation and personality traits would fit the theoretical
model as specified in Figures 1 and 2 above. According to the
results of the study, self-esteem and life situation do better in
predicting depression than either one alone, but the personality
trait variables do not add to the prediction when added to the
other two predictor variables. The analysis of the model
indicated that although the model did a very good job of
explaining the data, it could be greatly improved with only a few
alterations. These alterations substantially were the inclusion
of a pathway between overall stress and depression and the
dropping of dependency as a variable.

The multiple regression analysis basically substantiated the
results outlined in the above two sections. Self-esteem and
depression correlate moderately which is a replication of an
extensive literature on this subject. Stress produced by the
life situation moderately increases the accuracy of prediction of
depression, whereas the combination of the personality traits
does not increase the accuracy of prediction. The effects of the
Parenting Sense of Competence Scale are lost in the combination
of the three trait measures for the multiple regression analysis.

The path analysis of the model in Figure 3 above indicated
that the model was adequate for describing the data, and there were only a few indications for alterations to the model. The LISREL analysis of the two models determined a moderate to excellent "goodness of fit" for both models, but with some substantial improvement between the two models. Overall, when examining the final models (Figures 4 & 6), they appear to substantially replicate the general model of the interrelations of the four variable groups as presented in Figure 1. Generally life situation and personality traits do causally relate to self-esteem and depression.

When examining the final models (Figures 4 & 6) closely, they are in effect a summary of the separate findings previously commented on. The Dependency variable was dropped from the model; it may be that the Jackson Succorance Scale is not correlated with any of the criterion variables because it is an inadequate measure of dependency. Although the two personality traits of dependency and hostility-guilt do not individually have any impact on depression and self-esteem, hostility-guilt does remain in the model. Thus it appears that hostility-guilt plays an indirect role in the prediction of depression. The last personality trait, measured by the Parenting Sense of Competence Scale, certainly plays a central mediating role in the model for the prediction of depression, a replication of its moderate correlations with self-esteem and depression. Depression and self-esteem are moderately correlated; this relationship is exemplified in the final version of the model (Figures 4 & 6).
Analysis of the Interactional Model

It was expected that there would be a greater relationship between life situation scores and depression scores in those persons attaining high scores on the personality trait measures than in comparison to those persons attaining low scores on these measures. However none of these interactional relationships were verified in the present study. There were no interaction effects found between personality traits and life situation in the prediction of depression or of self-esteem.

These findings are not surprising in light of the fact that two of the personality variables did not correlate with depression or with self-esteem. Nevertheless, parenting competence also failed to interact with life situation. We reiterate: These results fail to confirm Bibring's hypothesis that three preparatory personality traits (fixations to the need to be loved, the need to be good, and the need to be strong) predispose one to depression. Alternative explanations, previously discussed above, may better delineate the causes of depression.

Differences between the Clinic and the Comparison Groups

Although the two groups of women were from substantially different backgrounds, the two groups were quite similar on most of the demographic variables. The clinic group of mothers of difficult children attending at a children's mental health centre was not different from the volunteer or comparison group of mothers on marital status, on age, on number of children, or on
age of youngest or oldest child. The two groups were different from each other on the social status variables, which include occupation and education indices. The comparison group is composed of mothers in a financial assistance program, of mothers attending a community college, and of mothers responding to newspaper or bulletin board advertisements. Although these women differed from each other on age and social status, altogether these women in the comparison group form a group that is like the clinic group except for social status.

The two groups of mothers did not differ from the normative samples for two of the personality traits: the JSS and the MGHI. Because these two personality-trait variables did not relate to depression in the expected manner in the present study, it does not matter that the groups get normal scores on these scales. Both groups of mothers had significantly lower scores on the Parenting Sense of Competence Scale than did the mothers in the normative sample. This too is a surprising result, as the author expected that the clinic group would get higher scores on this scale because the mothers in this group had sought help in dealing with their children. On second thought, we reflect that the PSOC was constructed using first-time mothers of newborn infants, and we hazard the guess that having newborns is more stressful than having older children.

