1998

Prenatal predictors of postnatal distress and depression

Ester S. German

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PRENATAL PREDICTORS OF POSTNATAL DISTRESS AND DEPRESSION

Ester S. German

A research thesis submitted in partial fulfilment of the requirements for the Doctor of Philosophy (Clinical Psychology) degree at the University of Wollongong.

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ABSTRACT

The aims of the study were to explore the prenatal predictors of postnatal distress and depression and to empirically test an attachment derived model of postnatal distress. This is a longitudinal prospective study that used a convenience sample of 133 pregnant women in the community. Postnatal distress was defined as a dysphoric state, measured by anxiety and depression following childbirth. A number of hypotheses and questions of interest were posited. The prenatal predictors of postnatal distress were found to be general symptomatology, mother idealization (at 6 weeks postpartum), and previous depression (at 6 months postpartum); 52% of clinical cases and 95% of non-clinical cases were predicted with an overall correct prediction of 84%. Postnatal distress (6 weeks postpartum) accounted for 22% of the variance of postnatal clinical disorders (6 months postpartum). The prevalence of postnatal minor and major depression combined was 17.5%. Highly anxious mothers tended to have a previous history of psychological problems, an unplanned pregnancy and were not breastfeeding.

The variables selected were consistent with attachment concepts and previous research findings. The relationships between a vulnerable sense of self (i.e. low self-esteem, high preoccupation with relationships, high mother idealization, low attachment, and low mother acceptance), birth experience and postnatal distress were explored using structural equation modeling. Attachment theory indicates that resilience or vulnerability can predict distress and mental illness when people are under conditions of stress. Several hypotheses were tested, employing a predictable stressful event (childbirth) and using measures of postnatal distress (at 6 weeks and 6 months) and clinical status (6 months). Vulnerability and resilience were defined as conditions that promote maladaptation while protective factors promote competent adaptation, even in difficult circumstances. Protective factors may provide a compensatory mechanism or influence at different levels of risk. Consequently,
protective factors mediate the influence of risk factors in a dynamic interaction. Partial support was found for the resilience-vulnerability model that offered marginally acceptable levels of fit. A vulnerable sense of self predicted higher postnatal distress while a resilient sense of self predicted low postnatal distress. Birth experience was disconfirmed as a mediator between sense of self and postnatal distress. Unplanned pregnancy predicted higher levels of postnatal distress. Obstetric loss had an indirect negative impact on postnatal distress.

The implications and clinical applications of this research in the area of prevention of maternal distress are discussed. Suggestions for future research are indicated.
DECLARATION

I declare that this thesis does not incorporate without acknowledgement any material previously submitted for a degree in any University, College of Advanced Education or other education institution; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

I further declare that the ethical principles and procedures specified by the University of Wollongong’s document on human research and experimentation have been adhered to in the preparation of this thesis.

Ester S. German
ACKNOWLEDGEMENTS

I am sincerely indebted to many dedicated people who in different ways made this thesis a reality. My sincere appreciation is extended to my husband Eli German whose sophisticated computer skills facilitated the production of this manuscript. I would like to thank him for being an excellent companion during the 8 years that I spent in completing my postgraduate studies in Psychology. He generously provided me with emotional and material support.

Staff members at the University of Wollongong offered constructive feedback, guidance and inspiration. I wish to thank my supervisors Dr Rachael Henry and Assoc. Prof. Linda Viney for their advice, patience, and thorough reviews of the numerous drafts of this thesis. I extend my gratitude to Peter Caputi and Patrick Rawstorne for their invaluable assistance concerning statistics used in this study. I would like to acknowledge Norma Tracey and Beulah Warren for their generosity in sharing their time, ideas and references.

I owe a special debt of gratitude to my parents, Sara and Solomon who provided many hours of grandparents’ tender care to my daughters, Amy and Sophia while I spent time in the different stages of this research. This manuscript is dedicated to the memory of my dear father who died just days before it was ready for submission.

Lastly, all the pregnant women who participated in the study deserve to be acknowledged for their patience to fill in questionnaires and for sharing their experiences with me. Their time and effort in helping me complete the study have been an essential contribution.

To all of you thank you so much for trusting in me.

Ester S. German
CHAPTER 1: OVERVIEW

The prevention of maternal distress and depression are of concern to this research. This study is interested in the early detection of vulnerability, risk and protective factors during pregnancy so preventive strategies can take place to minimize maternal and infant poor health outcomes. A high proportion of women suffers from a mild to severe psychological reaction following childbirth. The condition distresses the mother and impairs her emotionally and socially. Family and society are negatively affected as well. The aim of this study was to understand more about the antenatal predictors and the associated factors of postnatal distress and depression. The research program attempted to overcome some of the difficulties in existing research by the use of a prospective, longitudinal design. The use of self-report measures provided quantitative data and a semi-structured interview provided information about the prevalence of postnatal distress at 6 weeks postpartum and clinical conditions at 6 months postnatally.

Chapter 1 outlines a general overview of the eight chapters that this thesis comprises.

Chapter 2 describes the clinical syndrome of depression and its classification based on the two most well known diagnostic systems. After that, it reviews some epidemiological information regarding depression. Chapter 2 presents useful concepts and definitions of depression as both a clinical disorder and a mood state. Several techniques for the classification of depression are outlined. Incidence and prevalence of depression are examined. It is noted that all major theories propose partial, limited explanations of this complex phenomenon. The variables they highlight, whether they are psychological or biological, current or past, within the individual, her relationship with significant others or with the socioeconomic context are thought provoking. The contributory roles of early trauma, intrapsychic and social and biological factors are presented. This chapter provides a
general overview of depression so that we can further explore it in the context of women’s prenatal and postnatal phases. A summary of etiological theories of depression is presented at the end of this chapter.

Chapter 3 discusses psychological aspects of pregnancy. It presents pregnancy as a maturational crisis and life transition that involves a set of hormonal, physical, relationships and psychological changes. As a crisis, it has potential for healthy adjustment, maturation and a higher integration as well as for difficulties and unhealthy adjustment. The literature about prenatal risk factors is explored. I will argue in this thesis that if these vulnerabilities are detected early, preventive interventions can take place and, therefore, the prevention of perinatal psychological difficulties may be possible. In this chapter, psychological changes that take place in uncomplicated pregnancies are reviewed. The way in which conscious and unconscious motivations interact in the wish to have a child is highlighted. Different stages of pregnancy with their typical anxieties and psychological tasks are discussed. Normative emotional changes, anxieties and complaints in pregnant women are described. The “mother mystique” is presented as a manifestation of society’s idealization of pregnancy and motherhood and the denial of ambivalence. The chapter continues with a description of risk factors associated with prenatal and postnatal distress. A review of the relevant literature on anxiety as a function of normative psychological processes during pregnancy or an indication of underlying psychopathology is presented.

Chapter 4 presents an overview of the current debate regarding postnatal depression as a unique and distinctive phenomenon. It outlines two different perspectives dealing with the classification of psychological distress. Then, factors identified in empirical studies related to postnatal distress and depression are reviewed. Finally, a rationale for the empirical study reported in this thesis is presented, making explicit the assumptions underlying the research. Chapter 4 provides an overview of current issues associated with
postnatal depression noting the many conflicting findings and current confusion in the field. Yet, it is important that we continue to investigate postnatal distress as a source of discontent for women and their families. Using a prospective longitudinal design and complex multivariate analyses the aim of this empirical study aims was to understand more about distress and clinical depression so prevention of maternal distress can take place. The chapter closes with a review of the relevant literature in the area. It is highlighted that comparison between studies is complicated by the lack of clarity, and different theoretical perspectives and methodologies that coexist in existing research.

Chapter 5 presents the methodology of the study conducted. In brief, this is a longitudinal prospective study that used a convenience sample of 133 pregnant women in the community. Recruitment took place in different public and private antenatal clinics and other maternity-related facilities. Data collection took over two years to be completed and was done solely by the investigator. The first set of data collection took place during the last trimester of pregnancy. The second set of data collection was done at 6 weeks after delivery. The last wave of data collection was completed at 6 months postnatally. Measures included a combination of self-report questionnaires and a semi-structured clinical interview. The complete demographic information of the sample is presented first, followed by obstetric, childbirth and postpartum information. After that, the research instruments used with their psychometric properties are summarized. The aims, research questions and hypotheses are presented at the end of the chapter.

Chapter 6 provides a brief description of the statistical methods used to analyze the data collected and the results obtained by the use of descriptive and inferential statistics. The primary methods of data analysis used include descriptive statistics, t tests, chi square, correlation analysis, multivariate analysis of covariance, multiple regression analysis and structural equation modeling. A conceptual model of postnatal distress using attachment and
developmental psychopathology theoretical constructs was developed and empirically tested. Results are presented at the end of Chapter 6.

Results are displayed in the following order: First, the correlates of postnatal distress during pregnancy, 6 weeks and 6 months postpartum are presented. Second, differences between and within anxiety and depression groups are investigated, after controlling for initial levels of anxiety and depression, respectively. The prevalence of distress at 6 weeks postpartum as well as the prevalence of clinical disorders at 6 months postpartum are presented. Following that, the pregnancy predictors of postnatal distress at 6 weeks and 6 months postpartum are investigated. Next, the prenatal and perinatal predictors of clinical diagnosis are noted. The chapter concludes with the empirical test of the conceptual model of postnatal distress.

Major findings of this investigation are discussed and contrasted with previous research findings in chapter 7. Chapter 7 offers a critical evaluation of the study, with some suggestions to improve its power and the confidence of results.

In the final chapter of this thesis, some of the concepts and important issues involved in the prevention of maternal distress are outlined. Some of the difficulties associated with preventive strategies are noted. The chapter finishes with some recommendations based on the existing literature and the empirical study conducted. Clinical implications and further research topics are suggested.
CHAPTER 2: DEPRESSION

The term depression has many meanings. It can refer to an emotional affective state (transitory mood, dysphoria), an illness (syndrome) or a symptom of other illnesses. Angold (1988) listed eight different ways in which the term “depression” can be used: (1) as the low end of normal mood variations, (2) as psychic pain in response to an unpleasant event or situation, (3) as a characteriological trait, (4) as a symptom, (5) as a syndrome, (6) as a disorder, (7) as a disease and, (8) as a cause of impairment, handicap or disability.

Depression as a transitory emotion can be conceptualized as a state of sadness and lowering of activities, psychological and social withdrawal. Depression as an illness is defined as a clinical syndrome {*}, that is a collection of symptoms meeting clinically significant criteria. Depression can also be a secondary or associated feature of other conditions, that is when the primary disorder is, for example, dementia or alcoholism and depression is the result or consequence of those conditions or an associated feature.

Depression as a clinical syndrome can be classified according to its etiological factors or its course. Feminists, psychiatrists, neuroendocrinologists, psychologists and biological researchers all offer explanations to account for this intriguing and complex phenomenon. In this chapter, I will outline the clinical syndrome of depression and its classification based on the two most well known diagnostic systems {**}.

{*} The word syndrome refers to a collection of symptoms that cluster indicating the existence of a disorder. Derives from the Greek word sindrome, which means a running together.

After that, I will review some epidemiological information regarding depression. I will then examine major theories of depression. At the end of this chapter, a summary of different perspectives in depression will be presented.

Depression: Concepts and Definitions

Depression as a Mood

Being depressed refers to an emotional experience characterized by feelings of sadness and demoralization. Depression presents as associated with adjectives such as unhappy, blue, distressful, joyless, miserable, despondent, down, low, teary, lonely, sullen, and humorless. The state of being distressed is especially relevant in this thesis. The differentiation and definition of terms will be explained elsewhere (see Chapter 5). The term distressed appears in relation to feeling troubled and upset.

Mood is defined as “a pervasive and sustained emotion that in the extreme, markedly colors the person’s perception of the world” (DSM III-R, 1987, p. 401). Mood can be classified as euphoric (when it is elevated), dysphoric (negative, unpleasant) and euthymic or normal. A depressive episode is classified as a mood disorder as the depressed mood or lack of interest are the main essential features. Therefore, depression is part of the normal repertoire of human emotions but sometimes is also a disorder, a mood disorder. There are still some controversies regarding whether there is a continuum between sadness and depression as an affective state and depression as a clinical syndrome or whether the clinical syndrome is a distinct event (Coyne, 1986).

Depression is considered a disorder when the criteria of clinical significance are met. Severity, duration and impairment are usually the parameters of clinical significance. The existence of essential and associated features in a given period of time producing sufficient distress or impairment constitutes the criteria of significance. When the person’s mood
(sustained emotion) can be characterized as irritable, sad, depressed or lacking in interest and pleasure for a period of at least 2 weeks and presents with other associated features, she is said to suffer from a depressive disorder. She presents with symptoms consistent with a diagnosis established by DSM IV (see Table 2). There is also a marked and significant deterioration of the individual’s functioning. Criteria for different classification systems differ in the emphasis being placed on subjective distress, impairment in social functioning, duration of symptoms or severity of impairment (Coyne, 1986).

If feelings of despondency and sadness are temporary and do not affect psychological functioning greatly, they do not constitute a problem. Clinical psychologists and psychiatrists generally use the term depression to denote the clinical syndrome, the collection of symptoms, which they treat. A clinically significant depression will be defined and examined next in this chapter.

Depressive symptoms are markers or points on a continuum of a scale. They can be evaluated as mild, moderate or severe. A clinical diagnosis of depression, a mood disorder is a dichotomous variable, marked by the presence or the absence of it. Levels of symptomatology are usually measured by self and other (clinician, parent, teacher) reports (Muñoz & Ying, 1993). A diagnosis of clinical depression is made using research and diagnostic criteria of systems such as the Schedule for Affective Disorders and Schizophrenia (SADS, Endicott & Spitzer, 1978) which provides Diagnostic and Statistical Manual (DSM) and International Classification of Diseases (ICD) diagnosis.

The relationship between levels of depressive symptoms and depression as a clinical entity has been explored (Lewinsohn, Hoberman & Rosembaum, 1988). High levels of dysphoria can lead to a depressive disorder in conjunction with other factors. However, elevated symptom scores are correlated with diagnosis of depression in less than half of cases. A dysphoric mood may be a non-specific risk factor for the development of several
different disorders in vulnerable people challenged by stressful events. This is of concern in the study reported in this thesis. A major contention of this thesis is that preventive strategies in pregnancy may reduce maternal distress and clinical disorders. The role of preventive strategies to either decrease risks factors or to enhance individual resilience is important in the prevention of high levels of dysphoric states which may lead to the development of clinical disorders (Muñoz & Ying, 1993). High levels of depressive symptomatology can be an indication of a pre-clinical depression. Depression has many complications: vocational role performance, alcohol and drug abuse, personality and family dysfunction, social impairment and suicidal behavior (Thase, 1990). Depression in mothers may also affect children’s health (Pound, 1997).

Depression as a Clinical Syndrome

*DSM IV* characterizes a depressive episode as the presence of certain symptoms (considered as manifestations of an underlying disturbance) for a 2 weeks period, representing a significant change from the level of functioning previously achieved. The landmarks of the depressive condition are either a depressed mood or anhedonia (loss of interest and pleasure). Other common features are lack of emotional reactivity to pleasant and enjoyable activities, insomnia or hypersomnia, fatigue, somatic concerns, loss of sexual drive, loss of appetite, difficulties in concentration and indecisiveness and suicidal ideas, plans or actions. The *ICD-10* system also requires a minimum of 2 weeks for diagnosis but states “shorter periods may be reasonable if symptoms are unusually severe and of rapid onset” (p. 120).

Symptoms of depression can be further classified according to the principal areas they affect. For example, they can be grouped as cognitive impairment, affective disturbance, physical difficulties and behavioral deficits. They can also be seen as disturbances in the
vegetative, behavioral, cognitive and mood systems or dimensions (Radloff, 1986). Indecisiveness, difficulties in concentration and memory are common difficulties in the cognitive area. Withdrawal, slowness in movement (psychomotor retardation) or speech are illustrations of behavioral responses. Low self-esteem, self-reproach and inappropriate guilt are common affective symptoms. Table 1 adapted from Klerman, Weissman, Rounsaville and Chevron (1984) outlines prominent symptoms of the depressive syndrome.

Table 1: Manifestations of Depression

<table>
<thead>
<tr>
<th>AREAS</th>
<th>MANIFESTATIONS</th>
</tr>
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<tbody>
<tr>
<td>Affective</td>
<td>Depression, anxiety, irritability, anger, hostile feelings</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Retardation of speech and thought, agitation, crying</td>
</tr>
<tr>
<td>Attitudes toward self</td>
<td>Low regard and self-esteem, self-reproach, guilt, suicidal ideas, intentions or actions</td>
</tr>
<tr>
<td>Attitudes toward environment</td>
<td>Pessimism, hopelessness</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>Impaired ability to think or concentrate</td>
</tr>
<tr>
<td>Physiological changes</td>
<td>Impaired appetite, sleep, ability to experience pleasure, loss of interest and energy. Melancholic features (DSM IV) or somatic symptoms (ICD-10) (see Table 2).</td>
</tr>
</tbody>
</table>

Adapted from Klerman et al. (1984, p. 31).

The International Classification of Diseases (ICD) 10th Edition (World Health Organization, 1993, p. 119) provides diagnostic guidelines for a depressive episode:

The individual usually suffers from depressed mood, loss of interest and enjoyment, and reduced energy leading to increased fatigue and diminished activity (..) other common symptoms are:
a) Reduced concentration and attention;
b) Reduced self-esteem and self-confidence;
c) Ideas of guilt and unworthiness (even in a mild type of episode);
d) Bleak and pessimistic views of the future;
e) Ideas or acts of self-harm or suicide;
f) Disturbed sleep;
g) Diminished appetite.

Additionally, some people develop somatic or melancholic features. Those features are listed in Table 2:

Table 2: Melancholic and Biological Features of Depression

<table>
<thead>
<tr>
<th>DSM IV AND ICD-10 DESCRIPTORS</th>
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<tr>
<td>Loss of interest and pleasure in enjoyable activities</td>
</tr>
<tr>
<td>Lack of reactivity to pleasure events and surroundings</td>
</tr>
<tr>
<td>Early morning waking</td>
</tr>
<tr>
<td>Depression characterized at its worst in the morning</td>
</tr>
<tr>
<td>Psychomotor agitation/retardation (observed or noted by significant others)</td>
</tr>
<tr>
<td>Marked lack of appetite and weight reduction</td>
</tr>
<tr>
<td>Marked loss of sexual energy</td>
</tr>
<tr>
<td>Excessive guilt</td>
</tr>
<tr>
<td>Distinct quality of mood (not just temporary sadness)</td>
</tr>
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</table>

DSM IV requires five symptoms (anhedonia and lack of reactivity are essential) while ICD-10 requires four symptoms. Loss of libido is noted only in ICD-10. Guilt and distinct quality of mood are noted in DSM IV only.
Classification

The Oxford Textbook of Psychiatry (1996) classifies depression according to its etiology and its course. Etiologically, depression can be grouped as endogenous or reactive, neurotic or psychotic, primary or secondary. Using clinical course criteria, depression can be designated as unipolar or bipolar. Postnatal, involutional and senile are terms used to refer to depressive episodes occurring at particular times of the life cycle.

The term endogenous is used to refer to an episode that has internal rather than external causes. It is based on Kraepelin’s biological conceptualization and emphasizes the melancholic features. Melancholia is a term used to refer to the organic and biological concomitants of some depressive episodes such as early morning wakening or sleep/appetite disturbances. These features are classified as “melancholic features” in DSM IV and “with somatic symptoms” in ICD-10 (see Table 2). It was believed that endogenous depression was not triggered by external stressful events but purely internal factors. Somatic treatments such as antidepressant medication or electroconvulsive therapy are more effective in the treatment of endogenous depression (Thase, 1990) as opposed to reactive depression, which is more amenable to psychosocial interventions. The endogenous depression concept has been challenged on research and practical grounds (Gelder, Gath, Mayou & Cowen, 1996).

Reactive depression has been conceptualized as a milder form of depression triggered by external factors without the somatic, melancholic features. The conceptual construct reactive-neurotic depression has being contrasted to melancholic-psychotic-endogenous depression (Coyne, 1986).

Neurotic depression is a term used to define a long-standing depression in which there are not the major distortions in cognitive and perceptual processes characteristic of a psychotic depression. Symptoms and severity are used to distinguish between the two. Neurotic depression is characterized by its reactivity, precipitation by stressful events,
hysterical features, hypochondriasis, immaturity and feelings of irritability, self-pity and inadequacy (Winokur, 1986, p. 431). In contrast, endogenous depression is differentiated by the presence of previous episodes and the vegetative signs.

Depression can be further classified as a primary or secondary disorder, the latter term being used when it presents after the diagnosis of an endocrine disorder (i.e. Cushing’s disease), infectious brain pathologies or after some other primary psychiatric disorder such as anxiety or drug related disorders.

The term bipolar refers to the alternation between the two mood episodes: depression and mania{*}. This contrasts with unipolar when either depression or mania is prevalent. The Oxford Textbook of Psychiatry proposes a systematic scheme for the clinical description of mood disorders. This classification is based on onset, course, severity and the unique contribution of internal and external factors in the episode.

Classifications are attempts to simplify complex phenomena. Boundaries are not so clear in practice. For example, a depressive episode is often preceded by an excess of stressful life events (Paykel, 1979). Both endogenous and reactive depression, appear to be connected with difficult external events. The specificity of this factor is disputable, as stressful situations are also present in other disorders and they do not always generate psychopathology. Social support may buffer the distressing effects of difficult events.

Another illustration of the difficulties presented clinically is the high co-morbidity (co-existence of two or more disorders) of anxiety and depression (den Boer & Ad Sitsen, 1994). A common underlying pathological neuroticism factor has been proposed (Andrews, Peters & Teeson, 1990; Joyce, 1994). Others are cautious in separating the two clinical entities (Greenberg, Vazquez & Alloy, 1988): “pure anxiety and pure depression may be

{*} An episode of mania is characterized by a persistently elevated, expansive or irritable mood lasting for one week and three other associated features such as grandiosity, decreased need to sleep, psychomotor agitation, racing thoughts and an increase of activities.
distinctly different conditions, whereas states that combine severe anxiety and depression are more likely to be variants of a depressive disorder” (Hoen-Saric & McLead, 1994, p. 128).

The debate whether anxiety and depression are distinct or similar clinical events has not been resolved yet. Only a few terms have been kept in use because of their clinical relevance. They are primary and secondary depression and unipolar and bipolar disorders. In fact, in the classificatory systems the terms endogenous and reactive are no longer used.

Episodes of depression are usually self-limited with an onset and offset. They last for about six months (Muñoz & Ying, 1993). They can be recurrent, following a cycle of depressed and manic episodes or they can follow a seasonal pattern.

Tables 3 and 4 outline ICD-10 and DSM IV nosological systems respectively, in relation to mood (affective disorders). This thesis is concerned with episodes of increased depressive symptomatology (as indications of possible sub-clinical presentations) and unipolar clinical depression occurring postnatally.

It can be seen from Tables 3 and 4 that there are some similarities and differences between the two classificatory systems:

(1) There is not a differentiation between endogenous and reactive depression.

(2) Severity is no longer considered a discriminant between types of depression.

(3) There is not a differentiation between endogenous and reactive depression.

(4) Specifiers apply for somatic, psychotic and patterns such as postpartum onset or seasonal pattern. Postnatal depression is not recognized as a distinct diagnosis by the main classificatory systems. This is of importance for this thesis. This point will be discussed further in chapter 3.
**Table 3: International Classification of Diseases-10th edition**

<table>
<thead>
<tr>
<th>MOOD DISORDERS</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manic episode</td>
<td>Hypomania</td>
</tr>
<tr>
<td></td>
<td>Mania without psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Other manic episodes</td>
</tr>
<tr>
<td></td>
<td>Manic episode, unspecified</td>
</tr>
<tr>
<td>Bipolar affective disorder</td>
<td>Bipolar affective disorder, current episode hypomanic</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode manic without psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode manic with psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode mild or moderate depression</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode severe depression without psychotic</td>
</tr>
<tr>
<td></td>
<td>symptoms</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode severe depression with psychotic</td>
</tr>
<tr>
<td></td>
<td>symptoms</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, current episode mixed</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, currently in remission</td>
</tr>
<tr>
<td></td>
<td>Other bipolar affective disorders</td>
</tr>
<tr>
<td></td>
<td>Bipolar affective disorder, unspecified</td>
</tr>
<tr>
<td>Depressive episode</td>
<td>Mild depressive episode</td>
</tr>
<tr>
<td></td>
<td>Without somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>Moderate depressive episode</td>
</tr>
<tr>
<td></td>
<td>Without somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>Severe depressive episode without psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Severe depressive episode with psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Other depressive episodes</td>
</tr>
<tr>
<td></td>
<td>Depressive episode, unspecified</td>
</tr>
<tr>
<td>Recurrent depressive disorder</td>
<td>Recurrent depressive episode, current episode mild</td>
</tr>
<tr>
<td></td>
<td>Without somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>Recurrent depressive episode current episode moderate</td>
</tr>
<tr>
<td></td>
<td>Without somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>With somatic symptoms</td>
</tr>
<tr>
<td></td>
<td>Recurrent depressive episode current episode severe without psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Recurrent depressive episode current episode severe with psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Recurrent depressive episode currently in remission</td>
</tr>
<tr>
<td></td>
<td>Other recurrent depressive disorders</td>
</tr>
<tr>
<td></td>
<td>Recurrent depressive disorder, unspecified</td>
</tr>
<tr>
<td>Persistent mood (affective)</td>
<td>Cyclothymia</td>
</tr>
<tr>
<td>disorders</td>
<td>Dysthymia</td>
</tr>
<tr>
<td></td>
<td>Other persistent mood (affective) disorders</td>
</tr>
<tr>
<td></td>
<td>Persistent mood (affective) disorder, unspecified</td>
</tr>
<tr>
<td>Other mood (affective)</td>
<td>Other single mood (affective) disorders</td>
</tr>
<tr>
<td>disorders</td>
<td>Mixed affective episode</td>
</tr>
<tr>
<td></td>
<td>Other recurrent mood disorders</td>
</tr>
<tr>
<td></td>
<td>Recurrent brief depressive disorder</td>
</tr>
<tr>
<td></td>
<td>Other specified mood (affective) disorders</td>
</tr>
<tr>
<td>Unspecified mood (affective)</td>
<td></td>
</tr>
<tr>
<td>disorder</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Diagnostic and Statistical Manual of Mental Disorders, 4th Edition

<table>
<thead>
<tr>
<th>DEPRESSIVE DISORDERS</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>Single Episode Recurrent</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>Specify if: Early Onset/Late Onset Specify if: With Atypical Features</td>
</tr>
<tr>
<td>Depressive Disorder NOS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BIPOLAR DISORDERS</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bipolar I Disorder</td>
<td>Single Manic Episode Specify if: Mixed Most Recent Episode Hypomanic Most Recent Episode Manic Most Recent Episode Mixed Most Recent Episode Depressed Most Recent Episode Unspecified</td>
</tr>
<tr>
<td>Bipolar II Disorder</td>
<td>Specify (current or most recent episode): Hypomanic/Depressed</td>
</tr>
<tr>
<td>Cyclothymic Disorder</td>
<td></td>
</tr>
<tr>
<td>Bipolar Disorder NOS</td>
<td></td>
</tr>
<tr>
<td>Mood Disorder Due to (Indicate the general medical condition)</td>
<td>Specify type: With Depressed Features/With Major Depressive-Like Episode/ With Manic Features/With Mixed Features Specify if: With Onset during Intoxication/With Onset during Withdrawal</td>
</tr>
</tbody>
</table>

Mood Disorder NOS

Note. *Code current state of Major Depressive Disorder or Bipolar I Disorder in 5th Digit:*

1=Mild
2=Moderate
3=Severe Without Psychotic Features
4=Severe With Psychotic Features
*Specify: Mood-Congruent Psychotic Features/Mood-Incongruent Psychotic Features
5=In Partial Remission
6=In Full Remission
0=Unspecified

*The following specifiers apply (for current or most recent episode) to Mood Disorders as noted:*
Severity/Psychotic/Remission Specifiers/Chronic/With Catatonic Features/With Melancholic Features/With Postpartum Onset

*The following specifiers apply to Mood Disorders as noted:*
With or Without Full Interepisode Recovery/With Seasonal Pattern/With Rapid Cycling

Desk Reference to the Diagnostic Criteria from DSM IV (APA, 1994b).
Both systems have provisions for differentiating episodes that are single from those which are recurrent. Also they include mild but persistent low mood (dysthymia) as well as alternations between moods (cyclothymia) as clinical entities even though they do not fulfil the criteria for a full depressive or bipolar disorder.

ICD (originated in the United Kingdom and Europe) provides broad and non-specific definitions, while DSM (the American classificatory system) provides definitions of disorders based on strict operational criteria. The criteria are based on symptoms and signs with cut off points for inclusion in a particular diagnostic category (Wilhelm, 1990).

ICD-10 is an international version, available in many languages; the DSM IV is only available in the English language {*}. The former does not include guidelines to evaluate social impairment while the latter usually includes an evaluation based on occupational, personal and social functioning and impairment (Gelder et al., 1996).

Epidemiology of Unipolar or Major Depression

Epidemiological studies investigate the distribution of disorders in the population. They are concerned with populations at risk and with the definition of “clinical cases” as well as prevalence and incidence of disorders (Costello & Angold, 1995; Joyce, 1994). Prevalence refers to the current existence of the disorders while incidence refers to the frequency of occurrence of the disorder. Different time parameters can be used to report epidemiological data such as lifetime, period or point prevalence.

Major Depression presents as the most prevalent of the mood disorders. The life time prevalence for major depression reported by the National Institute of Mental Health (NIMH)

{*} DSM IV is also available in French.
Epidemiological Catchment Area project (ECA) is 4.9% (Joyce, 1994). For every 100 American males, 1.6 cases of depression are reported, while there were 2.9 cases of depression every 100 females. The one-month prevalence rate of all affective disorders for American women aged 25-44 elevates to 8.2% (Muñoz & Ying, 1993).

The one-month prevalence rate for depression for American women is 3.9%. Gelder et al. (1996) and Joyce (1994) raised the issue of the ECA studies providing an underestimation of incidence and prevalence rates in comparison with other studies. With the use of diagnostic structured methods, more rigorous diagnostic definitions can be achieved. The Christchurch study in New Zealand, cited by Joyce (1994) reported the lifetime risk for unipolar depression as 12.6% while the one-year prevalence was 6.7%. The point prevalence of depressive symptomatology is as high as 13 to 20% of the population (Gelder et al., 1996).

Table 5, adapted from Gelder et al. (1996, p. 212) summarizes some consistent epidemiological findings in the literature cross-nationally.

Table 5: Depression: Epidemiological Findings

<table>
<thead>
<tr>
<th>DEPRESSION FEATURES</th>
<th>EPIDEMIOLOGICAL DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life time risk for depression</td>
<td>5-10%</td>
</tr>
<tr>
<td>Female/male ratio</td>
<td>2:1</td>
</tr>
<tr>
<td>1st degree relatives/Lifetime risk</td>
<td>10-15%</td>
</tr>
<tr>
<td>Average onset</td>
<td>27 years</td>
</tr>
</tbody>
</table>

Nolen-Hoeksema (1987) after reviewing clinical and community studies of unipolar depression concluded that “women are diagnosed as having depressive disorder significantly more frequently than are men and, with a few exceptions, report more depressive symptoms than do men in most geographical areas of the world”(p. 265).
In the following section in this chapter, I will review theories of depression, considered as an affective state as well as a syndrome. One of the main ideas in this thesis is that the different contributions from these schools of thought are important in providing a comprehensive view of a complex, multifaceted and multifactorial phenomenon. I will first introduce the psychodynamic contribution and some theoretical developments from that perspective. Then I will discuss the role of psychosocial issues in the causation, triggering and maintenance of depression. After that, Aaron Beck’s cognitive model of depression and the concepts of learned helplessness and attributional styles will be explored. Finally, the role of organic dysfunction and genetics will be presented. The section will finish with a proposal to integrate the different perspectives reviewed.

**Etiology**

Almost 50% of major depression episodes can be attributable to the following factors, in order of importance: (1) Recent stressful life events, (2) Genetic factors, (3) Previous history of mood disorder, and (4) Neuroticism as a personality trait (Kendell, 1976). Major etiological factors reported in the literature can be further classified as intrapersonal and interpersonal factors and include:

1. **Within the individual**: family history of depression, childhood adversity (trauma, abuse, parental discord) and personality features characterized by neuroticism, obsessional traits and cognitive diathesis and,

2. **The environment**: lack of social support, recent stressful life events, unemployment and poverty.

Demographic and clinical risk factors consistently isolate and report in the literature groups at risk including women, the divorced, the separated, those of lower socio-economic status, the unemployed and those aged 18-44. Marital disruption, being young, uneducated
and being female and living in a farm setting have been reported as risk factors in a study of major depression in a non-clinical sample in the early 1990s (Coryell, Endicott & Keller, 1992). The young, the poor, and poorly educated (especially if female), those with low-status occupations, those with illness, the unemployed, women who are married or divorced-separated, men who are never-married heads of households or widowed and both sexes if they were never married but were not heads of households are those identified in the mid 1980s as more likely to be depressed (Radloff, 1986, p. 415).

One common denominator among these groups of people is a coping style characterized by learned helplessness. The way that traditionally society socializes women in helplessness may be an explanation of why women are over-represented among the depressives (Radloff, 1986).

The Psychodynamic Contribution

Psychodynamic ideas have been very influential in the understanding of depression as an affective state as well as an affective illness (Roose, 1996). While the cognitive approaches are empirically derived from studies based on experimental designs, psychodynamic ideas are more commonly based on clinical experience. Psychodynamic concepts present as both boldly speculative and clinically insightful (Coyne, 1986). The evolution of ideas within the psychoanalytic field followed the general trend of psychodynamic thinking, that is, a movement from Freudian drive theory, to ego psychology and then incorporation of object relations concepts. The psychodynamic contribution can be characterized by:

1. The role of loss (real or symbolic) in depression,
2. The concept of ambivalence towards the lost (introjected) object,
3. The belief that infantile trauma is reactivated by current events,
(4) The concept of regression to infantile trauma as leading to infantile feelings of helplessness,
(5) Loss of self-esteem as a core problem in depression,
(6) Depression as having a functional role in relationships.

**Depression as Regression to an Oral Fixation**

Karl Abraham described an early oral predisposition to experience adult depression. A precursor for depression is an oral fixation during childhood. During adulthood, there is regression to this early fixation when the adult experiences some disappointment. Later on, Abraham also incorporated aggression and hostility into his libidinal-oral model of depression. For Abraham, depression is regression into the oral phase of psychosexual development. Mendelson (1982) summarizes the major features of Abraham’s model as follows:

1. The existence of a constitutional intensification of oral needs,
2. A fixation in the oral psychosexual stage of development,
3. A pre oedipal original disappointment,
4. A disappointment later in life that triggers hostile feelings originated by that original one.

**Depression, Loss and Aggression towards Self**

Sigmund Freud (1915) conceptualized loss as a precipitant for melancholia only when the person has a predominantly narcissistic type of object choice (the object is chosen according to the idealized image of self, whether to be the same or to complement it). His model of melancholia was based on his comparison between melancholia and the process of mourning a loved one. He differentiated mourning and melancholia in that:
Melancholia presents only in vulnerable, predisposed individuals,

The melancholic may have suffered a “symbolic” loss (unlike the case of death),

In melancholia the individual attacks and hates the lost “object” and reproaches himself with decreased self-esteem (Whybrow, Akiskal & McKinney, 1984).

In melancholia a loss (real or symbolic) equals losing the self (as the person or “object”, in object relations terms, has been internalized), therefore loss is experienced as a narcissistic wound. He also emphasized the role of orality and hostile aggressive impulses that co-exist in the depressed person. These impulses are evident in the self-reproach and destructive self-hatred common in the depressed patient. Freud speculated that a narcissistic object choice renders the self-vulnerable in case of loss. The co-existence of ambivalent feelings towards the object involves a form of aggression towards the self as the object has been internalized. For Freud then, depression is a form of aggression directed inward, against self (strictly speaking, against the object which is internalized). This assertion has been one of the most popular legacies of the psychodynamic model (Roose, 1996). Empirical studies failed to demonstrate many of Freud’s contentions, such as the necessary connection between loss and depression and the equation of depression and internalized hostility (Coyne, 1986). Freud recognized some types of depression are not psychogenic but organic in nature, pointing to one of the somatic features of depression, namely, early morning waking or diurnal variations of mood (Gelder et al., 1996). One commentator notes: “There is nothing fundamentally wrong with Freud’s view of depression- it explains a good deal. Its principal drawback is that it is used to explain too much” (Becker, 1986, p. 368).

**Depression as a Reparative Attempt, a “Crying for Love”**

Rado outlined a model of depression as a homeostatic attempt to balance a state of depleted narcissistic external gratification. Depressives have an excessive craving for
external sources of self-esteem. They are dependent on their sources of love and approval and possess an intensified need for narcissistic gratification. Depressives are over-sensitive to any rejection or withdrawal of love. In that situation, they protest frantically, in an effort to re-establish those external supplies of gratification. Depression is a state of the ego wanting punishment and consequent forgiveness and restoration of love and therefore positive self-esteem (Roose, 1996).

**Depression as a Frustration of Narcissistic Wishes**

Edward Bibring considered that the ego aspires to different wishes: to be good, loving, clean and powerful (Roose, 1996). When these wishes are frustrated, a sense of infantile helplessness leads to a drop in self-esteem. Depression is characterized by a state of diminished self-esteem resulting from internal ego conflicts (not between ego and superego). Bibring expanded the scope of depression when he focussed on the role of self-esteem. This area is enriched by Edith Jacobson’s contribution, described below. Depression develops in a vulnerable person when she experiences a situation that renders her helpless, thus reminding her of her infantile state of dependency and helplessness.

**The Central Role of Self-esteem**

For Edith Jacobson, self-esteem plays a crucial role in understanding depression. The internal representation of self can be cathected (charged) with positive (libidinal) or aggressive energy. For depression to occur, the self-representation is charged with predominantly aggressive energy, resulting in a punitive, over critical self. Self-image, self-representations, familial and societal internalized standards, expectations and ideals form self-esteem. The higher the aggressive cathexis, the ideals, expectations and criticism with negative self-representations, the lower the self-esteem. Low self-esteem is at the core of the
psychological understanding of depression. In addition, a common personality feature in depressives is a poorly integrated superego that dominates psychic structures, driving the person to achieve control and to develop obsessional characteristics. Any perceived loss of control, failure to achieve a much-desired goal, rejection or withdrawal of love may generate in these people a profound decrease of self-esteem (Whybrow et al., 1984).

The Universal Depressive Position

Melanie Klein (1940, 1956) was the first to propose the existence of a universal phase of development called the “depressive position”. Very complex psychological mechanisms take place during the first year of life. The depressive position is a universal phenomenon characterized by the need to tolerate within the self libidinal and powerful aggressive impulses and fantasies of destruction against the object. A failure to resolve this internal ambivalence results in depression. Depression derives from insufficient benevolent objects within the mental representational world of the self, conducive to a sense of pervasive feelings of badness as well as a distrust of the external world. An initial failure of positive experiences between mother and infant results in insufficient good objects within the self, which in turn compromises the achievement of the depressive position with a successful resolution of the ambivalence characteristic of this phase of development.

In ‘Mourning and its Relation to Manic-Depressive States’ (1940) Melanie Klein introduces a link between her concept of depressive position and the psychological work of mourning. While Freud concentrated on the internalisation of the lost object within the ego, Klein focussed on the complex interplay between inner objects, phantasies and anxieties and the reactivation of the infantile depressive position. The successful resolution of mourning implies the existence of good internal objects. Someone who has not been able to establish his internal ‘good’ objects during early childhood is prone to clinical depression. When
losing a loved object, the person who has overcome the infantile depressive position can re-experience love and hate, guilt and reparation, 'good' and 'bad' objects, sorrow and grief:

In normal mourning, however, the early depressive position, which had become revived through the loss of the loved object, becomes modified again, and is overcome by methods similar to those used by the ego in childhood. The individual is reinstating his actually lost loved object; he is also at the same time re-establishing inside himself his first loved objects — ultimately the 'good' parents — whom, when the actual loss occurred, he felt in danger of losing as well. It is by reinstating inside himself the 'good' parents as well as the recently lost person, and by rebuilding his inner world, which was disintegrated and in danger, that he overcomes his grief, regains security, and achieves true harmony and peace (p. 174).

In Klein, we can see the move towards a consideration of the importance of early mother-infant interaction. These are rudiments of what is going to be developed by other object relations and attachment theories. This is precisely the content of the next two sections.

Attachment Theory and Psychopathology

Bowlby redirected the focus of attention from the individual as defined by psychosexual stages to the importance of the early infant-caregiver interaction. His ideas indicate that it is in the context of that relationship that the concept of self and others is learned and the building blocks for healthy emotional and relational development are set. Bowlby challenged Freud's concepts and theories of drives and psychosexual stages in his characterization of the person. His thoughts had a common emphasis with object relations theories on the universal need for relationships and the primacy of intimate emotional bonds during the lifetime (Bowlby, 1988): “The capacity to make intimate emotional bonds with
other individuals, sometimes in the careseeking role and sometimes in the caregiving one, is regarded as a principal feature of effective personality functioning and mental health” (p. 121).

Bowlby set the stage for a theory of psychopathology that is developmental in nature, where individuals have different potential pathways to well being or distress. In developmental psychopathology terms, there are risks and protective factors in a dynamic interplay. The conceptual model used in this thesis is based on Bowlby’s ideas and their derivatives. In this model the individual is in constant interaction with the environment, thus at every point of time it is the aggregation of protective and risks factors in combination with different levels of stress which are interacting to produce an outcome: “It is this continual potential for change that means that at no time of life is a person invulnerable to every possible adversity and also that at no time of life is a person impermeable to favorable influences” (Bowlby, 1988, p. 136).

Attachment and Psychopathology

In a comprehensive review of attachment theory and empirical findings, Carlson and Sroufe (1995) indicate that attachment and psychopathology can be considered in terms of deviations of attachment as risk contributors while secure attachment provides a protective function. Factors such as early separations, quality of early care (in terms of responsiveness, and availability) or any disruption in that early “holding environment” tend to increase the risk for the development of psychopathology. From early studies pointing to loss of a mother before age 11 as a risk factor (Brown & Harris, 1978), theory evolved into the current idea that pre-existing quality of care rather than the loss itself presents as problematic for later development (Carlson & Sroufe, 1995).
Insecure Attachment as a Risk Factor for Psychopathology

Links between insecure attachment and depression can be conceptualized in four different ways:

1. Attachment and stress can be both interacting and mutually potentiating each other,
2. Attachment acts as a mediator of stressful life events,
3. Different levels of stress lead to different outcomes or
4. Insecure attachment renders the person vulnerable to stressful life events, as suggested by a diathesis/stress model (Carlson & Sroufe, 1995).

This fourth model is a major subject of investigation in this thesis. That is, are pregnant women with a vulnerable sense of self more likely to suffer postnatal distress and depression? The research literature relevant to this question will be discussed in Chapter 4.

The Reflective Self

Fonagy and colleagues emphasized the importance of the parents’ capacity to understand own and others’ mental states, which they called the reflective self. The reflective self is a function of internal monitoring of mental activities achieved as an important emotional task during early childhood in the context of infant-caregiver relationship. It encompasses understanding of the self and understanding of the other (Fonagy, Steele, Steel, Moran & Higgitt, 1991). It is related to affect and its regulation as well as security of attachment. Severe psychological disorder may be the result of a poorly developed reflective self that resorts to the use of primitive defensive strategies to ward off devastating distress.

Attachment researchers noticed the continuity of attachment patterns in different generations (Fonagy, Steele, Moran, Steele & Higgitt, 1992). The self reflective capacity provides an explanation of this phenomenon. The infant’s self reflective capacity depends on the caregiver’s ability to sensitively understand and reflect the infant’s internal states and
mental world. For Fonagy and colleagues, this self reflective ability is a developmental task achieved in the context of the first interpersonal dyad. If the caregiver's capacity to provide this secure, predictable mental environment is compromised, the infant needs to use defensive behaviours to protect from overwhelming affect:

The heirs to such defensive behaviors, primitive mechanisms of defense, such as splitting and massive denial, would later undoubtedly come to limit the insecure child's capacity to make full use of his or her potential to reflect on mental states. This handicap would ultimately constrain the child's capacity to provide an adequate psychological environment for his or her own infant (p. 985).

For an empirical test on how security of attachment in parents is a predictor of security of attachment in infants see Fonagy, Steele, Moran, Steele and Higgitt (1992).

The Role of Psychosocial Factors

In this section, some psychosocial factors related to depression are presented with special focus on Brown and colleagues' work and many others emphasizing the important role that non-biological factors play in the triggering and maintenance of depression.

Women's Pathways to Depression

Brown and Harris (1978) outlined an etiological model of depression for females. Loss experiences interact with background demographic vulnerability factors to produce onset of depression. Loss of mother before age 11, lack of a confiding relationship with a partner, the presence of three or more children under the age of 15, women's traditional role, and lack of outside employment interacted to produce depression. The lack of supportive relationships (both in the family of origin and current relationships) appeared to be related to
low self-esteem and hopelessness. The generalization of these feelings after a situation of loss seemed to function as a trigger for depression.

Conclusions drawn from the Camberwell study (Brown & Harris, 1978) indicated that depression in women was a result of a chain of negative events starting from loss of a parent, lack of adequate replacement care and environmental adversity such as teenage pregnancy or choosing an abusive partner. These factors are theorized as environmental variables responsible for increasing risk. Environmental factors interacted with intra-psychic factors. Early loss of a mother by death was associated with the development of features of psychotic depression while other types of loss (separation, divorce) were associated with neurotic depression (Bowlby, 1988). Loss of a mother before age 11 or other family members before age 17 were associated with increased risk of developing a depressive disorder after a stressful event (Brown, Harris & Eales, 1993).

Harris and Bifulco (1991) refined the model by noting several intervening variables between early loss and depression. Those variables involve intimate relationships. Relationships have an impact on emotional and cognitive dispositions (schemas) that predispose people to depression. Lack of appropriate care during formative years is related to the development of negative self-esteem. Self-esteem appears related to choosing partners in adulthood who are uncaring, generating a cycle of early vulnerability leading to later increased vulnerability. These findings suggest that emotional bonds of attachment are disrupted by loss, threats of loss or separation, and disturbed patterns of attachment are risks factors in a cycle of vulnerability.

Social Support

Social support has been postulated to have a protective, buffering effect on many negative emotions and psychological disorders. The connection between social interactions
and health outcome has been supported by different studies. Cutrona and Russell (1987) studied different populations facing specific stressful events (pregnant women, nurses and teachers experiencing burn out). For mothers, they found that two factors were protective: guidance during pregnancy and social integration. Adolescent pregnant women who reported higher levels of guidance (direct advice and information) reported fewer child-care difficulties (Cutrona & Troutman, 1986). The implications for pregnancy guidance and counseling are important and they are going to be further discussed in Chapter 8. For other stressful professions, such as teaching and nursing, the best protective factor was reassurance of worth, a recognition of skills that enhances self-esteem and thus protects against depression. Enhanced self-esteem improves self-efficacy and problem solving. Social support appears to increase people’s confidence, facilitating coping behavior. Self-efficacy is a mediator between social support and postpartum depression (Cutrona & Troutman, 1987). Mothers who reported high levels of support experienced higher levels of self-efficacy in comparison with mothers who reported lower levels of support.

The relationship between depression and social support has been explored. It can be questioned whether depressed people have a negative bias in perceiving their relationships and supports or whether depressed people do in fact, have less access to the emotional and practical “nutrients” offered by social supports. Depression is conceptualized as a “pathological care-seeking behavior”. When an individual perceives herself as lacking in care, support or concern by significant others, she develops symptoms whose adaptive role is to obtain care. This is similar to the way that infants seek proximity to attachment figures in “dangerous” situations. Depression is viewed as care-seeking behavior directed to satisfy attachment needs by obtaining proximity to an attachment figure.

Social support is crucial to understanding depression during the puerperium (O’Hara, 1986). The quality of spouse support is related in practical and emotional ways to the
development of postpartum disorders. The directionality of this interrelation remains controversial. It is both possible that the mood disorder impacts negatively on the marital relationship and on the perception of support offered and that an unsatisfactory marital relationship may lead to the development of the postnatal mood disorder. Does depression disrupt relationships and deprive the person from needed support or do unhappy relationships and inadequate support predispose to depression?

Searching for alternative explanations is important. For example, an association between factors may be coincidental, non-specific or spurious. The personal meaning and the social context are also important factors to consider in understanding the relationship between depression and life events. Life events can trigger, attenuate, maintain or exacerbate dysfunction. Life events per se do not offer a satisfactory explanation of why some people resolve the issues involved in a particular life situation and other do not. A model of risk and vulnerability is required that addresses the interaction of external and internal factors, and this is the task of this thesis.

Depression and Relationships

The interpersonal world of depressives appears disrupted by negative emotions. Marital conflict, hostility and communication difficulties characterize that interpersonal world. Coyne (1986) views depression as a self-perpetuating interpersonal system:

Depressive symptomatology is congruent with the developing interpersonal situation of the depressed person, and the symptoms have a mutually maintaining relationship with the response of the social environment. Essentially, the depressed person and others within his social space collude to create a system in which feedback cannot be received, and various efforts to change become system-maintaining (p. 328).
Depressives and their close relational system become entangled in a self-perpetuating vicious cycle of depression, hostility and rejection. There are systemic repercussions of a member of the family developing depressive symptoms. Depression is a response to the disruption of support and validation for one's experiences. For the systemic perspective, depression has a message value and "intended audience". The social matrix of the individual has been mostly ignored in studies that focus on the intra-personal vulnerabilities, whether biological or psychological. Furthermore, in systemic terms, the issue is not whether the person influences relationships or relationships affect the person. There is bi-directionality and interdependence of different subsystems.

Cognitive Psychological Perspectives

The cognitive psychological perspectives assume the existence of a psychological characteristic or trait that makes the individual vulnerable to a disorder. The individual is considered to have a diathesis. These psychological traits are stable and formed during early years. They are called parameters because they are rather constant. Variables are subject to change (Whybrow et al., 1985).

A life situation triggers a condition by activating the early diathesis. Under psychological influences, I will review three of the most influential cognitive models of depression. First, I will present Beck's cognitive model of depression. Then I will outline Seligman's Learned Helplessness theory and I will finish this section with a revision of Seligman's model. The next section in the chapter will present the biological perspective in understanding depression.
The Cognitive Model

There are three basic components of Beck’s cognitive model: the concept of early schemas, cognitive distortions and faulty information processing associated with depression and the depression triad. Cognitions in depressed people are negatively biased. The depression triad is formed by a negative view of self (leading to low self-esteem), of the future (related to hopelessness and suicidal ideation) and the world (distorted interpersonal relationships). This cognitive set is responsible for the behavioral, physical and emotional responses associated with depression. Beck and his colleagues proposed that early schemas distort reality and make people vulnerable to depression. These early schemas are latent, dormant until a life event activates them.

In the field of psychopathology, the term “schema” has been applied to structures with highly personalized idiosyncratic content that are activated during disorders such as depression, anxiety, panic attacks and obsessions, and become predominant. Thus, in clinical depression, for example, the negative schemas are in ascendency, resulting in systematic negative bias in the interpretation and recall of experiences as well as in short-term and long-term predictions, whereas the positive schemas become less accessible (Young, Beck & Weinberg, 1993).

Some systematic cognitive distortions and ways to process information are responsible for the maintenance of the cognitive triad associated with depression. These distortions and faulty thinking patterns include overgeneralization, overinclusiveness and selective attending to negative stimuli. Beck postulates that cognition is responsible for emotions and behavior, and that changing distorted cognitions modifies the depressive feelings and behaviors. The primary focus of cognitive therapy is to alter those cognitive distortions, to change “depressive thinking” (Young et al., 1993). Empirical studies to test the validity of some of Beck’s concepts have been reviewed by O’Hara (1995). It is
concluded that more prospective studies (as compared with the more common retrospective ones), using large high-risk samples (most studies have been conducted on college students) and linking Beck’s model with clinical depression (measured by operational diagnostic criteria) rather than changes in level of symptomatology (measured by self-report which are more sensitive to change in affective states) are necessary. He urges researchers to test the validity of the cognitive model as it applies to clinical depression. Empirical studies provided some evidence for the relationship between cognitive factors and negative affective states (dysphoric mood) more than clinical depression as such (O’Hara, 1995).

O’Hara made further recommendations for research designs that should incorporate:

1. Larger samples of subjects at high risk,
2. Multiple measures of cognitive diathesis,
3. Relevant life stressors especially predictable ones such as pregnancy,
4. Longitudinal designs with several measures of depression status (rather than level).

The study conducted and reported in this thesis follows a number of these suggestions, especially in its prospective and longitudinal methodology targeting pregnancy as a life stressor. A large group of 133 healthy pregnant women are assessed prenatally and followed up through a stressful predictable life event (birth of a child) over a six-month period. In addition, care has been taken to use several measures of depression status as well as level of symptomatology.

Learned Helplessness

Seligman (1981) proposed that depression is a learned maladaptive response to events that are considered uncontrollable. It is the expectation (a cognitive variable) of lack of control over reinforcement that produces depression (*). She has learned that the outcome will be without her control. Seligman based his ideas on experimental studies with animals
and humans. Participants when confronted by uncontrollable events learned to give up. They learned that outcome is not related to their responses.

**Learned Helplessness Theory Revised: Attributions and Hopelessness**

To attribute means to consider a situation or event as belonging to, to be caused by, produced by, to result from a particular cause. To attribute is to give meaning and to establish a causality law, an explanation for events. It is the answer for the why question; the attributional style is the tendency or pattern of explanation for events, the typical answer to the why question. There are three dimensions of attribution:

1. **Locus of control (internal/external),**
2. **Stability (temporal/permanent),**
3. **Generality (global-specific).**

The attributional style is the explanatory style of the person (Fortersling, 1988). A dysfunctional style is characterized by stable, global and internal attributions. As an illustration of this style, a mother may interpret her baby’s excessive crying as an indication of her inadequacy. This feeling of inadequacy then becomes generalized and pervasive to other areas of her life. In that case, the person can anticipate new failures in the future. Her self-esteem is diminished because she does not feel competent or capable to change things, because she perceives things to be outside her control and permanent and herself as inadequate. A dysfunctional attributional style is considered responsible for creating vulnerability for depression. This model proposes that a dysfunctional attributional style constitute a diathesis for depression. The original learned helplessness theory has been modified by Abramsom, Alloy and Metalsky (1988) indicating that hopelessness is the

(*) In behavioral terms, depression is the result of lack of positive reinforcement; within learned helplessness theory, the individual learned previously that whatever he does is not going to change the outcome.
proximal and sufficient cause for depression. They defined hopelessness as the expectation that desired outcomes are unlikely to occur and aversive outcomes are likely. The individual is in no position to control those outcomes. They contend that the person becomes hopeless when her attributional style is characterized by global, internal and stable attributions of negative life events and specific, external and transitory attributions for positive situations. Hopelessness is the expectation of future non-contingency. Dysfunctional attributions are necessary but not sufficient to lead to a depressive episode. They constitute a proximal contributory cause. Distal (not proximal) contributory causes include depressogenic attributional style and situational cues and negative events. A dysfunctional attribution interacts with negative life events creating hopelessness and then hopelessness is the proximal factor responsible for the depression. These ideas are the basis for the revised helplessness model of depression (Abramson et al., 1988). Other theorists emphasized the role of pessimism and cognitions about vulnerability that are pervasive in depressives. Abramson et al. (1988) contend that vulnerability beliefs are mediators between attributional styles and depression and proposed the existence of a type of depression that they named “hopelessness depression”. Hopelessness depression is caused by a negative inferential style triggered by stressful life events. Passivity, sad affect, low self-esteem and suicidality are features of this type of depression. Table 6 compares learned helplessness with depression.

Abramson et al. differentiate between necessary, sufficient and contributory causes of depression. A necessary cause is an etiological factor that must be present for the disorder to occur. A sufficient cause is an etiological factor that guarantees the presence of symptoms. A contributory cause increases the likelihood of occurrence. It is neither necessary nor sufficient to cause the disorder. They also differentiate between distal and proximal causes. They explain that hopelessness is the proximal sufficient cause of depression. There is a
pathway model leading to hopelessness. The chain begins with negative life events and culminates with "hopelessness depression".

Table 6: Similarities between Learned Helplessness and Depression

<table>
<thead>
<tr>
<th>LEARNED HELPLESSNESS</th>
<th>DEPRESSION</th>
</tr>
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<tbody>
<tr>
<td>Passivity</td>
<td>Passivity</td>
</tr>
<tr>
<td>Responses do not produced relief</td>
<td>Negative cognitive set</td>
</tr>
<tr>
<td>Lack of aggression</td>
<td>Introjected anger</td>
</tr>
<tr>
<td>Weight loss and appetite loss</td>
<td>Weight loss/appetite loss</td>
</tr>
<tr>
<td>Social and sexual deficits</td>
<td>Social and sexual deficits</td>
</tr>
<tr>
<td>Norepinephrine depletion</td>
<td>Lower level of norepinephrine</td>
</tr>
<tr>
<td>Ulcers and stress</td>
<td>Psychosomatic complains</td>
</tr>
<tr>
<td>Learned that response and reinforcement</td>
<td>Belief that response is useless</td>
</tr>
<tr>
<td>are independent</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Bootzin, Acocella and Alloy (1993).

The Biological Perspective

In this section, the major contributions of the biological perspective are presented, including discussion of the role of hormonal and bio-chemical disturbances found in depressed people. First, the monoamine hypothesis is outlined; then, the hormonal imbalance theory is reviewed. The dys-synchronisation of biological internal rhythm theory is provided last in this section.

The Monoamines Hypothesis: Norepinephrine and Serotonin

The monoamine hypothesis proposes that decreased levels of monoamines (MA), particularly norepinephrine (NE) and hypofunction of the noradrenergic system are causally
related to the depressive disorder. It is based on the therapeutic effect of antidepressant medication, which increases the synthesis and function of those neurotransmitters.

Norepinephrine and Serotonin are chemical substances that aid the transmission of electric impulses between neurons in the nervous system. They are believed to play a role in mood disorders. Lowered levels of norepinephrine produces depression while increased levels of norepinephrine leads to agitated, manic reactions. Indirect evidence for this theory is provided by the fact the medication that relieves depression increases the level of norepinephrine, producing mania.

While there is consistent evidence regarding Serotonin hypofunction, there is contradictory evidence with respect to norepinephrine (NE). Some studies provided evidence for NE hyperfunction while others supported the notion of NE hypofunction associated with depression (Brown, Steinberg & Van Praag, 1994). In depression, all the neurotransmitters are de-regulated. An excessive thyroid activity is common in people suffering from depression. Both neuroendocrinology dysfunction (Bootzin et al., 1993) and hormonal de-regulation are typical in depressive states.

The Serotonin, Norepinephrine and Dopamine systems

Three hormonal systems related to hypothalamus functioning have been linked with affective disorders. The hypothalamus is involved in the regulation of mood and other biological functions often present in clinical depression such as appetite, sexual drive, sleep and diurnal variation of mood. The three systems are:

1. The hypothalamic-pituitary-adrenocortical system (HAP): There are disturbances in the functioning of this system in depressives. The CRH (corticotrophine releasing hormone) hyperactivity hypothesis establishes that depressives show an abnormally increased level of cortisol (known as the stress hormone). A hormonal test called
Dexamethasone Suppression Test (DST) has been proposed to differentiate endogenous from reactive depression. However, because many depressed individuals will not present a reduced level of cortisol in their plasma after the administration of Dexamethasone, this differentiation does not appear warranted (Matussek, 1994).

(2) The hypothalamic-pituitary-growth hormone system: A group of suicidal depressives have been compared with controls. The former produced lower quantities of growth hormone after apomorphine administration. This may be an indication of the dopamine system's involvement in affective disorders (Pitchot et al., 1992 cited in Matussek, 1994).

(3) The hypothalamic-pituitary-thyroid system: Patients diagnosed with disorders in the endocrine system (i.e. Cushing's syndrome, hyper or hypo thyroidism) also suffer from mood anomalies. For a comprehensive review of the medical literature see Matussek (1994).

Neurotransmitters are poorly regulated in depression. Hyper or hypo functioning explanations have been considered simplistic. A unitary theoretical explanation of depression based on the consideration of a single particular neurotransmitter may not be accurate. Moreover, serotonin (5HT), norepinephrine (NE) and dopamine (DA) dysfunctions constitute a non-specific dimension associated not only with depression but with other pathologies as well. Brown et al. (1994) have supported nosological non-specificity of the monoamine de-regulation theory. Malfunction in the domaminergic, noradrenergic and serotonergic axes can not explain depression specifically. The dopamine system is responsible for the regulation of initiative, drive and the incentive systems in the brain. All these systems appear compromised in depression. DA, 5HT and NE systems are functionally and anatomically interconnected in a complex manner, making it overly simplistic to
attribute the pathogenesis of a multidimensional disease such as depression to dysfunction of a particular neurotransmitter.

**De-regulation of Biological Rhythms**

Some melancholic features of depression (early morning wakening, sleep disturbances, see Table 2) have been explained as a disruption of delicate internal rhythm processes. There are two biological oscillators: a strong clock, free running for a slightly longer than 24hs period and a weak oscillator. They are both guided by environmental and social cues. The first oscillator regulates body temperature, rapid eye movements (REM) sleep, plasma cortisol and melanin secretion while the other oscillator controls the sleep-wake, behavior-rest cycle. In depression, the oscillators are dys-synchronized to each other or not in tuned with environmental cues (Brown et al., 1994). In depressed people, REM sleep latency (time lapse between onset of sleep and REM) is shorter, suggesting a de-regulation of the internal biological rhythms. Sleep deprivation and disruption have been suggested as a treatment of depression. Other treatments geared towards achieving regulation of the circadian cycle include phototherapy, sleep deprivation and disruption as adjuncts to pharmacotherapy and advancing the time for REM sleep.

Furthermore, diurnal rhythm disturbances are common in depressed people. Sleep deprivation (40 hours, partial and particularly REM deprivation has been tried as a non-pharmacological treatment for depression (Liebenluft & Wehr, 1992). It is believed that the therapeutic effects are achieved through the chronobiological system of variations in biological rhythms and body temperatures lowered during the night as opposed to the day. The mammalian (limbic) brain controls the internal endogenous rhythms. The sleep pattern of depressed people is different from normal people: depressives spend more time in REM and less in restorative short waves sleep (SWS). If a depressed person is kept awake during
the night an improved mood is reported the next day (Mondimore, 1993). Unfortunately, the mood improvement does not appear to be long lasting. Liebenluft and Weft (1992) encouraged more research into the use of sleep deprivation particularly in the treatment of depressives who do not respond to conventional antidepressant therapies.

**Family, Twin and Adoption Studies**

Genetic research indicates that there is a strong genetic contribution in unipolar depression with families, twin and adoption studies (*) co-incidence levels show evidence for heritability of mood disorders.

First degrees relatives of people with major depression are three times more likely than the general population to have the same disorders and a quarter of people suffering from depression will have a relative with a mood disorder (Mondimore, 1993). Although the genetic basis of mood disorders has been established many scientific questions regarding its specific nature and mechanisms of action and the inter relation between genetic and other etiological variables still remain. Difficulties in diagnosis and definitions of cases as well as the nature of genetic techniques compound to make the application of genetic principles very complex; simple conclusive explanations are not possible (MacKinnon & Mitchell, 1994).

**Psychobiological Integration**

Whybrow, Akiskal and McKinney (1994) have proposed an integrative theory of depression:

> It is our thesis that this syndrome (...) is the behavioral manifestation of a new psychobiological state, the outcome of a final common pathway of various

(*) The aim of family studies is demonstrating that a disorder has a higher prevalence in first degree relatives of ill people than in the general population. Twin studies compare monozygotic twins who are identical genetically with dizygotic twins who share only half of the genetic pool. Adoption studies compare offspring raised by natural and adoptive parents.
interlocking processes at the neurophysiological, biochemical, experiential and behavioral level. We suggest that the biological disturbance (...) exists as a reversible regulatory impairment (...) of the limbic-diencephalic brain centers serving psychomotor activity, mood reward and arousal (p. 174).

The individual interacts with the environment in complex ways. Within the individual, a unique mixture of genetic predisposition combines with certain developmental parameters resulting in a person with certain vulnerabilities, which may or may not potentiate in psychopathology. Outcome depends on many individual and contextual variables. There are four interconnected areas: the psychobiological dysfunction typical in depression, the predisposing parameters, the precipitating stressors and the environmental challenges. This model explains both the homogeneity of the core symptoms of depression (as a de-regulation of delicate chemical, experiential and behavioral systems located in the limbic areas of the brain) and the phenomenological variations of clinical presentations, onset, course and recovery rates in depression (due to unique combinations of early vulnerability, developmental challenges and life stressor variables for each individual). Heredity, temperament, characterological features, biological insults, life events, age and sex variables and cognitive appraisal cognitive factors combine and contribute to disturb the neurochemistry of the brain, generating dysfunction in the limbic di-encephalic structures. Once these systems are de-regulated, the biological, behavioral and emotional symptoms of depression appear. A dysfunctional cycle is established: the manifestations of depression produce more turmoil, arousal and hopelessness in the individual.

The model lacks empirical evidence, thus it has limited practical value (Newton, 1988). Data to substantiate the processes or interactions between the contributing factors to depression are currently lacking. Another attempt to integrate empirical findings and theory in a coherent framework is provided by Billings and Moos (1986). Their model indicates that
depression is an outcome of stressful life situations (exit events, loss, undesirable changes in finances or health status) influenced by the individual and environmental resources, appraisal mechanisms and coping styles. Therefore, from life circumstances to depression there are mediators within the individual’s coping style, strengths and cognitive evaluation of events. The multiple and interconnected nature of the relationship between the variables make different pathways to depression possible.

Table 7 provides a summary of the contributions of the different schools of thought to understand this complex phenomenon.

Summary

In this chapter, concepts and definitions of depression as both a clinical disorder and a mood state were presented. Several techniques for the classification of depression were outlined. Then, the incidence and prevalence of depression were examined. The main psychodynamic, psychological, biological and sociological perspectives in understanding depression were briefly presented.

All theories propose partial, limited explanations of this complex phenomenon. Their contributions are important because each illuminates some dark areas. The variables they highlight, whether they are psychological or biological, current or past, within the individual, her relationship with significant other or with the socio-economic context are thought provoking. They are all contributory but not necessary to the development of depression. The possible influence of early trauma, intra-psychic and social and biological factors were noted. A list of ten factors (life events, social support, developmental object loss, coping skills, monoamine depletion, monoamine oxidase level, borderline hyperthyroid function, impact of puerperium, alcoholism and familial and genetic factors) which are believed to be related to depression is presented in the integrative model of depression. Despite the effort to
recognise all these contributions it is acknowledged that all of them are only partial explanations (necessary but not sufficient in themselves). Perhaps this is just an illustration of the complexity of the area of study. This chapter has attempted to provide a general overview of depression so that we can further explore it in the context of women’s prenatal and postnatal periods. Postnatal distress and depression are the concern of this research.
<table>
<thead>
<tr>
<th>CONTRIBUTION TO THE UNDERSTANDING OF DEPRESSION</th>
<th>EXPLANATION OF FACTORS INVESTIGATED OR POSTULATED</th>
<th>REFERENCES</th>
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<tbody>
<tr>
<td>Genetic</td>
<td>Families, twin and adoption studies.</td>
<td>Mackinnon &amp; Mitchell (1994)</td>
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CHAPTER 3: PREGNANCY

Pregnancy has been conceptualized as a normal developmental crisis, a process of conflict, change and maturation. Recently, the ‘pregnancy as a crisis’ concept merged with the concept of pregnancy as a life transition (Rhoades, 1989; Saunders & Robins, 1989). In this chapter, psychological and dynamic aspects of pregnancy are outlined. Then, pregnancy is presented as a maturational crisis and life transition that involves a set of hormonal, physical, interrelational and psychological changes. As a crisis, it has potential for healthy adjustment, maturation and a higher integration as well as for difficulties and unhealthy adjustment. Pregnancy has been compared with adolescence and menopause as states of crisis (Bibring, Dwyer, Huntington & Valenstein, 1961).

After reviewing the literature about prenatal risk factors, I will argue that if these vulnerabilities are detected early, preventive interventions can take place and therefore, the prevention of perinatal psychological difficulties may be possible. The prevention of perinatal mood disorders will be further discussed in Chapter 8. This chapter covers the prenatal period and Chapter 4 will continue with the postnatal period.

Why Women Want Babies

There are as many reasons for wanting babies, as there are women. A combination of conscious and unconscious motivations interact (Barnett, 1995; Golanska, 1990). The more conscious reasons women choose to have children include a search for meaning and a gratification of love, respect and dependency needs. A need to transcend, to continue, to find meaning and place in the circle of life has been emphasized. Tension between symbiosis and separateness involved in the motivation to have a child has been described (Domash, 1988).
Psychoanalytic authors have emphasized more unconscious motivations such as the baby being a substitute for not having a penis, that is, the wish for a child is a derivative from pre-oedipal penis envy. In this way, the wish to have a child is not a primary tendency but a defense, a reaction against being a woman, lacking a penis, feeling herself to have been castrated and having identified with her own mother, who is also castrated. These ideas have been challenged repeatedly. It has been noted that this is a negative and simplistic view of the origins of the wish to have a child (Domash, 1988).

The Motherhood Report (Genevie & Margolies, 1987) is a report of a survey of 1100 mothers conducted throughout the United States of America. The purpose of the study was to understand how women feel about different aspects of motherhood. When women were asked about their motivation to have children, the underlying reason appeared to have been the desire to be nurtured rather than to nurture a child, to recreate, renew or start again something left over from childhood. Because of these unfulfilled wishes, some mothers tend to romanticize motherhood. The authors note that the more romanticized the images are, the more likely women tended to have reported feeling unaccepted by their own mothers and lacking confidence as a child.

The need to heal old wounds, to repair difficult aspects of the relationship with one’s own parents is also present in the wish to have a child. The wish for people to have two children may indicate the need to heal wounds from the relationship with both parents. One might speculate that this is also a factor behind a preference to have a baby of a particular sex and some of the conflicts and disappointments associated with having a child of the “wrong sex” (Domash, 1988). For some women, pregnancy is an attempt to solve previous conflicts, a way to prove their mature sexuality, to provide themselves with unconditional love, a way to accomplish a sense of a separate identity, independence from one’s own parents or a way to consolidate an erratic marriage (Raphael-Leff, 1991).
Pregnancy has multiple functions: it can be a compromise, an attempt to gratify several needs, thus trying to fulfill a number of psychological needs, past conflicts and current psychic pressures (Cohen, 1988). Brazelton and Cramer (1991) discuss several “ingredients” in the wish to have a child. The ingredients are identification with own parents, the wish to be complete and omnipotent, the desire for symbiotic merging with another, the wish for the baby to mirror oneself, the realization of lost dreams and ambitions, the wish to renew old relationships and the opportunity to separate from one’s own mother.

Motherhood has multiple motivations which can encompass a range from the sublimely creative, the creation of a unique and free individual, to the maddeningly pathological, as in child abuse. The good-enough mother has an opportunity to satisfy her need for primary creative expression, for union and individuality, for recreation of childhood innocence, and for her need for reparation. She at times may also act out specific repetition compulsions with her child. The more disturbed woman may have pathological needs for self-punishment and for bolstering of self-esteem, including a need to project negative aspects of the self onto the child (p. 100).

Gender issues and broader social expectations regarding women’s roles interact with psychosocial variables (Raphael-Leff, 1991). The complex combination of conscious and unconscious reasons by which women choose to have babies are probably similar to the motivations behind the decision not to have babies (Barnett, 1995). A study about experiences of motherhood among 59 mothers in Canada, revealed that women usually could not give reasons for wanting babies, as the decision was taken for granted (McMahon, 1995). For many women in McMahon’s study, the negative social meaning attached to having no children was a contributory factor for them choosing to have a child. For middle class mothers, issues regarding the right time, the appropriate relationship and personal and career development were more prevalent concerns than for working class mothers. In contrast to the
middle class mothers, working class mothers as a group followed different paths to motherhood. One of them was achieving maturity or grown up status through having a baby. Middle class mothers wanted social, economic and relationship maturity before having a baby. For middle class mothers' stability and maturity, were preconditions while for working class mothers they were a result of the acquisition of a new role in society. For some women reproductive capacity and choice are important contributions to femininity and self-esteem (Robinson & Steward, 1989).

**A Maturational Crisis**

Pregnancy is a period of crisis, transition and growing vulnerability for the woman, her partner and the family (Gsell, Scardino, Cilumbriello & Zichella, 1994, p. 205). A crisis is an unstable period, a crucial stage or turning point in a sequence of events. Interestingly enough, the word derives from the Greek word, krinein meaning to decide. Pregnancy is the result of a woman’s decision to carry, maintain and give birth to a new human being. Because only women are biologically prepared to have babies, this process is intrinsically a unique feminine transition where many psychological changes take place. Primiparas or first time mothers, will probably suffer the impact of this crisis more acutely. However, the crisis is recreated in every pregnancy and optimally a new, higher level of integration results. Every pregnancy is an internal revolution, a flux of hormones and emotions reorganizing to generate more life and more psychological changes. In a way, the process in never completely finished. Clear-cut periods are traditionally established: the prenatal and the postnatal period. Nevertheless, from a psychological point of view, these phases are not so clear-cut and emotional changes that are started during pregnancy may overlap and continue during the perinatal period. Pregnancy itself is divided into trimesters. The postnatal period is often classified in early postnatal or perinatal phase and the postnatal period itself.
Pregnancy has been contrasted to other feminine psycho-physiological crises such as the menarche and menopause. Pregnancy brings about a hormonal, somatic and psychological disequilibrium (Cohen, 1988; Schuker & Shwetz, 1991). A parallel between hormonal phases and psychological changes can be established. During the first phase of the woman’s cycle, the secretion of estrogen leads her emotions outwardly towards an object, thus promoting mating and procreation. In contrast with this expansive phase, after ovulation the secretion of progesterone induces passivity, introversion of psychic energies and a sense of relaxation and well being (Cohen, 1988). Benedeck (1970b) conceptualizes pregnancy as an extension of the lutein (progesterone) phase characterized by its retentive and receptive qualities:

The psychobiology of pregnancy can be best understood as an immense intensification of the lutein phase of the cycle. While this seems to be an oversimplification of the complexity of the physiological processes of pregnancy, it refers to its foundation, namely, to the increased hormonal and metabolic processes and their psychological manifestations motivated by intensified receptive and retentive tendency (p 141).

Similarly, Berne (1988) notes the parallel between the physiological changes and the psychological changes during the pregnancy. First, there is symbiosis and merging between her and the fetus, then gradual separation and differentiation. In pregnancy, there is a tendency to regress to early psychological conflicts. This regression has been considered as progressive, adaptive, healthy and in the service of the ego. This is consistent with the concept of pregnancy having the potential to be an integrative phase.

Psychodynamic authors like Dinorah Pines (1993) and Joan Raphael-Leff (1994) have pointed out the oral, anal and phallic anxieties faced by pregnant women. The psychological revolution that takes place during pregnancy involves emotional lability,
psychic upheaval and situation-specific anxieties and concerns. There is a redistribution of psychic energies with an increase of libido directed to self during the first months, with a gradual movement towards the external world and separation onwards. A “narcissistic refueling” (Offerman-Zuckerberg, 1988) is considered to be crucial as the woman prepares herself to be the baby’s initial home. According to Raphael-Leff (1988), the mother has the functions of container, metabolizer and waste disposer for the baby. It is clear that successful resolution of the many conflicts revived by pregnancy promotes a new maturity which increases the woman’s sense of herself as an adult, as well as her capacity to be a good mother (Cohen, 1988, p. 110).

Another interesting contribution to the understanding of the emotional tasks of pregnancy from a psychodynamic perspective is provided by Tracey (1994, 1998). She outlines some of the dynamic conflicts characteristic of the pregnant woman’s inner world: preconceptive ambivalence, the dynamic between fusion and separation, the conflict between the dream, the dread and the reality, the conflict between being and reacting, the dynamic between chaos and order, autonomy versus dependency and finally knowing and not knowing. Tracey has contributed in this way to the description of different ambivalent forces during pregnancy.

Stages of Pregnancy

Pregnancy is often divided into three stages or trimesters. Colman and Colman (1991) note a 4th trimester after the baby is born. They refer to the first months postnatally.

First trimester

This trimester extends from conception to the time of the mother-to-be’s first perceptions of baby’s movements in utero (about week twenty). Quickening leads to the
acknowledgment of a real life inside her. This is mostly a symbiotic stage: the mother-to-be can not clearly differentiate between herself and her growing baby inside her. The boundaries between herself and her growing child are blurred and dramatic changes in body image are to take place because an extraordinary event occurs, "a strange two-in-one phenomenon, the weird experience of two people in one body" (Raphael-Leff, 1980, p. 182). In symbolic terms, the baby represents the pregnant woman's partner inside herself and the mother herself as a baby. The most common fantasies and preoccupations are of an oral nature, as a parallel to the first stage of psychosexual development (Pines, 1972).

Severe and prolonged nausea, vomiting (hyperemesis gravidarum), food cravings and other common complaints during the first stage of pregnancy may represent symbolic ambivalence towards the growing fetus. However, hyperemesis gravidarum is not well understood. It has been associated with a development or worsening of an eating disorder during pregnancy (Lingham & McCluskey, 1996). A link between severe psychosomatic distress in pregnancy and risks of relationship disturbances across generations was found (StAndre & Twomey, 1996). It has been suggested that some physical symptoms can be seen as compromises, manifestations of unconscious wishes and defenses against the anxiety elicited by the reappearance of those forbidden desires (Chertok, 1969). For example, hyperemesis may represent a displaced oral attempt to get rid of the baby and to terminate the pregnancy orally. The etiologic role of psychogenic factors in physical difficulties during pregnancy is controversial (Miller, 1993, p. 63). Nevertheless, it is important to clinically screen for personality disorders, marital conflict, eating disorders, and ambivalent feelings towards the pregnancy, low intelligence and disturbed interpersonal relationships. A possible connection between these factors and severe vomiting may exist. Pseudocyesis (pseudo pregnancy) and denial of pregnancy may be related to unresolved maternal conflicts and previous mental disorders (Brockington, 1996). Colman and Colman (1991) note that even
though during pregnancy there are many hormonal changes triggering physiological reactions, the symbolic meaning of them is related to and comes from the pregnant woman’s internal world and its dynamic psychological forces.

The pregnant women’s attention focuses on other women as mothers, particularly their own mothers as their first role model. Their anxieties are self-directed.

A study investigating the emotional changes taking place during the three trimesters of pregnancy (Rofe, Blittner & Lewin, 1993), using 282 pregnant women in a retrospective design asked participants to recollect their feelings during pregnancy after they had their babies. Results indicated that women’s recollected feelings during the first trimester were related mainly to the physiological changes occurring early in pregnancy such as nausea and dizziness.

Second Trimester

From the time of the baby’s initial movements, between eighteen and twenty one weeks, until the baby can survive outside the mother’s body (more than 28 weeks), other psychological processes take place. That is, the pregnant woman’s emotional energies are withdrawn from the outside world and they are redirected to the self and the baby, who is now moving actively inside her. She starts identifying with the baby and also reliving issues of separation. She also identifies herself with her own mother, re-experiencing old anxieties connected with that early relationship. There is now some differentiation between herself and the baby and therefore, issues of separation are becoming more predominant. Her dependency needs are increased with a strong regressive pull back to her family of origin or her partner. She is now anxious about something happening to her partner or to other significant people because she is more dependent on them. Anxieties are related to loss of control, retention, and expulsion (Raphael-Leff, 1980, p. 184).
The second trimester tends to be a period of relative calm and well being (Brockington, 1996). This trimester is a transitional phase, in between the initial uncomfortable physical changes (first trimester) and the anxieties connected with delivery (Rofe et al., 1993).

Last Trimester

Towards the end of the pregnancy, the mother-to-be is more preoccupied with the imminent birth and, therefore, with issues of expulsion/retention, separation and abandonment (Cohen, 1988). She is concerned with the normality of her baby and concerned about labor, fears of damage, exposure and separation. Psychic energies begin to be redirected again to the outside world and she starts a “nesting phase”. After finding a place for the baby in her internal world, she gets ready to accommodate the child into the external world.

The reality of childbirth is imminent and unavoidable. Dreams are related to underlying anxieties connected with the birth experience and the baby. The birth itself is a huge journey to the unknown and primitive anxieties are common (Colman & Colman, 1991). Sleeping difficulties, intense anxiety and general restlessness are typical experience during this trimester.

Rofe et al. (1993) indicate that during this trimester anxiety and emotional distress become the most significant symptoms. They further note that factors such as socioeconomic level, number of previous births and personality type moderate the distress experienced.

Table 8 based on the literature reviewed, summarizes the information discussed above.
Table 8: Trimesters of Pregnancy: Anxieties and Tasks

<table>
<thead>
<tr>
<th>TRIMESTER</th>
<th>TASKS</th>
<th>FOCUS</th>
<th>ANXIETIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>First:</td>
<td>Accept pregnancy.</td>
<td>Self directed</td>
<td>Orality, physical changes and concerns</td>
</tr>
<tr>
<td>Symbiotic Stage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second:</td>
<td>Accept reality of fetus, identification with fetus, recognition of the baby as an individual, re-evaluation of relationship with parents and partner.</td>
<td>Baby</td>
<td>Regressive shift, reemergence of past conflicts and emotions. Strong dependency needs.</td>
</tr>
<tr>
<td>Transitional Stage</td>
<td></td>
<td></td>
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<tr>
<td>Individuation</td>
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Psychological Upheaval: Regression and Emotional Lability

Pregnancy precipitates changes in the woman’s relational system including her relationship with her partner and her own mother (Bibring et al., 1961). Movements of object- and self-directed libido during the phases of pregnancy take place. Sexual union with a partner allowed conception and the baby represents that union. Then, the pregnant woman’s libido is directed to self as the vessel, a container for the baby, her first environment, to continue with a movement towards separation and cathectisation of the baby as a separate being (object).

Psychological tasks of the pregnant woman described by Colman and Colman (1991) include:

1. To accept the pregnancy,
2. To accept the reality of the fetus,
3. To re-evaluate her relationship with her parents,
4. To re-consider her relationship with her partner,
5. To accept the baby as a separate person,
(6) To integrate her maternal identity.