Both groups of mothers, on average, fell within one standard deviation of the mean on the Rosenberg Self-Esteem Measure. Additionally, when examining group means, we discover that neither the clinic group nor the comparison group attained scores
on the Beck Depression Inventory that would place them in the depressed range. These results are surprising for the clinic group because this is contrary to the expectation that mothers seeking help at a children's mental health centre would be experiencing a great deal of stress and should therefore have poorer self-esteem and a greater severity of depression than normal mothers. These results are also contrary to those of Szatmari and others (1986) who found mothers attending at a children's mental health clinic to be depressed. However, these findings are consistent with those of Frank (1974). Contrary to popular opinion, persons seeking professional assistance may actually be an elite group in comparison to the normal population because they are actually using good and positive coping strategies to deal with the stressors or difficulties in their lives and thus may be cognitively and emotionally more able than many others.

Also, because these mothers were assessed shortly after they sought help at the centre, it is possible that they then experienced a great sense of relief and of hope which in turn alleviated their depression and improved their self-esteem. This supposition is supported by the finding that the comparison group had significantly more overall stress than the clinic group had (after the covariates were taken into account). It is likely that the clinic group's overall stress was alleviated by the act of seeking help. It is also possible that Bibring is correct in his assumption that when faced with a frustrating life circumstance, one has the choice among lowering one's goals.
trying harder, or becoming depressed. These mothers, by seeking assistance, were trying harder and thus there was no need to become depressed according to Bibring. Because the author did not measure how long these women had been waiting or how hopeful they felt at the time of the assessment, this issue can not presently be clarified. Certainly any future replications should include these questions.

The clinic group and the comparison group did not differ from each other on two of the personality trait measures, the JSS and the MGHI, but did differ significantly on the third measure, the PSOC. As noted above, the first two variables did not relate to depression and self-esteem as anticipated, which may explain these findings. Of course, the measurement difficulties noted above may also aid in the understanding of the similarity between the two groups on dependency and hostility-guilt. The differences between groups on the PSOC is not surprising at all because the mothers for the clinic group were chosen based on parenting difficulty whereas the mothers for the comparison group were chosen based on an apparent lack of parenting difficulty.

The clinic group and the comparison group did not differ on the 8-item or on the 10-item Life Situations Questionnaire. However, when the questionnaire was divided into two subtests based on the discriminant analysis, the two groups differed significantly on one of these. The two groups differed only on three individual items on this questionnaire, which of course made up the bulk of the subtest that they differed on: Stress from having a difficult child, Stress from one's job as a parent.
with this child, and Stress from a lack of support from others. Again, the two groups should certainly differ on the first two items relating to having a difficult child. Because the clinic group experiences greater stress from a lack of help from others and because they also are of lower social status than the volunteer group, the difference on the stress from a lack of support from others item may merely be due to the inability to afford babysitting or daycare for their children. Nevertheless, even if the explanation just offered is true, these women do experience more stress because they can not get relief from childcare responsibilities.

The two groups did not differ from each other on either the self-esteem or the depression measures. This is an interesting finding. The author expected that the clinic group would have a poorer self-esteem and a greater severity of depression than the comparison group would as a result of their difficulties in raising their children. These mothers theoretically would have felt worse about themselves as a parent which would have dealt a blow to their self-esteem; the lowered self-esteem would in turn lead to greater depression. Although there are no differences between the two groups on self-esteem or depression, there is an interesting clustering of variables that bears further examination. The two groups do differ on their stress related to having a difficult child, with the clinic group feeling stressed from these issues whereas the comparison group is feeling stressed from other issues, such as work stress, marital stress, and overall parenting stress. Although both groups are equally
depressed, they are depressed because of different issues. Thus our assumption that having a difficult child can lead one to depression may still hold. Of course, we are dealing with the perception of having a difficult child and have no knowledge as to whether the children are in fact actually difficult. An external validation of the child's difficult nature would improve the present design and doing so should be taken into consideration in any further research.

Nammi and Davis (1986) found similar results to the above when comparing mothers of handicapped children with mothers of children free of physical disabilities. There were no significant differences between the two groups on six-month or lifetime rates of major depressive disorder. They did find however that the age of onset was earlier in the stressed group. Unfortunately, long-term depression rates were not measured in the present study, nor were they assessed over time. The present design would be improved by the inclusion of these two measurement methods.

Mothers Under Stress

Several of the findings of the present study are consistent with the literature on the effects of stress on mothers. The individual items in the life situation questionnaire that related significantly and uniquely to parenting competence were identified in the LISREL analysis. These were: Overall stress, Overall stress as a parent, Stress from having a difficult child, Marital stress, Stress from having to raise a child alone, and Stress from poor health. The relationship between parenting
competence and stress from having a difficult child is a replication of others' work (Gibaud-Wallston & Wandersman, 1978; Mash & Johnston, 1983). Weinraub and Wolf (1983) found similar correlations between overall stress and parenting ability. Significant correlations between stress from one's life situation and parenting competence were also obtained in the present study.

Only three of the individual items of the Life Situations Questionnaire did not correlate significantly with depression: Stress from a lack of support from the father of one's child; Stress from work; and Stress from a lack of support from others. In a study of maternal depression, some of the greatest differences between groups of depressed and nondepressed mothers under stressful conditions were in the number of friends, the number of social contacts, and the perception of receiving support from these persons or from the community (Habif & Lahey, 1980). It may not be surprising that this relationship was not supported in the present study because only one item was used to assess this variable. It would be recommended that a more comprehensive assessment of social support be included in any future research endeavors. The present finding on work-related stress is contrary to the work of Hoffman (1984) who found that a mother's negative attitude toward work had a negative impact on the family. Although Patterson (Patterson, 1980; Patterson & Cobb, 1973) found that mothers who were without the assistance of their spouses tended to come to feel stressed and depressed, this finding was not corroborated in the present study.

The results for the remaining items of the Life Situations
Questionnaire replicate previous work. Having a difficult child and feeling that one has failed in one's job as a parent with this child were found to correlate significantly with depression; these results agree with the work of Patterson and others (Patterson, 1980; Patterson & Cobb, 1973). The finding that greater depression relates to stress from financial concerns and to lower social status corroborates the work of Levitt and Lubin (1975) reviewed above. Finally, there were replications of others' work on the relationship between marital stress and depression (Ahlstrom & Navighurst, 1971) and on the relationship between stress from being a single parent and depression (Weinraub & Wolf, 1983).

Summary of Findings

The major prediction in this study was that certain personality traits (dependence, hostility-guilt, and incompetence) would predispose a person to depression when that person experiences a frustrating life circumstance. This hypothesis was not supported by the interactional analysis which fails to confirm Bibring's (1953) hypothesis regarding the mechanisms of depression. Alternative theories, such as those of Beck (1967), Seligman (1975), and Heider (1958) may more readily explain the present results.

A secondary hypothesis was that personality traits and life situation would significantly influence self-esteem and depression. Of the personality trait measures, only the PSOC had a significant impact on self-esteem and depression. The MGHI
however was found to have an indirect impact on depression. These results are consistent with those of Billingsley (1986) and of Rado (1951). Stress from one's life situation was found to influence one's self-esteem and to have an impact on the severity of depression. Although not a surprising result, it is helpful to know that if one can control the stressors in one's life, one can then avoid such negative consequences as poor self-esteem and greater depression. Unfortunately, the present study did not shed much light on which type of person tends to become depressed when feeling a stressful life situation.

An auxiliary hypothesis was that a group of mothers attending with their children at a children's mental health clinic would be experiencing greater stress than another group of mothers would. It was felt that this greater stress would cause these women to also have poorer self-esteem and to have a greater severity of depression. This prediction was not supported by the results of the present study. Although one would expect persons seeking help to be emotionally distraught, it is very informative to find out that this may not necessarily be so. It is possible that depression and poor self-esteem need not be taken into account when determining treatment plans for mothers such as these.