Changes in her identity involve modifications in roles, sexuality and personal components of her identity. The following three psychological shifts are noted by Bibring et al. (1961):

(1) An increase of previous signs of conflict,

(2) A regressive shift with the emergence of developmentally earlier emotional and behavioral patterns,

(3) Women with compulsive character structure may present with difficulties in coming to terms with this regressive tendency, as they tend to strengthen their defensive strategies.

Is emotional lability during pregnancy normative? Rapid shifts of emotional states may be an indication of normal psychological adjustments occurring in a period of multiple changes. The emotional upheaval of pregnancy is then, normative, adaptive and appropriate (Colman & Colman, 1991). This period of psychological changes has the potential to be confusing as well as creative: "successful resolution of the many conflicts revived by pregnancy promotes a new maturity which increases the woman's sense of herself as an adult, as well as her capacity to be a good mother" (Cohen, 1988, p. 110).

Loosening of defenses brings about re-appearance of old unresolved conflicts with a reactivation of stages of psychosexual development. A replay, a revival of old conflicts and unelaborated aspects of self and relationships takes place. Pregnancy has been conceptualized as an altered emotional state, characterized by profound and rapid shifting of moods. Hormones, personality characteristics, external supports and stressors all play a significant role in this process. Increased level of anxiety is considered normal during pregnancy as the pregnant woman worries about herself, her baby and her partner (Chalmers & Meyer, 1990). As well as her fears she is also experiencing a series of emotional,
cognitive and behavioral changes including introversion, dependency, insecurity, increased irritability, mood lability, insomnia, fatigue and increasing physical discomfort.

A study focussed on the experiences of 40 pregnant women during pregnancy, childbirth and the puerperium. The overall physical and psychological descriptions included vomiting, general fatigue, frequent nausea, varicose veins, feeling a little depressed about the fear of a possible miscarriage, Feeling very tired but very happy and looking forward to it but very anxious (Castillo, 1994). Another classic study of pregnancy (Breen, 1973) found that only 22% of women in their sample, gave no evidence of difficulties, leaving the majority (78%) of pregnant women reporting some difficulties. Breen postulated that if the norm is to be taken as similar to normality, then, having difficulties is the norm. However, the interpretation of these figures should be cautious because “it may not in any case be appropriate to talk about pathology if problems are so prevalent at his time” (p. 93). Breen’s study also found that in pregnancy women tend to feel anxious and preoccupied with confidence, sexual interest, memory and energy issues.

Chalmers and Meyer (1990) explored cross-cultural differences in the emotional reactions and fears expressed by women during pregnancy. Cultural variability in reactions during pregnancy with positive and negative emotions experienced was common. The most prevalent fears in their sample of white, mixed and Indian women during pregnancy were abnormality, pain in labor, miscarriage, labor itself, caesarian section and amniotic waters breaking in public. The most common feelings were in order of decreasing importance: excited, happy, irritable, proud, emotional, weepy, anxious, afraid, dependent, cross, unhappy, insecure, anger, sad, embarrassed and ashamed. The commonest complaints included back pain, extreme tiredness, irritability, sleep disturbances, indigestion, emotionality, nausea and vomiting, food cravings and depression (27.1%). All women
experienced minor problems of pregnancy. However, there were some culturally determined expressions of those symptoms.

A longitudinal study of a group of 162 healthy women investigated the somatic and emotional symptoms of pregnancy. Participants were followed up from pregnancy until nine months after the baseline interview. This prospective study found that although pregnancy precipitates dramatic physical and psychological changes, pregnancy is not a time of significant emotional turmoil or heightened emotional well being. In their sample of women with planned pregnancy, they could not find supportive evidence for those concepts. The results of their investigation are particularly relevant because they had a control group of non-pregnant women, a prospective design and repeated measures were taken. Further research is necessary to fully understand how cultural, social, hormonal, psychological and behavioral variables interact with the symptoms most predominant in pregnancy (Striegel-Moore, Goldman, Garvin & Rodin, 1996).

A recent longitudinal survey of 1329 females indicated that women who suffered premenstrual mood changes (irritability) before pregnancy tended to show significantly higher depression scores during pregnancy and the postpartum period. Moreover, women with severe premenstrual irritability had greater anxiety about pregnancy and delivery and were more reluctant to accept their roles as mothers (Sugawara, Toda, Shima & Mukai, 1997). These results are consistent with another study reported by Franco, Rodriguez, Vera and Canas (1994). In this study of anxiety and depression during pregnancy, they found that those women with prenatal anxiety also showed high levels of trait anxiety, lesser marital satisfaction, had negative attitudes towards the pregnancy and reported higher numbers of stressful life events.

Associations between relationships, social support and psychological well being of women during pregnancy were examined in another recent study (Zachariach, 1996). The
most significant predictors of well being were marital attachment, life stress and social support. The three factors predicted 25% of the variance in her model.

In another study of 213 pregnant women, four risks factors were isolated: (1) the pregnant woman’s locus of control, (2) her interpersonal relationships, (3) her depressive symptom level, and (4) the existence of a previous psychological disorder (Bernazzani, Saucier, David & Borgeat, 1997).

Cognitive changes also take place in normal pregnancy. A study investigating normative cognitive changes during pregnancy revealed that a self-perceived decrease in short term memory, concentration, attention as well as an increase in absentmindedness were reported by more than 50% of 236 pregnant women sampled (Parsons & Redman, 1991). Women with a high level of education, older, married and attending an obstetrician were women who were more likely to report some cognitive changes. There was no evidence to attribute these cognitive changes to abnormal psychology. These cognitive changes are a feature of normal pregnancy and prenatal education should prepare women for these changes so they can develop adaptive coping strategies.

The literature reviewed suggests that a high anxiety trait, previous psychological disturbances and external psychosocial factors interact to increase levels of anxiety during pregnancy.

The Idealization of Motherhood and the Suppression of Maternal Ambivalence

Psycho-sociological factors may promote an unrealistic view of mothers. Raphael-Leff (1988) named those factors, “the mother mystique”. In our society, mothers are
paradoxically idealized {*} as unconditionally loving, ambivalence free but on the other hand, their status is denigrated and devalued by denial of their creativity and emotional states (Peterson, 1996). Because so much is expected from them, mothers tend to measure any discrepancy between their feelings and the unrealistic version of "all loving feelings" as personal inadequacy. Colman and Colman (1991) contend that the image of the good mother is "too good to be true". Some mothers represent the positive, idealized version of the mother mystique striving to achieve the impossible, for ambivalence is an internal reality in all intimate relationships.

The "laundry version of motherhood", that is, a mother who is unconditionally loving, self-sacrificing, dependent, lacking in self-confidence and self-esteem represents the denial of maternal ambivalence. The co-existence of opposite and conflicting feelings towards the same person, in this case her baby, has the potential to generate anxiety, depression and guilt. Ambivalence can be manageable or unmanageable (Parker, 1995). Ambivalence is a natural, normal and dynamic process within mothers (see Tracey, 1994, 1998). In a large community survey of mothers conducted by Genevie and Margolies (1987) it is reported that:

For the majority (about 55%) motherhood was neither all good nor all bad. Most mothers experienced some of the good and some of the bad to some degree. For most women, motherhood epitomized the essence of ambivalence (p. 410).

Manageable levels of ambivalence may generate creative conflict and a desire to understand, to think about her baby and about the relationship. Intolerable levels of guilt, depression and anxiety will block this process. Ambivalence is suppressed by an idealized or

 {*} Idealization is used here with the following meaning: "a mechanism in which the person attributes exaggeratedly positive qualities to self and others" (Vaillant, 1992, p. 238). Melanie Klein (1946, 1956) conceptualized idealization as a primitive schizoid defence, resulting from persecutory anxiety. Excessive idealization indicates excessive persecutory anxiety. Idealization, for Klein, is a defensive manoeuvre (to counteract envy). Therefore, idealization in the text is used as a descriptive term rather than a psychoanalytic one.
persecutory image of baby and mother as being too good or, on the contrary, too bad.

The "mother mystique" is maintained by a conspiracy of silence by society, professional experts and women themselves (Maushart, 1997; Raphael-Leff, 1988). The mother mystique erodes maternal confidence by reinforcing ideas such as mothers being selfless, exclusively devoted and intuitively understanding children, unconditionally loving, portraying an image of motherhood which denies any negative feeling and blaming the mother for all possible shortcoming in their children.

It has been noted how the scientific discourse is often disconnected from the realities of maternity; therefore the phenomenon is idealized, and stereotyped (Castillo, 1994; Romito, 1989). Obberman and Josselson (1996) offer a different perspective. They conceptualize the experience of mothering as a matrix of dialectical tensions. Thinking in dialectical terms offers a way to avoid the polarization of maternal issues and to incorporate all the contradictory feelings, emotions and experiences of mothers. The predominant dimensions of this matrix of tensions are loss of self versus expansion of self, experience of omnipotence versus experience of liability, life promotion versus life destruction, isolation versus community, cognitive strategies versus intuitive responses and maternal desexualisation versus maternal sexualisation. The theoretical dimensions of the model can emerge through the use of in-depth interviewing. They conceptualize motherhood as a matrix of constant conflicting tensions not as a static, bipolar construct.

The Motherhood Constellation

A challenge to the more pathological view of maternity that psychoanalysis may have contributed to has been provided by Daniel Stern (1985, 1995). He postulates the existence of a particular and distinctive psychological structure in mothers that he named the
motherhood constellation. When a woman becomes a mother new themes, related tasks and discourses present:

(1) Life-growth of the baby: She wonders: Can I keep this baby alive?

(2) Primary relatedness: She asks: Can I love this baby? Can she love me in return?

(3) Supporting matrix: She feels that in order to keep this baby physically and emotionally alive she needs others to support her. "The mother needs to feel surrounded and supported, accompanied, valued, appreciated, instructed, and aided – each to a different degree for different mothers" (Stern 1995, p.177).

(4) Identity reorganization to accommodate her new identity. It encompasses changes in the allocation of emotional energies, time and other personal resources.

The motherhood constellation is a culturally and politically derived concept. Stern emphasises that is not a universal, innate or critical period but a phenomenon observed in most mothers of post industrialized, western societies. He further suggests that men could under optimal conditions develop the motherhood constellation (p. 173).

For a detailed description of the clinical implications of the motherhood constellation, see Stern (1995).

Risks and Protective Factors during Pregnancy

It has been noted that during pregnancy there are several psychological changes including loosening of defenses, reemergence of earlier conflicts, increased access to unconscious processes and primitive anxieties. It is precisely here where one can speculate that pregnant women are at increased risk for decompensation, for example, a mental breakdown. Quite the contrary, others have shown that women are less susceptible to severe mental disease during this phase of the life cycle, with serious emotional problems being rare (Colman & Colman, 1991, p. 29). The risk of suicide during pregnancy has been recently
studied (Marzuk, Tardiff, Leon & Hirsh, 1997). After reviewing autopsy reports of all female suicides in New York from 1990 to 1993, 315 cases of suicide were found. Of those, only 6 were found to be pregnant women. This gives a suicide rate for pregnancy that is a third of the expected ratio. Despite the mood swings and the psychological changes and stressors associated with pregnancy, women seemed to be at a significantly lower risk of suicide, in comparison with non-pregnant women. This finding is consistent with another study reported by Appleby (1996). Appleby conducted an extensive review of the literature concerning risk of self-harm and suicide during pregnancy. Results indicated that pregnancy appears to offer a protection against self-harm and suicidal behaviors.

Conversely, looking at resilience and protective factors may provide a window of opportunity for preventive intervention. According to developmental psychopathology (Cichetti & Cohen, 1995), a variety of general biological, psychological and sociological factors are indirectly related to etiology, course and consequences of risk conditions and psychopathology. The interaction and processes between all these different general factors may be more important than specific proximal predictors. Vulnerability factors are seen as conditions that promote maladaptation while protective factors promote competent adaptation, even in difficult circumstances. Protective factors may provide a compensatory mechanism or influence at different levels of risk. Consequently, protective factors mediate the influence of risk factors in a dynamic interaction. Neither protective nor risks factors cause pathology per se. It is rather the constant interaction in dynamic terms that operate on individual adaptation. In this thesis, both protective and risks factors are of interest. The conceptual model will be further outlined in Chapter 4.
The Importance of Early Detection and Prevention

For those at a higher risk, the early detection of problems is of crucial importance because anxiety has been correlated with premature birth, miscarriages, birth complications, use of drugs, low birth weight and irritable, difficult to feed and unsettled babies. Some recent studies have also indicated that high levels of anxiety prenatally predict less sensitivity in mothers and more mother-infant relationship difficulties (Goldstein, Diener & Mangelsdorf, 1996; Searle, 1987; St Andrey & Twomey, 1996). High levels of anxiety during pregnancy may also be connected to poor outcomes by reducing the likelihood of adequate prenatal care. For example, Abel (1996) conducted a study of 11,936 births from a state birth cohort. Significant interactions were found among poor prenatal care, maternal ethnicity, marital status, anxiety and education. Anxiety in pregnancy was strongly associated with increased stress and depressive symptoms. A negative correlation between social support and stress and depressive symptoms has also been found (Wester, 1996). Women with high levels of support (partner followed by family and friends) during pregnancy gave birth to healthier babies. Social support acted as a buffer against stress, therefore moderated the effects of high stress and reduces depression and the likelihood of low weight infants. Similarly, another study found that prenatal anxiety was highly correlated with high trait anxiety, poor marital relations, negative attitudes to pregnancy and an excess of difficult life events (Franco et al., 1994).

In a prospective study 270 pregnant women were divided in 4 groups according to predominant defense styles, anxiety and psychiatric diagnosis as well as the woman’s partner’s desire for the child. Higher anxiety rating during pregnancy was associated with more severe complications and more severe psychiatric diagnoses were associated with more complicated deliveries (Peterson, Mehl & McRae, 1988). Another investigation on a group of 221 women identified the most common stressors in pregnancy (Affonso & Mayberry,
The most frequent stressors were related to physical symptoms, body welfare, changes in living patterns, emotional disturbances and pregnancy-technological concerns. Baby's welfare, labor and delivery, newborn behaviors and the relationship with the baby's father were reported as stressors of high and different intensity across the different stages of the pregnancy.

The experiences of women during pregnancy are different across time. For example, it was indicated that women during the first trimester experience an altered sense of self and emotional lability. During the second trimester, a sense of well being and enhanced physical and psychological health predominates. With the imminence of birth, anxiety levels increase again with the pregnant woman preparing herself internally and externally for the baby's arrival (Brown, 1990). While psychiatric morbidity tends to be generally low during pregnancy, other stressors may exist and generate distress such as financial concerns, marital discord or misconceptions about sexual activity during pregnancy. It has been suggested that three areas of psychological functioning are important areas of exploration:

1. Her ideas and expectations about pregnancy and motherhood,
2. Her capacity to cope with general stress,
3. Her social support network.

Pregnancy places a woman in a more dependent situation regarding her social network and creates increased needs for nurturance, support and acceptance (Colman & Colman, 1991). This dependence on their social support network is highlighted by research indicating that social support is a protective factor in pregnancy and more so in the postnatal period (see Chapters 4, 5 and 8).

It has been noted that pregnancy appears to provide a protective shield against mental breakdown (Colman & Colman, 1991). This is a challenge to the notion that increased levels of anxiety, depression and other common complaints during pregnancy are indications of
psychopathology. Miller (1993) has carried out a complete review of psychiatric disorders during pregnancy. She indicates that rates of first time psychiatric admission decreased during pregnancy. It is noted, however, that there seems to be a general reluctance to admit pregnant women to psychiatric hospitals. Features that have to be individually assessed in each pregnant woman include:

(1) Emotional lability,
(2) Relationship with partner and mother,
(3) Gender attitudes,
(4) Preparation for motherhood,
(5) Prior mental illness,
(6) Instrumental and emotional support,
(7) Medically high-risk pregnancy (includes the following conditions: hypertension, diabetes, cardiovascular disease, renal diseases and malignancies as described by Carr, 1993).
(8) Current life situation.

Chapter 8 of this thesis further develops a psychological assessment for pregnant women.

Depressive symptoms have been reported as common during pregnancy. For example, a recent study of 124 low-income pregnant women found that up to 70% of them had some measure of depressive symptomatology. Furthermore, 15% of them scored in the severe range (Heit, 1997). Brockington (1996) after reviewing the literature on prepartum depression concludes that, while self-rating scales indicate higher scores in depressive levels, prepartum depression is no less common than postpartum depression and this fact may be a reflection of the higher prevalence of depression in women (p. 97). General causative factors isolated from the literature are similar in nature (neuroticism, high anxiety trait, previous
psychological difficulties, lack of social support and excess of stressful life events, as discussed in Chapter 2 on this thesis); only a few specific factors were associated with depression during pregnancy. Previous perinatal loss and ambivalent feelings regarding the pregnancy were predictors of prenatal depression in an investigation reported by Kumar and Robson (1984). A recent Canadian study of the correlates of prepartum depressive symptomatology found that employment, higher self-esteem and satisfaction with social support were related to decreased level of prenatal depressive symptoms (Berthiaume, David, Saucier & Borgeat, 1998).

Studies have indicated that while major psychiatric diagnoses such as Schizophrenia and Major Depression do not show an increased incidence during pregnancy, minor disturbances may occur, especially if levels of symptomatology (depressed or anxious mood) are considered (Miller, 1993, p. 55). For example, a prospective study of postpartum psychiatric disorders in which 60 women were investigated psychologically and medically from the first trimester of the pregnancy to the 6th month postnatally was conducted. Seven women were referred for psychiatric treatment with only 3 requiring hospitalisation. Because in only 2 cases childbirth was directly related to the onset of symptoms the authors proposed that postpartum disorder precipitated by childbirth can be separated from psychiatric disorder in the postpartum period that is not critically related to childbirth (Brown & Shereshefsky, 1974). Kliot (1988) notes that “although pregnancy generally does not produce emotional problems, it can heighten existing ones” (p. 166). As an illustration, Miller (1993) notes that a number of psychosocial issues may complicate pregnancy in women suffering from Schizophrenia. As a group they tend to be unemployed, less educated, impoverished and to lack emotional and instrumental support. Other risk factors include (1) inadequate prenatal care, (2) prematurity, (3) low weight babies, and (3) other obstetric complications (p. 58). If women have a mood disorder prior to pregnancy the major risks factors are suicide and
inadequate nutrition. Some studies revealed that improvements in panic disorder during pregnancy have been reported. Women with a history of personality disorders may be a particularly vulnerable group. It has been noted that during pregnancy unresolved conflicts regarding sexuality, identity, body image and interpersonal relationship are likely to be reactivated. This is perhaps why authors have emphasized that women with a history of childhood sexual abuse tend to have more psychological difficulties during the pre and postnatal periods (Buist & Barnett, 1995; Cole, Scoville & Flyn, 1996). Bodily changes during pregnancy may pose a challenge to women with a history of eating disorders.

In contrast to these vulnerabilities, current psychosocial supports (protective factor) may alter the outcome and pregnant women with previous difficulties do not necessarily decompensate.

**Anxiety during Pregnancy**

An increase in receptive-retentive tendencies as well as narcissism in pregnant women provide a sense of well being and a general decrease in anxiety even in otherwise anxious women (Cohen, 1988). For example, an improvement in panic disorder during pregnancy with a postnatal deterioration has been reported (George, Jay, Ladenheim & Nutt, 1987; Shear & Mammen, 1995).

The ventilation of anxieties during pregnancy may be a protective factor. Women who express their emotions tend to do better than those who deny them (Cohen, 1988). The capacity to express anxiety and ambivalence about pregnancy is associated with better postpartum adjustment (Smith, 1996) for acceptance of ambivalence is a measure of overall healthy adjustment prenatally and postnatally. This is also consistent with Colman and Colman's (1991) clinical opinion that women who are aware of their anxieties, dreams and fears during pregnancy tend to find it easier to adjust postnatally. They describe a “sunny
pregnancy syndrome" in women who tend to idealize pregnancy, denying any negative feelings and later finding motherhood difficult, frustrating and conflicting.

High levels of anxiety during pregnancy may be related to (1) a previous miscarriage (Cote-Arsenault, 1995), (2) terminations of pregnancy or (3) a previous handicapped child. However, moderate levels of anxiety may be beneficial and lead to a smooth transition and adjustment (Breen, 1973). Anxiety as a mood and as a disorder have to be differentiated (Buist, 1996). Studies have to be cautious to control for medical reasons to account for an increase in anxiety levels. For example, many studies simply track anxiety levels in pregnant women. Some then proceed to make sweeping conclusions, whilst others gather together sets of predictors (Buist, 1996, p. 137). It is then unclear to what extent such scores relate to quality or quantity of emotional experience (p. 215). A study compared anxiety levels of pregnant and non-pregnant women found that anxiety levels of pregnant women were higher than for the non-pregnant population. This level of anxiety decreased postpartum, perhaps indicating that the psychological changes during pregnancy are of a transitory nature, not indicative of any underlying psychopathology (Buist, 1996).

Similarly, another study measured depressive mood during pregnancy. Depression scores did not show a statistically significant change over the prenatal period. A recently published study indicated that depression and anxiety levels were higher in pregnancy and tended to decrease from the prenatal to the postnatal period (Podbilewicz-Schuller, 1997). This study is relevant as the design was prospective and the sample size adequate (N = 124 primiparas). Predictors of depression and anxiety differed during the pregnancy and the postnatal periods, as noted by O’Hara (1983). Another similar study conducted by Lynch (1997) reported a decrease in dysphoric symptoms postnatally.

Some women find it very difficult to resolve some of their conflicts over their feminine identity. Some pregnant women rebel against a powerful mother while others find
very hard to identify with a submissive, passive and powerless mother. These women who are believed to be in a revolt against their mothers are particularly vulnerable during pregnancy and the postnatal period. They may express those underlying conflicts in the form of overt anxiety (Raphael-Leff, 1980).

Special circumstances that may be present during pregnancy and may account for increased levels of anxiety. Those factors include abuse during pregnancy, suicide, teenage pregnancy, pregnant women who are rape survivors, unplanned pregnancy, multiple births, previous neonatal deaths, women with a previous psychiatric history and women with a history of eating disorder or drug abuse (Buist, 1996).

An interesting discussion of psychological and physical warning signs in pregnancy is provided by Offerman-Zuckerberg (1980). Physical alarming signs include habitual abortion, toxemia (hypertension), undue nausea, inappropriate weight gain, unusual and vague aches, cramps and pains in the genital area, blushing, flushing and fainting, breathing difficulties, circulation problems and general aches and pains. The psychological warning signs include excessive worries and fears, fantasies or thoughts regarding loss of control, acute and prolonged separation anxiety, emotional numbing, extreme lability and resistance to nestbuilding behavior (p. 169). Women may well need a "psychological check up" as part of their routine obstetric care, because "major risks of pregnancy today are no longer medical, but psychological" (p. 168).

Risks can be further classified into:

1. Conflicted pregnancies when they are unplanned, or when there are extreme ambivalent feelings regarding having a baby,

2. Emotional sensitization when there is a family history of psychiatric problems, or when a pregnancy comes after a period of infertility or previous perinatal difficulties,
Complicated pregnancies due to an aggregation of stressful life events, lack of support, and the physical condition of the mother (Raphael-Leff, 1994, p. 193).

A double crisis involving the multiple physical and psychological demands of pregnancy in addition to adolescence, widowhood, psychiatric illness or a chronic physical problem is experienced by many mothers (Raphael-Leff, 1980, p. 177). A definition of "high-risk pregnancies" can be found in Carr (1993, p. 25). High-risk pregnancies are those in which a maternal or fetal factor adversely affect the outcome of the pregnancy. Women with a history of infertility, stillbirth, previous terminations and miscarriages are among those to be considered at high risk of postpartum distress because they tend to have unresolved grief elements which are displaced to the new pregnancy in the form of extreme fears, anxieties and guilt (see Chapter 8).

While this thesis is concerned with uncomplicated pregnancies, some of these factors were taken into account during data collection. For example, the existence of previous terminations and miscarriages and previous psychological difficulties were noted.

Summary

In this chapter, psychological changes that take place in uncomplicated pregnancies were reviewed. The way in which conscious and unconscious motivations interact in the wish to have a child was highlighted. Different phases of pregnancy were discussed. Normative emotional changes, anxieties and complaints in pregnant women were outlined. The "mother mystique" was presented as a manifestation of society's idealization of pregnancy and motherhood and the denial of ambivalence. The chapter continued with a description of risk factors associated with prenatal and postnatal distress. A review of the relevant literature on anxiety as a function of normative psychological processes during pregnancy or an indication of underlying psychopathology was conducted.
This thesis is concerned with the detection of vulnerabilities during pregnancy so preventive strategies can take place to prevent maternal and infant poor health outcomes.

In the next chapter, the literature regarding the postnatal period will be explored.
CHAPTER 4: THE POSTNATAL DEPRESSION DEBATE

This chapter will present an overview of the current debate regarding postnatal depression as a unique and distinctive phenomenon. After that, it will outline two different perspectives dealing with the classification of psychological distress. Then, factors identified in empirical studies related to postnatal depression will be reviewed. Finally, a rationale for the empirical study reported in this thesis will be presented, making explicit the assumptions underlying the research.

Depression or Postnatal Depression?

There is a debate regarding the nature of postnatal depression with two basic positions. The first is that postnatal depression is a unique and distinctive phenomenon, differentiable from other depressive disorders occurring at other times in the life cycle and occurring in men. The opposite view is that postnatal depression is not differentiable from other disorders. For the former perspective, childbirth functions as an etiological factor while for the latter it does not. Authors who have proposed biological or hormonal explanations posit the specificity of postnatal depression. The universality of postnatal depression is emphasized by the role played by cultural, psychological, and social influences. Postnatal depression according to this perspective is viewed as a reactive depression, an understandable reaction to a difficult set of circumstances or as a natural protest of women confronted with limitations and unrealistic expectations imposed by the maternal role as defined in our culture. Some authors have alerted against the medicalization of postnatal depression (Barnett, 1986; Mauthner, 1993; Maushart, 1997; Nicolson, 1990; Romito, 1989; Rossiter, 1988): “It is possible that the current standards of mental health are inherently biased against women and that the syndromes that are labelled ‘mood disorders’, are not
‘disorders’ in the true sense” (Brems, 1995; p. 561; see Romito, 1989, p. 1442). The existence of a condition called postnatal depression has also been challenged. The ‘postpartum condition’ has been defined as a combination of physical, personal, social and cultural factors which make this period such a difficult time in women’s lives (Crouch & Manderson, 1993).

Does childbirth induce psychological disturbance? (Kumar, 1982). The two main perspectives are the bio-medical and the psycho-social-feminist. Researchers like Cox, Holden and Sagovsky (1987), Nott (1987), Boyce (1993) and Hamilton and Harberger (1992) argue that postnatal depression is a distinct, specific clinical phenomenon, characterized in terms of onset, incidence, presentation and duration. On the other hand, other well-known clinicians and researchers like Brockington (1996), Kumar and Robson (1984), Paykel, Emms, Fletcher and Rassaby (1980), O’Hara, Zekoski, Phillips and Wright (1990) and Whiffen, (1993) dispute its specificity. Little evidence supports the notion that postnatal depression is different from a depressive episode occurring at other times. Postnatal depression is often of shorter duration, milder severity but clinical relevance (Kumar, 1982; O’Hara, 1986). The robust correlation between postnatal depression and psychosocial factors, such as absence of social support and stressful life events, provides evidence for the universality argument.

The scientific merit of the concept of postnatal depression can be questioned if postnatal depression can not be defined as a single entity, a differentiable disorder with an onset, and treatment. Postnatal depression is a term with widespread social and political influence (Brockington, 1996, p.174) which helped in making maternal depression more legitimate by increasing public awareness of this phenomenon. It is the argument of this thesis that both perspectives have a role in understanding this topic. An either-or approach is overly simplistic (Brems, 1995; Herz, 1992; Holden, 1991). This thesis will delineate
concepts by using the term postnatal distress to refer to a dysphoric mood and postnatal depression to refer to a clinical episode of depression occurring after childbirth. In that respect, postnatal anxiety and depression are considered valid indicators of maternal dysphoria. Dysphoric states, characterized by elevated levels of anxiety and depression, may be the precursors of a clinical syndrome which could meet diagnostic criteria for major depressive episode when it fulfills the hallmarks of intensity, duration and clinical significance, discussed in Chapter 2. The continuity between mild and severe symptoms of depression and between elevated symptom levels and clinically diagnosed disorders has been questioned. However, even though elevated scores may not lead to clinical depression, they may cause distress and impaired psychological functioning (Barnett & Fowler, 1995; Wagner, Appleby, Whitton & Faragher, 1996). In summary, this thesis will explore postnatal dysphoria (postnatal distress) as well as postnatal depression as a syndrome reaching clinical significance.

A Dimensional Classification of Mood Disorders

The dimensional or quantitative model places levels of symptoms along a continuous scale. Items which represent a theoretical construct, for example, postnatal depression, are summed and that score gives a quantitative measure of that particular concept at one particular time (Achenbach, 1990). Sub-threshold levels of depressive symptoms, regardless of syndromal presentation, could be seen as potential risk indicators. When people present with borderline subclinical symptoms, they have the potential to be misdiagnosed or underdiagnosed (Carter, 1994; Gruen, 1990; Mullin, 1996). Distressed pregnant women and new mothers are easily overlooked in the health system (Barnett & Fowles, 1995; Kumar & Robson, 1984), because society expects them to be blissfully happy (Harberger, Berchtold & Honikman, 1992; Herz, 1995; Maushart, 1997) or euphoric (Cox & Holden, 1986; Hopkins,
Campbell & Marcus, 1989). Mothers do not tend to ask for help because of fear of being judged negatively (see Chapter 8) or misunderstood and they keep their suffering to themselves (Arizmendi & Affonso, 1984; Crouch & Manderson, 1993; McCord, 1984). Mothers who are distressed are not easily detected or helped (Dennerstein, Varnavides & Burrows, 1986) even though postnatal depression is the most common complication postpartum (Barnett & Fowles, 1995). The issue of the continuity of prenatal depression and postnatal depression has been explored (O’Hara, 1984, Kumar & Robson, 1984). Continuity between high levels of anxiety in pregnancy and postnatal depression has been proposed (see extensive review in Kumar, 1982). Some researchers have questioned this alleged continuity on the basis of studying their different predictors and concomitants. Prenatal depression is different from postnatal depression (Cox & Holden, 1986). Prenatal depression has been associated with reports of low support from partners and more support from others while postnatally depressed women reported more stressful life events and less support from partners after delivery (O’Hara, 1986, p. 569).

Overall, it seems likely that women with subclinical symptoms are at increased risk for developing major affective episodes, particularly under conditions of constant strain such as sleep deprivation, physical exhaustion and an irritable baby: “this distress does not fit easily into traditional psychiatric definitions but can be easily recognized by people who are alert to its existence” (Barnett & Fowles, 1995, p. 2). The risk is higher in those affected by chronicity (Hollon, 1995; Kaelber et al., 1995). Nevertheless, some women who are depressed postnatally were depressed prenatally (Nolen-Hoeksema, 1995): “some women are depressed before conception and remain so during and after pregnancy” (p. 375). Kumar and Robson (1984) noted a different finding. In their longitudinal study, women suffered from depression either prenatally or postnatally. Prenatal distress is not a rare phenomenon (Kumar & Robson, 1984). A study estimated the prevalence of prenatal depression as 9%
(O'Hara, 1986). Therefore, the exploration of the longitudinal course of mild dysphoria is important in the identification of high-risk pregnant women. A longitudinal approach gives the possibility of detecting new cases, providing an estimate of the incidence of the particular disorder under consideration (Kaelber et al., 1995). More longitudinal rather than cross sectional studies are needed (Brockington, 1996; Klein & Anderson, 1995). Even though these types of study are expensive and time-consuming, they are considered a preferable technique in comparison to retrospective analysis, when samples are not matched appropriately (see Lewis, 1990).

Regarding maternal distress and depression, it is necessary to understand the relationship between the different risk indicators. Many variables that have been noted in the literature as risk factors, are influenced and mediated by other socio-economic factors, such as poverty, unemployment and discrimination against women in our society (Brems, 1995). Many studies are retrospective and correlational; thus, it is problematic to establish causality. For example, does dysphoria lead to strain in the marital relationship or does an unhappy relationship lead to psychological distress? Longitudinal studies, even though they pose other complications (Kaelber, Moul & Farmer, 1995; McClendon, 1994), allow for a temporal association to be inferred. Early identification of postnatal distress is important, as it may later be conducive to the development of postnatal depression. Socioeconomic factors are not necessarily modified by psychological interventions but demand social change (Brem, 1995). Intervention at the level of increasing resilience may be more manageable than changing vulnerabilities and risk factors (Herz, 1992). Hence, preventive efforts may be directed at increasing coping skills of vulnerable women (Holden, 1991) as well as increasing public awareness and education about psychological distress in mothers.
A Categorical Approach to Mood Disorders: The Diagnostic and Statistical Manual of Mental Disorders and ICD-10

In contrast to the quantitative approach described above, there is a categorical approach that identifies the presence or absence of depression. The most widely used system for classification of mental disorders in Australia is the Diagnostic and Statistical Manual of Mental Disorders IV Edition (1994). It classifies depression into a more general category of Mood Disorders and contains criteria to differentiate Depressive Disorders (unipolar) from Bipolar Disorders. The criteria set for a Depressive Episode (a set of symptoms occurring at one time) is as follows:

Five of the following with (1) or (2) present for a two weeks period:

1. Depressed mood
2. Loss of interest or pleasure
3. Appetite disturbance
4. Sleeping disturbance
5. Psychomotor agitation/retardation
6. Decreased energy
7. Worthlessness or excessive guilt
8. Difficulties in thinking and concentration
9. Recurrent thoughts of death and suicide

(DSM IV, 1994b, p. 222).

The International Compendium of Diseases (10th edition) is used by clinicians and researchers internationally. Research criteria for depression are included:

Mild depression: at least two of the first three items, and at least two of the following items.
Moderate depression: same as mild depression and at least three of the ten items should be present to a marked degree, or a total of at least seven of the ten items should be mildly or moderately present.

Severe depression: the first three should be present at least three of the following ten items, at least two of the symptoms should be severe, and others should be marked.

(1) Lowered mood
(2) Loss of interests
(3) Decreased energy
(4) Decreased self-esteem
(5) Guilt feelings
(6) Suicidal thoughts
(7) Impaired concentration
(8) Motor retardation or agitation
(9) Disturbed sleep
(10) Decreased or increased appetite.

(9) Decreased or increased appetite.

(ICD 10, 1993, pp. 81-85)

Neither DSM IV nor ICD-10 recognizes a separate type of postpartum depressive disorder. However, an innovation of the last edition of DSM includes a specification named "with postpartum onset" as a possible specifier. DSM IV has not recognized postnatal depression as a separate distinctive clinical disorder. DSM IV does not differentiate between endogenous and reactive types of depression. The formal classificatory systems do not recognize types of depression (Kaelber et al., 1995). This is in contrast to research suggesting that depression is likely to be a quite heterogeneous group of disorders (Hollon, 1995).
A dysphoric mood is one of the two essential criteria for a depressive episode. A depressive or dysphoric mood is also a component of many other DSM IV disorders (Kaelber et al., 1995). An investigation of dysphoria is a legitimate study on its own, regardless whether that dysphoria is accompanied by other associated features, because it emphasizes a preventive approach.

Sleep disturbances and loss of sexual drive are reported as normative changes in the postnatal period. Thus, these symptoms can not differentiate well between depressed and non-depressed mothers. The more cognitive-affective components of depression (irritability, low self-esteem, obsessionality, difficulties in concentration and guilt) have been noted as better discriminators between depressed and non-depressed mothers (Hopkins, Markus & Campbell, 1984).

One limitation of the categorical model is that depression presents in different grades of severity (Kaelber et al., 1995). The categorical model provides a cross-sectional, static perspective:

At our present stage of knowledge, we do not know which disorder is best thought of in terms that are more categorical. Neither can we clearly identify the boundaries between normality and pathology nor between different categories of pathology. Until we have a better understanding of the quantitative versus categorical nature of particular disorders and the boundaries between them, it is preferable to maximize the power of research designs and analyses by using quantitative data whenever possible. This avoids the risk of premature closure on yes-or-no categories that may impose false boundaries on the phenomena in question (Achenbach, 1990, p. 48).
Overlap between Depression and Postnatal Depression

Table 9 compares signs and symptoms of a depressive episode with signs and symptoms typical of postnatal depression. It can be observed from Table 9 that the similarities between depression and postnatal depression are striking. The essential negative mood (dysphoria) and the other concomitants of a depressive episode are found in postnatal depression. A different picture emerges if postnatal depression (characterized as fulfilling the criteria for a DSM IV Major Depressive Episode) is compared to an Adjustment Disorder. An adjustment disorder involves the identification of an event within the last 3 months and the development of emotional and behavioral symptoms as an exaggerated response to that event. The response involves significant distress or impairment of function. An exacerbation of a previous disorder is not considered an adjustment disorder.

Table 9: Comparison between a Major Depressive Episode and a Postnatal Depressive Episode

<table>
<thead>
<tr>
<th>MAJOR DEPRESSIVE EPISODE</th>
<th>POSTNATAL DEPRESSIVE EPISODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed mood</td>
<td>Anxious and depressed mood, irritable, angry.</td>
</tr>
<tr>
<td>Diminished interest/pleasure in activities</td>
<td>Apathy</td>
</tr>
<tr>
<td>Weight loss/increase(*)</td>
<td>Not eating/overeating</td>
</tr>
<tr>
<td>Insomnia/oversleeping(*)</td>
<td>Insomnia, nightmares, excessive sleep</td>
</tr>
<tr>
<td>Fatigue, loss of energy(*)</td>
<td>Exhaustion, fatigue, tiredness</td>
</tr>
<tr>
<td>Diminished capacity to think</td>
<td>Inability to think properly</td>
</tr>
<tr>
<td>Concentration difficulties, indecisiveness</td>
<td>Obsessional thoughts</td>
</tr>
<tr>
<td>Psychomotor agitation/retardation</td>
<td>Obsessional activities</td>
</tr>
<tr>
<td>Suicidal ideation</td>
<td>Suicidal ideation</td>
</tr>
<tr>
<td>Guilt, rumination, preoccupation</td>
<td>Feelings of inadequacy, multiple fears, shame, failure, multiple somatic complaints</td>
</tr>
</tbody>
</table>

(*) These somatic components are difficult to evaluate during the postnatal period due to normative physical changes associated with childbearing.
The great majority of postnatal depression cases are consistent with an adjustment reaction rather than an affective disorder (Brem, 1995). The birth of the baby may be considered as an identifiable stressful event, which occurred within the last 3 months. The constellation of emotional reactions may be regarded as a response. The difficulty at this point is to determine whether it can be considered distress greater than expected. As we have discussed in the previous chapter, the transition to motherhood is a complex process characterized by multiple cognitive, emotional, behavioral and social changes (Fowles, 1996; Holden, 1991). Many women experience all these changes as anxiety provoking and confusing. The losses involved in the process bring about feelings of sadness and grief. What is normative during the postnatal period (Hopkins, Campbell & Marcus, 1989)? The line dividing normative changes and distress is difficult to draw (Fones, 1984). When is distress greater than expected? The other problem in using the adjustment disorder criteria is that it excludes people with a history of a previous disorder. It has been suggested repeatedly that a previous depressive episode is one of the best predictors of a future episode (Gotlib & Hammen, 1993). Using the adjustment disorder classification might exclude recurrent cases of postnatal depression. Moreover, this contradicts the notion of a previous episode of depression as a risk factor. By definition, an adjustment disorder occurs only once with a clear onset and offset. As postnatal depression is not easily detected or treated, it tends to run a chronic course (Barnett & Fowles, 1995), probably more in the line of a Dysthymic Disorder, that is, a chronic mild depression or a depressive personality.

The following assessment questions have been proposed to detect postpartum depression:

1. Do you have any difficulty sleeping, other than that caused by the baby waking you up?

2. Do you feel sad or tearful?
(3) Do you find yourself worrying a lot about you or your baby?

(4) Do you feel you cope less well with the baby than do other mothers?

(5) Do you at times wished you had not had the baby?

(6) Are there any problems in your marriage or loss of interest in sex?

The answers to these questions may provide clinical indications of women suffering from postnatal depression (Cox, 1983; Dennerstein, Varnavides & Burrows, 1986).

Some clinicians have argued that other diagnostic categories can be included under the generic term “Postnatal mood disorders” (Barnett & Fowles, 1995, p.4). For example, they propose the inclusion of anxiety and depressive neuroses (or mixed), major and minor depression, dysthymia (chronic mild depression), post-traumatic stress disorders and personalities disorders. It is questionable whether those different disorders (i.e. personality disorders and post traumatic stress disorder) can be clustered as ‘mood disorders’: “The original idea that postnatal depression is a unique form of depression cannot be sustained, however, there are still good reasons for retaining the concept of PND” (Boyce, 1997, p. 70).

Overlap of Anxiety and Depression

Many studies have noted the overlap between anxiety and depression in the clinical presentation of distressed mothers (Wagner, 1996). For example, Bech (1993) argues that differences between anxiety and depression are mostly in the area of intensity. Anxious clients scored less on anxiety and depression scales while depressed people had higher scores on both types of scale (p. 185). The clinical presentation of distressed mothers is consistent with different degrees of anxiety and depression overlapping (Bech, 1993). It has been suggested that anxiety and depression are different external manifestations of an underlying specific vulnerability. Environmental factors determine whether that genetic vulnerability is manifested in the form of depression or anxiety (Hollon, 1995).
Table 10 adapted from Bootzin et al. (1993, p. 250) illustrates commonalities and differences between depression and anxiety. It can be seen from Table 10 that the overlap of anxiety and depression is manifested in dysphoric states and in postnatal depression.