**Recommendations for Further Research**

If the present study were to be repeated, the author would suggest several improvements. Many of these suggestions have already been mentioned. First, different measures for dependency and guilt about aggression should be used if available. It is
entirely possible that the measures used in the present study were inadequate for examining long-standing, "predisposing" personality traits. Second, although mothers of difficult children seemed to be a reasonable group for study in the present experiment, other groups might be more appropriate and useful. Such groups as persons experiencing a loss through the death of a spouse, persons undergoing a serious blow to the self-esteem from the loss of a job, or persons who are guilty about their own aggression (persons who voluntarily seek assistance with Family and Children's Services perhaps) may be better choices. Third, one should if possible measure predispositions such as "learned helplessness" or "characteristic logical errors" as well as measuring dependency, hostility-guilt, and sense of incompetence. These additional measures would help to clarify the predisposing personality structures of those persons vulnerable to depression. Also, locus of control measures may assist future researchers to help identify those persons who blame others for their stress and thereby defend against depression.

Those who replicate this study should include additional items to assess how long a mother had been waiting for assistance and how hopeful she was feeling at the time of the assessment. An external validation of the "difficultness" of the child would be useful. The age of the child perceived as difficult would be helpful information. Differences between natural mothers and step-mothers in their attitudes toward the children involved should be examined. A number of questions assessing social isolation/support should replace the single item on stress from a
lack of support from others.

From the results of the present study, several suggestions for further research into this theoretical area can be made. The present study was only a cross-sectional analysis; ideally further studies should examine these issues while taking time into account. Ideally one would assess a large number of mothers prior to their children becoming difficult, and then see if this stressor causes the women to develop depression. In this way the predisposing or vulnerability factors could be more readily determined.

Finally, a time analysis would help us to determine the developmental patterns of depression, such as whether depressed mothers end up having difficult children or whether having a difficult child causes one to become depressed. Additional cyclical information could be determined, such as ascertaining the presence of feedback loops or of time lags between the impact of the predictor variables and depression. Also, this more dynamic time analysis would enable one to describe the cycle of depression as an eternal cycle, as a damped cycle, or as an explosive cycle (Lipsey, Sparks, & Steiner, 1979). This notion takes into account the fact that depression probably is not a static, final event but more likely is constantly in the process of changing. Therefore, the assessment of the samples should occur on a number of occasions to track these alterations or cycles.
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APPENDIX A

CONSENT FORM

1. I, ____________________________, hereby consent to participate in the research investigation which will examine the thoughts and feelings of mothers with difficult children, which is being conducted by Jill Pickett, as part of her requirements for the degree of Doctor of Philosophy from the University of Windsor. Her supervisor for this project is H.I.J. van der Spuy, Ph.D., Head of the Psychology Department at the Chedoke Child and Family Centre. I understand that the purpose of this study is to assess the relationship among three factors: a mother's life situations, her individual personality, and her thoughts and feelings about herself.

2. Jill Pickett, one of the investigators, has explained to me that, if I consent, I will be required to complete a questionnaire lasting approximately twenty minutes which is designed to evaluate the factors mentioned above.

3. I understand that there are no anticipated risks from participating in this study.

4. I understand that there will be no direct benefit to me from participating in this study.

5. I understand that any information that is collected about me during this study will be kept confidential; and that if the results are published, I will not be identified in any way.

6. I understand that I may withdraw from this study at any time, even after signing this form. If I choose not to participate or to withdraw, this will not affect my service at Chedoke-McMaster Hospital.

7. If I have any questions, I may contact Dr. van der Spuy at 521-2100, extension 7297, or Jill Pickett at 521-2100, extension 7326.

-----------------------------------------  -----------------------------------------  -----------------------------------------
Name                                      Signature                                   Date

-----------------------------------------  -----------------------------------------  -----------------------------------------
Witness                                   Signature                                   Date

8. I have explained the nature of the study to the subject and believe she has understood it.

-----------------------------------------  -----------------------------------------  -----------------------------------------
Name                                      Signature                                   Date

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
This questionnaire is to assess your thoughts and feelings about yourself or your situation. There are no right or wrong answers, just whatever is true for you. Simply circle the answer that appears to be most appropriate for you.

If you have any questions while completing this questionnaire, please ask the investigator.
LIFE SITUATIONS QUESTIONNAIRE

1. Date of Birth: ____________________________
   Year  Month  Day

2. What is your Marital Status? (eg. Married, Divorced)
   ___________________________________________

3. Please list the dates of birth and sexes of your children.

   Year  Month  Male/Female
   Year  Month  Male/Female
   Year  Month  Male/Female
   Year  Month  Male/Female
   Year  Month  Male/Female
   Year  Month  Male/Female

4. What is your occupation? (Please be exact and state what you
   do for a living rather than where you work)
   ___________________________________________

5. How much education have you completed? (For example, state
   last grade completed or if you finished high school or have a
   university degree.)
   ___________________________________________

6. What is your spouse's occupation? (Please be exact in a
   similar manner to Q. #4. If you are single, just write Not
   Applicable).
   ___________________________________________
7. How much education does your spouse have? (Please be exact in a similar manner to Q. #5. If you are single, just write Not Applicable).

Circle one answer only:

8. Overall, how much stress are you now under in your life? (Eg., I feel under ...)

No Stress A Little Some Quite a Lot A Great Deal
At All Stress Stress Stress of Stress of Stress

9. How much stress are you under from being a parent?

No Stress A Little Some Quite a Lot A Great Deal
At All Stress Stress Stress of Stress of Stress

10. How much stress are you under from your own physical health?

No Stress A Little Some Quite a Lot Extremely
At All, Stress Stress Stress of Stress Stressful
Excellent Health

11. Thinking of your most difficult child, how difficult is it for you to raise this child?

No Difficulty A Little Somewhat Very Extremely
At All, Difficult Difficult Difficult Difficult

12. How successful do you feel in doing your job as parent with this child?

Extremely Very Somewhat A Little Totally
Successful Successful Successful Successful Unsuccessful
As Parent As Parent As Parent As Parent As Parent

13. How many hours through a week do you receive direct help with childcare from your child's father?

Many Hours Several Hours Few Hours Couple No Does
of Help of Help of Help Hours Help Not
of Help At All Apply

14. How stressful do you find money matters?

No Stress A Little Somewhat Quite a Bit Extremely
At All, Stressful Stressful Stressful Stressful
No Money Problems Money is a Problem

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15. How many hours through a week do you receive direct help with childcare from someone other than your child's father, such as your mother, neighbour, or so on?

Many Hours  Several Hours  A Few Hours  A Couple  No Help
of Help      of Help      of Help      of Hours  At All
of Help

16. How much stress are you under from your marriage?

No Stress  Little  Some  Quite a Lot  A Great  Does
At All,     Stress  Stress  of Stress  Deal of  Not
Supportive

17. How stressful do you find your job?

No Stress  Little  Some  Quite a Lot  A Great Deal  Does
At All,     Stress  Stress  of Stress  of Stress  Not
Work is a
Relief

18. How stressful is it to be single and to have to raise your children alone?

No Stress  Little  Some  Quite a Lot  A Great  Does
At All    Stress  Stress  of Stress  Deal of  Not
Stress    Apply
APPENDIX C

STRUCTURAL EQUATIONS FOR THE MODELS

Structural Equations for the Model in Figure 3

\[ Y_1 = p_{1a} X_a + p_{1b} X_b + p_{1c} X_c + p_{1d} X_d + p_{1e} X_e + p_{1f} X_f + p_{1g} X_g + p_{1h} X_h + p_{1u} R_u \]

\[ Y_2 = p_{21} Y_1 + p_{2e} X_e + p_{2f} X_f + p_{2g} X_g + p_{2i} X_i + p_{2k} X_k + p_{2m} X_m + p_{2v} R_v \]

\[ Y_3 = p_{32} Y_2 + p_{31} Y_1 + p_{3a} X_a + p_{3c} X_c + p_{3f} X_f + p_{3g} X_g + p_{3h} X_h + p_{3k} X_k + p_{3w} R_w \]