Table 10: Depression and Anxiety: Similar and Differential Features

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>UNIQUE DEPRESSION</th>
<th>UNIQUE ANXIETY</th>
<th>OVERLAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>Sadness and despair.</td>
<td>Fear, apprehension, tension.</td>
<td>Dysphoria, irritability, crying.</td>
</tr>
<tr>
<td>Behavior</td>
<td>Retardation, anhedonia, loss of interest, suicidal acts or ideation.</td>
<td>Agitation, increased activity.</td>
<td>Decreased activity, lower initiation response, decreased energy, performance deficits, behavioral disorganization, increased dependency, poor social skills.</td>
</tr>
<tr>
<td>Somatic</td>
<td>Decreased activity sympathetic system, decreased appetite, decreased sexual interest.</td>
<td>Increased sympathetic activity.</td>
<td>Restless sleep, initial insomnia, panic attacks.</td>
</tr>
</tbody>
</table>
Definitions and Terminology

Postpartum disorders have been the focus of considerable attention from clinicians and researchers of different disciplines who documented its deleterious impact on sufferers, on infant's cognitive and emotional development (Murray, 1992) and on the marital relationship (Gotlieb & Whiffen, 1989). Distress in the mother has been correlated with difficulties in mother-infant attachment (Hoffman & Drotar, 1991), child abuse (Searle, 1987), behavioral and emotional disturbances in children (Cox, 1986; Stein, Bueher, Bond et al., 1991; Winnicott, 1958, 1960), infant's irritability, sleeping and feeding problems (Daws, 1989; Guedeney & Kresley, 1987; Helling & Galler, 1992; Zuckerman, Bauchner & Cabral, 1990) and even Sudden Infant Death Syndrome (Mitchell et al., 1992).

Postnatal distress has been recognized as a matter of public health concern (Allen, 1993; Barnett, 1990). There is general agreement about the significance of postpartum disorders (Holden, 1991) although there is not yet a common nomenclature for them. Almost every study published recently starts by proposing a term and then a definition of what is meant by the term. Names proposed include Non-psychotic Mood Disorders following Childbirth, Puerperal Disorders, Reactive or Neurotic Depression (Dennerstein et al., 1986), Major Postpartum Depression (Hamilton et al., 1992), Postpartum Psychiatric Illness (Hamilton & Harberger, 1992), Atypical Depression (Pitt, 1968) and Maternal Depression (Chalmers & Chalmers, 1986; Herz, 1992). An illustration of the different nomenclature used even by the same authors in one chapter is found in Harberger et al. (1992). In a description of the spectrum of reactions, “maternity” blues is followed by “postnatal” depression, then by “postpartum” depression, then by “puerperal” psychosis and the term “postpartum” psychotic depression as the more severe end of the spectrum (p. 44). Postpartum unhappiness (Romito, 1989) is another name found in the literature. It seems as if names become more complex as the disorders are regarded as more severe. The
multiplicity of names may be a reflection of the fact that postnatal depression is not a single entity (Brockington, 1996, p. 181) but covers a variety of different disorders following childbirth (Appleby, Gregoire, Platz, et al., 1994; Lynch, 1997): “The psychopathology of the postpartum period takes many forms. The portfolio contains about 20 different disorders” (Brockington, 1996, p. 139). Depression has been noted as a heterogeneous group of disorders, with different sub-types and underlying causal processes (Hollon, 1995). The difficulties encountered in finding a name is one of the many uncertainties that abound in the field. Is postnatal depression an illness with a distinct etiology, onset and course? Is postnatal depression a psychosocial reaction? Is the depression and anxiety experienced by mothers normative? Is postnatal distress a reflection of the way in which we socially construe motherhood? (Chodorow, 1978; Jebali, 1993). High prevalence rates of maternal distress are cited, sometimes reaching 40% of the population (see Barnett & Fowles, p. 2). How can an illness be so widespread? (Breen, 1975). To complicate the picture further, incidence rates (new cases) are sometimes mixed with prevalence rates (Kumar, 1982).

The term postnatal distress is used in this thesis as a combination of dysphoric, unpleasant feelings of anxiety and depression following childbirth. The existence of these dysphoric feelings at 6 weeks and or 6 months postnatally can alert clinicians to the risk of these temporary affective states becoming clinical syndromes in some vulnerable women (postnatal depression). The early detection of vulnerable pregnant women is in line with the preventive focus of this clinician. It is also connected with the idea that pregnancy is a time of rapid change and crisis (Raphael-Leff, 1996) and intervening at this time may decrease risk and alleviate future complaints. Both pregnancy and the early postnatal period are times when women are in contact with services (Herz, 1992). Some studies have suggested that pregnancy is the time of least risk of developing psychiatric disorder while the postpartum
period is the time of most elevated risk (Hamilton, 1992), as reviewed in the previous chapter. Chapter 8 will address the topic of prevention of postnatal distress more extensively.

Specific Factors related to Postnatal Depression

Because the theoretical position adopted in this study recognizes the universality of postnatal depression, it is necessary to examine whether the same etiological factors that can explain depression can illuminate the understanding of postnatal depression (Nieland, 1996). In this section, some empirical studies emphasizing specific etiological factors that have been isolated for postnatal depression will be explored and the question as to whether the same predisposing, precipitating and maintaining factors discussed for depression (Chapter 2) are relevant for the understanding of postnatal depression will be addressed. The main consistent findings regarding etiological factors for postnatal depression include stressful life events, marital discord, relationship difficulties, lack of social support and personality factors such as obsessionality and perfectionism (Arizmendi & Affonso, 1984; Brockington, 1996; O’Hara, 1987). In a comprehensive review of the literature of risk and protective factors in depression, Kaelber et al. (1995) divided risk factors for major depression into (1) highly plausible, (2) plausible, (3) possible and (4) discounted. Within the highly plausible category they group being female in gender, prior depression, being divorced or separated, other psychiatric disorder, poor general health, major adverse life events, low socioeconomic status, co-morbid anxiety and chronic depression. The plausible factors listed include being unmarried, living with one or more small children, family history, loss of mother before age 11, miscarriage and social isolation. The possible factors listed are living in a city, ethnicity, infertility, housework and having a nurturing role, among others. Finally, the discounted factors are luteal phase estrogen/progesterone changes, neuroticism in women, the postpartum period and women reporting more their distress than men (pp. 24-25).
The etiological evidence supportive of the specificity of postnatal depression is far from conclusive. Many obstetrical and baby related factors have been studied (Romito, 1989, p. 1435) yet very few were found to be consistently associated with, and specific to, postnatal depression, apart from unwanted pregnancy and a earlier episode of mood disturbance in a previous pregnancy (Brockington, 1996, p. 186). It has been noted that depression tends to recur. Consequently, women who were depressed before are more likely to be depressed after a stressful life event such as childbirth. In addition, if the pregnancy was unplanned, the unwanted changes bring more distress because of the lack of perceived control. The exploration of factors such as method of infant feeding, previous obstetric loss and complicated deliveries have yielded contradictory findings, probably due to research and methodological limitations (Brockington, 1996; Romito, 1989, p. 1435). Studies may not capture the complexity of the phenomenon under study (Atsbury, Brown, Lumley & Small, 1994).

Another extensive review of the literature explored two proposed causative factors in postnatal depression: a dysfunctional relationship and a vulnerable personality style. A "vulnerable" personality style is characterized by high levels of perfectionism, interpersonal sensitivity, neuroticism and a depressive cognitive schema (Beck's depression triad). The relationship between a vulnerable personality style and a strained marital relationship is complex. The evidence appears inadequate to conclude whether they are etiological or correlated factors in postnatal depression (Boyce & Stubb, 1994).

A longitudinal study of 123 couples during the transition to parenthood found that postnatal anxiety (one of the measures of strain used) was predicted by the appraisal of the event regarding its anticipated difficulties. Familiarity and the event-related features, such as infant characteristics and recent and current stressors were also influential (Terry, 1991). The relationship between marital intimacy and postnatal depression has been studied (Scheitzer,
Logan & Strassberg, 1992) by comparing three matched groups: currently suffering postnatal depression, recovered and a control group. As a group, current and recovered postnatal depression sufferers differed significantly from the control group in two measures of intimacy in that their marital relationships were characterized by low levels of care and high levels of control found that the following factors predicted 13% of the variance in postnatal depression:

1. Feeling unloved by husband,
2. Undesired pregnancy,
3. A previous episode of postnatal depression,
4. Being single or separated,
5. Marital problems,
6. Unplanned pregnancy

(Pitt, 1982).

A survey of over 1000 participants investigated the link between postnatal depression and childbirth (Astbury, 1991). Feelings of control, information provided to caregivers and a positive birthing experience correlated positively with well being and negatively with postnatal depression. Similarly, Astbury et al.'s study (1994) revealed that being an older primipara (defined as age > 34), assisted delivery, bottle feeding, dissatisfaction with antenatal care, unwanted people present at birth and lacking self confidence in mothercraft skills were associated with an increased likelihood of postnatal depression. Social supports during pregnancy and birth outcomes were explored in a prospective study (Collins, Dunkel-Schetter, Lobel & Scrimshaw, 1993). Pregnant women who received higher levels of support during pregnancy had fewer complications in labour and healthier babies, as indicated by a higher Apgar score. Instrumental rather than emotional support was a predictor of better outcome. Women with high support during pregnancy had healthier babies and reported less
postnatal depression. One study reported that 39% of women admitted to a mothercraft facility scored above the cut-off point for likely major depressive disorder (Barnett et al., 1993). Despite this high rate, only one of them had been identified prior to admission as suffering from postnatal depression. There was no evidence of a significant correlation between a high EPDS score and any particular infant problem.

Warner, Appleby, Whitton and Faragher (1996) utilized the Edinburgh Postnatal Depression Scale to screen a large sample of women (N=2375). EPDS scores >12 were linked to unplanned pregnancy, not breastfeeding and unemployment in the family. The prevalence of depression reported in the literature varies. The inconsistent results may be due to the instruments used to measure outcomes. The range of prevalence rates reported extend from 3% to 33% (Nolen-Hoeksema, 1995). A prospective study of 99 women, using research diagnostic criteria reported a depression prevalence rate of 9% in pregnancy and 12% in the postnatal period (O'Hara, 1986). A recent study investigating the prevalence of postnatal psychiatric morbidity in mothers and fathers reported a prevalence of 27.5% at six weeks and 25.7% at 6 months. The higher prevalence rate reported in this study is related to the instruments used. The prevalence of depression was determined by the 13-item EPDS using a cut-off score for caseness of 13 or more. Their sample included 200 couples and a control group. There was not an increase in vulnerability in postnatal women in comparison with a control group of mothers (Ballard, Davis, Cullen et al., 1994). When the prevalence rates were calculated on the basis of research diagnostic criteria, the rates dropped to 20.4% and 19.1%, respectively. These investigators proposed a differentiation between brief and persistent postnatal depression. Their hypothesis is that brief postnatal depression has a distinct etiology while the more persistent type is similar to non-puerperal depression (p. 787). Mothers suffering a brief episode (depressed at 6 weeks but not at 6 months) were more likely to have had one or more previous pregnancy terminations and to be older that 30.
Mothers who were assessed as depressed at 6 weeks and 6 months (classified as persistent depression) were more likely to have been unemployed before pregnancy and to be members of low-income socioeconomic groups. Further exploration of this hypothesis might prove useful in illuminating the depression or postnatal depression debate. A recent study by Cooper and Murray (1995) supported the view of two types of non-psychotic depression after childbirth. Those for whom childbirth was a causative factor (first occurrence of a mood episode after childbirth) constitute one sub-group and the other sub-group is formed by women with a recurrent pattern of mood disorders. The authors postulate that the two groups were different in terms of the duration of the index episode. Recurrent episodes of depression were longer than new episodes of depression after childbirth. They speculate that the shorter duration could be linked to a specific biological vulnerability in postnatal depression.

Cox, Murray and Chapman (1993) found no significant difference in the point prevalence of depression at 6 months between the postnatal (9.1%) and control group, consisting of women individually matched for age, marital status, number of children, who were not pregnant nor had a baby in the previous year. The six months period prevalence was not showing any significant difference either (postnatal group: 13.8%-control: 13.4%). There is some evidence to support the argument about rate of onset being significantly increased during the postnatal period. Cox et al. (1993) reported a threefold higher rate of onset of depression within 5 weeks postpartum. Cooper, Campbell, Day, Kennerley and Pond (1988) also provided evidence of a prevalence rate of puerperal depression similar to the rate reported for the population in general. The prevalence, incidence and nature of non psychotic psychiatric disorders in the year following childbirth does not allow a clear differentiation between them and such disorders occurring at other times. Barnett (1994) also notes the higher incidence (new cases) but similar prevalence of postnatal depression in comparison with depression.
Criticisms about using the EPDS (which has been designed as a screening rather than a diagnostic tool) to determine a prevalence rate have been raised (Huffman, Lamour, Bryan & Pederson, 1990). In an attempt to develop and validate an instrument to predict postnatal depression during pregnancy, a large sample of pregnant women were investigated (N > 6000 subjects). The overall rate of major depression postpartum estimated using the Structured Clinical Interview for DSM Diagnoses (Spitzer, Williams, Gibbon & First, 1990) was 15.3%. Another prospective and longitudinal study, using standardized procedures, found that the prevalence of depression was 16.5% at 8 weeks postnatally. This percentage is subdivided into 6.1% of women suffering from major depression and 10.4% with minor depression. Marital unhappiness and level of depressive symptomatology during pregnancy were significant (prenatal variables accounted for 22% of variance) in the prediction of depression as a mood state and as a clinical status. Level of symptomatology was also predicted by life stress during pregnancy and expectations about infants while only marital dissatisfaction and depression during pregnancy predicted clinical status. It is important to regard the relationship between marital dissatisfaction and depression as complex and bidirectional. While level of distress appear to be related to the stress experienced during the transitional adjustment, diagnosis may be related to factors which have not been adequately studied yet (Whiffen, 1988). A community cohort study reported a prevalence of major depressive disorder of 7.8% and 13% of women experiencing more minor depressive symptoms (Webster, Thompson, Mitchell & Werry, 1994). The significant associations reported included a history of previous psychiatric hospitalisation, being Maori, single, young at the birth of the first baby (less than 20 years old) and unhappy with partner. This study based prevalence rates on the EPDS using a cut-off point of 13.

In a recent study stress levels, coping resources and depressive symptomatology were examined (Terry, Mayocchi & Hynes, 1996). The sample consisted of 197 new mothers.
Levels of stress and coping resources such as self-esteem and social support did have a significant impact on level of symptomatology experienced. Another longitudinal study revealed that postnatal depression measured by EPDS related negatively with all measures of maternal role attainment and perceived competence in infant care (Fowles, 1996).

Postnatal depression is so widespread that at one time it was thought of as a “natural” reaction to birth, perhaps due to hormonal changes. It seems now as though it can be partly a reactive response either to trauma or to adverse social situations, that mothers without support are vulnerable to it and that providing support greatly helps recovery from it (Daws, 1989, p. 219).

Studies should be interpreted cautiously because they generally are not using the same constructs, methodologies and ways of classification (Hopkins et al., 1984). Comparison between them is difficult (Kumar, 1982; Whiffen, 1988). Some studies are too small to detect clinically relevant or practical differences (Brown et al, 1994). Therefore, findings are inconsistent and caution must be applied when interpreting and comparing results. Marital tension, cognitive vulnerability and adverse life events have been consistently found in the literature (Arizmendi & Affonso, 1984; Whiffen, 1988).

A classification of potential risks factors for postnatal depression has been proposed (Herz, 1992, 67-71). Factors are divided into:

1. Physiologic: premenstrual syndrome and alterations in the endocrine profile,
2. Demographic: very young and older mothers, low socioeconomic status and single motherhood,
3. Psychological: previous psychiatric illness, overly anxious and controlling personality and negative attitude towards the maternal role,
4. Interpersonal: marital conflict, absence of extended family, isolation from friends, infant factors, unplanned pregnancy and stressful life events,
Contributing variables: minimal previous exposure to infant care and romanticized, highly idealized views of motherhood.

Another classification of psychosocial vulnerability indicators subdivided factors into (1) during pregnancy, (2) at delivery and (3) after the birth. A table lists factors specific to postnatal depression including depression and previous postnatal depression, family history of mental illness, recent bereavement, history of abuse, perfectionistic personality traits and difficult relationships with partner and/or own mother (see Barnett & Fowles, p. 15).

Historical, cultural, socioeconomic and physical factors interact and mediate to precipitate postnatal psychological disturbance in a woman who is not able to live up to her own set of expectations regarding motherhood (Raphael-Leff, 1991). Because women have different individual expectations about the birth experience and of motherhood, those experiences affect them differently. The medical approach to postnatal depression has been criticized for its determinism (Mauthner, 1993) and the lack of recognition of differences in the construction of personal meaning (Holden, 1991). The personal meanings are also compounded by women’s previous relationships, role and identity conflicts (p. 483). “The analysis of antecedent pregnancy and birth events must be seen in the context of their meaning for the woman herself” (Lumley, 1984, p. 243).

Summary and Rationale of the Present Study

A Bio-psycho-social Perspective on Postnatal Distress

The postnatal period is considered as a time of increased vulnerability for women’s mental health. The birth of a baby is a stressful life event in terms of physical and emotional demands and psychological and familial changes. In Chapter 3, we have reviewed pregnancy as an important crisis and a period of transition in life. It is a major contention of this thesis that some women may be more vulnerable while some other women may be more resilient to
the multiple demands associated with the postpartum period (see Chapter 3). This vulnerability or resilience factor ("Sense of Self") may predict the development of psychological distress ("Postnatal Distress").

The ongoing debate regarding the specificity versus the universality of depression occurring during the postpartum period has not been settled yet. Is this a depressive episode like other episodes of depression occurring at other times? Alternatively, is postnatal depression different in nature, onset and clinical presentation from a clinical episode of depression occurring in non-postpartum women? (Fernandez, 1992). Does childbirth induce psychological disturbance (Kumar, 1982)?

Some clinicians argue that, although similar in presentation and onset, postnatal disorders should be differentiated in terms of treatment considerations. For example, an Australian authority in the field notes that postnatal depression is essentially similar to neurotic depression. However, he claims it is important to consider it to be a specific ‘type’ of depression for three reasons: a predictable time of onset and association with childbirth, great distress at a critical period that may impede successful adaptation to motherhood and because of the detrimental effect on infants (Boyce & Stubbs, 1994, p.82):

The term postnatal depression, even though a misnomer, helped historically to attract public attention and awareness to these distressing maternal difficulties. The only current criterion to define postpartum depression is the temporal association and proximity to childbirth. Such a loose definition may impede research and further understanding:

As long as postpartum mental disturbances are not classified as a special category, a definition cannot be conclusively formulated nor can the hypothetical concept of a spectrum disorder (from mild depression to psychosis) be entertained. The lack of definition stymies research and diminishes the usefulness of prior or ongoing studies for meaningful comparisons (Herz, 1992, p. 66).
Methodological limitations, questionable validity of research instruments used and contradictory results are also predominant features of the literature reviewed (Kumar, 1982; Arizmendi & Affonso, 1984).

Almost none of the important questions about the etiology and incidence of postpartum depression can be answered with confidence. Part of the problem is that 'postnatal depression' is a grab bag title for a number of states, ranging from 'baby blues' to postpartum psychosis (Lumley, 1984, p. 243).

The spectrum disorder refers to a hypothetical clinical continuum, with postnatal blues at one end and postnatal psychosis at the other. It was believed that women with severe postnatal blues would develop clinical depression later on. Evidence for this hypothetical model has been modest and contradictory. Neither DSM IV nor ICD-10 supports a continuum of a stress reaction (for example, the postnatal blues) leading to psychotic reactions (puerperal psychosis).

Due to the limitations and gaps in the literature previously described, the present study explored a set of variables prenatally and examined their contribution to predict the development of postnatal distress and clinical disorders postnatally in a community sample. The study also investigated the pattern of relationship between three latent factors, using structural equation modeling. This is a form of causal analysis that is of crucial importance in the explanation of complex phenomena such as postnatal distress (McClendon, 1994, p.1).

"Developmental psychopathology is the study of the prediction of the development of maladaptive behaviors and processes" (Lewis, p. 29). In that sense, this empirical study was framed within concepts derived from developmental psychopathology because it was of interest to determine prospectively the development of maladaptive processes as well as risk and protective factors underlying postnatal distress and depression. Most studies have used retrospective designs. The importance of prediction is emphasized in the prospective design
of the current study. Developmental psychopathology attempts to explain and understand processes and relations involved in development and deviations from it (Achenbach, 1990). A developmental integration also allows the exploration of different theoretical frameworks. In the study reported in this thesis, the attachment theoretical paradigm has been of relevance, while concepts derived from developmental psychology (as described in Cichetti, 1990; Cichetti & Cohen, 1995; Cichetti & Toth, 1995; Lewis, 1990) provided useful operational definitions. Risk indicators, protective factors and vulnerability to postnatal distress are terms borrowed from the developmental psychopathology model. Next in this chapter, the general and specific propositions of the conceptual model tested are outlined.

This study also recognized the role of biological, psychological and societal influences in the development of distress following childbirth (Herz, 1992; Morse, 1993). Clearly, every piece of research involves a selection of particular variables to formulate a model (McClendon, 1995). In the selection process, some important variables might have been ruled out. The psychological contribution of attachment theory to understanding postnatal distress determined the selection of variables in the present study. This position does not, however, ignore the role of hormonal changes during the postnatal period nor does it dismiss feminist thinking which has highlighted the oppressed role of women in society. The distinct contribution of this study will also be connected with the particular biases made explicit by an investigation done by a woman who is a psychologist, a mother and once a silent sufferer of postnatal distress. In sum, there is recognition of the multifactorial and complex phenomenology of depression, as a mood and as a syndrome, in the attempt to replicate and extend past findings and existing conceptual models.
Prenatal Predictors of Postnatal Distress

This study is placed within a theoretical model derived from developmental psychopathology and, specifically, attachment theory as postulated by Bowlby (1980). Following one of his basic propositions regarding attachment patterns and mental health, and the review of specific factors related to postnatal depression in the previous section this study aims to explore the relationship between a resilient/vulnerable sense of self and the development of distress following childbirth. One of Bowlby’s hypotheses was that resilience or vulnerability to stressful life events is dependent upon patterns of attachment developed early in life.

The pathway followed by each developing individual and the extent to which he or she becomes resilient or vulnerable to stressful life events is determined to a very significant degree by the pattern of attachment he or she develops during the early years (Bowlby, 1988, p. 172).

The design of this study combined attachment-related indicators (self-esteem, adult recollection of parental relationships, preoccupation with relationships) as well as environmental factors (satisfaction in the marital relationships, level of social support and other demographic variables). The study incorporated variables previously studied with the purpose of validating theoretical propositions. The independent variables selected for study are based on previous empirical research findings connecting social support to depression (Cutrona & Russell, 1987; Cutrona & Troutman, 1986; O'Hara, 1986), explaining the female pathways to the development of depressive symptomatology (Brown & Harris, 1978; Bowlby, 1988; Crook, Raskin & Elliot, 1981; Harris & Bifulco, 1991), linking attachment styles with infant outcome (Grossman, Fremmer-Bombik & Rudolf, 1991; Haft & Slade, 1989; Main, Caplan & Cassidy, 1989; Murray, 1992; Ricks, 1985), and relating romantic relationships in adulthood and self-esteem to styles of attachment developed early in life.
(Belsky & Pensky, 1988; Carnelley & Janoff-Bulman, 1992; Hartup, 1986; Hazan & Shaver, 1987; Sroufe & Fleeson, 1986; Weiss, 1986). Because the position adopted is this study is that postnatal depression is not differentiable from other depressive episodes, the etiological factors and theories described in Chapter 2 of this thesis are deemed to be of relevance.

Although there is a growing interest in the relationship between attachment and mental health, there is a further need to expand our knowledge using prospective and longitudinal research designs (Lewis, 1990; Waters & Deane, 1992): “Research studies on postpartum depression need to be prospective, longitudinal and based in the community rather than in the hospital” (Lumley, 1984, p. 243). The design incorporates prospective data and the assessment of participants at three different stages, as a way of surpassing methodological weaknesses associated with reliance on retrospective (with associated base rate errors, as outlined by Lewis, 1990) and cross sectional studies. Due to the directionality of the study, it is emphasized that it also has the potential for exploring ways in which postnatal distress and depression could be minimized. Prevention and early detection of women’s distress during pregnancy may contribute to an amelioration of maternal distress and mood disorders, particularly if they can prevent levels of symptomatology developing into full psychiatric syndromes, as discussed in the previous chapter.

In this prospective longitudinal study it was of interest to explore how a set of intra-psychic attachment indicators and external variables measured during the prenatal period could predict the development of distress and clinical depression postnatally. It proposed the term postnatal distress as a dysphoric state characterized by high state anxiety and depression. Distress may be the precursor of more severe clinical problems. This argument provided the rationale for the empirical study conducted, with dysphoria assessed at 6 weeks and 6 months and clinical depression at 6 months postnatally.
A Conceptual Model of Postnatal Distress and Depression

The following is a conceptual model of postnatal distress and depression based on concepts derived from developmental psychopathology and theories of Bowlby.

Vulnerability can be psychological, social and biological. Vulnerability factors can be early or recently acquired (Hollon, 1995). Vulnerability factors are described as long-standing conditions that promote maladaptation, and are opposed to protective factors, which facilitate and promote adaptation (Cichetti & Toth, 1995). More transient, temporary influences may have a positive (buffer, competence-promoting) or a negative (a challenger) influence (Cichetti & Cohen, 1995). Developmental psychopathology is concerned with the dynamic interplay of vulnerability and protective (enduring) factors as well as transient influences. Obviously, the effect of the multiple interactions between protective and vulnerability factors has to be contextualized in the social and cultural environment.

Knowledge about vulnerability and resilience markers before the onset of a disorder, in individuals not showing signs of distress (Cichetti & Cohen, 1995), is crucial if we are concerned with primary prevention and the treatment of high-risk groups for postnatal distress and depression. For a comprehensive review of vulnerability, challengers and buffers in depression see Cummings and Cichetti (1994) and Gotlib and Hammen (1992).

General Propositions

(1) A previous history of depression and/or obstetric loss in conjunction with 'challengers during pregnancy' will predict postnatal distress at 6 weeks and 6 months postpartum. Challengers during pregnancy are defined as prenatal risk factors for postnatal distress and they include low self-esteem, low recognition of worth, low marital cohesion, high general symptomatology, low mother idealization and low mother acceptance.
(2) **High levels of distress at 6 weeks postpartum will predict depression at 6 months postpartum.**

Propositions Regarding the Conceptual Model of Postnatal Distress

(1) **A vulnerable sense of self during pregnancy is a risk factor for developing postnatal distress.** A vulnerable sense of self during pregnancy is defined by a low self-esteem, low attachment, high preoccupation with relationships, low mother acceptance and low mother idealization.

(2) **A resilient sense of self during pregnancy is a protective factor against developing postnatal distress.** A resilient sense of self during pregnancy is defined by a high self-esteem, high attachment, low preoccupation with relationships, high mother acceptance and high mother idealization.

(3) **A planned pregnancy will be a buffer against developing postnatal distress.** Planning and psychological preparation to give birth provide a sense of control. Thus, it increases self-esteem, protecting against postnatal distress.

(4) **A history of obstetric loss will be a challenger for developing postnatal distress.** Previous terminations of pregnancy and/or miscarriages may leave unresolved grief issues that are reactivated in the next pregnancy. Feelings associated with unresolved grief include sadness, distress and anxiety.

Aims of the Study

(1) To determine the prenatal predictors of postnatal distress and depression.

(2) To empirically test a conceptual model of postnatal distress.

Research Questions

The following questions were the central questions of interest:
(1) What are the prenatal significant predictors of postnatal distress at 6 weeks and 6 months postnatally?

(2) What are the prenatal significant predictors of postnatal clinical disorders?

(3) Are the predictors of postnatal distress similar to the predictors of postnatal clinical disorders?

(4) What are the correlates of prenatal distress and postnatal anxiety and depression?

(5) What is the prevalence of clinical disorders at 6 months postnatally?

(6) Are there any significant differences in groups of predominantly anxious mothers and the predominantly depressed mothers?

Hypotheses

The following hypotheses, based on the conceptual model outlined previously, were tested:

(1) Prenatal Predictors of Postnatal Distress and Depression

a) Pregnant women with a history of a previous depression, obstetric loss (miscarriage and termination), low self-esteem, high symptomatology, low recognition of worth, low marital cohesion, low mother idealization, low mother acceptance and high preoccupation with relationships will have higher levels of postnatal distress (i.e. anxiety and depression) at 6 weeks and 6 months.

b) Some participants with elevated levels of postnatal distress at 6 weeks postpartum may have a clinical status at 6 months postpartum.

(2) Current Predictors of Postnatal Distress

a) Pregnant women with high self-esteem, high attachment, low preoccupation with relationships, high mother acceptance and high mother idealization will also have a resilient sense of self as measured prenatally.
b) Pregnant women with low self-esteem, low attachment, high preoccupation with relationships, low mother acceptance and low mother idealization will have a vulnerable sense of self, as measured prenatally.

c) Pregnant women with a resilient sense of self will show low levels of postnatal distress.

d) Pregnant women with a vulnerable sense of self will show high levels of postnatal distress.

e) Women with high anxiety, high depression and previous depression prenatally will show higher levels of postnatal distress.

f) Unplanned pregnancy and obstetric loss will affect postnatal distress in a positive direction.

Measurement of Postnatal Distress and Depression

DSM IV and ICD-10 are based on the idea of categorical entities called clinical syndromes. This is called a categorical approach to mental disorders. This study used a combination of both the categorical and the dimensional perspectives. During the first and second postnatal assessment, at 6 weeks and 6 months respectively, levels of current self-report states regarding depressive and anxious symptomatology were considered. Nevertheless, at the second, 6 months follow-up a clinical interview was conducted by the principal researcher with every study participant to ascertain clinical status using DSM IV and ICD-10.

In summary, in the empirical study reported in this thesis, depression and anxiety were measured as mood states using self-report questionnaires and then, clinical status was established by the use of a structured clinical interview. The combination of multiple assessment measures it is considered a better strategy as measures tap into different concepts (Kaelber et al., 1995; Paykel & Norton, 1986). The rationale behind this selection was that
there is a continuum of psychological distress with sometimes overlapping and not so clear distinctions between categorical entities. Additionally, by using a common DSM IV and ICD-10 terminology this study can be compared with other studies.

**Summary**

A high proportion of women experience mild to severe psychological distress following childbirth. The situation distresses the mother and impairs her emotionally and socially. Family and society are negatively affected as well. The aim of this study was to understand more about the antenatal predictors and the associated factors of postnatal distress so preventive strategies could take place during pregnancy and the early postnatal period. This research program attempted to overcome some of the difficulties in existing research by the use of a prospective, longitudinal design. The use of self-report measures provided quantitative data and a semistructured interview provided the prevalence of postnatal distress and clinical conditions, that is, categorical information.

This chapter provided an overview of current issues associated with postnatal depression. It has been noted that many conflicting findings and confusion in the field exist. Yet, it is important that we continue to investigate postnatal distress as a source of discontent and distress for women and their families. Using a prospective longitudinal design and complex multivariate analyses the aims of this study aims were to understand more about postnatal distress and clinical depression so prevention of maternal distress can take place. The assumptions and biases of the researcher were made explicit. The chapter closes with a review of the relevant literature in the area. It has been highlighted that comparison between studies is complicated by the lack of clarity in concepts and definitions, and different theoretical perspectives and methodologies that coexist.

In the next chapter, the methodology of the study conducted will be presented.
CHAPTER 5: METHODOLOGY

This chapter presents the demographic characteristics of the sample participants and a description of the procedure and research instruments used to carry out the study.

Participants

This study included 133 women, pregnant with a first or later child. Inclusion criteria were that women should be in the last trimester of pregnancy and able to communicate in written and verbal English proficiently. Adolescent pregnant women were not included in the study because of special problems and issues linked with early pregnancy that were not explored in this study. The average age of the women was 31, ranging from 21 to 43 years old. Full demographic information about the sample is presented in this chapter. Overall, the sample is generally representative of the general population of pregnant women in New South Wales and Australia with the exception of level of education and occupation (see next page). There is an overrepresentation of women with higher education. The other demographic features are similar to the general population in the state and in Australia. There was no reason to believe that the research participants were not representative of the population in general on most criteria. Level of education has not been reported in the literature as important variable in this field of inquiry.

Summary Sample Characteristics

A non-randomized convenience sample was recruited. It consisted of 133 women with uncomplicated pregnancies and normal deliveries. Participants were predominantly white, middle class, married, and well educated. A summary table of descriptive statistics can be found in Appendix 2.
Response Rate

One hundred and forty six pregnant women expressed their interest in participating in the study. The initial pregnancy sample consisted of 133 pregnant women. The first follow up sample consisted of 129 mothers and the second follow up sample consisted of 95 mothers. The most common reason for drop out rate was participants moving away and failing to provide researcher with their new address. The retention rate was considered satisfactory given the longitudinal nature of the study. A comparison between the final follow-up sample and the initial sample indicated that there were not significant differences in the demographic variables of both samples. Therefore, the drop-out rate was reasonable and not considered a statistical problem.

Representativeness

The sample appeared to have provided an adequate representation of the population with the exception of level of education and occupation. Previous research has not indicated that these two demographic variables were influential in this field of study (Bebbington, Tennat & Hurry, 1991; Webster, Thompson, Mitchell & Werry, 1994).

General Demographic Information

Demographic information was analyzed using descriptive statistics and the summary data appear in Appendix 2. The participants' mean age was 30.7 (SD = 4.6) and they were primarily Caucasian, married and primiparous. The majority of the participants received prenatal care and worked while pregnant. These data are described in detail below.
Maternal Age

The initial sample consisted of 133 pregnant women with a mean age of 30.7 (SD = 4.6). Maternal age in Australia has increased from 1985 to 1995 from 27.3 years old to 29.1 years old (ABS). In NSW, the mean age for mothers was 28 years old (1993).

The National Perinatal Statistics (ABS, 1996) indicates that the average age of women having a baby has risen steadily over the years. The median age of Australian women who registered a birth during 1996 was 29.2 years, almost two years older than comparable women in 1986, with a median age of 27.5 years, and of 25.9 years in 1976. The sample provides adequate representativeness of the population in terms of age, being 18 months older than average.

Nationality

In terms of their nationality, 16% of the women who participated in the study were born overseas and this is similar to the trend reported in the general population. The ABS (1996) reported that 14% of women in Australia were born overseas. The National Perinatal Statistics (ABS, 1996) indicates that, as a reflection of the birthplace composition of women in the reproductive years, 76% of mothers, who reported a birth during 1996, were born in Australia.

In this study, there was a higher proportion of women born in Australia in comparison with those born overseas than in the general community. This may be related to the recruitment criteria, which established English proficiency as an entry requirement.

Education

The proportion of women with a university degree was much higher than the average in Australia. In 1996, in Australia, 12.7% of women had a high degree. In this study, 48
women had a university degree (37.2%), 30 had TAFE qualifications (23.3%), 31 women completed the High School Certificate (24%) and 20 (15.5 %) left school at the Year 10.

Occupation

Twenty women were professionals (21.7%), 14 women worked as teachers and nurses (10.9%), 10 women were self-employed in their own business or managers (7.8%) and 26 women were housemakers or students (20.2%). The rest of the sample consisted of women working in clerical, services and technical positions.

In New South Wales, 15% of women are professionals. In this study there was a higher prevalence of professional women (21.7%) in comparison to the rest of the NSW population (ABS, 1997).

Previous Depression

Thirty-eight and a half percent of participants reported at least one previous episode of depression requesting counseling, psychotherapy, pharmacotherapy or a brief consultation with a professional. The remaining 61.5% of women had no history of depression. This category is based on participants self-report and did not include a clinical interview.

Loss of Mother

Only 2 women (1.5 %) reported having lost their mothers before age 11.

Recent Loss

Twenty women reported a loss by death during the last 12 months prior to the pregnancy. The majority of pregnant women in the study (83%) did not report a recent loss.
Obstetric Information

Parity

Seventy-seven and a half percent of women in the study were primiparous. For 19 women, this was the second baby, for 9 women it was the third and for one, the fourth.

The fact that the majority of women who participated were first time mothers was related to the method of recruitment used. The researcher visited antenatal classes and disseminated information about the study inviting women to participate. Multiparous women do not tend to attend antenatal classes because they usually attend before the first baby was born.

A combination of primiparous and multiparous was deemed to be a representative sample of the population of mothers in the community as previous research failed to support the existence of significant relationships between clinical depression and parity (Abel, 1996).

Eighty two point seven percent of women (91 participants) attended antenatal classes. This is slightly higher to the 77.5% of primiparous in the sample, indicating that classes were attended also by some multiparous.

Planned Pregnancy

Ninety-three women reported some planning for the current pregnancy (72.1%) while for 34 women, the current pregnancy was unplanned and unexpected (26.4%). Only 2 women said it was not clear to them whether the pregnancy was planned or unplanned.

Miscarriages

Ninety-four women in the study (72.9%) reported no history of previous miscarriages. Twenty-two and a half percent (22.5%) of women reported at least one
previous miscarriage. Five women had two previous miscarriages and one participant reported a history of three miscarriages.

Terminations

Ninety-nine research participants reported no previous terminations of pregnancy (76.7%) while 30 women had at least one previous termination (23.2%). Seven women (5.4%) reported two terminations of pregnancy.

Gender Preferences

The majority of participants reported no sex preferences (65.1%) for their babies. For those reporting preferences, 24% wanted the baby to be a girl and 10.5% wanted to have a boy. In this sample, the sex preference for girls was more than double that for boys.

Childbirth Information

Interventions in Labor

Only 19 women (17.1%) in this study had no interventions in labor. This is a default category, which implies that labor was not induced, there was not any medical intervention (augmentation, episiotomy, forceps or vacuum extraction) or pain relief in the form of pethidine, epidural, etc. Ten women (8%) had a Caesarean section.

Feelings of Control during Labor

Despite the high percentage of medical interventions performed during labor, the majority of women (70.9%) reported a feeling of control during labor. This perceived sense of control involves having being informed and consulted during childbirth and also the lack of unwanted strangers (medical students) in the delivery room.
Antenatal Classes

The majority (82.7%) of women in the study reported attendance at hospital or private antenatal courses.

Stay in Hospital

Seventy two point seven percent of women stayed in hospital for about a week while 22.7% of women chose early discharge from hospital. Four and a half percent of women had to stay in hospital longer than a week due to self or baby’s need for hospital attention. Only one participant had a home birth. The rest of the research participants delivered their babies in labor wards and birth centers of public and private maternity hospitals.

Maternity Leave

Fifty-seven women in this study (51.4%) were on maternity leave (paid or unpaid) from work. Forty eight point six percent (48.6%) were not on maternity leave.

Major Event since Childbirth

Twenty-five women in the study (22.5%) reported having a major event since childbirth. Examples of major events include death in the family, illness and relocation. Eighty-six women in the study (77.5%) reported no major event since childbirth.

Information regarding the Baby

Sex

There were 67 baby boys (51.9 %) and 62 baby girls (48.1 %) born to the women who participated in this study. A higher percentage of baby boys compared to baby girls born contrasted with the sex preferences expressed by mothers. As noted previously, 65.1%
research participants indicated no sex preferences while 34.9% indicated a preferred sex. Forty-five women in the study reported a sex preference: thirty-one women preferred to have a baby girl while fourteen women wished for a baby boy.

The Australian Bureau of Statistics (1996) indicates that during 1996, 253,800 births were registered in Australia. There were 105.9 boys per 100 girls born during that year. The slightly higher prevalence of boys over girls is also represented in the current study.

Prematurity

One hundred and two women had full term babies (91.9%) and 9 women had premature babies (8.1%).

Medical Conditions

Five babies (4.5%) were diagnosed with a medical condition at birth, including Cystic Fibrosis and pulmonary complications.

Method of Feeding

At the 6 weeks follow up, the majority of mothers (81%) were breastfeeding their babies. The other 19% of mothers were bottle-feeding their infants.

Temperament

The majority of mothers (55.6%) rated their infant’s temperament as easy. Forty-two point six percent (42.6%) of participants regarded their infants as average babies in terms of their temperament while only 1.9% considered their infants as having a difficult temperament.
Sleeping and Feeding Difficulties

Thirty one point eight percent (31.8%) of mothers reported sleeping and/or feeding difficulties in the infant, requiring consultation with a health professional or community group such as Nursing Mothers Association, Karitane, Tresillian or PANDA. The remaining 68.2% of mothers reported no sleeping and/or feeding problems.

Procedure

Participants were recruited through the researcher attending and promoting the survey during hospital and private antenatal classes at two of the largest metropolitan maternity hospitals, the Royal Hospital for Women and St George Hospital in Sydney, Australia. Privately run antenatal classes were also visited. Promotional material were displayed in strategic places at birth centers located at the Royal Hospital for Women and St George Hospitals, maternity wards foyers, and local early childhood centers. The researcher also attended a very popular parent-baby show at the Sydney Showground to recruit participants.

Due to limited funds and the execution of all aspects of this research by one person, the study was restricted to two metropolitan areas of Sydney, located in the eastern and southern areas of this city. The size of the sample was considered satisfactory as sample size higher than 100 will detect fairly small $R^2$ values with a significance level ($\alpha$) of .05 with up to 10 independent variables (Hair, Anderson, Tatham & Black, 1995, p. 104). The power to detect significant relationships was considered acceptable.

Permission and support for the study were obtained from the Eastern Sydney Area Health and Southern Sydney Area Health, covering Royal Hospital for Women (Paddington) and St. George Hospital (Kogarah) respectively.

The researcher regularly attended evening hospital and private antenatal classes. She gave an educational talk about postnatal psychological adjustment, then briefly explained the
study and its relevance. Antenatal class attendants were then invited to participate in it and written information about the study was provided. After signing consent forms, a package containing questionnaires was given out to participants and a convenient time and place for an interview were established.

Women were seen at participants’ homes, the Royal Hospital for Women Birth Center or the Education Building, St George Hospital Birthing Center, the researcher’s private room and other suitable places, according to participants’ convenience. The researcher travelled to meet research participants’ needs whenever necessary.

Informed consent was obtained and every participant was informed that she could abandon participation at any time without penalty or changes in her hospital treatment (see Appendix 1). Participation was voluntary and participants were not provided with any monetary incentives. The researcher conducted mail and telephone follow-up.

The study included 3 occasions of data collection:

(1) Prenatal assessment (during last trimester of pregnancy),
(2) Postnatal assessment 1 (at 6 weeks postpartum),
(3) Postnatal assessment 2 (at 6 months postpartum).

Blind to the final results from the first and second follow up, which were scored only after all participants were interviewed at 6 months postnatally by the principal researcher, to confirm diagnosis of clinical depression using the Schedule for Affective Disorders and Schizophrenia (Endicott & Spitzer, 1978) and Research Diagnostic Criteria (Spitzer, Endicott & Robins, 1978) and the Structured Interview for DSM III-R (Spitzer, Williams, Gibbon & First, 1990).

Follow up questionnaires were contained in pre-stamped, self-addressed envelopes to ensure confidentiality. Once completed, questionnaires were returned to the researcher’s home address. Participants were reminded by telephone and post to complete questionnaires.
Response rate for prenatal assessment was 91%. Of that sample, a response rate for postnatal first follow up was 97% while for the second follow up, 70% of the prenatal original sample was retained. Retention rates were considered satisfactory given the nature of the study's design.

Data collection started in July 1995 and was completed in August 1997. All stages of recruitment, data collection, scoring, interviewing, and follow up were conducted solely by this researcher. All questionnaires were scored according to their respective manuals. The researcher is a psychologist with 10 years' experience working clinically. Over the past 3 years, she has been involved in academic teaching of psychology at the University of Wollongong and at a private Counselling College in Sydney, Australia. She currently trains and provides clinical supervision to counsellors and psychologists in training. She has two daughters and she is currently pregnant with her third child.

All participants were debriefed and, if a clinical diagnosis were established, the participant was referred to her local community health service or family doctor. The process of providing participants with a written summary of results is currently being organized.

**Research Instruments**

Table 11 provides an outline of the research instruments used with their respective sources and sub-scales when applicable. Appendix 1 presents an example of all the research instruments used in the current study with the exception of the SCID-P, SADS and RDC. Below is a brief description of the instruments used with psychometric information, preceded by a description of the form for collecting demographic information.
<table>
<thead>
<tr>
<th>RESEARCH INSTRUMENT</th>
<th>SHORT NAME</th>
<th>REFERENCE</th>
<th>SUB-SCALES USED</th>
<th>TIME OF DATA COLLECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Information Questionnaire*</td>
<td>N/A</td>
<td>Designed for use in this study.</td>
<td>N/A</td>
<td>Prenatal</td>
</tr>
<tr>
<td>General Health Questionnaire-30*</td>
<td>GHQ-30</td>
<td>Goldberg &amp; Williams (1988).</td>
<td>N/A</td>
<td>Prenatal</td>
</tr>
<tr>
<td>Edinburgh Postnatal Depression Scale*</td>
<td>EPDS</td>
<td>Cox, Holden &amp; Sagovsky (1987).</td>
<td>N/A</td>
<td>Postnatal 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Postnatal 2</td>
</tr>
<tr>
<td>Coopersmith Self-esteem Inventory*</td>
<td>SES</td>
<td>Coopersmith (1975).</td>
<td>N/A</td>
<td>Prenatal</td>
</tr>
<tr>
<td>Mother-Father-Peer Scale*</td>
<td>MFPS</td>
<td>Epstein (1983).</td>
<td>Mother Acceptance</td>
<td>Prenatal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mother Idealization</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Relationships as Secondary</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Confidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Discomfort with Closeness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recognition of Worth</td>
<td></td>
</tr>
<tr>
<td>Dyadic Satisfaction Scale*</td>
<td>DAS</td>
<td>Spanier (1976).</td>
<td>Marital Cohesion</td>
<td>Prenatal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Marital Satisfaction</td>
<td></td>
</tr>
<tr>
<td>Mother-Baby Information*</td>
<td>N/A</td>
<td>Designed for use in this study.</td>
<td>N/A</td>
<td>Postnatal 1</td>
</tr>
<tr>
<td>State Trait Anxiety Inventory-Form Y*</td>
<td>STAI</td>
<td>Spielberg (1983).</td>
<td>State Anxiety</td>
<td>Postnatal 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trait Anxiety</td>
<td>Postnatal 2</td>
</tr>
<tr>
<td>Mother/Father Relationships and Lifestyle Questionnaire*</td>
<td>N/A</td>
<td>Designed for use in this study.</td>
<td>N/A</td>
<td>Postnatal 2</td>
</tr>
<tr>
<td>Structured Clinical Interview for the DSM III-R-Patient Form</td>
<td>SCID-P</td>
<td>Spitzer, Williams, Gibbon &amp; First (1990).</td>
<td>N/A</td>
<td>Postnatal 2</td>
</tr>
<tr>
<td>Schedule of Affective Disorders and Schizophrenia</td>
<td>SADS</td>
<td>Endicott &amp; Spitzer (1978).</td>
<td>N/A</td>
<td>Postnatal 2</td>
</tr>
<tr>
<td>Research Diagnostic Criteria</td>
<td>RDC</td>
<td>Spitzer, Endicott &amp; Robins (1978).</td>
<td>N/A</td>
<td>Postnatal 2</td>
</tr>
</tbody>
</table>

Note: * in appendix 1. Postnatal 1: 6 weeks postpartum; Postnatal 2: 6 months postpartum; N/A: not applicable.
Demographics Information Form

This form provided basic information about participants such as country of origin, level of education and occupation. It also asked participants details about the pregnancy such as parity, planned pregnancy and preferred sex. Information about previous obstetric loss (termination of pregnancy, miscarriage or stillbirth) was also collected.

General Health Questionnaire (GHQ-30) (Goldberg & Williams, 1988)

This is a screening test used in clinical and non-clinical populations. It is considered a sensitive measure of transient disorders and psychological distress. It is a short and relatively user-friendly questionnaire. It does not provide a clinical diagnosis but rather an indication of symptomatology and well being. It has been used extensively in Australia and overseas. It is available in more than 38 different languages. This study used the GHQ-30 scoring method where items in columns 3 and 4 are scored 1 while items in columns 1 and 2 are scored 0.

The internal consistency is satisfactory with a split-half reliability of .95. The GHQ has different versions ranging from 12 to 60 items. The GHQ-30 has been reported to have an alpha coefficient of .78. Good validity has been noted for all different versions of the scale (60, 30, 28, 20 and 12 items). For example, Bridges and Goldberg (1989) reported a variance-weighted mean validity coefficient based on 43 validity studies of the different GHQ versions. They noted that shorter versions tend to have higher sensitivities, whereas the GHQ-60 has a better specificity (p. 167). The reliability analysis obtained for this study indicated the reliability coefficient Alpha = .90.

Content, construct and criterion validity of this instrument are reported to be very adequate (Andrews, Peters & Teeson, 1994). Bech et al. (1993) factor analyzed the GHQ and reported that the Anxiety and Depression scales have a very good validity. The four scales
reported are Social Dysfunction, Somatisation, Anxiety and Depression (Goldberg & Hillier, 1979).

The GHQ is reported to overestimate the role of physical symptoms. Therefore, respondents may be classified as false positives when, for example, they suffer many physical symptoms as well as psychological ones (Bridges & Golberg, 1989). This was taken into account in the study reported in this thesis. The threshold that is recommended in the GHQ manual (i.e., 5) was considered low for a group of pregnant women. For a review of common symptoms during pregnancy, see Chapter 3 of this thesis.

Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden & Sagovsky, 1987)

This is a simple, easy to administer 10-item self-report scale. Each statement has 4 responses. It has been designed as a screening instrument, as a way to aid in the early detection of women suffering postnatal depression. The reliability analysis conducted on this scale indicated that the coefficient Alpha was .84 during the pregnancy assessment, the coefficient Alpha was .87 on the first follow up and, during the second follow up the coefficient Alpha was .91. The reliability coefficients obtained in the study were satisfactory and generally comparable to those reported earlier. The test-retest stability of the EPDS with a test-retest correlation coefficient of .53 (between pregnancy and first follow up) and .47 (between first and second follow-ups). These low stability results were expected, as the EPDS is a sensitive measure of fluctuations in mood (*).

The EPDS has been validated nationally and internationally in relation to other well known instruments such as Goldberg’s Psychiatric Interview and Research Diagnostic

(* The EPDS was used prenatally following Murray & Cox (1990). At the time of this study, psychometric information about the use of the EPDS prenatally was scarce in comparison with the information regarding its use postnatally.)
Criteria for Depression (Spitzer et al., 1978). This scale has been validated by different studies as a satisfactory measure of detection of postnatal depression (Boyce, Stubbs & Todd, 1993; Cox, 1986; Cox, Holden & Sagovsky, 1987). For example, the Boyce et al study reported a threshold sensitivity of 100%, specificity of 95.7% and positive predictive value of 69.2%. The cut-off score used in that study was 12.5.

Coopersmith Self-esteem Inventory, Adult Form (SEI) (Coopersmith, 1982)

This is a measure of global self-esteem with items focussing on perceptions of self worth and social competence. It has been used in research extensively (Coopersmith, 1982). Noller and Shum (1993) conducted a study of the SEI reliability with an Australian adult sample and reported a high internal consistency with items discriminating well between high and low self-esteem groups. The adult form comprises 25 items adapted from the school short form of the scale. The total score correlation between the school and the adult form exceeds .80 (Coopersmith, 1984). The reliability coefficient Alpha obtained in the present study for the scale was .77.

CSEI presents satisfactory reliability and validity. It has been well researched and widely used in research and clinical studies: “by using the CSEI judiciously one can achieve a measure of self-esteem that is as reasonable as possible with self-report instruments (Adair, 1984).

Mother-Father-Peer Scale (MFPS) (Epstein, 1983)

The MFPS is used to provide an indication of the quality of the respondent’s childhood relationship with parents. This self-report inventory includes several scales, including the degree to which mothers are reported to have been independence encouraging versus over-protecting and the degree to which mothers have been reported to be accepting
versus rejecting. It also provides the same scales for fathers and for peers in the accepting/rejecting scales. There is an additional Parent Idealization scale. This study used the scales related to participants' own mothers acceptance and the mother idealization scale, excluding the father scales and peers scale. The reliability coefficients reported for the MFPS range from .83 to .93 (Epstein, 1983). Reliability coefficient Alpha obtained for the Mother Acceptance sub-scale was .84. The coefficient obtained is lower than that reported by Epstein (.91 using N range = 284-286). Alpha obtained for the Mother Idealization sub-scale was .85. Norms and reliability coefficients for this latter scale were not available from the author at the time of the study.

The scale has been reported as showing a satisfactory level of face validity and has been correlated to other measures such as ego strength, neuroticism/extroversion and self-esteem. It contains 30 statements for assessing relationships with each parent (or substitute) and 10 items for assessing relationships with peers. Statements are rated on a 5-point scale.

**Attachment Style Questionnaire (ASQ) (Feeney, Noller & Hanraham, 1994)**

The ASQ is a 40-item measure of attachment style developed by Feeney, Noller and Hanraham (1994). The ASQ has 5 factors measured by the following sub-scales: Confidence (with 8 items), Discomfort with Closeness (10 items), Need for Approval (7 items), Preoccupation with Relationships (8 items) and Relationships as Secondary (7 items). This is an empirically constructed questionnaire, which is consistent with attachment theory (Feeney et al., 1994), and is less time consuming than, for example, the Adult Attachment Interview (George, Kaplan & Main, 1985; Main & Goldwyn, 1985). The reliability coefficient for the Relationships as Secondary sub-scale obtained in this study was .77; for the Confidence (in self and others) sub-scale was .63; for the Discomfort with Closeness sub-scale was .73 and for Preoccupation with Relationships was .68. Overall, the alpha coefficients obtained in this
study were lower than those reported by its authors (.76, .80, .84 and .76 respectively). The sub-scales presented as showing marginally acceptable reliability. However, this was the only attachment questionnaire that evaluated attachment style with minimal response biases and the reliability obtained in the studies conducted by its authors was satisfactory. The lower coefficients obtained in the current study may be explained by a smaller size sample in comparison to the ones used in the original reliability studies.

Satisfactory levels of internal consistency and test-retest reliability have been reported by Feeney et al. (1994). The validity of the questionnaire has been assessed through its correlations with previous measures of attachment (Feeney et al., 1994). Strahan (1995) conducted a factor analysis on the scale. The analysis yielded a two-factor solution: the first factor called Comfort with Closeness (which explained 25% of the item variance) and a second factor labeled Anxiety over Abandonment (accounting for 15% of the item variance). The expected patterns of association with other measures of attachment and response bias indicated that the ASQ is a valid and reliable measure of attachment style (Feeney et al. 1994) that has been developed and validated on Australian populations.

Social Provisions Scale (SPS) (Russell & Cutrona, 1984)

This is a multidimensional measure of perceived social support. It is based on Robert Weiss' model of Social Provisions derived from relationships with others. He postulated that there are six different types of provision that are needed for people to feel adequately supported: Guidance (information and advice), Reliable Alliance (practical, tangible assistance), Recognition of Worth (positive evaluation), Opportunity for Nurturance (giving support to others), Attachment (caring and emotional support), and Social Integration (a sense of belonging). These different provisions are translated into SPS sub-scales. This scale has been used in research investigating the protective function of social support in highly
stressful occupations such as nursing and teaching, as well as the role of social support in major life events such as the transition to parenthood or adolescent pregnancy (Cutrona & Russell, 1987).

As well as its compatibility with an attachment perspective, the SPS has also been used to investigate specific mediators between social support, health outcomes and coping with stress. Reliability coefficients ranging from .66 to .92 indicated moderate to satisfactory reliability (Russell & Cutrona, 1984). A factor analysis of the scale indicated that the measures of each provision form highly correlated factors, which is suggestive of the existence of a general or global social support factor. However, the authors noted that this scale assesses both overall level of support available to the individual as well as specific components of it (Cutrona & Russell, 1987). The two sub-scales selected to be used in the study were Attachment and Recognition of Worth. The reliability analysis performed for the current study indicated that Alpha coefficient obtained for sub-scale Attachment was .74 and for sub-scale Recognition of Worth was .63. The reliability coefficients obtained were lower than those reported in the original reliability studies performed (Cutrona & Russell, 1987).

Findings concerning the relationship between the different scales and measures of interpersonal relationships and loneliness provided supportive evidence for the construct validity of the SPS (Cutrona & Russell, 1987). They also provided evidence of the discriminant validity of the measure that appeared independent of social desirability and other personality factors. The SPS measures a distinct construct, which is useful when explaining psychological distress free from other closely related variables.

**Dyadic Adjustment Scale (DAS) (Spanier, 1976)**

Either or both partners in a relationship may complete this 32-items self-report instrument measuring adjustment and satisfaction in couples. It includes four sub-scales:
Satisfaction, Cohesion, Consensus and Affectional Expression. It also provides a total adjustment score. There is evidence that the DAS is a general measure of satisfaction in the marital relationship, valid and highly reliable instrument. The reported Cronbach coefficient (reliability estimate) for each sub scale ranges from .73 to .94 with a Cronbach coefficient alpha was .96 for the total scale. Items related to marital satisfaction ask for approximate frequency on a 6-point scale. The reliability analysis conducted in this study indicated that the reliability coefficient for the Marital Satisfaction sub-scale was .86 and for Marital Cohesion was .81, falling into the range reported by Spanier (1976).

Spanier (1976) reported satisfactory content and criterion-related validity of the DAS. Content validity was derived by general judges’ agreement regarding what item to retain while criterion-related validity is based on the scale’s ability to differentiate well between married and divorced samples. Factor analysis revealed dimensions consistent with the theoretical rationale of the test. The DAS offered satisfactory construct validity (Birchler, 1988).

Mother and Baby Questionnaire

This questionnaire was designed by the author to collect information about the delivery and well being of the mother and the baby. It inquires about the mother’s perception of the usefulness of attending antenatal classes, about her perceived feeling of being in control in labor and about medical interventions. It also provides information about prematurity, sleeping and feeding difficulties and the mother’s perception of the infant’s temperament. Variables in this questionnaire were selected based on the review of the literature (see Chapters 3 and 4). It was considered important to collect information about labour and childbirth during the first follow up at 6 weeks, before and independently from the clinical interview conducted at the 6 months follow-up.
State-Trait Anxiety Inventory-Form Y (STAI) (Spielberger, 1983)

This 20-item self-report scale has been designed to measure anxiety proneness (as a trait or personality feature) as well as the current level of tension and apprehension (as a current psychological state). Form Y is a revision of Form X in which six items on each scale have been changed, producing a purer measure of anxiety, independent of depression. Form Y is reported to have improved psychometric properties for each of the two scales T-anxiety and S-anxiety. The manual (Spielberger, 1983) provides norms and full psychometric information.

The test-retest correlation for the scale is reasonably high, ranging from .73 to .86. The test-retest coefficient in this current study was .60 and .64 for state and trait anxiety respectively. Internal consistency for the total scale is satisfactory with alpha coefficient reported as above .93. The median coefficients for the total scale are uniformly high, with a median coefficient of .90. The overall median alpha coefficients for the S- and the T- anxiety scales are .92 and .90 respectively (Spielberg, 1983). The reliability coefficient Alpha obtained in this study for State Anxiety at 6 weeks was .94 and the reliability Alpha coefficient obtained for Trait Anxiety at 6 weeks was .91. Both coefficients were considered highly satisfactory.

At the second follow up, that is the 6 months follow up, the reliability coefficient for State Anxiety was .95 and for Trait Anxiety was .92.

The STAI manual provides evidence for satisfactory concurrent, convergent and construct validity of the scales (Spielberg, 1983). Overall, the construct validity for the state-anxiety scale is more robust than for the trait anxiety scale. Trait anxiety appears to be related to pervasive feelings of dissatisfaction with oneself rather than connected to anxiety. Trait anxiety can discriminate well between normal adults and psychiatric patients. The state anxiety scale discriminates well between military students starting their training and high
school students (Chaplin, 1984). Other studies demonstrated that state anxiety changes as a function of situational stress, providing further evidence for the robust construct validity of the state anxiety scale (Hersen & Bellack, 1988, p. 449). This instrument has been widely used in clinical and research settings. It is a “user-friendly” scale that takes a few minutes to complete.

Mother and Father Relationships and Lifestyle Questionnaire

This questionnaire was designed by the author to gather information about the couple’s perceptions, feelings and changes in lifestyle and relationships within the family brought about by the birth of the baby. The same questionnaire was distributed to fathers to have information about their perceptions, feelings and anxieties. Their participation was optional and dependent on informed consent.

Structured Clinical Interview for the DSM-IIIR (SCID-I) (Spitzer, Williams, Gibbon, & First, 1990).

To determine the prevalence of Depression and Adjustment Disorder at 6 months postpartum, the Structured Clinical Interview for the DSM-III R was used.

The SCID is a clinician-administered interview that yields a diagnosis of depression according to DSM III-R criteria. The SCID-I (patient version) was used. The SCID-I includes questions and probes to determine the existence of a clinically significant symptom of a disorder. When a symptom has been found, questions are asked to establish whether the symptom is (1) present and of clinically significant severity, (2) present but have sub-threshold severity or (3) absent. There is a provision for recording insufficient information. Two diagnoses were covered by the SCID-I interview, (1) Major Depression and (2) Adjustment Disorder.
The researcher has been trained to administer the Composite International Diagnostic Interview (CIDI, World Health Organization, 1993b) which is a research instrument developed for the Epidemiologic Catchment Area study. The CIDI has been used internationally and is designed to identify cases meeting DSM-III-R and ICD-10 criteria. This structured interview is very similar in nature to the SCID but more time consuming. Thus the SCID-I was selected. Training for using the SCID-I capitalized on previous CIDI training and involved reading the manual and provision of several training interviews.

Studies of reliability of diagnosis using the SCID have been limited (Hasin & Skodol, 1989, p. 42) yet offer satisfactory levels of reliability and validity to differentiate generalized anxiety disorder from major depression in a group of out-patients. A review of reliability and validity studies has been conducted by Rogers (1995). One criticism made by Rogers is the lack of systematic studies contrasting SCID with other clinical interviews and with a wide range of disorders. The SCID was chosen for its compatibility with DSM-III-R and DSM-IV diagnoses. However, because of the shortcomings indicated (modest reliability and validity studies) this measure was complemented by the SADS, using research diagnostic criteria.

The interviewer was blind to results of participants obtained at the first and second follow-up scored only after this clinical interview. The advantage of using a structured interview is that ratings are as objective and replicable as possible (Kaelber, Moul & Farmer, 1995) because a formal protocol is used. The advantages of structured interviews method include (1) an increase in reliability, (2) an opportunity to determine a disorder in nominal (presence, absence) and cardinal (severity) terms, (3) a decrease in information and criterion variance because there is a standardized sequence of questions and probes with a set criteria, and finally (4) comprehensiveness. The disadvantages noted by Rogers comprise (1) misdiagnoses due to lack of coverage of all possible mental disorders and (2) alienation of the client by the reutilization of the assessment process (pp. 1-4).
Schedule of Affective Disorders and Schizophrenia (SADS) (Endicott, 1978) and Research Diagnostic Criteria (RDC) (Spitzer, Endicott & Robins, 1978).

The SADS has been designed specifically to assess mood disorders as well as schizophrenia. The SADS is a comprehensive interview to be used in conjunction with the RDC that provides clinical criteria. After a comprehensive review of validity and reliability studies conducted with SADS in conjunction with RDC, Rogers conclude that they offer the following advantages: (1) acceptable inter-rater reliability, (2) severity ratings for the current disorder, (3) coverage of associated symptoms, (4) allowance for the possibility of the patient feigning responses, and (5) adequate convergent validity. The advantages cited above offered a way to remedy some of the shortcomings of the SCID (less well researched in terms of reliability and validity). For a detailed review see Rogers (1995).

Summary

This is a longitudinal prospective study that used a convenience sample of 133 pregnant women in the community. Recruitment took place in different public and private antenatal clinics and other maternity-related facilities. Data collection took over two years to be completed and was done solely by the investigator. The first set of data collection took place during the last trimester of pregnancy. The second set of data collection was done at 6 weeks after delivery. The last wave of data collection was completed at 6 months postnatally. Measures included a combination of self-report questionnaires and a semi-structured clinical interview. With the exception of the Feeney and Noller instrument that proved marginally adequate, all the instruments used in this investigation offered sound psychometric properties in terms of reliability and validity.
CHAPTER 6: RESULTS OF THE STUDY OF POSTNATAL DISTRESS AND DEPRESSION

This chapter will provide a description of the statistical methods used to analyze the data collected and the results obtained by the use of descriptive and inferential statistics. The primary methods of data analysis used include descriptive statistics, t tests, chi square, correlation analysis, multivariate analysis of covariance, multiple regression analysis and structural equation modeling.

A conceptual model for postnatal distress is empirically tested at the end of the chapter.

Descriptive Statistics

In this section, the statistics used to answer the general research questions outlined in Chapter 4 will be described. After that, the results on statistical analyses conducted to investigate the predictors of postnatal distress and depression will be presented. The empirical test of the conceptual model of postnatal distress will be outlined at the end of this chapter.

The Correlates of Prenatal Distress

Table 12 shows the correlation matrix for parametric variables calculated using Pearson r. This table can be found in Appendix 2.

Prenatal Depression and General Symptomatology

Prenatal depression correlated negatively and significantly with the following prenatal measures: Attachment (SPS), Recognition of Worth (SPS), Self-Esteem and
Confidence (ASQ). With the exception of Confidence (ASQ), the other measures showed a negative and moderate to strong correlation to prenatal depression (EPDS).

Prenatal depression correlated positively and significantly with all these prenatal measures: Discomfort (ASQ), Preoccupation with Relationships (ASQ), Relationships as Secondary and general symptomatology. The strength of the correlations was strong in both cases.

Prenatal general symptomatology correlated negatively, moderately and significantly with Mother Acceptance (MFPS), Marital Satisfaction and Cohesion (DAS), Self-Esteem and Confidence (ASQ).

Prenatal general symptomatology correlated positively, moderately and significantly with Preoccupation with Relationships (ASQ) and positively and strongly with prenatal depression.

To summarize, prenatal depression and general symptomatology were strongly interrelated. Both showed a pattern of positive correlations with Preoccupation with Relationships. Discomfort in Relationships correlated positively, exclusively and significantly with prenatal depression. Pregnant women who showed higher levels of depression prenatally, also showed less Marital Satisfaction, less Marital Cohesion, less Mother Acceptance and less Self-Esteem.

The Correlates of Postnatal Distress at 6 Weeks Postpartum

Anxiety

Anxiety (6 weeks postpartum) showed negative, moderate and significant correlations with prenatal Attachment (SPS), prenatal Recognition of Worth (SPS), prenatal Confidence (ASQ) and prenatal Self-Esteem.
Anxiety (6 weeks postpartum) showed positive, moderate and significant correlations with prenatal Discomfort (ASQ), prenatal Preoccupation with Relationships (ASQ) and prenatal Relationships as Secondary (ASQ). The positive and significant correlations between postnatal anxiety and prenatal general symptomatology, prenatal depression, postnatal depression (6 weeks postpartum) and postnatal Trait Anxiety (6 weeks postpartum) were moderate to strong.

To summarize, women with high state anxiety scores at 6 weeks postpartum showed elevated scores in postnatal depression (6 weeks postpartum) and Trait Anxiety (6 weeks postpartum). Prenatally, these women had high scores in Discomfort, Preoccupation with Relationships, Relationships as Secondary, depression and general symptomatology. Women with high State Anxiety at 6 weeks postpartum were more likely to score lower in Attachment, Recognition of Worth, Confidence and Self-Esteem, prenatally.

**Depression**

Depression (6 weeks postpartum) correlated negatively and significantly with prenatal Attachment (SPS), prenatal Recognition of Worth (SPS), prenatal Discomfort (ASQ) and prenatal Self-Esteem.

Depression (6 weeks postpartum) correlated positively, moderately and significantly with prenatal general symptomatology and prenatal Preoccupation with Relationships (ASQ). The correlations between postnatal depression and State and Trait Anxiety (6 weeks postpartum) and prenatal depression were very strong.

Women with elevated depression scores at 6 weeks postpartum were likely to show elevated levels of prenatal general symptomatology, Preoccupation with Relationships and depression in pregnancy. Women with elevated depression scores at 6 weeks postpartum
were more likely to present with decreased level of Self-Esteem, Attachment and Recognition of Worth, prenatally.

The Correlates of Postnatal Distress at 6 Months Postpartum

Anxiety

State Anxiety (6 months postpartum) showed negative and significant correlations with prenatal Self-Esteem, prenatal Attachment (SPS), prenatal Recognition of Worth (SPS) and prenatal Confidence (ASQ). Associations ranged from weak to moderate.

State Anxiety (6 months postpartum) correlated positively, moderately and significantly with prenatal Discomfort (ASQ), prenatal Relationships as Secondary (ASQ), prenatal general symptomatology and prenatal Preoccupation with Relationships (ASQ). Moderate to strong, positive and significant correlations were found between anxiety (6 months postpartum) and prenatal depression, depression (6 weeks and 6 months postpartum), Trait Anxiety (6 weeks and 6 months postpartum) and State Anxiety (6 weeks postpartum).

To summarize, women with higher levels of State Anxiety at 6 months postpartum showed higher scores in Discomfort, Relationships as Secondary, general symptomatology and depression, prenatally. Postnatally, women with higher scores of State Anxiety at 6 months postpartum also showed increased levels of depression (6 weeks and 6 months postpartum), State Anxiety (6 weeks postpartum) and Trait Anxiety (6 weeks and 6 months postpartum). Prenatally, these women were less likely to have high scores in Self-Esteem, Attachment, Recognition of Worth and Confidence.
Depression

Depression at 6 months postpartum correlated negatively and significantly with prenatal Attachment (SPS), prenatal Recognition of Worth (SPS), prenatal Confidence (ASQ), and prenatal Self-Esteem. Correlation coefficients ranged from weak to moderate.

Depression at 6 months postpartum correlated positively, moderately and significantly with prenatal Preoccupation with Relationships (ASQ), prenatal general symptomatology, prenatal depression, depression (6 weeks postpartum), State Anxiety (6 weeks and 6 months postpartum) and correlated positively, strongly and significantly with Trait Anxiety (6 weeks and 6 months).

To sum up, women with higher levels of depression at 6 months postpartum, showed higher levels of Preoccupation with Relationships, general symptomatology and depression, prenatally; postnatally, they showed higher levels of depression (6 weeks postpartum), State Anxiety (6 weeks and 6 months postpartum) and Trait Anxiety (6 weeks and 6 months postpartum). This group of women was more likely to have, during pregnancy, less Self-Esteem, less Attachment, less Recognition of Worth and less Confidence.

Taken together, results from prenatal and postnatal correlations indicated that:

(1) High levels of self-esteem, recognition of worth and attachment during pregnancy appeared to offer some protection against postnatal distress.

(2) High scores of general symptomatology, preoccupation with relationships and depression in pregnancy increased the likelihood of postnatal distress.

(3) Postnatally, measures of depression and anxiety (both state and trait) presented as intimately correlated.

The general picture that emerged after examination of the correlation matrix was that measures of well being during pregnancy, conceptualized as protective factors, such as self-esteem, attachment and recognition of worth, were correlated negatively with measures of
prenatal and postnatal anxiety and depression. Moreover, measures conceptualized as vulnerability or risk factor such as symptomatology, preoccupation, and high trait anxiety were correlated positively with prenatal and postnatal anxiety and depression (at 6 weeks and 6 months postpartum).

Table 13 provides a non-parametric correlation matrix calculated using Spearman’s rho. This table can be found in Appendix 2.

Education correlated significantly with age group and country of birth in a positive direction and with occupation in a negative direction.

Previous depression correlated weakly, positively and significantly with age and terminations and negatively with country of birth.

Planned pregnancy correlated weakly, negatively and significantly with occupation.

Parity correlated significantly with age, occupation and miscarriage in a positive direction. The strength of the association was weak in the three occasions.

Loss of mother correlated weakly, significantly and, in a positive direction with terminations of pregnancy.

Maternity leave correlated moderately, significantly and, in a negative direction with occupation.

The Relationship between Sample Characteristics and Depression at 6 Weeks Postpartum

One way analyses of variance between groups with differing levels of depression were performed to observe the relationship between the characteristics of the sample and depression measured at 6 weeks postnatally using EPDS.

Participants were divided into high, moderate and low depression groups using the following scale score criteria adapted from the Edinburgh Postnatal Depression Scale (NSW Dpt., 1994, p.11):
0-9 low depression group
10-12 moderate depression group
13-30 high depression group.

Results indicated that women in the different postnatal depression groups did not differ significantly in terms of their sociodemographic characteristics such as age, education and occupation, for the first and second follow ups. There were no statistical differences between the depression in the three groups when recent loss, major event, antenatal class, control in labor, method of feeding, miscarriages, previous depression or stay in hospital were compared within the groups.

The only significant difference between groups was found when the planned versus unplanned pregnancy groups were compared. Seventy five percent of women in the high depression group reported an unplanned pregnancy.

T tests are designed to look at differences between 2 groups while chi-squares were conducted to explore categorical data. T tests were performed on sex and preferred sex. No statistically significant differences were found. Chi square tests were performed for anxiety and depression groups by termination of pregnancy, miscarriages, previous depression, planned pregnancy, recent loss, stay in hospital, major event, antenatal class, control in labor and method of feeding. Examination of results indicated that there was not any statistically significant difference in the groups when these variables were analyzed. The only exception was a significant interaction of depression by planned pregnancy with $r = 19.24, p < .05$.

Eighty-two point six percent of women with a planned pregnancy were in the low depression group while seventy five percent of women with an unplanned pregnancy were in the high depression group. By contrast, 17.4% of women with an unplanned pregnancy were in the low depression group while 25% of participants who reported a planned pregnancy were in the high depression group.
The Relationship between Sample Characteristics and Anxiety at 6 Weeks Postpartum

Characteristic variables on anxiety, some significant differences between groups differing in levels of anxiety were found. Three groups were established using norms for working women provided by Spielberger (1983, p. 14). The low, average and high anxiety were classified using the mean and one minus deviation and one plus standard deviation cut-off respectively.

-1 standard deviation       low anxiety group
mean for working women       average anxiety group
+1 standard deviation       high anxiety group.

Planned versus Unplanned Pregnancy

There were significant differences in anxiety between women in the postnatal anxiety groups who had a planned pregnancy as opposed to those who had a planned pregnancy: F (2,111) = 12.13, p < .05. Seventy five percent of the high anxiety group had an unplanned pregnancy while twenty five percent had a planned pregnancy; fifteen percent of the low anxiety group had an unplanned pregnancy while eighty four percent of the low anxiety group had a planned pregnancy.

Previous Psychological History

Another significant difference emerged for anxiety regarding previous depression (or previous psychological difficulty in need of treatment): F (2, 100) = 9.70, p < .05. Seventy six percent of women in the low anxiety group had no previous psychological problems while 23% had a reported past psychological difficulty. In the high anxiety group, 22% had no previous history while 78% reported a previous history of emotional difficulties demanding some contact with mental health professionals.
Method of Infant Feeding

When method of infant feeding was analyzed, the low, medium and high anxiety groups were compared to see whether mothers who were breastfeeding differed significantly from mothers who were bottle-feeding: \( F(2, 100) = 6.27, p < .05 \). In the low anxiety group, 89% of mothers were breastfeeding. In the medium anxiety group, 83% of mothers were breastfeeding, while in the high anxiety group mothers were equally breast and bottle-feeding. The majority of low and average anxiety mothers tended to breastfeed their babies. The percentage of mothers bottle-feeding their infants increased within the high anxiety range reaching 50% and balancing the mothers who were breastfeeding. The breastfeeding mothers’ percentage decreased in the high anxiety group of mothers.

Obstetric History

No significant differences were found between the low, medium and high anxiety groups in terms of previous miscarriages, recent loss, stay in hospital, major event after childbirth, feeling of control during labor and attendance to antenatal classes.

Differences Between and Within Anxiety and Depression Groups controlling for Initial Levels of Anxiety and Depression Respectively

After exploring differences in anxiety and depression groups, it was of interest to know whether those differences between and within groups were not due to initial differences on anxiety and depression. The question to investigate was whether mean differences between and within groups on the dependent variables were likely to have occurred by chance. In this analysis the variables that were examined included age groups, sex of the baby, preferred sex, education and occupation.
MANCOVAs were used to provide a single overall test of group differences at a specified confidence level. MANCOVAs can yield more robust evidence of overall group differences within and between groups because they explore the variance in the dependent variables not explained by the covariates. Covariance methods are indicated to provide statistical control of irrelevant sources of variation within and between groups. Main effects and interactions of independent variables are assessed after the dependent variables have been statistically controlled for differences associated with the covariates (depression and anxiety at 6 weeks and 6 months). The effect of controlling covariates is to provide a more solid test of differences within and between groups. Therefore, differences would be free from differences on covariates.

Upon examination of tables, there were no mean differences within and between depression and anxiety groups when initial levels of anxiety and depression were statistically controlled, that is, when the differences on those covariates were eliminated.

First, the multivariate analysis of covariance with anxiety (low, average and high) groups as the dependent variable are presented followed by results from the same analysis conducted with depression (low, moderate, high) groups as the dependent variable.

**Anxiety**

There were not any significant mean differences or main effects of age, occupation, education, sex, sex preferences when initial level of postnatal anxiety at 6 weeks were controlled for.

**Depression**

Regarding depression, there were neither main effects nor mean differences among and between groups when initial levels of postnatal depression were controlled for. The only
two within groups' statistically significant differences found were related to the covariate. Postnatal depression at 6 weeks as a covariate yielded statistically significant effects when age groups and sex of the baby were analyzed. Table 14 presents the means, standard deviations and size of the sample when the covariate (depression) achieved statistical significance; that is, when differences for the groups were not due to chance error.

Table 14: Means and Standard Deviations for Depression at 6 Weeks and 6 Months by Age Groups based on MANCOVA

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>M</th>
<th>sd</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.60</td>
<td>.47</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>.70</td>
<td>.42</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>.47</td>
<td>.44</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>.66</td>
<td>.49</td>
<td>24</td>
</tr>
<tr>
<td>Total sample</td>
<td>.60</td>
<td>.45</td>
<td>118</td>
</tr>
</tbody>
</table>

Note. Age groups: (1) <26; (2) 27-30; (3) 31-34; (4) >35

Table 15 presents the means, standard deviation when the covariate (depression) achieved statistical significance regarding sex of the baby.

Table 15: Means and Standard Deviations for Depression at 6 Weeks and 6 Months by Baby's Sex based on MANCOVA

<table>
<thead>
<tr>
<th>SEX</th>
<th>M</th>
<th>sd</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girl</td>
<td>.64</td>
<td>.50</td>
<td>57</td>
</tr>
<tr>
<td>Boy</td>
<td>.56</td>
<td>.41</td>
<td>61</td>
</tr>
<tr>
<td>Total sample</td>
<td>.60</td>
<td>.45</td>
<td>118</td>
</tr>
</tbody>
</table>
Tables 16 and 17 provide MANCOVA summary tables for age group and sex of the baby, within-subject effects, respectively.

### Table 16: MANCOVA Summary Table for Age Group by Depression Within-Subject Effect

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within + residual</td>
<td>15.61</td>
<td>114</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>1.05</td>
<td>1</td>
<td>1.05</td>
<td>7.67*</td>
</tr>
<tr>
<td>Agegrp by depression</td>
<td>.39</td>
<td>3</td>
<td>.13</td>
<td>.95</td>
</tr>
</tbody>
</table>

*Note. Agegrp: age groups. *p < .05.

### Table 17: MANCOVA Summary Table for Sex by Depression Within-Subject Effect

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within + residual</td>
<td>15.76</td>
<td>116</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
<td>7.33</td>
</tr>
<tr>
<td>Sex by depression</td>
<td>.25</td>
<td>1</td>
<td>.25</td>
<td>1.81</td>
</tr>
</tbody>
</table>

* *p < .05.

The Prevalence of Anxiety and Depression at 6 Weeks Postpartum

Table 18 shows a classification of the sample on the basis of the anxiety (STAI) and depression (EPDS) levels, specified previously.

### Table 18: Classification Table of Prevalence of Anxiety and Depression Groups (6 Weeks Postpartum)

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>ANXIETY</th>
<th>DEPRESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>25 %</td>
<td>80 %</td>
</tr>
<tr>
<td>Average</td>
<td>64 %</td>
<td>10 %</td>
</tr>
<tr>
<td>High</td>
<td>7 %</td>
<td>10 %</td>
</tr>
</tbody>
</table>
Low levels of depression characterized the majority of women (80%) at 6 weeks postpartum. The rest were equally distributed into the average and high depression groups. Average levels of anxiety were predominant for the majority of women (64%). A quarter of the sample was classified into the low anxiety group while a minority (7%) belonged to the high anxiety group. Ten percent and seven percent of the participants were classified as high postnatal depression and high postnatal anxiety respectively, at 6 weeks postpartum.

The Prevalence of Clinical Disorders at 6 Months Postpartum

The prevalence of clinical disorders was established using Research Diagnostic Criteria and the Diagnostic Interview Schedule at 6 months postpartum. Table 19 presents a summary of the prevalence of minor depression, major depression and adjustment disorders found in this study.

Table 19: Prevalence of Minor Depression, Major Depression and Adjustment Disorder (6 Months Postpartum)

<table>
<thead>
<tr>
<th>CLINICAL DIAGNOSIS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor depression</td>
<td>3.1</td>
</tr>
<tr>
<td>Major depression</td>
<td>14.4</td>
</tr>
<tr>
<td>Adjustment disorder</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Seventy-seven point three percent of the sample did not fulfill clinical criteria for any disorders while twenty-two point seven percent of the sample fulfilled diagnostic criteria for the disorders covered in the study.