Structural Equations for the Model in Figure 4

\[ Y_1 = p_{1a} X_a + p_{1b} X_b + p_{1c} X_c + p_{1d} X_d + p_{1e} X_e + p_{1f} X_f + p_{1g} X_g + p_{1h} X_h + p_{1i} X_i + p_{1u} R_u \]

\[ Y_2 = p_{21} Y_1 + p_{2e} X_e + p_{2f} X_f + p_{2j} X_j + p_{2k} X_k + p_{2i} X_i + p_{2v} R_v \]

\[ Y_3 = p_{32} Y_2 + p_{31} Y_1 + p_{3a} X_a + p_{3c} X_c + p_{3f} X_f + p_{3g} X_g + p_{3w} R_w \]

Key to labeling of variables:

- \( X_a \) = Overall stress
- \( X_b \) = Overall stress as a parent
- \( X_c \) = Difficult child
- \( X_d \) = Stress from money matters
- \( X_e \) = Stress from marriage
- \( X_f \) = Stress from poor health
- \( X_g \) = Stress from raising child alone
- \( X_h \) = Stress from lack of support
- \( X_i \) = Social status
- \( X_j \) = Age
- \( X_k \) = Dependency
- \( X_m \) = Guilt about hostility
- \( X_v \) = Parenting competence
- \( Y_1 \) = Self-esteem
- \( Y_2 \) = Depression

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APPENDIX C (Continued)

Structural Equations for the Model in Figure 5

\[ Y_1 = p_{1a}X_a + p_{1b}X_b + p_{1c}X_c + p_{1d}X_d + p_{1e}X_e + p_{1f}X_f + p_{1g}X_g + p_{1w}R_w \]
\[ Y_2 = p_{21}Y_1 + p_{2e}X_e + p_{2f}X_f + p_{2w}X_w + p_{2v}R_v \]
\[ Y_3 = p_{32}Y_2 + p_{3e}X_e + p_{3f}X_f + p_{3g}X_g + p_{3h}X_h + p_{3w}R_w \]

Structural Equations for the Model in Figure 6

\[ Y_1 = p_{1a}X_a + p_{1b}X_b + p_{1c}X_c + p_{1d}X_d + p_{1e}X_e + p_{1f}X_f + p_{1g}X_g + p_{1w}R_w \]
\[ Y_2 = p_{21}Y_1 + p_{2e}X_e + p_{2f}X_f + p_{2h}X_h + p_{2v}R_v \]
\[ Y_3 = p_{32}Y_2 + p_{31}Y_1 + p_{3a}X_a + p_{3c}X_c + p_{3d}X_d + p_{3f}X_f + p_{3w}R_w \]

Key to labeling of variables:

- \( X_a \): Overall stress
- \( X_b \): Overall stress as a parent
- \( X_c \): Difficult child
- \( X_d \): Stress from money matters
- \( X_e \): Stress from marriage
- \( X_f \): Stress from poor health
- \( X_g \): Stress from raising child alone
- \( X_h \): Stress from lack of support
- \( X_l \): Social status
- \( X_1 \): Age
- \( X_v \): Dependency
- \( X_m \): Guilt about hostility
- \( Y_1 \): Parenting competence
- \( Y_2 \): Self-esteem
- \( Y_3 \): Depression
APPENDIX D

Decomposition of the Causal and Noncausal Covariance of the Bivariate Relationships for the Revised Model in Figure 4