The prevalence of clinical depression is mostly consistent with other studies using similar research instruments and stringent clinical criteria on this population (O’Hara, 1986; O’Hara, Schlechte, Lewis & Varner, 1991; Whiffen, 1988). Further to the determination of
the prevalence of clinical disorders in this sample, a contrast between the clinical and non-clinical group was performed. The clinical group was studied closely. The general picture that emerged from a descriptive analysis was that first time mothers (77%) who reported a planned pregnancy (68%) mostly composed the clinical group. The majority (63%) reported a previous history of psychological problems. Fifty-four percent of women (54%) reported an obstetric history characterized by previous miscarriages and/or terminations of pregnancies. Fifty-four percent of women (54%) in the clinical group reported during the pregnancy recent and current stressors such as car accidents, death in the family, marital conflict and separation, and untimely pregnancy.

The Prediction of Postnatal Distress and Depression

In this section, the results of the investigation of prenatal predictors of postnatal distress and depression are outlined.

The Pregnancy Predictors of Postnatal Distress at 6 Weeks and 6 Months Postpartum

In order to test the hypotheses presented in Chapter 4, statistical multiple regression and logistic regression were used. This was to analyze the factors that accounted for the variance of postnatal anxiety (STAI) and postnatal depression (EPDS) at 6 weeks and 6 months respectively.

(1) Prenatal Predictors of Postnatal Distress

a) Pregnant women with a history of a previous depression and miscarriage, low Self-Esteem (SEI), low Attachment (SPS), high general symptomatology (GHQ), low Recognition of Worth (SPS), low Marital Cohesion (DAS), low Mother Idealization (MFPS), low Mother Acceptance (MFPS), high
Preoccupation with Relationships (ASQ) will have higher levels of postnatal anxiety (STAI) at 6 weeks and 6 months respectively.

b) Pregnant women with a history of a previous depression and miscarriage, low Self-Esteem, low Attachment (SPS), high general symptomatology (GHQ), low Reassurance Of Worth (SPS), low Marital Cohesion (DAS), low Mother Idealization (MFPS), low Mother Acceptance (MFPS), high Preoccupation with Relationships (ASQ) will have higher levels of postnatal depression (EPDS) at 6 weeks and 6 months respectively.

To determine how well these predictor variables could predict anxiety and depression, at 6 weeks and 6 months postpartum, statistical multiple regression was used.

Postnatal Distress at 6 Weeks Postpartum

A standard multiple regression analysis was performed between anxiety and depression at 6 weeks postnatally as dependent variables and previous depression, miscarriages, Self-Esteem, general symptomatology, Attachment, Recognition Of Worth, Marital Cohesion, Mother Idealization, Mother Acceptance and Preoccupation with Relationships as independent variables.

Analyses were performed using SPSS (Solaris 2.4). The assumptions of multiple regression were evaluated. Variables were assessed for their distributional characteristics, particularly normality and kurtosis. No measured variables were found to be significantly skewed or highly kurtotic. There was a normal distribution of variables.

Having met the assumptions of multiple regression, the results were examined for any offending estimates. There were no indications of theoretically inconsistent or offending estimates.
Anxiety.

Table 20 displays a summary of results predicting anxiety.

Table 20: Statistical Multiple Regression with Anxiety as Dependent Variable (6 Weeks Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>R</th>
<th>R²</th>
<th>Adj. R²</th>
<th>F</th>
<th>n</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>.60</td>
<td>.36</td>
<td>.28</td>
<td>4.93*</td>
<td>133</td>
<td>10</td>
</tr>
</tbody>
</table>

*p = .00.

Depression.

Results from multiple regression results predicting depression at six weeks postpartum are presented in Table 21.

Table 21: Statistical Multiple Regression with Depression as Dependent Variable (6 Weeks Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>R</th>
<th>R²</th>
<th>Adj. R²</th>
<th>F</th>
<th>n</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>.51</td>
<td>.26</td>
<td>.18</td>
<td>3.21*</td>
<td>133</td>
<td>10</td>
</tr>
</tbody>
</table>

*p = .00.

It can be seen from Tables 20 and 21 that at 6 weeks postnatally, 36% of the variance of anxiety and 26% of the variance of depression could be accounted for by the predictor variables.

The following tables present standardized coefficients (β) loading on 6 weeks postpartum anxiety and depression, respectively.
Table 22: Summary of Regression Analysis for Variables Predicting Anxiety (6 Weeks Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoccupation</td>
<td>.05</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td>Idealization</td>
<td>.19</td>
<td>.07</td>
<td>.33**</td>
</tr>
<tr>
<td>Cohesion</td>
<td>.01</td>
<td>.01</td>
<td>.06</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>-.10</td>
<td>.10</td>
<td>-.09</td>
</tr>
<tr>
<td>Prevdep</td>
<td>.01</td>
<td>.09</td>
<td>.01</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.33</td>
<td>.12</td>
<td>-.31**</td>
</tr>
<tr>
<td>Symptom</td>
<td>1.07</td>
<td>.26</td>
<td>.41**</td>
</tr>
<tr>
<td>Recognition</td>
<td>.03</td>
<td>.13</td>
<td>.02</td>
</tr>
<tr>
<td>Se</td>
<td>-.00</td>
<td>.00</td>
<td>-.10</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.01</td>
<td>.06</td>
<td>-.07</td>
</tr>
</tbody>
</table>

Note. Prevdep: Previous depression; Symptom: General Health Questionnaire—in the text referred as general symptomatology; Recognition: Social Provisions Scale—Recognition of worth; Se: Self-esteem; Acceptance: Mother acceptance

**p < .01.

It can be seen from Table 22 that mother idealization, attachment and general symptomatology were significant predictors of anxiety at 6 weeks postpartum and accounted for almost 36% of its variance. Mother idealization and general symptomatology were positive and significant predictors of anxiety. Attachment was a negative and significant predictor of anxiety. The direction of the relationship between mother idealization and anxiety was contrary to expectations.
Table 23: Summary of Regression Analysis for Variables Predicting Depression

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoccupation</td>
<td>.01</td>
<td>.07</td>
<td>.02</td>
</tr>
<tr>
<td>Idealization</td>
<td>.13</td>
<td>.06</td>
<td>.24*</td>
</tr>
<tr>
<td>Cohesion</td>
<td>.01</td>
<td>.01</td>
<td>.12</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>-.04</td>
<td>.10</td>
<td>-.04</td>
</tr>
<tr>
<td>Prevdep</td>
<td>.08</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.18</td>
<td>.11</td>
<td>-.18</td>
</tr>
<tr>
<td>Symptom</td>
<td>.68</td>
<td>.26</td>
<td>.27**</td>
</tr>
<tr>
<td>Recognition</td>
<td>-.03</td>
<td>.13</td>
<td>-.02</td>
</tr>
<tr>
<td>Se</td>
<td>-.01</td>
<td>.00</td>
<td>-.24</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.04</td>
<td>.06</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Prevdep: Previous depression; Symptom: General Health Questionnaire—General Symptomatology; Recognition: Social Provisions Scale—Recognition of worth; Se: Self-esteem; Acceptance: Mother acceptance; *p < .05. **p < .01.

Table 23 indicates that high idealization and high general symptomatology were statistically significant predictors of depression at 6 weeks postpartum. Together, they accounted for 26% of the variance.

Mother idealization and general symptomatology are positive and significant predictors for both indicators of postnatal distress. Mother idealization as a positive predictor of distress was an unexpected result. Attachment as a negative predictor was specific to anxiety at 6 weeks postpartum.

Postnatal Distress at 6 Months Postpartum

The same analyses for anxiety and depression at 6 weeks postpartum were performed as for anxiety and depression at 6 months postpartum.
Anxiety.

Table 24 presents summary statistics of multiple regression analysis predicting anxiety at 6 months postpartum.

Table 24: Statistical Multiple Regression with Anxiety as Dependent Variable (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>R</th>
<th>R²</th>
<th>Adj. R²</th>
<th>F</th>
<th>n</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>.60</td>
<td>.38</td>
<td>.28</td>
<td>4.86</td>
<td>79</td>
<td>8</td>
</tr>
</tbody>
</table>

*p = .0001

Table 24 indicates that the predictor variables accounted for 38% of the variance of anxiety (6 months postpartum). This percentage is comparable to the prediction of anxiety at 6 weeks postpartum (36%).

Table 25 presents summary statistics of multiple regression analysis.

Table 25: Summary of Multiple Regression Analysis for Variables Predicting Anxiety (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion</td>
<td>.02</td>
<td>.01</td>
<td>.16</td>
</tr>
<tr>
<td>Prevdep</td>
<td>.35</td>
<td>.11</td>
<td>.32*</td>
</tr>
<tr>
<td>Se</td>
<td>-.01</td>
<td>.00</td>
<td>-.22</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>-.13</td>
<td>.12</td>
<td>-.12</td>
</tr>
<tr>
<td>Idealization</td>
<td>.23</td>
<td>.08</td>
<td>.37*</td>
</tr>
<tr>
<td>Symptom</td>
<td>.75</td>
<td>.31</td>
<td>.26*</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.24</td>
<td>.14</td>
<td>-.21</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.09</td>
<td>.08</td>
<td>-.16</td>
</tr>
</tbody>
</table>

*p = .0001
Previous depression, general symptomatology and mother idealization were all positive and significant predictors of anxiety.

Depression.

Table 26 illustrates results from statistical multiple regression performed, predicting depression at 6 months postpartum.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>R</th>
<th>R²</th>
<th>Adj. R²</th>
<th>F</th>
<th>n</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>.52</td>
<td>.27</td>
<td>.20</td>
<td>3.88</td>
<td>94</td>
<td>8</td>
</tr>
</tbody>
</table>

*p = .0006

The predictor variables accounted for 27% of the variance of depression (6 months postnatally). Previous depression and general symptomatology were positive and significant predictors of depression while Attachment was a negative and significant predictor.

Table 27 presents summary statistics for variables predicting depression 6 months postnatally.

Prenatal Predictors of Clinical Disorders

Logistic regression was used to predict the likelihood of clinical disorders at 6 months postnatally from the same prenatal indicators used in the previous sections to predict postnatal distress at 6 weeks and 6 months postnatally. The choice of analysis was determined by the categorical nature of the data.

Results indicated that 95.24% of non-cases and 52.38% of clinical cases could be predicted by the prenatal variables. Thus, the prenatal indicators were more successful in
predicting non-cases than in predicting cases. The overall percentage of correct prediction was 84.52%.

Table 27: Summary of Multiple Regression Analysis for Variables Predicting Depression (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion</td>
<td>.02</td>
<td>.01</td>
<td>.16</td>
</tr>
<tr>
<td>Prevdep</td>
<td>.23</td>
<td>.10</td>
<td>.24*</td>
</tr>
<tr>
<td>Se</td>
<td>-.00</td>
<td>.01</td>
<td>-.12</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>-.04</td>
<td>.11</td>
<td>-.04</td>
</tr>
<tr>
<td>Idealization</td>
<td>.13</td>
<td>.07</td>
<td>.23</td>
</tr>
<tr>
<td>Symptom</td>
<td>.85</td>
<td>.27</td>
<td>.32*</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.24</td>
<td>.12</td>
<td>-.23*</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.03</td>
<td>.07</td>
<td>-.06</td>
</tr>
</tbody>
</table>

*p < .001

Anxiety and Depression (6 Weeks Postpartum) as Predictors of Clinical Disorders (6 Months Postpartum)

Table 28 presents summary statistics of anxiety and depression at 6 weeks postpartum predicting clinical cases at 6 months postpartum.

Table 28: Summary Statistics for Anxiety and Depression (6 Weeks Postpartum) predicting Clinical Disorders (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>R</th>
<th>R2</th>
<th>Adj. R2</th>
<th>F</th>
<th>n</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical disorder</td>
<td>.47</td>
<td>.22</td>
<td>.21</td>
<td>13.29*</td>
<td>95</td>
<td>2</td>
</tr>
</tbody>
</table>

*p = .00.
It can be observed from Table 28 that anxiety and depression at 6 weeks accounted for 22% of the variance of clinical status at 6 months postnatally.

Table 29 presents the correlation matrix for postnatal depression (6 weeks), postnatal anxiety (6 weeks) and clinical disorder (6 months).

Table 29: Correlation Matrix between Anxiety and Depression (6 Weeks Postpartum) and Clinical Disorders (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>CLINDISOR</th>
<th>EPDSA</th>
<th>STANXA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clindisor</td>
<td>1.00</td>
<td>.45*</td>
<td>.39*</td>
</tr>
<tr>
<td>Epdsa</td>
<td>.45*</td>
<td>1.00</td>
<td>.62*</td>
</tr>
<tr>
<td>Stanxa</td>
<td>.39*</td>
<td>.62*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. Clindisor: clinical disorder 6 months; Epdsa: depression 6 weeks; Stanxa: anxiety 6 weeks.
*one-tail, p = .00.

It can be seen from Table 29 that there is a strong correlation between clinical disorders at 6 months and both indicators of maternal dysphoria (i.e. depression and anxiety) at 6 weeks postnatally. Depression as measured by the Edinburgh Postnatal Depression Scale had a slightly higher positive correlation with clinical disorders in comparison to anxiety. The following table presents standardized beta coefficients for depression and anxiety respectively.

Table 30: Summary of Multiple Regression Analysis for Anxiety and Depression Predicting Clinical Disorders (6 Months Postpartum)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>.16</td>
<td>.11</td>
<td>.18</td>
</tr>
<tr>
<td>Depression</td>
<td>.33</td>
<td>.11</td>
<td>.34*</td>
</tr>
</tbody>
</table>

*p = .000

Table 30 illustrates differences between depression and anxiety at 6 weeks postpartum as predictors of clinical disorders at 6 months. Depression at 6 weeks was a
A statistically significant predictor of clinical disorders at 6 months while anxiety at 6 weeks presented only as following a trend towards achieving significance.

Summary of Findings for Predictors of Postnatal Distress and Depression

The prenatal positive and significant predictors of anxiety (6 weeks postpartum) were mother idealization and general symptomatology. The prenatal significant and negative predictor of anxiety (6 weeks postpartum) was attachment. Together predictor variables accounted for 36% of the variance. The prenatal significant and positive predictors of depression (6 weeks postpartum) were mother idealization and general symptomatology, explaining 26% of the variance.

The prenatal significant positive predictors of anxiety (6 months postpartum) were previous depression, general symptomatology and mother idealization, explaining 38% of the variance. The significant and positive predictors of depression (6 months postpartum) were previous depression and general symptomatology. The significant and negative predictor of depression (6 months postpartum) was attachment. Together the predictor variables accounted for 27% of the variance.

Prenatal predictors of clinical disorders predicted successfully the occurrence of 52.38% of clinical cases.

Postnatal distress (6 weeks postpartum) accounted for 22% of the variance of clinical disorders. Only depression (6 weeks postpartum) was a positive and significant predictor of clinical disorders.

A Model of Postnatal Distress

In this section, results of the empirical test of the conceptual model outlined in Chapter 4 are presented.
To examine the patterns of relationships between the theoretical constructs of sense of self, birth experience and postnatal distress, structural equation modeling was used. The data analysis was carried out using SAS CALIS (Covariance Analysis of Linear Structural Equations) (SAS Institute, 1990). Structural Equation Modeling (SEM) was chosen on the basis of its robustness and flexibility. SEM allows multiple relationships between different measured and latent variables to be analyzed simultaneously by a combination of multiple regression and factor analysis (Hair et al., 1996). SEM is mainly a confirmatory technique, so it offered the possibility to empirically test theoretical constructs and hypotheses. In SEM, parameters for the estimated model are calculated and then compared with the data to ascertain goodness-of-fit (Everitt & Dunn, 1983).

Relationships were examined between sense of self, birth experience and postnatal distress. Sense of self is a hypothesized latent factor, indicated by Self-Esteem, Preoccupation with Relationships, Attachment, Mother Acceptance and Mother Idealization based on the attachment conceptual model. Postnatal distress is another hypothesized latent factor, indicated by state anxiety, depression and previous depression based on the literature reviewed. A third factor was included in the hypothetical model: birth experience. It was indicated by two measured variables: planned pregnancy and obstetric loss, based on findings reported by Brockington (1996).

The path diagram for the hypothetical model is presented in Figure 1. Circles represent latent variables while rectangles represent measured variables. Direct lines connecting latent and measured variables represent effects hypothesized on the basis of theory and the literature reviewed.

Figure 1 illustrates a three-factor model of postnatal distress. It indicates that sense of self directly affects postnatal distress, specifically, a vulnerable sense of self predicts higher levels of postnatal distress. Birth experience has an indirect effect on postnatal distress. An
unplanned pregnancy and a history of previous miscarriage and termination define a negative birth experience. A negative birth experience predicts higher levels of postnatal distress through the mediation of a vulnerable sense of self.

The assumptions of multivariate normality and linearity were evaluated. Variables were assessed for their distributional characteristics, particularly normality and kurtosis. No measured variables were found to be significantly skewed or highly kurtotic. There was a normal distribution of variables.

Having met the assumptions of structural equation modeling, the results were then examined for any offending estimates. There were no indications of theoretically inconsistent or offending estimates. Mean substitution was used to replace any missing data. The model included 124 participants and 10 observed variables. The ratio of cases to observed variables was 12:1. The ratio of cases to estimated parameters was 6:1. The ratio was also adequate given the satisfactory reliability of the scales used. The sample size of 124 women fell within acceptable limits for use of structural equation modeling, since the variables in this study have a normal distribution.

Model Estimation

The independence model that tests the hypothesis that the variables are uncorrelated with one another was rejected. The hypothesized model is a significant improvement over the independent model (null hypothesis, Ho) because \( \chi^2 (290.65 - 77.75) \) with (36-24); \( \chi^2 \) diff \( (12, N = 124) = 212.90, p < .001 \). The model had 12 endogenous (dependent) variables and 13 exogenous (predictor) variables.
Figure 1. Path Diagram
The hypothesized model was tested next. The overall fit of the model was assessed by likelihood chi-square ($\chi^2$), goodness of fit index (GFI), adjusted goodness of fit index (AGFI) and the root mean square residual (RMSR). The Chi-square value of 304.53 with 45 degrees of freedom was statistically significant at the .00 significance level; $\chi^2 (31, N = 124) = 107.33$, $p = .001$. The GFI value of .86 was at a marginal acceptance level, as was the RMR value of .13. The AGFI was .75. In the evaluation of how well the model fit the data, general criteria indicated by Hair et al. (1995) were used: a model with acceptable level of fit is indicated by a non significant $\chi^2$ ($p > .05$), incremental fit indices greater than .90; low RMSR and RMSEA values and parsimony indices portray the proposed model as more parsimonious than alternative models. These guidelines are relative as no absolute test is available and, ultimately, it is the researcher who must evaluate the overall acceptability of the model. Overall, results were indicative of a model of marginal acceptability.

In an attempt to obtain a better fitting and possibly more parsimonious model, post hoc modifications were performed. On the basis of the Lagrange Multiplier and Wald Test indices, it was decided to eliminate one factor and one variable from the analysis. F1 was eliminated because obstetric loss and planned pregnancy did not have any significant loading on that factor. The Stepwise Multivariate Wald test indicated that a significant improvement could be achieved through the elimination of the variable of previous depression.

Post Hoc Modifications of the Initial Model

A nested model is one derived from a general model. The structure is the same but some paths or variables have been deleted (Hair, et al. 1996). There were 9 endogenous and 11 exogenous variables in the nested model. The obtained indices indicated that only a slight improvement was achieved: GFI = .88; $\chi^2 (25, N = 124) = 83.08$, $p = .00$, AGFI = .78 and the RMR = .11. All standardized coefficients achieved statistical significance.
On examination of the covariance matrix structure and the Lagrange multiplier and Wald tests, a path was eliminated, from obstetric loss to postnatal distress, leaving obstetric loss loading only on sense of self while planned pregnancy loading on both sense of self and postnatal distress.

Subsequently, another nested model was tested. This model had 9 endogenous variables and 11 exogenous variables, similar to the previous model: GFI = .89, RMR = .10; \( \chi^2 (24, N = 124) = 77.74, \) AGFI = .78, Bentler Comparative Fit Index = .79. All the standardized coefficients were significant and are presented in Figure 2.

Table 31 presents a summary of results from structural equation modeling.

Table 31: Summary of Structural Equation Modeling for Variables Predicting Sense of Self and Postnatal Distress

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>SENSE OF SELF</th>
<th>POSTNATAL DISTRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Se</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(8.00)*</td>
<td></td>
</tr>
<tr>
<td>Preoccupation</td>
<td>-.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-6.56)*</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(6.41)*</td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.54)*</td>
<td></td>
</tr>
<tr>
<td>Idealization</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.55)*</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.87)*</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.86)*</td>
<td></td>
</tr>
<tr>
<td>Obstetric</td>
<td>-.45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-3.83)*</td>
<td></td>
</tr>
<tr>
<td>Planned Pregnancy</td>
<td>.29</td>
<td>-.26</td>
</tr>
<tr>
<td></td>
<td>(2.64)*</td>
<td>(-2.33)*</td>
</tr>
<tr>
<td>Sense of Self</td>
<td></td>
<td>-.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-3.50)*</td>
</tr>
</tbody>
</table>

Note. \( t \) values in parentheses.
\( ^*_{t > 2} \).
Figure 2. Final Model with Standardized Coefficients
Table 32: Covariance Matrix obtained in SEM

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>PLAN</th>
<th>ACCEPT</th>
<th>IDEAL</th>
<th>PREOCC</th>
<th>ATTACH</th>
<th>ANX</th>
<th>DEP</th>
<th>SE</th>
<th>OBST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>.00</td>
<td>.45</td>
<td>-.90</td>
<td>-.071</td>
<td>-1.39</td>
<td>-.35</td>
<td>.35</td>
<td>.95</td>
<td>.00</td>
</tr>
<tr>
<td>Accept</td>
<td>.45</td>
<td>.00</td>
<td>6.22</td>
<td>1.48</td>
<td>1.49</td>
<td>.89</td>
<td>1.13</td>
<td>-2.00</td>
<td>-1.06</td>
</tr>
<tr>
<td>Idealization</td>
<td>-.90</td>
<td>6.22</td>
<td>.00</td>
<td>.71</td>
<td>-.38</td>
<td>2.80</td>
<td>2.74</td>
<td>-.93</td>
<td>-1.82</td>
</tr>
<tr>
<td>Preoccupation</td>
<td>-.07</td>
<td>1.48</td>
<td>.71</td>
<td>.00</td>
<td>.83</td>
<td>-.21</td>
<td>.42</td>
<td>-.77</td>
<td>1.18</td>
</tr>
<tr>
<td>Attachment</td>
<td>-1.39</td>
<td>1.49</td>
<td>-.38</td>
<td>-.83</td>
<td>.00</td>
<td>-1.10</td>
<td>-.00</td>
<td>.85</td>
<td>.96</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-3.55</td>
<td>.89</td>
<td>2.80</td>
<td>-.21</td>
<td>1.10</td>
<td>.00</td>
<td>.00</td>
<td>-.28</td>
<td>-1.68</td>
</tr>
<tr>
<td>Depression</td>
<td>.34</td>
<td>1.13</td>
<td>2.74</td>
<td>.42</td>
<td>-.00</td>
<td>-.00</td>
<td>.00</td>
<td>-.94</td>
<td>.93</td>
</tr>
<tr>
<td>Se</td>
<td>.95</td>
<td>-2.00</td>
<td>-.93</td>
<td>-.77</td>
<td>.85</td>
<td>-.28</td>
<td>-.94</td>
<td>.00</td>
<td>.93</td>
</tr>
<tr>
<td>Obstetric</td>
<td>.00</td>
<td>-1.06</td>
<td>-1.82</td>
<td>1.18</td>
<td>.96</td>
<td>-.68</td>
<td>.93</td>
<td>.93</td>
<td>.00</td>
</tr>
</tbody>
</table>


The covariance matrix and the normalized residuals for the model can be seen in Table 32 while Table 33 displays the correlation matrix obtained.

Table 33: Squared Multiple Correlation Matrix obtained in SEM

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>ERROR VARIANCE</th>
<th>TOTAL VARIANCE</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>.87</td>
<td>1</td>
<td>.13</td>
</tr>
<tr>
<td>Idealization</td>
<td>.93</td>
<td>1</td>
<td>.07</td>
</tr>
<tr>
<td>Preoccupation</td>
<td>.60</td>
<td>1</td>
<td>.40</td>
</tr>
<tr>
<td>Attachment</td>
<td>.62</td>
<td>1</td>
<td>.38</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.31</td>
<td>1</td>
<td>.69</td>
</tr>
<tr>
<td>Depression</td>
<td>.30</td>
<td>1</td>
<td>.70</td>
</tr>
<tr>
<td>Se</td>
<td>.41</td>
<td>1</td>
<td>.59</td>
</tr>
<tr>
<td>F2</td>
<td>1</td>
<td>1.38</td>
<td>.28</td>
</tr>
<tr>
<td>F3</td>
<td>1</td>
<td>1.26</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note. F2: Sense of Self; F3 Postnatal Distress.
Table 34 compares goodness of fit measures for the initial model and the nested models.

**Table 34: Comparison between the Initial Model and the Nested Models obtained in SEM**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>GFI</th>
<th>RMR</th>
<th>$\chi^2$</th>
<th>PGFI</th>
<th>AIC</th>
<th>PNFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>.86</td>
<td>.13</td>
<td>107.33</td>
<td>.71</td>
<td>45.33</td>
<td>.45</td>
</tr>
<tr>
<td>Modified</td>
<td>.88</td>
<td>.11</td>
<td>83.08</td>
<td>.77</td>
<td>33.08</td>
<td>.50</td>
</tr>
<tr>
<td>Final</td>
<td>.89</td>
<td>.10</td>
<td>77.74</td>
<td>.79</td>
<td>29.74</td>
<td>.49</td>
</tr>
</tbody>
</table>

Note. GFI: Goodness of fit index; RMR: Root mean squared residual; PGFI: Parsimonious goodness-of-fit index; AIC: Akaike information criteria; PNFI: Parsimonious normed fit index

Table 35 provides a comparison of the nested models in terms of comparative measures based on Hair et al. (1995).

**Table 35: Comparison of Nested Models (Comparative Measures)**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Scaled $\chi^2$</th>
<th>df</th>
<th>CFI</th>
<th>$\chi^2$ difference test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesized model</td>
<td>107.33</td>
<td>33</td>
<td>.71</td>
<td>183.32</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 eliminated, path dropped</td>
<td>83.08</td>
<td>25</td>
<td>.77</td>
<td>24.25</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Path added</td>
<td>77.74</td>
<td>24</td>
<td>.79</td>
<td>5.34</td>
</tr>
</tbody>
</table>

Note. CFI: Comparative Fitness Index.

It can be observed from Table 35 that model 3 reduced the scaled $\chi^2$, the degrees of freedom and increased the CFI. Those are indications of a more parsimonious model.

**Summary of Findings for Testing a Conceptual Model of Postnatal Distress**

The aim of this investigation was to develop a conceptual postnatal distress model that could be empirically tested. Postnatal distress is a complex and multidimensional
phenomenon. In the model development phase of this study, the relationships between a vulnerable sense of self (i.e. low self-esteem, high preoccupation regarding attachment style, high mother idealization, low attachment, and low mother acceptance), birth experience and postnatal distress were explored using structural equation modeling.

Postnatal distress was defined in this study as a dysphoric state, measured by anxiety and depression following childbirth. Attachment theory indicates that resilience or vulnerability can predict distress and also mental illness when people are under conditions of stress. In this study, several hypotheses were tested, employing a predictable stressful event (childbirth) and using measures of postnatal distress (at 6 weeks and 6 months) and clinical status (6 months). Partial support only was found for the resilience-vulnerability model, yet some important relationships were confirmed. When the model was compared with two other nested models, in an attempt to find the best representation of the conceptual model, the result did not satisfy all the criteria; however, the final model offers marginally acceptable levels of fit.

What follows is the outline of the hypotheses and results of the empirical test of the conceptual model of postnatal distress, as previously outlined in Chapter 4.

a) There was moderate support for the hypothesis that women with high self-esteem, high attachment, low preoccupation with relationships, high mother acceptance and high mother idealization tended to have a higher (i.e. more resilient) sense of self based on the pattern, significance and strength of the predictor variables.

b) The hypothesis that women with low self-esteem, low attachment, high preoccupation with relationships, low mother acceptance and low mother idealization tended to have a vulnerable sense of self. Self-esteem, preoccupation with relationships and attachment had a strong impact on sense of self; self-esteem and attachment influencing sense of self in a positive direction and preoccupation with relationships
in a negative direction as expected. Acceptance and mother idealization have positive but weaker effects on sense of self. Both relationships and directions were consistent with the expected.

c) The higher the sense of self (i.e. the more resilient) the lower the postnatal distress at 6 weeks. There was strong support for this hypothesis. A vulnerable sense of self (indicated by low self-esteem, low attachment, high preoccupation with relationships, low mother acceptance and low mother idealization) predicted high levels of postnatal distress.

d) State anxiety and depression had a very powerful and direct defining role in postnatal distress as indicated by their high correlation and high predictive power. Anxiety and depression were powerful definers of postnatal distress. Previous depression had no influence on postnatal distress. The hypothesis that a latent factor called birth experience was a mediator between sense of self and postnatal distress was not confirmed.

e) The hypothesis that obstetric loss (miscarriages and terminations) and unplanned pregnancy will relate to birth experience in a negative direction was not confirmed. However, unplanned pregnancy predicted higher levels of postnatal distress and a planned pregnancy predicted decreased levels of postnatal distress. Obstetric loss had an indirect effect on postnatal distress through sense of self. Obstetric loss predicted sense of self in a negative direction. Thus, previous obstetric loss (termination and miscarriage) indicated less sense of self (i.e. vulnerable) while no previous obstetric loss predicted more sense of self (i.e. resilient).

To summarize, anxiety and depression both had a strong defining role in maternal distress. As expected, anxiety and depression were highly correlated, indicating some overlapping between these two clinical constructs. A planned pregnancy had a moderate
positive effect on sense of self and a negative effect on postnatal distress. This was
contextually congruent. Obstetric loss in the form of previous terminations and miscarriages
had a moderate and negative effect on sense of self.

Regarding the other considerations that were of interest, it can be concluded that:

(1) A three-factor model of postnatal distress with direct and indirect effects did not fit
the data well. Post hoc modifications of the initial model were conducted to improve
the overall indices of fitness. A final two-factor model achieved a more parsimonious
outcome with no major sacrifices in theoretical consistency. The two factors were
sense of self and postnatal distress.

(2) Using a comparison of nested models (model development strategy), it is not possible
to test whether the model established is the one providing the best fit to the data.
Other models may provide a better fit. The two-factor model achieved is one of
several possible acceptable models. Only a competing model strategy may provide an
answer to that very important question. A competing model strategy is a more robust
test than the modifications performed in this study, because competing conceptual
models are compared (Hair et al., 1995, p. 626).

Summary

This chapter presented results from the descriptive and inferential statistics conducted
for this longitudinal, prospective study of postnatal distress and depression. The significant
correlates of postnatal distress during pregnancy, 6 weeks and 6 months postpartum were
presented first. After that, differences between and within anxiety and depression groups on
age groups, education, sex of the baby and sex preferences were investigated, after
controlling for initial levels of anxiety and depression, respectively. The study noted the
prevalence of distress at 6 weeks postpartum as well as the prevalence of clinical disorders at 6 months postpartum.

Next, this chapter presented the pregnancy predictors of postnatal distress at 6 weeks and 6 months postpartum. After that, the prenatal and perinatal predictors of clinical diagnosis were noted. The chapter concludes with an empirical test of a conceptual model of postnatal distress.

In the next chapter, the major findings of this study in light of previous research will be discussed.
CHAPTER 7: DISCUSSION OF THE POSTNATAL DISTRESS AND DEPRESSION STUDY

Postpartum disorders have been the subject of interest in this research. The documented negative consequences of these disorders on sufferers, on infant’s cognitive and emotional development and on the marital relationship led to recognition of postnatal distress as a public health concern. It has been noted that there was not a common nomenclature for the disorders so named, with confusion regarding its nature and classification.

The postnatal period was considered to be a test of women’s mental health. The multiple physical and emotional demands placed on them as well as changes in identity and roles required contribute to creating a time of increased vulnerability. Some women are more vulnerable than others. This study proposed to explore during the woman’s pregnancy this vulnerability or resilience factor, called sense of self, and to study its relationship to the development of psychological distress postpartum. Several sets of hypotheses were formulated regarding the nature of resilience and vulnerability in pregnancy, the nature of postnatal distress and the prenatal predictors of postnatal distress and clinical diagnoses in a community sample. Finally, confirmatory empirically-based multivariate techniques were used to investigate the patterns of relationships between three theoretical latent constructs: postnatal distress, birth experience and sense of self.

The aims of this study were, specifically:

(1) To investigate empirically theoretically and research-based prenatal predictors of postnatal distress at 6 weeks and postnatal depression at 6 months postpartum using a prospective research design and,

(2) To empirically test a conceptual model of postnatal distress.
This study (1) recognized the complex and multifactorial nature of depression, (2) formulated a universal position regarding the depression versus postnatal depression debate, (3) attempted to remediate previous methodological difficulties by separating maternal dysphoria from a clinical episode of depression as described by the main classificatory systems, and (4) tried to replicate past findings and extend previous research, particularly by using a prospective research design.

It has been noted that in an empirical study hypotheses should be clearly stated, methodology should be described so the study can be replicated, demographic and other relevant characteristics of the sample should be described comprehensively. In addition, appropriate statistics should be used, independent variables should be operationally defined and assessment measures should be standardized, valid and reliable. Furthermore, tests should have content validity and multiple dependent measures should be used. Sample sizes should be able to detect change (Jason, Thompson & Rose, 1986, p. 7). Likewise, the study should be original, consistent, coherent, relevant and benefit the research population (Viney, 1994). These guidelines were followed in the formulation of the present study.

In this chapter, for the purpose of clarity, results are discussed following the same sequence as was presented in the previous chapter.

**Prenatal Protective and Risk Factors**

Correlations between variables associated with distress in pregnancy and the postpartum period were established in order to address the questions outlined in Chapter 4. It was of interest to understand how certain prenatal factors were related to postnatal distress. It was expected that certain vulnerability factors (i.e. high prenatal symptomatology, low self-esteem) would be strongly and positively correlated with postnatal distress. Conversely, it was expected that other factors (i.e. high marital satisfaction, planned pregnancy) were
protective factors against postnatal distress. Protective factors would be strongly and negatively correlated with postnatal distress.

Taken together, results from prenatal and postnatal correlations indicated that:

1. High self-esteem, recognition of worth and attachment during pregnancy appeared to offer protection against postnatal distress;
2. High general symptomatology, preoccupation with relationships and depression in pregnancy presented as increasing the likelihood of postnatal distress;
3. Postnatally, measures of depression and anxiety (both state and trait) were highly correlated.

The general picture that emerged after examination of the correlation matrix was that measures of well being during pregnancy, conceptualized in Chapter 4 as protective factors, such as self-esteem, attachment and recognition of worth, were indeed correlated negatively with measures of prenatal and postnatal anxiety and depression. Moreover, measures conceptualized in Chapter 4 as vulnerability or risk factors such as symptomatology, preoccupation with relationships, and high trait anxiety were in fact correlated positively with prenatal and postnatal anxiety and depression (at 6 weeks and 6 months postpartum). This finding differs from that reported by Kumar and Robson (1984). In their classic study of prospective emotional disorders in childbearing women, they found no link between antenatal depressive or anxiety symptoms and postnatal depression. Regarding depressive symptomatology, Kumar and Robson’s study reported a discontinuity between the pre and postnatal periods. The results from the present study provided support for the continuity of prenatal dysphoria into the postnatal period, similar to that provided by Whiffen’s study (1988). The characteristics of the sample in Whiffen’s study were similar to the sample used in the present study, that is, a low risk, middle class and well educated sample and Whiffen’s
design was prospective. Differences in sampling features between Whiffen’s study and Kumar and Robson’s may explain the apparently contradictory results.

Results emphasized the importance of social support measures such as attachment and recognition of worth, in the same line of those reported by Cutrona (1984) and Cutrona and Rusell (1986). However, results contrast with findings reported by Collins et al. (1993). They conducted a prospective study examining the effects of prenatal social support on birth outcomes and maternal health; however, their sample was a group of high-risk, low-income pregnant women. In that study, instrumental rather than emotional aspects of support were more important in predicting good outcomes. O’ Hara et al. (1983)’s study compared a small group of depressed mothers to non-depressed mothers and reported that depressed mothers received less instrumental as well as emotional support. In the study reported in this thesis, two emotional aspects of support, namely, attachment and recognition of worth had an important role in the prediction of postnatal distress. One possible explanation might be that instrumental support is more important for high-risk, less affluent pregnant women than for a middle class sample (Collins et al., 1993). It is plausible that for middle class samples, social support has a buffering effect while for high-risk samples, social support has direct effects of depressive symptomatology. More research needs to investigate this hypothesis. When social support is studied, it is important to carefully distinguish between the differential components of it. Furthermore, it would be interesting to understand how and through which processes those components affect health outcomes.

Another finding was that the different predictive indicators of marital satisfaction used in this study were not significant in understanding postnatal maternal distress prenatal. This was an unexpected result, as it has been noted by several other studies (Kumar & Robson, 1984; O’Hara, 1983; for a comprehensive review see Romito, 1989) that marital conflict plays a critical role in postnatal distress. It needs to be pointed out that the direction
of the relationship between marital and maternal distress can not be established by retrospective studies. Therefore, more prospective studies investigating the relationship between personal and marital distress are indicated by the present study. The directionality of this relationship is complex, as mentioned before in this thesis. However, it deserves more attention for it will guide the focus of preventive and clinical interventions with women and their partners.

The current study offered support to the concept of prenatal vulnerability and risk factors for postnatal distress, as evidenced by the pattern, and strength of the correlations between some of the the prenatal factors investigated and postnatal distress.

The Relationship between Postnatal Distress and Demographic, Baby-related and Birth-related Variables

One research question of interest was to investigate whether there were significant differences in groups of predominantly anxious and the predominantly depressed mothers in relation to demographic, baby-related and birth-related variables. Using one way analyses of variance, the relationship between the characteristics of the sample and postnatal distress were explored. It was expected that groups of predominantly depressed and predominantly anxious mothers would not differ significantly, due to the overlap of anxiety and depression in postnatal distress.

Regarding the three anxiety groups established (low, average and high), three sample characteristics were noted as statistically significant in the different groups: planned pregnancy, previous psychological problems and method of infant feeding. Women in the high anxiety groups tended to have an unplanned pregnancy and a self-reported history of previous psychological problems. The majority of women in the low anxiety group were breastfeeding. The breastfeeding mothers' percentage decreased as the anxiety levels
increased. High levels of anxiety appear to have a negative impact on breastfeeding. This finding is consistent with the well-known counterproductive effect of high levels of anxiety on the physiology of breastfeeding (Cafarella, 1996; Hellin & Waller, 1992; Kreitler & Kreitler, 1994; Lawrence, 1980). No other significant differences were found when previous miscarriages, stay in hospital, recent loss, major event after childbirth, feeling of control during labor and attendance at antenatal classes were considered. Other studies have reported some of these factors as significant (Astbury et al., 1994; see Brown et al., 1997). For example, Brown and Harris's classical study of depression in women (1987) emphasized the importance of background social factors in increasing vulnerability to depression in women, particularly when they are confronted with a life event, such as childbirth. Similarly, Paykel et al. (1980) reported that absence of support and life events had a strong correlation to depression. In Whiffen's study (1988) prenatal life events predicted depression. Both Kumar and Robson (1984) and Barnett et al. (1993) reported previous termination but not miscarriage as a predictor of postnatal depression. Unfortunately, in the research reported in this thesis, results from the structural equation modeling study combined miscarriage and termination into an index of obstetric loss. Obstetric loss had an indirect and negative influence on postnatal distress (6 weeks postpartum) but was not possible to separate the differential contribution of each component.

As with the anxiety groups, lack of statistically significant differences characterized similar comparisons for the postnatal depression (6 weeks postpartum) groups. The only statistically significant finding for the three depression groups was related to planned versus unplanned pregnancy: seventy five percent of women in the high depression group reported an unplanned pregnancy. Therefore, for both indicators of maternal distress (depression and anxiety) in this largely middle class sample, the role of a planned pregnancy appeared important. Both highly anxious and highly depressed mothers were more likely to report an
unplanned baby than mothers with lower levels of anxiety and depression. This finding further replicated previous studies (Pitt, 1982; Warner et al., 1996) with similar samples. However, it is also possible that the failure to find significant relationships between demographic variables and postnatal distress may be related to the middle class, low-risk sample in the current study.

Given the results, it can be concluded that a planned as opposed to an unplanned pregnancy has a contributory role in determining high levels of both anxiety and depression postnatally. Next chapter will elaborate in this matter further.

The majority of predominantly anxious women were characterized also by a previous history of psychological difficulties and by bottlefeeding their infants. Otherwise, as expected, there were not significant differences in groups of predominantly anxious and the predominantly depressed mothers in relation to demographic, baby-related and birth-related variables.

How Prevalent is Postnatal Distress at 6 Weeks Postpartum?

The current study established the prevalence of postnatal distress at 6 weeks postpartum as well as the prevalence of clinical status at 6 months postpartum. It was expected that the prevalence of postnatal distress and of clinical status were moderately related, with the former being higher than the latter. The estimated percentages were expected to range from 10% to 20% of the sample.

When levels of depressed and anxious mood at 6 weeks postpartum were classified, three groups were established: twenty five percent of women were in the low anxiety group, the majority (64%) were in the average anxiety groups while the minority (7%) were included in the high anxiety group. The low depression group was formed with the majority of participants (80%) while the rest was split into the average (10%) and high (10%)
depression groups. The percentage of women in the high depression group (women with an EPDS score higher than 12) was higher than that reported by Webster et al. (1994) (7.8%) but expectably lower than that reported in a study of mothers admitted to a mothercraft hospital (39% as reported by Barnett et al., 1993). Ballard et al. (1994) using an unselected postnatal sample and an EPDS cut-off point of 13 reported a prevalence of depression of 27.5% at six weeks and 25.7% at 6 months postnatally. An average level of anxiety was normative in the current study. In contrast, the majority of women had a low depression score. Seven percent and 10% of mothers formed the high anxious and high depression groups respectively. Taken together, about 8% of mothers were highly anxious and depressed (i.e. distressed) at 6 weeks postpartum. This percentage is slightly lower than expected (10%). This result would be consistent with the low-risk sample of pregnant women who participated in the study.

How Prevalent are the Clinical Disorders at 6 Months Postpartum?

It was considered reasonable to expect that some of the distressed mothers at 6 weeks postpartum would have developed a clinical disorder by 6 months postnatally. It was also predicted that the percentage of clinical disorders at 6 months were lower that the percentage of distressed mothers. However, with the passage of time, factors not present in the early postnatal period may increase the risk of developing clinical disorders in vulnerable women.

Seventy seven point three percent of the sample did not fulfill clinical criteria for any disorders while 22.7 percent fulfilled diagnostic criteria for the disorders covered in this study. The prevalence of clinical depression (minor and major) in this study was 17.5%. The majority of women (77.3%) did not report symptoms consistent with a clinical diagnosis of either depression or adjustment disorder. Using DIS and SADS with RDC, it was established that 22.7% of women interviewed had a clinical diagnosis at 6 months postnatally: 14.4%
presented with a diagnosis of major depression and 3.1% with minor depression while 5.2% were classified with a diagnosis of adjustment disorder. Prevalence rates were mostly consistent with previous studies of mothers using similar research instruments and stringent clinical criteria. For example, Whiffen (1988) reported a 16.5% prevalence of diagnosed depression in her sample of 115 postpartum subjects (6.1% for major depression and 10.4% for minor depression). O'Hara (1983) reported a prevalence for minor depression of 4% of mothers. Nott (1987) noted a prevalence of depression of 18.5% (at 3 months), 28% (at 9 months) and 31% (at 15 months postpartum). They used a representative sample of primiparous and multiparous women. Similarly, Cooper et al. (1988) in a large study of non-psychotic psychiatric disorders reported a prevalence of 8.8% at 6 months postpartum.

Differences between Whiffen's study and the current study regarding rates of major and minor depression could be explained by the fact that the current study used an extra diagnostic category (adjustment disorder). The 17.5% prevalence for major and minor depression combined that is reported in this study is comparable to the 16.5% reported by Whiffen. However, rates were higher than those noted by Kumar and Robson's prospective study (14% at 3 months postnatally). The percentage in Kumar and Robson's study decreased to half by 6 months postpartum.

The different samples' composition and features of the studies can probably explain discrepancies in rates. Obviously, establishing an accurate prevalence rate in a relatively small sample like the one reported in this thesis, remains problematical. Larger studies with representative and stratified samples are required to estimate prevalence.

Given the low-risk nature of the sample studied, the prevalence of clinical disorders was higher than expected. One possible explanation is the current study used multiple assessment procedures, providing a comprehensive evaluation of disorders that might have otherwise be missed by the use of single self-report questionnaires. It remains as a cause of
concern that clinical disorders in a non-clinical sample of mothers had such a high prevalence.

How Well can Prenatal Factors Predict Postnatal Distress at 6 Weeks and 6 Months Postpartum?

The rationale for the current study is that the prevention of postnatal distress and postnatal clinical disorders is possible. It was expected that the evaluation of certain factors during pregnancy would predict the development of a moderate number of distressed mothers at 6 weeks and 6 months postnatally. It was also of interest to know whether the prenatal predictors of distress were essentially similar or different from the prenatal predictors of clinical disorders.

At 6 weeks postpartum, thirty six percent of the variance of anxiety and twenty six percent of the variance of depression were accounted for the predictor variables tested in this study. Mother idealization and general symptomatology were significant positive predictors of anxiety. Conversely, attachment was a significative negative predictor of anxiety at 6 weeks postpartum.

At 6 months postpartum, the predictor variables accounted for 38% of the variance of anxiety and 27% of the variance of depression. The significant and positive predictors of anxiety were previous depression, general symptomatology and mother idealization. The positive predictors of depression were previous depression and general symptomatology. Attachment was a negative predictor of depression. The positive predictors of both indicators of postnatal distress were previous depression and general symptomatology. Attachment was specific in predicting depression while mother idealization was specific in predicting anxiety.

Taken together, the significant and positive predictors for anxiety and depression at 6 weeks and 6 months postnatally were prenatal general symptomatology, prenatal mother
idealization, and previous depression. Attachment was a significant and negative predictor of anxiety at 6 weeks postpartum and a significant and negative predictor of depression at 6 months postpartum.

The direction of the relationship between mother idealization and postnatal distress was contrary to the expected. It was expected that high mother idealization would predict low levels of both anxiety and depression postnatally. It was hypothesized that high mother idealization would protect the mother-to-be from distress postnatally acting as a buffer. The results indicated the opposite, that is, the more the pregnant woman idealized her own mother, the more she was likely to suffer from postnatal distress. This could be explained, perhaps by the role of high expectations and myths of motherhood that may act as triggers of distress in new mothers. This aspect will be further discussed in the next chapter.

Another interesting result was that attachment was a significant negative predictor of anxiety first (6 weeks postpartum) and later of depression (6 months postpartum). Perhaps lack of emotional support and felt security produced anxiety in the early postnatal period and then depressive feelings. This may also explain the higher than expected prevalence of clinical disorders at 6 months postnatally.

Many hypothesized prenatal predictors (i.e. marital cohesion, reassurance of worth, etc) were irrelevant in the prediction of postnatal distress. It is believed that this could be explained by the sample characteristics. Further research may need to replicate the current study using high-risk samples.

The Prenatal Predictors of Clinical Disorders at 6 Months Postpartum

The prenatal predictors were able to predict the likelihood of 95.24% of non-cases and 52.38% of clinical cases.
Anxiety and depression at 6 weeks postpartum accounted for 22% of the variance of clinical disorders. Furthermore, depression (6 weeks postpartum) was a significant predictor of clinical disorders (6 months postpartum). Anxiety (6 weeks postpartum) did not achieve statistical significance. This result contradicted the expected; there is a marked overlap between anxiety and depression in the clinical presentation of distressed mothers. It is possible that the instruments used in this study to measure emotional changes were not sensitive enough to detect and differentiate between anxiety and depression in mothers. There is also the differentiation between clinical and statistical significance. Even though anxiety did not achieve statistical significance, it followed the same trend as depression. There is not enough evidence at this stage to discard the concept of postnatal distress as a valid predictor of postnatal disorders or to rule out anxiety as a contributing factor in postnatal distress.

Another possible explanation for the fact that only depression was a statistically significant predictor of clinical disorders is that the clinical disorders considered in the current study could not be predicted by anxiety at 6 weeks postpartum. It is likely that the inclusion of the anxiety disorders as well as the mood disorders could vary this result significantly. This is a highly speculative hypothesis that needs to be further investigated.

The model’s sensitivity (ability to detect clinical cases) was lower than its specificity (ability to predict non-cases). Accordingly, postnatal distress predicted non-cases better than clinical cases. In line with results reported by Whiffen (1988), postpartum symptomatology and clinical diagnosis of depression were predicted by different factors. The prenatal indicators successfully predicted about 52% of cases with a clinical diagnosis at 6 months postnatally. Variables not included in this study need to be explored to investigate what other factors may predict the other 48% of clinical cases.
This study provided some confirmatory evidence of the important role of psychological distress as a precursor to clinical states, as evidenced that the positive prediction of more than half of the clinical disorders. Whiffen's study (1988) noted the differences between postnatal symptomatology and diagnosis. Likewise, her study found that postnatal depressive symptomatology and diagnosis were predicted by different factors, albeit some in common.

A Conceptual Model of Postnatal Distress

A conceptual model of postnatal distress was formulated and empirically tested. It was confirmed that the higher the sense of self (i.e. the more resilient) the lower the postnatal distress at 6 weeks. There was strong support for this hypothesis, evidenced by the pattern and predictive power of the measured variables. A vulnerable sense of self (indicated by low self-esteem, low attachment, high preoccupation with relationships, low mother acceptance and low mother idealization) predicted high levels of postnatal distress. Anxiety and depression were powerful definers of postnatal distress as shown by the highly robust correlation and the high predictive power of both factors. Previous depression had no influence on postnatal distress. This was an unexpected result. It was hypothesized that previous distress would predict further distress at a highly stressful time of a woman's life.

The study provided confirmatory evidence and support for the hypothesis that an unplanned pregnancy predicts higher levels of postnatal distress and a planned pregnancy predicts decreased levels of postnatal distress. The existence of previous miscarriages and/or terminations predicted higher postnatal distress while no previous obstetric loss predicted less postnatal distress. Women with previous miscarriages and or terminations of pregnancy were more likely to report higher levels of distress at 6 weeks postpartum. The role of unresolved grief elements carried forward will be further explored in the next chapter.
To summarize, anxiety and depression both had a strong defining role in maternal distress. As expected, anxiety and depression were highly correlated, suggesting an overlap between these two clinical constructs (Maser & Cloninger, 1995). A vulnerable sense of self predicted higher postnatal distress while a resilient sense of self predicted low postnatal distress. A planned pregnancy had a moderate positive effect on sense of self and a negative effect on postnatal distress. This was congruent with previous research findings. Obstetric loss in the form of previous terminations and miscarriages had a moderate and negative effect on sense of self. The weak influence and high residuals for both acceptance and mother idealization indicated a difficulty in either the concepts or measurement of these constructs.

An interesting result that deserves some further discussion is that high mother idealization predicted a strong sense of self and thus, decreased the likelihood of postnatal distress. This result contrasts to the result obtained previously (using regression analysis instead of SEM). Mother idealization proved to be a positive predictor of both anxiety and depression at 6 weeks and 6 months postnatally. However, in the empirical test of the conceptual model, high mother idealization predicted high sense of self and high sense of self predicted low postnatal distress. The mediation of a latent factor (ie. sense of self) appeared to have changed the direction of the relationship between mother idealization and postnatal distress.

Structural equation modeling offered a more sophisticated statistical analysis of the empirical data than multiple regression. Furthermore, it has been argued in this thesis that postnatal distress is a complex phenomenon. In the empirical test of the conceptual model, mother idealization in conjunction with other variables (i.e. preoccupation with relationships, self-esteem, etc) were all significant predictors of sense of self. In fact, mother idealization as such had the lowest predictive power of all the predictor variables (see Table 31 in
Chapter 5) and the highest residual. In the statistical regression analysis performed, the predictor variables (some of which proved irrelevant in the prediction of anxiety and depression) predicted anxiety and depression separately. In SEM, postnatal distress was another latent factor predicted by two measured variables, anxiety and depression. It can be concluded that SEM provided a more sophisticated way to empirically test a conceptual model of postnatal distress than multiple regression. This speculation needs to be corroborated by the replication of the current study.

Modeling Predictions of Postnatal Distress

A three-factor model of postnatal distress did not fit the data well. Post-hoc modifications of the initial model were conducted to improve the overall indices of fitness. A final two-factor model achieved a more parsimonious outcome with no major sacrifices in theoretical consistency. Using a comparison of nested models (model development strategy), it is not possible to test whether the model established is the one providing the best fit to the data. Other models may provide a better fit. The two-factor model achieved is one of several possible acceptable models. Only a competing model strategy may provide an answer to that very important question. A competing model strategy would be a more robust test than the modifications that were able to be performed in this study, because competing theoretical models are compared (Hair, 1995; p. 626). To my knowledge no previous research has attempted such a comparison. Future research may pursue this important conceptual exercise for its potential clinical applications.

In the two-factor model, women with high self-esteem, high attachment, low preoccupation with relationships, high mother acceptance and high mother idealization had a high level of sense of self; in this study defined as a resilient one. There was support for this hypothesis, with all those indicators comprising a resilient sense of self. A resilient sense of
self was in turn linked in a negative direction to high levels of postnatal distress. Unplanned pregnancy and a history of obstetric loss were also related to postnatal distress but in a positive direction; that is, women with unplanned pregnancy and a history of terminations or miscarriages were more likely to have higher levels of postnatal distress. The role of unresolved grief reactions in the prevention of maternal distress will be discussed separately in the next chapter.

High levels of depression and anxiety were markers of high levels of postnatal distress. This in fact provided strong support for the existence of a latent factor named in this study postnatal distress. High levels of postnatal distress at 6 weeks postpartum explained 22% of the variance of clinical disorders indicating an important theoretical and practical role in understanding and preventing maternal clinical disorders. Depression but not anxiety at 6 weeks postpartum was a significant predictor of clinical disorders at 6 months postpartum. This finding provides further support to the importance of prenatal and postnatal screening of mothers at risk using screening instruments such as the Edinburgh Postnatal Depression Scale.

Prenatally, self-esteem, preoccupation with relationships, attachment, acceptance, mother idealization, and planned pregnancy were measures of a latent factor called sense of self, which was an important predictor of postnatal distress. Prenatal self-esteem, preoccupation with relationships and attachment were powerful in predicting sense of self, while attachment, mother acceptance, mother idealization and planned pregnancy were of moderate predictive power. Anxiety and depression were robust indicators of postnatal distress, with anxiety showing a slightly lower predictive power than depression. Obstetric loss was a powerful predictor of postnatal distress while planned pregnancy contributed moderately.
Both mother idealization and mother acceptance, measured during pregnancy, showed a weak predictive power for postnatal distress. Furthermore, mother idealization and mother acceptance presented with large residuals, indicating a poor predictive ability. This might have been an indication of problems with the theoretical constructs of mother idealization and mother acceptance discussed in chapter 3 or with the measurement of those variables. Future research may explore this issue further by using interview methods (such as the Adult Attachment Interview) rather than self-report questionnaires to assess in more depth the developmental defensive status of mother idealization and mother acceptance. The Parental Bonding Instrument (Parker, Tupling & Brown, 1979) may provide an alternative way to measure similar constructs.

Results from this study regarding the relationships between distress and clinical disorders, can also be compared to O’Hara et al.’s study (1990). In a controlled prospective study comparing childbearing and non-childbearing women, they pointed out that clinical diagnosis is just one dimension of psychological distress. Moreover, clinical diagnosis can be a rather insensitive measure of distress. Results from their study supported the view that the puerperium is not a time for increased risk for clinical diagnosis but for increased psychological distress. They found a marked deterioration of women's social and emotional functioning during the postpartum period. In the current study, it was shown that postnatal distress could predict a considerable proportion of clinical disorders at 6 months postpartum. Furthermore, results from this study provided evidence to support the differentiation between postnatal distress and postnatal depression, as two interrelated psychological dimensions.
Evaluation of the Research

How can these results be generalized to other samples? (*) It is difficult to determine the exact representativeness of the sample. However, available demographic information obtained indicated that this sample was generally representative in certain respects, viz parity, age and nationality but selectively represented a highly educated, middle class professional group of women in a stable relationship. In that sense the group of women studied here was not obviously at risk (single, adolescent, lower socioeconomic status). The proportion of women with a diagnosable clinical depression was similar to other studies, however. Other studies (for example, Brown & Harris, 1978) indicated that socioeconomic factors such as poverty and unemployment are important predictors of depression. Results from this study could not provide any direct evidence on this matter. The sample was middle class, affluent and not considered a high-risk group of pregnant women. Therefore, it is striking that the prevalence of clinical diagnoses was consistent with other studies using 'high risk' samples. The role of other demographic variables not investigated in this study may account for those differences and will be worth exploring in future research. It might also be argued that because the sample was middle class, well educated and affluent, there was an underestimation of prevalence rates. As mentioned previously, only large, stratified and random samples may provide an accurate estimation of prevalence rates in the general population. This was clearly beyond the resources' limitations of the current study.

There are some obvious limitations in this study and a number of ways in which this research could have been improved. For example, increasing the sample size (optimum 200) would add power (***) and make it possible to test the attachment model with other models,

(*) Due to the speculative nature of the final model obtained in this research project, the results need to be replicated in future studies.

(***) Alternatively, the results of this study may be replicated using a more conservative confidence level. For example, applying an Alpha level of .01 or .001 instead of .05.
for example, a cognitive model of depression. Such a contrast may indicate a better fitting model. Testing the model in a second sample, using a more diverse group of pregnant women with representation of other sectors of the population (e.g. migrant women) would have provided opportunities to examine other aspects of this complex field. The same attachment model might be applied to a clinical, high-risk sample or to a group of migrant women to explore whether results from this study are applicable and relevant to these groups. Only by the replication of results across different samples may these results be confidently generalized.

Another issue not addressed in this study is whether pregnant women who do not attend antenatal classes and prenatal clinics differ significantly from the highly motivated mothers who participated in the study. Non-attendees to antenatal clinics may constitute a highly vulnerable group which research can not easily access for investigation (Lumley & Brown, 1993). Nevertheless, it would be important to target this difficult to access high-risk group for previous research has shown that poor antenatal care can affect infant and maternal health in a negative way (Morrison, Najman, Williams et al., 1989).

The inclusion of other informants (partners) and the evaluation of the mother-infant relationship and of infant variables (irritability, responsiveness, etc) might have contributed corroborative data and a more comprehensive coverage of prenatal and postnatal distress and its impact.

Lastly, maternal health involves more than the absence of symptoms. This study attempted to add to an understanding and prediction of maternal dysphoria and how that distress may be minimized. The role of pregnancy planning, prenatal self-esteem, social support provisions such as recognition of worth and attachment and measures of well being in pregnancy were all relevant in predicting maternal dysphoria. A comprehensive analysis
of maternal health needs to incorporate a prenatal and early postnatal assessment of those factors.

Conclusions

One of the aims of the conceptual model proposed in this study was to investigate that resilience or vulnerability to postnatal distress could be demonstrated prenatally by indicators postulated by attachment theory. This aim has been achieved. The prenatal factors were all significant predictors of a latent construct named sense of self. A robust sense of self was also influenced by a planned pregnancy. An unplanned pregnancy was characteristic of highly distressed mothers. However, despite this general relationship, when the women in the clinical group were studied descriptively, the majority reported a planned pregnancy. There are differences between an unplanned pregnancy and an unwanted pregnancy. It is plausible that an unplanned pregnancy has an impact on postnatal distress but is not sufficient to generate a clinical diagnosis. Unplanned pregnancy may be a necessary but not sufficient cause of clinical disorders. For example, severe ambivalence about having the baby, rather than an unplanned pregnancy, has been reported as important in determining a diagnosis of depression postnatally. Further research might explore the distinctions between an unplanned and an unwanted pregnancy in terms of the impact on maternal and infant’s negative outcomes.

Anxiety and depression were both very powerful predictors of postnatal distress. Postnatal distress was also moderately related to obstetric loss and planned pregnancy. A planned pregnancy figured in this model as having a dual influence on both sense of self and postnatal distress. A moderate positive influence on sense of self and a moderate negative influence on postnatal distress were found. Therefore in this conceptual model, a planned pregnancy may be considered a protective factor against postnatal dysphoria.
This study attempted to develop a conceptual view of postnatal distress. In the model proposed and tested, attachment related indicators, obstetric loss and unplanned pregnancy, all measured antenatally, were able to predict postnatal distress. Postnatal distress and depression were considered complex, multidimensional phenomena. In this study, the relationships between a vulnerable sense of self and postnatal distress were explored. Attachment theory indicates that resilience or vulnerability could predict distress and also mental illness when people are under conditions of stress. In this study, several hypotheses were tested, using a predictable stressful event (childbirth), and using measures of mood and clinical status as dependent variables. The model fitted the data reasonably well. However, it did not provide the optimal recommended levels of fit.

Either the attachment model itself or the instruments used to measure the attachment related observed variables might not have been the most appropriate. The goodness of fit measures were considered reasonable and the model estimation process finished with a parsimonious model which was nested in the first proposed attachment model. The hypothesized latent factor called birth experience was believed to be indicated by previous obstetric loss and planned pregnancy. Examination of results indicated that both obstetric loss and planned pregnancy loaded directly on both sense of self and postnatal distress, indicating that the observed data did not support the existence of birth experience as a latent factor. The other modification performed was the elimination of previous depression loading on postnatal distress indicating that previous depression was not an influential factor in postnatal distress at 6 weeks postpartum. This finding was contrary to expectations. Nevertheless, in this study, previous depression was a significant predictor of postnatal distress at 6 months postnatally. Additionally, previous depression was a significant predictor of clinical disorders at 6 postpartum. One possible explanation for the negative finding at 6 weeks postpartum might be that previous depression acquires more of a clinical
effect as time progresses or other factors not included in the first follow up (6 weeks postpartum) take place. Another likely explication could be related to the fact that there was no independent clinical assessment of previous depression episodes; rather, one question and some probes were asked directly to participants. One question and some probes (Did you receive any treatment? What type of treatment did you received? Does someone in your family suffer from similar problems?) may have not yielded a valid estimation of previous clinical episodes of depression and may account for the fact that the result is not consistent with previous research that indicates the importance of previous depression episodes in predicting future depression.

The overall results from this study confirmed with a prospective design the relevance of attachment-related concepts measurable in pregnancy in understanding postnatal distress. Results from this empirical investigation provided some confirmatory evidence about the overall importance of attachment concepts in explaining risks and vulnerability factors in the area of postnatal distress. The study also replicated previous findings and extended our current knowledge of postnatal distress and depression by using a prospective, longitudinal design and a combination of self-report and structured interviews in a community sample. Consequently, some of the questions initially posed by this investigator were at least partially answered, and some useful information was obtained as a result. The information obtained has the potential to be used in preventive measures of maternal distress. Some factors may be more amenable to incorporating in preventive measures than others are. The preventive dimension will be further developed in the chapter on prevention of maternal distress.

Furthermore, results of the present research on postnatal distress have emphasized the role of a planned pregnancy and a previous obstetric loss. The importance of an early detection of resilience and vulnerability factors during pregnancy has also been noted. Measures of preoccupation, prenatal distress and high levels of symptomatology were, as
predicted, significant precursors of postnatal distress. The results have practical implications that shall be discussed in the next chapter. Attachment concepts and theoretical elements have been shown to be useful in understanding complex issues such as the ones involved in postnatal distress. Nonetheless, the final model needs to be further replicated in the future.
CHAPTER 8: CONCLUSIONS AND FUTURE DIRECTIONS: PREVENTION OF MATERNAL DISTRESS AND DEPRESSION

Is it Possible to Prevent Postnatal Distress?

Whether postnatal distress and depression are completely preventable is still an open question. "It is uncertain whether primary prevention of postpartum mental illness is possible, but an alert awareness of who may be at risk and the significance of early symptoms may promote secondary prevention" (Pitt, 1982, p. 371). Can postnatal distress be minimized by educational campaigns (Brown, Small & Lumley, 1997)? Should antenatal courses realistically prepare families for the fact that about 15% of mothers are likely to suffer clinically diagnosable depression? Is it worth preventing? (Sharp, 1996).

Lack of prevention of maternal distress compromises the future of current and future generations because depression in mothers affects not only mothers, but also the family and the community at large. Prevention of postnatal emotional difficulties is crucial for women, families and society in general. Our knowledge of postnatal distress and depression continue to be incomplete: "the lack of specialized knowledge of postnatal depression and other women's disorders is a major impediment to improving diagnostic and treatment methods" (Human Rights and Equal Opportunities Commission, 1993, p. 930). Do we have to wait until our knowledge of underlying causal mechanisms is comprehensive? We probably need to tolerate the confusion, strive to improve previous research studies and intervene preventatively in the meantime (Muñoz & Ying, 1993). Shortcomings of previous studies were reviewed in Chapter 4. They included the use of very small samples, lack of differentiation between mood status and clinical diagnosis and modest reliability of retrospective reports of depression in clinical samples and case-control studies (Silverman, 1995). Other difficulties are the very limited evaluation of treatment effectiveness and
preventive interventions and follow-up. The opportunity for earlier risk identification is very relevant for those interested in prevention. In the light of those shortcomings, the research undertaken attempted to remedy some of those gaps and difficulties.

Distress and depression in mothers are serious problems. They have been shown to be fairly common and associated with human suffering, child abuse, family discord, financial increased costs and increased mortality (severe depression has been associated with risk of infanticide or suicide).

In the final chapter of this thesis, I will outline some concepts associated with prevention, review the empirical literature and discuss the strengths and limitations of prevention of postnatal distress and clinical depression. I will then highlight some of the difficulties in the way of detecting and helping mothers in distress. Then, I will present some recommendations based on the findings of this research. The implications of this study for women and for the health professionals who assist them will be noted. The chapter closes with the areas that require to be further investigated.

**Prevention: Concepts and Definitions**

**Primary, Secondary and Tertiary Prevention**

Preventive measures are classically divided into: (1) universal, when they are directed to all pregnant women, such as antenatal care. Antenatal care should involve the physical as well as the psychological well being of the pregnant woman and her family; (2) selective, when they focus only in a sub-sample of the population of pregnant women whose risk of becoming unwell postnatally is above average and (3) indicated when even though the group is asymptomatic regarding the disease, they manifest a risk factor which may justify more costly and extensive interventions (Caplan, 1964). Primary prevention focusses on groups of
people and involves intervention that reduces the incidence (new cases) of a disorder. One illustration of primary prevention is the prenatal screening for genetic defects.

Secondary prevention involves early detection and treatment to reduce the duration of a disorder (prevalence). Early detection, referral and treatment of pregnant adolescents who abuse drugs are examples of secondary prevention. Tertiary prevention covers rehabilitative efforts to reduce the disability and dependence arising from the disorder. Tertiary prevention relies on the accessibility of adequate treatment facilities and the integration of continuing caring systems in the community (Silverman, 1995). Strictly speaking, only primary prevention can be considered prevention (Muñoz & Ying, 1993). Main components of primary prevention include the provision of information, the improvement of competencies in adjusting to stressors and the modification of environmental contexts. For a comprehensive review of epidemiological definitions of concepts related to prevention see Silverman (1995).

The majority of mothers present to treatment for secondary and tertiary prevention, which attempts to ameliorate the suffering, and reduce the duration of the distress. Therefore, there is a need to direct efforts into improving the primary prevention of maternal distress. Ideally, primary prevention initiatives will reduce the incidence of new episodes of clinical depression in mothers, by monitoring pregnant women’s increased levels of distress prenatally and postnatally.

In primary prevention, three concepts are important: (1) risk factors including relative risk factor, odds ratio and attributable risk, (2) protective factors, and (3) (in) vulnerability.

A risk factor is a variable, which increase the liability of an individual to suffer from depression. Risk factor must not be confused with cause of a disorder. In planning a preventive activity, not only knowledge of risk factors but also their causal significance is important. Relative risk is the ratio of the incidence rate of the disorder in those
possessing a risk factor to the incidence rate in those not having that risk factor. Relative risk provides the relative impact of risk factor. **Odds ratio** is the product of the number of cases with the risk factor and the number of non-cases without the risk factor (true positives and true negatives) divided by the product of cases without the risk and non-cases with the risk factor (false positives and false negatives). **Attributable risk** is the difference in the incidence of a disorder between those with and without the risk factor. Attributable risk is a function of (a) relative risk of groups exposed and not exposed to the risk factor and, (b) the frequency of the risk factor in the population under study (p. 42). Knowledge about attributable risk is important as it gives an estimate of the degree to which the incidence of a disorder could be reduced if the risk factor were completely eliminated (Costello & Angold, 1995). The measurement of attributable risk has practical implications as it provides a way to determine the impact of a factor in proportional terms. However, it is rarely possible to identify attributable risk accurately in multifactorially determined phenomena such as the studied in this thesis. In addition, prevention of new cases of postnatal depression can be done by identifying some sufficient risk factors and intervening at that level rather than trying to modify necessary risk factors which may not be easy to eradicate. Risk factors may act independently, may interact, multiply or potentiate each other (Costello & Angold, 1995, p. 42). The risk factors that this study found were low self-esteem, high general symptomatology, low emotional support, high preoccupation with relationships, a history of obstetric loss, and an unplanned pregnancy.

(2) Protective factors are those that reduce an individual’s likelihood of suffering from depression. The individual may be at high, low or average risk. The protective factor may operate differently depending on whether additional risk factors are present or not. This study revealed that a planned pregnancy, no previous obstetric loss or history of
psychological difficulties, low preoccupation with relationships, high self-esteem, low symptomatology, and high emotional support provided protection against experiencing distress postnatally.

(3) Invulnerability is the state of people who despite having been exposed to a particular level of risk are, for one reason or another, particularly unlikely to develop a disorder. Vulnerable women are those who although in low-risk situations, perhaps because of their temperamental characteristics, have an increased tendency to develop disorders; invulnerable women are those who although in high-risk situations, do not develop difficulties postpartum. The same reasons may operate. Otherwise, it is also possible to hypothesize that this group of women has been strengthened by previous adverse experiences, rather than damaged by them. Results from this study indicated that only a sub-sample of the highly anxious and highly depressed mothers developed clinical disorders. This is suggestive of a group of distressed mothers who were invulnerable for reasons that need to be further investigated.

Useful concepts defined by Muñoz and Ying (1993) include (1) the prevention of disorder versus the promotion of health and, (2) the continuum of care.

(1) Pure prevention efforts include strategies that keep something negative from happening or that reduce the probability that something negative will happen. In addition, promotion efforts with preventive goals involve increasing the probability that something positive will happen in order to reduce the probability that something negative will occur. Providing realistic knowledge and dispelling myths of motherhood (see Chapter 3) may reduce the likelihood of women having unrealistic expectations of life with an infant. Likewise, supportive network systems can buffer the effects of distress and depression (see Chapter 4). The results of this study indicated that for the women who participated, emotional rather than instrumental elements of support were
more influential in the prevention of psychological distress. The provision of information in pregnancy can lead to an early detection of difficulties postpartum. Health promotion efforts could also be directed at reducing the incidence of unplanned pregnancies. More research is necessary to understand factors that contribute to the high incidence of unplanned and unwanted pregnancies. An effective strategy to reduce the incidence of unplanned pregnancies is an area that also requires further attention.

(2) Pure health promotion efforts aim at increasing the probability that something positive will happen, without necessarily intending to reduce negative conditions (Judd & Burrows, 1995). For example, parent-training courses in infant development and childrearing are illustrations of health promotion strategies.

(3) Leighton (1990) cited in Muñoz and Ying identified a continuum of efforts to reduce prevalence of disorders. The spectrum covers (i) curing pathological processes, (ii) alleviating suffering by reducing disability or by shortening the duration of the disorder, (iii) averting relapse in women who had a previous postnatal episode and are pregnant again, (iv) preventing the first occurrence of postnatal depression in a high-risk group, for example women with previous history of psychological problems and, (v) health promotion strategies to enhance well being.

Prevention, treatment and maintenance have been conceptualized as a continuum of care or prevention spectrum (Silverman, 1995). The spectrum ranges from information, education, early identification, assessment, referral, outpatient/inpatient services to aftercare facilities. While treatment and maintenance activities to avoid relapse have been part of the mental health service, prevention activities have been historically neglected (McCluskey et al., 1986; Muñoz & Ying, 1993, p.6). Moreover, the traditional terminology used in the field referring to primary, secondary and tertiary prevention obscures the understanding of prevention:
Prevention refers to interventions intended for persons who do not currently meet criteria for depressive disorders. The goal is to reduce the probability that they will suffer from clinical episodes of depression in the future (Muñoz & Ying, p. 8).

There are several ways in which primary prevention can be achieved: (1) By the elimination or modification of the hazardous situation. For example, by reducing the emotional and social isolation that some mothers of young infants suffer from. In that respect, the encouragement of social support network building early in pregnancy is crucial; (2) through the reduction of vulnerability by increasing coping skills and the provision of realistic information to prepare families for childrearing and (3) by reducing exposure to hazardous situations, for example by early screening of dysphoria in pregnant women (Hoff, 1995, p. 24) or offering extra support for mothers of high-risk or difficult infants.

Difficulties

Some of the conceptual obstacles to surpass in this field include insufficient knowledge about etiology, the urgency of acute treatment versus prevention, unavailable funding for preventive programs if they have not been proved useful in rigorous outcome studies and the concept that broader socioeconomic issues are outside the realm of mental health. More pragmatic difficulties in the area include current funding restrictions at all levels of the mental health system, need for more knowledge to illuminate interventions, the perception that prevention is not an urgent need and finally, the fact that successful prevention is ‘invisible’ (Muñoz & Ying):

The benefits of mental health prevention require a high degree of interest by health professionals in the well being of other individuals in society because the benefits of prevention are future oriented, remote, less visible and provide less reward for success (Rickard-Bell, 1995, p. 437).
This study was concerned with some of those issues. It was emphasized that a reduction in new episodes of a serious disorder like clinical depression in mothers can be addressed by prenatal preventive strategies, such as the early detection of vulnerabilities in pregnancy and of postnatal distress. The early detection of postnatal distress may reduce the incidence of new and recurrent postnatal clinical disorders (see chapter 2). The use of the EPDS during pregnancy to detect prenatal dysphoria deserves more attention. However, while there is a lot of enthusiasm about the use of the EPDS in pregnancy as a screening tool and as an indicator of dysphoria, the clinical and research use of the EPDS during pregnancy to detect prenatal dysphoria has to be explored further (Green & Murray, 1996; Murray & Cox, 1990, Sharp, 1996).

The field of prevention has been plagued by the lack of follow-up of long term effects of interventions, an inadequate delivery system and the mistake of confusing the provision of information with the achievement of significant change (Brown et al., 1997). Without longitudinal studies and long term follow-up there is no way of detecting whether the outcome of prevention efforts were successful or not (L’Abate, 1986, p. 188; Nadelson & Raphael, 1995; Rickard-Bell, 1995).

**Empirical Literature on Prevention of Postnatal Depression**

Three principles are proposed by Sharp (1996) to define good practice in primary care to prevent postnatal depression are:

1. A definition of a high risk and a plan to minimise that risk,
2. Help promotion strategies to help people help themselves,
3. Use of formal voluntary and informal groups rather than mental health professionals.

A team of researchers in different centres in the United States (Elmira, Memphis and Denver) conducted randomized trials to examine the impact of a program of prenatal and
early childhood nurse home visitation in preventing maternal and child problems (Olds et al, 1998). Results for those trials and 15-year follow ups indicated that the program was successful in improving maternal and infant outcomes, particularly in the area of reducing child abuse and neglect.

Mothers were enrolled during the third stage of pregnancy and were visited by highly trained nurses once a week until the baby was 6 weeks old. From that time until the infant was twenty-one months old, nurses visited mothers every second week followed by 2 months of monthly visits. Average length of visit was 90 minutes. The theoretical foundations of the program were attachment theory, self-efficacy theory and human ecology theory.

Empirical studies in prevention of maternal distress are very scarce in the literature recently published. For a detailed review of screening and intervention programs directed at improving child and maternal health see AAIMH (1998), Barnard, Morisset and Spieker (1993) and Meisels, Dichtelmiller, Liaw and Wolff (1993).

Clinical Implications

The results obtained in this study revealed that vulnerability markers were general symptomatology during the last trimester of pregnancy, previous obstetric loss and an unplanned pregnancy. Prenatal factors were useful for predicting correctly more than half of clinical cases. In contrast, high levels of psychological distress at 6 weeks postpartum were predictive of clinical disorders for less than a quarter of the sample. Only depression achieved statistical significance. Therefore, one of the important implications of this study was that the early detection of vulnerability indicators during pregnancy is important, as it can promote prevention of further distress and then, clinical disorders.

The information obtained in this study has the potential to be used in the prediction of risk and also to increase knowledge on causal factors. This has been called a high-risk
behavioral paradigm (Miller, 1995, p. 289). Markers of risk are variables that co-vary with level of risk. In the study reported in this thesis, it has been shown how a high self-esteem and emotional aspects of social support (recognition of worth and attachment) during pregnancy had a protective role against postnatal distress. Moreover, postnatal distress early in the postnatal period predicted a considerable proportion of clinical cases later on. Furthermore, high scores in general symptomatology and preoccupation with relationships during pregnancy were indicative of vulnerability. During the postnatal period, high levels of psychological distress, marked by increased anxiety and depression, were highly correlated with each other and predicted a good proportion of clinical cases.

Markers of risk need to be contextualized and framed within a certain theoretical perspective. They need to be “embedded in a conceptual model that specifies their relation to underlying causal processes” (Hollon, 1995, p. 290). Resilience is a clinically important concept derived from developmental psychopathology. It refers to the capacity to achieve successful adaptation despite adversity (Cicchetti & Cohen, 1995, p. 12). Knowledge about women who despite being considered a high-risk for a particular disorder do not develop it, it is also of relevance. Postnatal distress at 6 weeks predicted the likelihood of 51% clinical cases. Therefore, the remaining 49% raise the question of resilience. What were the factors that prevented this group of women from a clinical disorder at 6 months postpartum despite their high levels of distress at 6 weeks postnatally? Factors not included in this study or a different research design may provide some answers to this important question. Furthermore, the confidence of the findings of the research can be improved by a refined study design, by decreasing the confounders during selection of subjects, measurement and analysis of the information and by being cautious in generalising results into all different populations (O‘Toole, 1995; Silverman, 1995).
The ongoing monitoring of mothers over a period of time can also inform us about resilience. Recent studies have indicated that studies have concentrated on the negative side of women’s experiences, overlooking the fact that the majority of women are not depressed (Green & Kaketsios, 1997). Perhaps future studies may focus on the reasons behind mothers’ well being postnatally. Exploring resilience may provide that necessary perspective, avoiding the negative, pathologizing bias noted.

Pregnancy is a ‘sensitive period’ when women are receptive to preventive interventions. Pregnancy as a crisis offers a window of opportunity, a time for cognitive and emotional reorganization (Viney, Clarke, Bunn & Benjamin 1985). Sensitive periods are especially important to target in prevention and intervention programs (Cicchetti & Cohen, 1995). Early attention to women’s distress during this time may translate into saving of human and material resources. Unfortunately, more time and money are spent when conditions become chronic and severe.

The presence of multiple distal and proximal risk factors may alert clinicians to the need to extend their efforts for longer periods of time. For instance, some women may require continuous support during pregnancy and the postnatal period. Early discharge from hospital after delivery may be counterproductive (Hickey, Boyce, Ellwood & Allen, 1997; Waldenstrom, 1988).

Implications for Professionals in the Field

In a climate of economical restrictions, priorities should be established. However, the avoidance of prevention equals more resources directed to chronic conditions. Investing money in the early detection and treatment of maternal distress can alleviate future costs. Clinical psychologists do have an important role to play in the prevention of maternal distress. A clinical psychologist has a great deal to contribute in a multidisciplinary team
dedicated to the prenatal and perinatal care of families. What follow are some guidelines for the psychological assessment of vulnerabilities and protective factors in pregnancy.

A Psychological Assessment of Vulnerability and Protective Factors during Pregnancy

A vulnerable sense of self may be a diathesis for postnatal distress. A prenatal psychological assessment of the mother-to-be is a necessary part of an integral antenatal care plan. Important factors to consider are:


2. Previous obstetric history with particular care in discussing terminations, miscarriages, and stillbirth experiences. The history should be detailed and include factual and emotional responses both short and long term to these grief experiences. Loss increases attachment behavior, and decreases exploration and growth. Grief work is particularly useful in reducing attachment behavior and in promoting risk taking, exploration and further development (Worden, 1991). Pregnancy may be a good time to initiate unfinished grief work and to prevent those unresolved grief elements being carried forward onto the new infant or future pregnancies.

3. Elements of social support, such as reassurance of worth and attachment, should be looked at. It is advisable to initiate simple intervention strategies as early as possible. Illustrations of such strategies include referring women to mother's social and support groups in their local communities and pairing a young mother with an experienced mother or a mothercraft nurse.

4. Women's cognitive style needs to be assessed. Pregnant women with a dysfunctional style (see Chapter 2) may be more vulnerable to psychological distress. A dysfunctional style characterized by stable, global, and internal attributions may be a diathesis for maternal dysphoria. A sense of helplessness and hopelessness may exacerbate dysphoria
even further. Cognitive behaviour therapy may be implemented to modify dysfunctional cognitions (Ollieof, 1991). For a useful model of crisis intervention counselling see the model proposed by Viney et al. (1985).

(5) Chapter 3 of this thesis illustrated how each trimester in pregnancy involves different tasks and challenges. Therefore, a developmentally informed psychological evaluation of pregnant women in each of the trimesters is important. Hopefully, significant changes in their emotional well being may be detected early. A clinical psychologist who is easily accessible if anxieties and distress occur may thwart unnecessary exacerbation of difficulties.

(6) Women’s perception of self-efficacy is an important factor to evaluate. Self-efficacy includes the ability to handle previous stressful situations and pre-existing coping resources. Cognitions regarding meaning of stressful events have to be explored. Psychological symptoms of distress may be the result of the meaning that women give to events and their interpretations of their infants’ behaviors. The impact of those situations varies according to the personal significance given by the mother. In that respect, attachment-derived strategies (Heard, 1974), interpersonal therapy (Gotlib & Hammen, 1992; Scott & O’Hara, 1995) or a personal construct therapeutic approach (Viney et al., 1985) may help distressed mothers to reconstruct their interpretations of their baby’s reactions and behaviors. It is also important to explore assumptions about the baby and being a mother. Intervention may be directed to help women reconstruct their assumptive world, incorporating the multiple changes in sense of self and roles encompassed by motherhood.