<table>
<thead>
<tr>
<th>Bivariate Relationship</th>
<th>a Total Covariance (A)</th>
<th>b Direct Covariance (B)</th>
<th>Causal Indirect Covariance (C)</th>
<th>Total Covariance (D=B+C)</th>
<th>Noncausal A - D</th>
</tr>
</thead>
<tbody>
<tr>
<td>( Y_2X_j )</td>
<td>.19</td>
<td>( r_{2j} = .19 )</td>
<td>none</td>
<td>.19</td>
<td>none</td>
</tr>
<tr>
<td>( X_0X_i )</td>
<td>.18</td>
<td>( r_{0i} = .18 )</td>
<td>none</td>
<td>.18</td>
<td>none</td>
</tr>
<tr>
<td>( X_4X_i )</td>
<td>.19</td>
<td>( r_{4i} = .19 )</td>
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<td>.19</td>
<td>none</td>
</tr>
<tr>
<td>( X_3X_i )</td>
<td>.24</td>
<td>( r_{3i} = .24 )</td>
<td>none</td>
<td>.24</td>
<td>none</td>
</tr>
<tr>
<td>( X_0X_i )</td>
<td>.10</td>
<td>( r_{0i} = .10 )</td>
<td>none</td>
<td>.10</td>
<td>none</td>
</tr>
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Appendix D (Continued)

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<th>Bivariate Relationship</th>
<th>Covariance (A)</th>
<th>Direct (B)</th>
<th>Indirect (C)</th>
<th>Total (D=B+C)</th>
<th>Noncausal A - D</th>
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<td>Y3Xα</td>
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Key to labeling of variables:

- **Xα**: Overall stress
- **Xb**: Overall stress as a parent
- **Xc**: Difficult child
- **Xd**: Money stress
- **Xe**: Marriage stress
- **Xf**: Health stress
- **Xg**: Stress from raising child alone
- **Xh**: Stress from lack of support
- **Xl**: Social status
- **Xj**: Guilt about hostility
- **Y1**: Incompetence as a parent
- **Y2**: Self-esteem

- **b** = (ξij), total covariance as standardized by the variances of the variables.
- **c** = (Ci,j), computed total effect coefficients.

\[
d = (p_{1a})(p_{1a}) + (p_{1i})(p_{1d}) + (p_{2i})(p_{2j}) + (p_{mj})(p_{mj})
\]

\[
e = (p_{1a})(p_{1a})(p_{21}) + (p_{2i})(p_{1d})(p_{21}) + (p_{3j})(p_{1j})(p_{21}) + (p_{3j})(p_{2j})
\]

\[
f = (p_{1a})(p_{21})(p_{31}) + (p_{2i})(p_{31}) + (p_{2j})(p_{32})
\]

\[
g = (p_{1a})(p_{21})(p_{32}) + (p_{1f})(p_{31}) + (p_{2f})(p_{32})
\]

\[
h = (p_{1a})(p_{21})(p_{32}) + (p_{1a})(p_{21})
\]
APPENDIX E
TWO ADDITIONAL REVISED MODELS

Revised model of the interrelations among the four variable groups including additional pathways to self-esteem.

Overall stress ($X_\alpha$)

Overall stress as a parent ($X_\beta$)

Difficult child ($X_\gamma$)

Money stress ($X_\delta$)

Marriage stress ($X_\epsilon$)

Health stress ($X_\zeta$)

Stress from raising child alone ($X_\eta$)

Stress from lack of support ($X_\iota$)

Social status ($X_\upsilon$)

Guilt-about-hostility ($X_\pi$)

Incompetence as a parent ($Y_1$)

Depression ($Y_3$)

Self-esteem ($Y_2$)
Revised model of the interrelations among the four variable groups including overall stress as a parent as a mediating variable.
APPENDIX F
RAW DATA

Column Description
1 Group: (1) Clinic (2) Comparison
2,3 I.D. Number
4 Marital Status: (1) Married (2) Separated or Divorced
           (3) Never Married (4) Widow
5,6 Age
7,8 Number of Children
9,10,11 Age of Youngest Child (in months)
12,13,14 Age of Oldest Child (in months)
15 Education Index
16 Occupation Index
17,18 Hollingshead Two-Factor Index
20-30 Items #8-#18 inclusive of the Life Situations Questionnaire
32,33 Total Score of Life Situations Questionnaire
34,35 Parenting Sense of Competence Scale
36,37 Rosenberg Self-Esteem Measure
38,39 Beck Depression Inventory
40,41 Jackson Succorance Scale
42,43 Mosher Guilt-about-Hostility Inventory
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