(7) Anticipatory guidance may prepare women to create a mental set, therefore reducing the impact of a stressful experience. Prenatal classes may help build realistic expectations
that go past the birth experience. Antenatal classes may be designed to incorporate more practical information about parentcraft issues.

(8) The magnitude of the life transition needs to be assessed. Being a mother for the first time involves dramatic changes in roles, identity, relationships and lifestyle (see Chapter 3). However, the impact of later pregnancies cannot be dismissed. Other stressors may interact to make a second or third pregnancy a highly stressful period.

(9) Evaluation of the pregnant women’s psychological and physical strengths and weaknesses is also important. Strategies to augment resilience may be set in place as early as possible in order to ease the transition of vulnerable pregnant women.

Implications for Women

Women can be empowered by the use of women-centred care in the prenatal and postpartum periods (Woollett & Nicolson, 1997) by the advocacy of women’s health issues, by breaking down myths of motherhood, by raising awareness of the importance of education and early detection of problems and by an open and honest discussion of issues in a safe, friendly, non-judgemental environment (for an example of an information pamphlet designed to both empower women and reduce stigma see Am I postnatally depressed? in Appendix 1).

Additionally, specific priorities regarding women’s mental health issues, more female participation in leadership and health care provision and the establishment of more child-care facilities and programs have been advocated (Nadelson & Raphael, 1995).

In this study a high proportion of pregnancies proved to be unplanned. As discussed previously an unplanned pregnancy was a vulnerability factor in predicting postnatal distress. More educational campaigns, increased access to contraceptive information and counselling may reduce the prevalence of unplanned pregnancies.
Increasing awareness in women about the romanticized and unrealistic views of motherhood is important (Chodorow & Contratto, 1981). Public discussion of maternal distress and the dissemination of realistic information about early detection and treatment are illustrations of primary preventive strategies (Silverman, 1995).

Prevention and Intervention Strategies

As was noted in Chapter 4 of this thesis, there is stigma associated with postnatal distress. Many mothers are afraid to talk about their feelings to avoid being negatively judged as ‘bad mothers’, ‘incompetent’ or ‘inadequate’. The media portrait of mothers, babies and families contribute to make the gap between the realities of motherhood and the ideals insurmountable. The community at large needs to be educated about maternal distress. There are many misconceptions about motherhood. Myths about motherhood need to be challenged.

Misconceptions generate feelings of apprehension and fear. They have a detrimental impact of mothers and families. Early prevention entails early detection, which is difficult if those feelings are hidden away, if women feel ashamed of themselves, if they feel guilty for experiencing confusion and anxiety (Harberger et al., 1992). Negative attitudes derived from preconceptions, unrealistic expectations and anxieties associated with them only hinder early access to care, limiting opportunities for specialized care and a shorter recovery. My clinical experience working with mothers indicate that some of them hide their feelings for many years before those are properly acknowledged and dealt with. Maushart (1997) refers to the “conspiracy of silence”, the silence and misinformation, the masks that hide away the realities of motherhood, as opposed to the idealized versions of it.

A “cry for help” is often encoded in multiple presentations to a general or child health practitioner. Help is obtained indirectly through their infants (Harberger et al., 1992). Fear of
disapproval and society’s denial of maternal distress exacerbate maternal isolation: “each of us would like the postpartum period to play out uneventfully, like a beautiful fairy tale” (p. 55). Many mothers are dismissed too quickly. Overloaded staff members in busy baby clinics do not have the time to listen to mothers. If their babies are ‘doing well’, mothers are told that they should not worry or feel depressed. Mothers are often and detrimentally ignored in a system, which is sometimes focussed singularly on the baby’s well being. On other occasions babies and their different temperamental characteristics and how they influence parents are missing aspects of a holistic understanding (Woollett & Nicolson, 1997) and simplistic recipes are routinely offered to mothers. The popular notion that babies should be subject to ‘controlled-crying techniques’ from early age is an alarming indication of advice given too quickly and disregarding differences in parenting styles, cultural or family preferences and infant variables such as temperament, health status and gender.

Depressives tend to have a vulnerable cognitive style characterized by negative, internal, stable and global attributions (as discussed in Chapter 2 of this thesis). It has also been suggested that women tend to show a ruminative style (Nolen-Hoeksema, 1987). This style contrasts to a more solution-focussed style that is common in men. Women tend to increase the duration of their problems by this ruminative style which concentrates on symptoms. When women feel that there is a problem they tend to blame themselves for any shortcomings, problems or for the gap between the romanticized version of motherhood and reality of having a baby in the ‘90s. It is plausible that interventions which distract mothers from this ruminative style can have a positive impact in decreasing the intensity and duration of dysphoria. The use of distraction techniques in conjunction with other therapeutic strategies may minimize the duration of dysphoria in the short term. Ideally, a change in internalized mode of functioning may require insight-oriented types of psychotherapy, rather than symptom-oriented ones.
Earlier in this thesis, I have pointed out that protective factors are modifiable through intervention, but that some vulnerability factors are not amenable to psychological strategies but need social change. Early signs of vulnerability in mothers can alert and act as warning signs to establish some interventions in the area of enhancing resilience. Herz (1992) suggests the following guidelines for prenatal anticipatory guidance: (1) to dispel the motherhood myth of the maternal instinct, (2) to strengthen the marital support system, defining roles and realistic tasks sharing and problem solving, (3) to mobilize additional emotional support systems, (4) to reduce environmental stress factors, (5) to establish priorities and, (6) to associate a pregnant woman with an experienced mother to gain working knowledge of living with a baby (Herz, 1992, p. 74).

Stress reactions and difficulties in adjustment to motherhood can be normalized and “talked through” so that long term morbidity is avoided. A clinical psychologist can act as an empathetic listener who validates and normalizes experiences and feelings.

Nadelson and Raphael (1995) suggest preventive initiatives in the following areas: education about biology and reproductive health, focussed education and counselling, screening for risk, self-help womens’ groups and community development. Some strategic ideas proposed by Raphael (1992) in the area of prevention include:

(1) Prevention programs to enhance marital harmony;

(2) Effective parenting courses for anxious, single mothers as part of a generalized support system perinatally. This course can be seen as parent in-service training;

(3) Programs enhancing resilience and competence i.e. self-esteem enhancement, effective problem solving, understanding of infants’ development and temperament are some potentially useful psychological techniques. Free discussion of normative changes in lifestyle and family relationships after the baby is born may alleviate undue anxieties.
General measures such as those just mentioned can have preventive effects, particularly if information is delivered in a reassuring and supportive way;

(4) Training of professionals dealing with women in the perinatal period so they are alert to signs, they are aware of issues and they can detect women at risk and refer them appropriately. Early screening facilitates early detection that then makes possible early treatment and minimization of suffering. Enhancement of skills of those looking after women so they are not labeled as neurotics, bad mothers or not coping and given tranquilizers rather than opportunities for early intervention and chances to deal with the psychosocial issues they may face;

(5) Programs should be oriented to life crisis such as loss, divorce, and illness. It is believed that the so-called ‘exit events’ may challenge vulnerable women;

(6) Prevention oriented to early vulnerability and increased level of support during pregnancy. A history to abuse in any form may act as a warning sign;

(7) The broader issue of gender inequality may lead to low self-esteem and violence. Internalized aspects of inequities in values and social structures, and attitudes may have negative, pervasive effects on women;

Further preventive activities proposed by Pitt, one of the pioneers in this field, include:

(1) Preparation for parenthood in high schools. Classes must be practically oriented, for example how to detect tiredness signs in an infant. It remains essential to evaluate whether exposure to this information results in the acquisition of improved parenting skills;

(2) Antenatal-postnatal continuity of care to ensure early detection of maternal dysphoria. Many women ‘are lost’ in the system between discharge from hospital and a secondary
facility. This factor and stigma associated with not coping contribute to the exacerbation of problems;

(3) Easy access to interventions in the prenatal and postnatal periods and,

(4) Home interventions are preferable as a way to ensure a woman-centered atmosphere and adequate back up services. Opportunities for staff to express their feelings about their work and receive support from each other are essential aspects to working with families (Pitt, 1982, p. 371).

Mothers are people in crisis (Hoff, 1995). What society expects and accepts as normative influences people in crisis. Motherhood must be contextualised within the wider social and ideological structures (Woollett & Nicolson, 1997). When mothers are feeling distressed, role ambiguity is activated. Mothers may either avoid social contacts to decrease anxiety-provoking situations or they may try to redefine the source of their anxiety-provoking statuses (Hoff, 1995, p. 388). Hoft discusses the important protective role of rites of passage to reduce the stress associated with transitional periods characterized by marked role ambiguity (also see Kruckman, 1992). One aspect of prevention of maternal distress may be the reinforcement of rites of passage, a preparation period and a marker of a different status. Validation of feelings as understandable and reassurance can go a long way. Providing women permission for their feelings, including their understandable confusion and ambivalence may relieve mothers from their feelings of shame and inadequacy. An open discussion about the nature of human feelings and ambivalence as a normal phenomenon may be beneficial, as discussed in Chapter 3 of this thesis. It is precisely the denial of ambivalence that may generate difficulties.

The author believes that a reduction in new episodes of a serious disorder such as clinical depression in mothers can be addressed by prenatal preventive strategies. Some of those strategies include:
Up to date, state-of-the art training for professionals working in the field of prenatal and perinatal health, training to decrease judgmental attitudes or prejudice. ‘Mother blaming’ has been used as an alternative to a deeper understanding of families in crisis. Blaming mothers can relieve professionals of a difficult area of responsibility and reinforces and augments mothers’ feelings of guilt. By the time women ask for help, they are probably feeling inadequate to fulfill their expected roles (Jason, Thompson & Rose, 1986; McCluskey-Fawcett, Meck & Harris, 1986). Professionals need to be aware of and avoid ‘mother blaming’, that is, the tendency to blame mothers for their and their infants’ problems (Fonagy, Target, Steele & Gerber, 1995). The importance of psychosocial factors needs to be emphasized in the training of medical practitioners so they can incorporate the use of non-pharmacological treatments for postnatal distress and depression.

Applying depression prevention methods to conditions that are exacerbated by depression. For example, depression in mothers has been associated with an increased risk of child abuse (Scott, 1988). Preventing high levels of maternal distress may lower the prevalence and incidence of depression. Therefore, it may have a role to play in the prevention of child abuse. Of course, preventive efforts need to be carefully evaluated in their effectiveness to reduce child abuse.

Feeling overwhelmed by the burdens of having a baby is generally present in distressed mothers. Suggestions to them about practical ways to cope are important, because they promote self-efficacy and self-esteem, thus they decrease the likelihood of depressive feelings. Exposing oneself to constructive environments and reducing exposure to destructive settings or situations are a few examples of commonsense pragmatic advice that can easily be provided to new mothers. Increasing their ability to tolerate the ambiguity of certain situations connected with child-care (Jason et al., 1986) can also be
helpful. The provision of respite care allowing the mother to have regular times away from her infant can alleviate her sense of overwhelming responsibility. Some high-risk infants (for example premature babies or infants suffering from gastric reflux) may give mothers a sense of constant frustration and a feeling of failure as well as producing a state of maternal physical and emotional exhaustion. Regular time out from her infant offers her the chance to restore her energies and acquire a sense of perspective.

(4) General preventive measures during the prenatal period include careful management of diabetic pregnancies, prenatal care programs for adolescents and the early diagnosis and treatment of sexually transmitted diseases to increase the probability of better pregnancy outcome. Prevention of prematurity includes the early identification of those high-risk women. Assessment is based on medical and psychosocial factors (McCluskey et al., 1986). Incidence rate for cesarean births has been reported as high as 25% to 30% of births (p. 59). The preparation of future parents to this possibility may also be an important component of prenatal classes. This would be useful in terms of promoting realistic expectations and teaching practical ways to cope with a period of increased demands when physical and emotional recovery is taking place.

Beyond this Study

Research will benefit from a women-centered, holistic, politically and socially contextualized research perspective.

A behavioral high-risk model (Klein & Anderson, 1995) includes a comprehensive model for postnatal distress and depression. A holistic model would require:

(1) To account for the processes underlying postnatal distress and clinical depression,

(2) To predict whom is at risk of developing postnatal distress and clinical depression,

(3) To determine which factors predispose to postnatal distress and clinical depression,
To establish under which circumstances postnatal distress and clinical depression will be manifested in vulnerable individuals.

All the above-mentioned areas need to be further investigated. Studying depressed mothers does not allow research to distinguish etiologically significant processes from the consequences of depression itself such as stigma, the side effects of medication and chronicity.

Studies may concentrate in investigating what types of universal, selective and indicated preventive measures are cost-effective in the short and long term. More knowledge about relative, attributable risk factors is necessary. Studies have concentrated mainly on assessing risk factors. This is important; but it needs to be complemented by information about the relative importance or contributory role of each one to generate difficulties.

There are three approaches to the identification of people at risk: (1) genetic, (2) endophenotypic, and (3) exophenotypic (Klein & Anderson, 1995, p. 199).

(1) The genetic model is based on the fact that children of individuals with a certain disorder are at a statistically higher risk than children are in the general population. This suggests that the offspring will have inherited a vulnerability to the disorder. Limitations of this paradigm are that it is a time consuming research strategy; that not all children inherit a diathesis (acquired susceptibility) for the disorder which results in the detection of a high number of false positives (that is people wrongly diagnosed), and that an inherited trait is not easily modifiable. This model has been criticized for its lack of recognition of the impact of external variables in the environment which may shape individual traits (Lewis, 1990).

(2) The endophenotypic model postulates that the physical constitution of an organism is determined by the interaction between the genetic constitution and the environment. In this approach a biological index such as monoamine oxidase activity or rapid eye
movements is used. A potential genetic marker of a disorder must fulfill strict criteria such as being inheritable, pre-existing the onset of condition, being independent of clinical state and being present within a family. This kind of research is very costly but has some advantages such as providing more specific genetic indicators of a disorder. In this way, a homogenous representative sample can be studied in detail, and then subtypes of a disorder can be found. Only a few genetic indicators were found in the area of unipolar depression (Cichetti & Toth, 1995). The research conducted to find a hormonal cause for postnatal depression is an example of this approach. Unfortunately, it has not yet produced satisfactory evidence (Brockington, 1996) that hormonal changes connected with the prenatal and perinatal periods do have an overwhelming influence in the onset of postnatal depression.

The exophenotypic approach is based on the study of external indicators such as a cluster of behavioral or personality features to identify groups at risk. Lack of specificity and the fact that it is often unclear whether behavioral and personality changes preceded or are the consequences of the disorders are two of the criticisms that have been raised. Are they risk factors or early signs of the disorder? This model assumes that severe forms of the disorder are at one end while, at the other, there are phenotypically similar conditions with milder symptoms. Milder subsyndromal conditions may or may not be a continuation of normal personality. One advantage of this approach is its economy because a large number of people can be screened and then a sub group of high-risk people can be identified. If a similar pattern of behavioral precursors can be identified in a group the findings can be generalized to the population. The exophenotypic approach can be combined with the others to explain the portion of the variance that can not be explained by the genetic and biological models. The disadvantages of this particular method is the high number of false positives and modest discriminatory ability to
separate risk and non-risk population (behavioral and personality processes operate at a
great distance from genetic factors). Continuum models (such as the one proposed in
this field i.e. postnatal blues, depression, psychosis) can lead to circularity between risk
factors and outcome indicators. To avoid this problem, it is important that studies
exclude people not already suffering the disorder and define outcome strictly. Indicators
of disorders may be subtle and difficult to detect from existing methods reliably. Other
problems include: low test-retest stability; subjects’ problems in recalling mild periods,
the effects of current mood state on recall and cultural and idiosyncratic differences in
perceptions and descriptions of mood and affective states (Hirschfeld, Klerman, Clayton
et al., 1983).

More research needs to be carried out using a combination of these approaches.
Further longitudinal studies are necessary. Studies may focus on investigating resilience and
protective factors that are more amenable to change.

Concluding Note
The author of this thesis believes that there is much to be done in the area of
prevention of maternal distress and depression. This empirical research was a modest
contribution to understanding the complexities of maternal psychological distress and
clinical disorders in the postpartum period. The study provided longitudinal prospective
information on a community sample of a low-risk group of pregnant women. It contributed
to yield information that has the potential to be used in the assistance of pregnant and
postnatal women in general and to help vulnerable pregnant women in particular. Hopefully,
the continuity of efforts in exploring the diverse and delicate ways in which maternal health
interact and mutually influence infant and family variables will bring more answers to our
current research endeavors.
REFERENCES


Commonwealth Department of Human Services and Health Research Advisory Committee.


Peterson, G., Mehl, H., & McRae, J. (1988). Relationship of psychiatric diagnosis, defenses, anxiety and stress with birth complications. In P. Fedor-Freybergh & V. Vogel (Eds.), Prenatal and perinatal psychology and medicine-Encounter with the unborn: A
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Winnicott, D. W. (1958). The family affected by depressive illness in one or both parents. In The family and individual development (pp. 50-60). London: Tavistock Publications.


Have you heard about Postnatal Depression?

We would like to know more about emotional well being during pregnancy and the postpartum period. This information will help us design preventive strategies for early detection and treatment of psychological difficulties during this period.

You can help us! If you are currently pregnant and you would like to participate in this study please contact:

Ester German
0414 952332/95024541
EMOTIONAL WELL BEING DURING PREGNANCY AND POST-NATAL STUDY

Are you in the last trimester of pregnancy?

Have you heard about Postnatal Depression?

If so please, keep reading....

We would like to know more about well being and also about mood disorders during pregnancy and the post-partum period. This information will guide us in the detection and early treatment of pre and post-natal psychological difficulties.

We need pregnant women in their last trimester of pregnancy to volunteer to participate in this study.

If you are interested to make an important contribution to this study in women’s psychological health, please ring:

ESTER GERMAN
PSYCHOLOGIST
0414 952 332
502 4541
Women's Psychological Experiences in Pregnancy and Postnatally

PARTICIPANT INFORMATION

You are invited to participate in this study about women's psychological experiences in pregnancy and postnatally. We hope to learn more about the impact of relationships on women's psychological well-being during pregnancy and afterwards. It is anticipated that this information will contribute to our understanding of women's healthy psychological processes in this phase of life.

Thank you very much for taking the time to read this participant information sheet. This is a research project conducted by Ester German under the supervision of Prof. Viney and Dr. Henry in the Department of Psychology at the University of Wollongong. I am a Registered Psychologist and a Counsellor. I am interested in women's health and in fact, I have been counselling women for a variety of mental and physical health problems for quite some time. It is in this context and as part of a post graduate requirement that I will conduct this research project.

If you decide to participate, I will be asking you (during your 3rd trimester of pregnancy) to fill out four questionnaires with the aim of finding out about your relationships and current life situation. Completing these questionnaires will take you less than an hour. You will also be asked to participate in a clinical interview. On two more occasions, at 6 weeks and 6 months after the baby is born, I will contact you by phone to arrange a follow up visit. I will ask your partner to complete a questionnaire.

It is important to note that you are free to discontinue your participation in this project at any time and this will not make any difference to the medical treatment you will receive in this Hospital. We cannot and do not hold out that you will receive any benefits from this study.

All the information about you that is obtained in connection with this study will remain confidential and will be disclosed only with your written permission. However, the results of this study may be published or disclosed to other people in a way that will not identify you. If you have any questions at any time Ester German (02) 502 4541 will be happy to answer them.
CONSENT FORM

I have read and understood all the information provided, have been given the opportunity to ask any questions and agree to participate in the research proposal described above. I understand that the data collected will be used for research purposes only and I consent for the data to be used in that manner.

If you wish to take part in this research please sign below:

........................................................................................................, ....../....../.....
(You will be given a copy of this form to keep).

........................................................................................................

REVOCATION OF CONSENT BY PATIENT

I hereby wish to WITHDRAW my consent to participate in the research proposal described above and understand that such withdrawal WILL NOT jeopardise any treatment or my relationship with the Hospital or my medical attendants.

........................................................................................................, ....../....../.....

The section for revocation of consent by the patient should be forwarded to Ester German 238 Stoney Creek Rd. Kingsgrove NSW 2208
# Women's Psychological Experiences in Pregnancy and Postnatally

<table>
<thead>
<tr>
<th>Date:</th>
<th>/ /</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
<td>Partner's name:</td>
</tr>
<tr>
<td><strong>Date of birth:</strong></td>
<td>Age:</td>
</tr>
<tr>
<td><strong>Address:</strong></td>
<td>Contact Person:</td>
</tr>
<tr>
<td><strong>Telephone:</strong></td>
<td>Hospital Consent Form</td>
</tr>
<tr>
<td><strong>Family Doctor:</strong></td>
<td>Medications? Major illness Physical or psychological Previous PND?</td>
</tr>
<tr>
<td><strong>Current occupation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Highest level of education attained:</strong></td>
<td>Language used at home:</td>
</tr>
<tr>
<td><strong>Country of birth:</strong></td>
<td>Relationship: Age:</td>
</tr>
<tr>
<td><strong>Other people living in the household</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Expected date for delivery:</strong></td>
<td>Gestation Week</td>
</tr>
<tr>
<td><strong>Is this pregnancy planned?</strong></td>
<td>Yes/No Reaction if not planned</td>
</tr>
<tr>
<td><strong>Is sex of baby known?</strong></td>
<td>Yes/No female/male</td>
</tr>
<tr>
<td><strong>Any preference?</strong></td>
<td>Yes/No female/male Reaction to sex</td>
</tr>
<tr>
<td><strong>Suffered from loss of mother?</strong></td>
<td>Yes/No If yes, ___ yrs old</td>
</tr>
<tr>
<td><strong>Separated from parents during childhood?</strong></td>
<td>Yes/No If yes, ___ yrs old for how long?</td>
</tr>
<tr>
<td><strong>Please explain circumstances</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Any recent Loss/bereavement?</strong></td>
<td>Previous miscarriages/terminations?</td>
</tr>
<tr>
<td><strong>If working. Maternity Leave?</strong></td>
<td>Expected to return? When?</td>
</tr>
<tr>
<td><strong>Contact by phone to get further info.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Best time to be seen at home</strong></td>
<td></td>
</tr>
</tbody>
</table>
### GENERAL HEALTH QUESTIONNAIRE

Please read this carefully:

We should like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer ALL the questions on the following pages simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions.

Thank you very much for your cooperation.

<table>
<thead>
<tr>
<th>HAVE YOU RECENTLY:</th>
<th>Better than usual</th>
<th>Same as usual</th>
<th>Less than usual</th>
<th>Much Less than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. been able to concentrate on whatever you're doing?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. lost much sleep over worry?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>3. been having restless, disturbed nights?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>4. been managing to keep yourself busy and occupied?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Rather less than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>5. been getting out of the house as much as usual?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Rather less than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>6. been managing as well as most people would in your shoes?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>7. been feeling on the whole you were doing things well?</td>
<td>Better than usual</td>
<td>About the same as usual</td>
<td>Less well than usual</td>
<td>Much less well</td>
</tr>
<tr>
<td>8. been satisfied with the way you've carried out your task?</td>
<td>Better than usual</td>
<td>About as usual</td>
<td>Less well than usual</td>
<td>Much less well</td>
</tr>
<tr>
<td>9. been able to feel warmth and affection for those near to you?</td>
<td>Better than usual</td>
<td>About same as usual</td>
<td>Less well than usual</td>
<td>Much less well</td>
</tr>
<tr>
<td>10. been finding it easy to get on with other people?</td>
<td>Better than usual</td>
<td>About same as usual</td>
<td>Less well than usual</td>
<td>Much less well</td>
</tr>
<tr>
<td>11. spent much time chatting with people?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>12. felt that you are playing a useful part in things?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less useful than usual</td>
<td>Much less useful</td>
</tr>
<tr>
<td>13. felt capable of making decisions about things?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less useful than usual</td>
<td>Much less useful</td>
</tr>
<tr>
<td>14. felt constantly under strain?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>15. felt that you couldn't overcome your difficulties?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Rating Options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>been finding like a struggle all the time?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>been able to enjoy your normal day-to-day activities?</td>
<td>More so than usual, Same as usual, Less so than usual, Much less than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>been taking things hard?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>been getting scared or panicky for no good reason?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>been able to face up to your problems?</td>
<td>More so than usual, Same as usual, Less able than usual, Much less able</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>found everything getting on top of you?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>been feeling unhappy and depressed?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>been losing confidence n yourself?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>been thinking of yourself as a worthless person?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>felt that like is entirely hopeless?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>been feeling hopeful about your own future?</td>
<td>More so than usual, About same as usual, Less so than usual, Much less hopeful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>been feeling reasonably happy, all things considered?</td>
<td>More so than usual, About same as usual, Less so than usual, Much less than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>been feeling nervous and strung-up all the time?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>felt that life isn’t worth living?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>found at times you couldn’t do anything because your nerves were too bad?</td>
<td>Not at all, No more than usual, Rather more than usual, Much more than usual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### DYADIC ADJUSTMENT SCALE

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

<table>
<thead>
<tr>
<th>Item</th>
<th>Always Agree</th>
<th>Almost Always Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Almost Always Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling family finances</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Matters of recreation</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Religion matters</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Demonstration of affection</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Friends</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sex relations</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conventionality</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Philosophy of life</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Ways of dealing with parents and in-laws</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Aims, goals, and things believed important</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Amount of time spent together</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Making major decisions</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Householder tasks</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Leisure time interests and activities</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Career decisions</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>How often do you discuss or have your considered divorce, separation, or terminating your relationship?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often do you or your mate leave the house after a fight?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>In general, how often do you think that things between you and your partner are going well?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do you confide in your mate?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do you regret that you married? (or lived together)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often do you and your partner quarrel?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often do you and your mate &quot;get on each other's nerves?&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Do you kiss your mate?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Do you and your partner engage in outside interests together?</td>
<td>Less than once a month</td>
<td>Once or twice a month</td>
<td>Once or twice a week</td>
<td>Once a day</td>
<td>More often</td>
<td></td>
</tr>
<tr>
<td>How often would you say the following events occur between you and your mate?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Have a stimulating exchange of ideas</td>
<td>Never</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Laugh together</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Calmly discuss something</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Work together in a project</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being too tired for sex.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not showing love.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The dots on the following line represent different degrees of happiness in your relationship. The middle pint, “happy” represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Extremely Unhappy</td>
<td>Fairly Unhappy</td>
<td>A Little Unhappy</td>
<td>Happy</td>
<td>Very Happy</td>
<td>Extremely Happy</td>
<td>Perfect</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Which of the following statements best describes how you feel about the future of your relationship?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I want desperately for my relationship to succeed, and would go to almost any length to see that it does.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>I want very much for my relationship to succeed, and will do all I can to see that it does.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I want very much for my relationship to succeed, and will do my fair share to see that it does.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>It would be nice if my relationship succeeded, but I can't do much more than I am doing to help it succeed.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>It would be nice if it succeeded but I refuse to do any more than I am doing now to keep the relationship going</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My relationship can never succeed, and there is no more that I can do to keep the relationship going</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Social Provisions Scale

In answering the next set of questions think about your current relationships with friends, family members, students, faculty, community members, and so on. To what extent do you agree that each statement describes your current relationships with these people? Use the following scale to give your opinion. Mark your answers in the blanks to the right of the items numbers.

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>disagree</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. ______ There are people I can depend on to help me if I really need it.
2. ______ I feel that I do not have close personal relationships with other people. (*)
3. ______ There is no one I can turn to for guidance in times of stress. (*)
4. ______ There are people who depend on me for help.
5. ______ There are people who enjoy the same social activities I do.
6. ______ Other people do not view me as competent. (*)
7. ______ I feel personally responsible for the well-being of another person.
8. ______ I feel part of a group of people who share my attitudes and beliefs.
9. ______ I do not think other people respect my skills and abilities. (*)
10. ______ If something went wrong, no one would come to my assistance. (*)
11. ______ I have close relationships that provide me with a sense of emotional security and well-being.
12. ______ There is someone I could talk to about important decisions in my life.
13. ______ I have relationships were my competence and skills are recognized.
14. ______ There is no one who shares my interests and concerns. (*)
15. ______ There is no one who really relies on me for their well-being. (*)
16. ______ There is a trustworthy person I could turn to for advice if I were having problems.
17. ______ I feel a strong emotional bond with at least one other person.
18. ______ There is no one I can depend on for aid if I really need it. (*)
19. ______ There is no one I feel comfortable talking about problems with. (*)
20. ______ There are people who admire my talents and abilities.
21. ______ I lack a feeling of intimacy with another person. (*)
22. ______ There is no one who likes to do the things I do. (*)
23. ______ There are people I can count on in an emergency.
24. ______ No one needs me to care for them them. (*)

(*) Reverse keying.
### MFP SCALE

Indicate the extent to which the following statements describe your childhood relationships with your mother by using the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree with Statement</th>
<th>Somewhat Disagree with Statement</th>
<th>Uncertain About Statement</th>
<th>Somewhat Agree with Statement</th>
<th>Strongly Agree with Statement</th>
</tr>
</thead>
</table>

### WHEN I WAS A CHILD, MY MOTHER (or mother substitute):

1) encouraged me to make my own decisions.
2) helped me learn to be independent.
3) felt she had to fight my battles for me when I had a disagreement with a teacher or a friend.
4) was close to a perfect parent.
5) was overprotective of me.
6) encouraged me to do things for myself.
7) encouraged me to try things my way.
8) had not a single fault that I can think of.
9) did not let me do things that other kids my age were allowed to do.
10) sometimes disapproved of specific things I did, but never gave me the impression that she disliked me as a person.
11) enjoyed being with me.
12) was an ideal person in every way.
13) was someone I found very difficult to please.
14) usually supported me when I wanted to do new and exciting things.
15) worried too much that I would hurt myself or get sick.
16) was never angry with me.
17) was often rude to me.
18) rarely did things with me.
19) didn't like to have me around the house.
20) and I never disagreed.
21) would often do things for me that I could do for myself.
22) let me handle my own money.
23) could always be depended upon when I really needed her help and trust.
24) gave me the best upbringing anyone could ever have.
25) did not want me to grow up.
26) tried to make me feel better when I was unhappy.
27) encouraged me to express my own opinion.
28) never disappointed me.
29) made feel that I was a burden to her.
30) gave me the feeling that she liked me as I was: she didn't feel she had to make me over into someone else.
ATTACHMENT STYLE QUESTIONNAIRE

Show how much you agree with each of the following items by rating them on this scale:
1=totally disagree   2=strongly disagree   3=slightly disagree
4=slightly agree     5=strongly agree     6=totally agree

1. Overall I am a worthwhile person.
2. I am easier to get to know than most people.
3. I feel confident that other people will be there for me when I need them.
4. I prefer to depend on myself rather than other people.
5. I prefer to keep to myself.
6. To ask for help is to admit that you're a failure.
7. People's worth should be judged by what they achieve.
8. Achieving things is more important than building relationships.
9. Doing your best is more important than getting on with others.
10. If you've got a job to do, you should do it no matter who gets hurt.
11. It's important to me that others like me.
12. It's important to me to avoid doing things that others won't like.
13. I find it hard to make a decision unless I know what other people think.
14. My relationships with others are generally superficial.
15. Sometimes I think I am no good at all.
16. I find it hard to trust other people.
17. I find it difficult to depend on others.
18. I find that others are reluctant to get as close as I would like.
19. I find relatively easy to get close to other people.
20. I find it easy to trust others.
21. I feel comfortable depending on other people.
22. I worry that others won't care about me as much as I care about them.
23. I worry about people getting too close.
24. I worry that I won't measure up to other people.
25. I have mixed feelings about being close to others.
26. While I want to get close to others, I feel uneasy about it.
27. I wonder why people would want to be involved with me.
28. It's very important to me to have a close relationship.
29. I worry a lot about my relationships.
30. I wonder how I would cope without someone to love me.
31. I feel confident about relating to others.
32. I often feel left out or alone.
33. I often worry that I do not really fit in with other people.
34. Other people have their own problems, so I don't bother them with mine.
35. When I talk over my problems with others, I generally feel ashamed or foolish.
36. I am too busy with other activities to put much time in relationships.
37. If something is bothering me, others are generally aware and concerned.
38. I am confident that other people will like and respect me.
39. I get frustrated when others are not available when I need them.
40. Other people often disappoint me.
Women Psychological Experiences in Pregnancy and Postnatally Study
Follow Up-Mother and Baby Information Sheet

- Please tick all procedures which were performed during this labor:
  - Pethidine
  - Forceps
  - Epidural
  - Episiotomy or tears requiring stitches
  - General Anaesthetic
  - Induction
  - Cesarean Section
  - Augmentation

- Did you attend childbirth preparation classes?
  If yes, were they useful overall?
  Please explain

- Did you feel you were in control of your labor?
  If no, please explain

- What type of professional assisted you in labor?
  - Midwife
  - Doctor

- Were there unwanted people in the room during labor?
  - Yes
  - No

- Was there a previous discussion of the pain relief method to be used?
  - Yes
  - No

- Was your labour managed as you liked?
  If no, please explain

- Length of labour?.................hs
- Where was the baby born?
- What was his/her birthweight?............Kgs
- What was the feeding method since birth?
  - Breastfeeding
  - Bottlefeeding
  - Yes
  - No

- Has there been any change since?
  Please explain

- For how long did you stay in hospital after birth?
  - Yes
  - No

- Do you feel you had enough rest/sleep while in hospital?
  - Yes
  - No

- Is the baby having any sleeping/feeding problem?.
  If yes, please explain.

- Have you talked to someone about this problem?
  If yes, Please explain

- Would you say your baby has an easy average or difficult temperament?
  - Yes
  - No

- Have there been any major life events (illness in the family, recent move, death in the family, etc) since you had this baby?
  If yes, please explain

- Are you on Maternity Leave from work?
  - Yes
  - Paid
  - No
  - Unpaid

Thank you!
Questions for mothers to complete

What is it like for you being a mother for this baby?

What are the most rewarding things about it?

What are the less rewarding things about it?

What are the things or situations that you find difficult to cope with?

What are the major changes that you think this baby brought into your family life?

What are the major changes that you think this baby brought into your relationship with your partner?

How are you coping with these changes?
CERTIFICATE OF PARTICIPATION

Awarded to

Congratulations on the birth of your baby!

Presented by

Women's Psychological Experiences Study

27 March 1996

Ester German
SELF-EVALUATION QUESTIONNAIRE

Please provide the following information:
Name_________________________ Date_________________________ S________ T____
Age_________________________ Gender (Circle) M  F

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm. ................................................................. 1 2 3 4
2. I feel secure. ................................................................. 1 2 3 4
3. I am tense. ................................................................. 1 2 3 4
4. I feel strained. ............................................................... 1 2 3 4
5. I feel at ease. ............................................................... 1 2 3 4
6. I feel upset. ................................................................. 1 2 3 4
7. I am presently worrying over possible misfortunes. .......................... 1 2 3 4
8. I feel satisfied. ............................................................... 1 2 3 4
9. I feel frightened. ............................................................ 1 2 3 4
10. I feel comfortable. ......................................................... 1 2 3 4
11. I feel self-confident. ....................................................... 1 2 3 4
12. I feel nervous. ............................................................. 1 2 3 4
13. I am jittery. ................................................................. 1 2 3 4
14. I feel indecisive. ............................................................ 1 2 3 4
15. I am relaxed. ............................................................... 1 2 3 4
16. I feel content. .............................................................. 1 2 3 4
17. I am worried. .............................................................. 1 2 3 4
18. I feel confused. ............................................................. 1 2 3 4
19. I feel steady. ............................................................... 1 2 3 4
20. I feel pleasant. ............................................................ 1 2 3 4
## DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. I feel pleasant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I feel nervous and restless.</td>
<td></td>
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<td></td>
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<tr>
<td>23. I feel satisfied with myself.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I wish I could be as happy as others seem to be.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>25. I feel like a failure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. I feel rested.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I am &quot;calm, cool, and collected&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I feel that difficulties are piling up so that I cannot overcome them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. I worry too much over something that really doesn’t matter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. I am happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. I have disturbing thoughts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. I lack self-confidence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. I feel secure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. I make decisions easily.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. I feel inadequate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. I am content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Some unimportant thought runs through my mind and bothers me.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. I take disappointments so keenly that I can’t put them out of my mind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. I am a steady person.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. I get in a state of tension or turmoil as I think my recent concerns and interest..</td>
<td></td>
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</tr>
</tbody>
</table>
EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

As you recently had a baby we would like to know how you are feeling. Please underline the answer which comes closest to how you have felt in the past 7 days, not just how you feel today.

IN THE PAST 7 DAYS

1. I have been able to laugh and see the funny side of things.
   As much as I always could
   Not quite so much now
   Definitely not so much now
   Not at all

2. I have looked forward with enjoyment to things.
   As much as I ever did
   Rather less than I used to
   Definitely less than I used to
   Hardly at all

3. I have blamed myself unnecessarily when things went wrong.
   Yes, most of the time
   Yes, some of the time
   Not very often
   No, never

4. I have been anxious or worried for no good reason.
   No, not at all
   Hardly ever
   Yes, sometimes
   Yes, very often

5. I have felt scared or panicky for no very good reason.
   Yes, quite a lot
   Yes, sometimes
   No, not much
   No, not at all

6. Things have been getting on top of me.
   Yes, most of the time I haven't been able to cope at all
   Yes, sometimes I haven't been coping as well as usual
   No, most of the time I have coped quite well
   No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping.
   Yes, most of the time
   Yes, sometimes
   Not very often
   No, not at all
8. I have felt sad or miserable

Yes, most of the time  
Yes, quite often  
Not very often  
No, not at all

9. I have been so unhappy that I have been crying

Yes, most of the time  
Yes, quite often  
Only occasionally  
No, never

10. The thought of harming myself had occurred to me

Yes, quite often  
Sometimes  
Hardly ever  
Never
Am I postnatally depressed?

Postnatal depression is a common problem, happening to 1 to 2 mothers out of 10. The early detection of postnatal depression is crucial as much unnecessary suffering can be avoided.

Postnatal depression is an episode of clinical depression occurring during the first postnatal year. The major indications of depression are a sad mood and a decreased ability to enjoy your baby and life in general. These feelings stay with you almost every day, most of the day for at least 2 weeks.

Postnatal depression is different from maternal exhaustion. Being tired is normal and understandable when you have a baby. When you are depressed (even if you sleep and rest) the sad feelings, the lack of energy and motivation and the tiredness will tend to remain.

Sometimes it's difficult to know whether your feelings are normal or they indicate that you are clinically depressed. In the case of postnatal depression, it is even more complicated as the general (and often chronic) sleep deprivation that you might be going through, may be part of the problem. If you are in doubt, please consult your early childhood nurse, your family doctor or services such as Karitane.

Postnatal depression should not be a cause of shame or stigma. On the contrary, looking after yourself is an indication of strength. Now you have a new baby and your baby is very dependent on you. The best environment for your baby is a happy family.

Postnatal depression is a family issue. Hiding the fact that you are not feeling well is neglecting yourself. Ignoring the early signs tends to make things worse for you and your family. This is a time when you need support and help.

At Karitane Family Care Cottage we are happy to offer you an initial consultation, a family assessment, individual counselling and participation to a therapeutic group designed exclusively for mothers and infants. We are also able to help you with your parenting needs.
Women's Psychological Experiences in Pregnancy and Postnatally Study

Dear Participant,

Now that your baby is about 6 months old it is time for our second follow up. Time flies doesn't it!
Please find enclosed the follow up questionnaires for you to answer as well as some questionnaires for your partner to complete. We would like how is he coping because fathers are important indeed. I have also enclosed a pre-stamped envelope so you can mail these questionnaires back to me.
I am available if you like to discuss anything or raise any issues or questions.
Thank you for your interest, time and participation in this study.
Yours sincerely,

Ester German
Psychologist
5024541/0414952332
Women’s Psychological Experiences in Pregnancy and Postnatally Study

Dear participant,

Your file indicates that we have not received

- Your prenatal assessment
- Your 6 weeks postnatal follow up
- Your 6 months postnatal follow up

Please let us know whether you have any difficulties in completing the questionnaires sent out to you. You can contact me on 5024541 or 0414952332.

Please keep us informed of any changes in your address or phone number.

Thank you for your interest, time and participation in this study.

Ester German
Psychologist
Directions
Your will find a list of statements about feelings. If a statement describes how you usually feel, put an X in the column “Like Me”. If a statement does not describe how you usually feel, put an X in the column “Unlike Me”. There are no right or wrong answers. Begin at the top of the page and mark all 25 statements.

1. Things usually don’t bother me.
2. I find it very hard to talk in front of a group.
3. There are lots of things about myself I’d change if I could.
4. I can make up my mind without too much trouble.
5. I’m a lot of fun to be with.
6. I get upset easily at home.
7. It takes me a long time to get used to anything new.
8. I’m popular with persons my own age.
9. My family usually considers my feelings.
10. I give in very easily.
11. My family expects too much of me.
12. It’s pretty tough to be me.
13. Things are all mixed up in my life.
14. People usually follow my ideas.
15. I have a low opinion of myself.
16. There are many times when I would like to leave home.
17. I often feel upset with my work.
18. I’m not as nice looking as most people.
19. If I have something to say, I usually say it.
20. My family understands me.
21. Most people are better liked than I am.
22. I usually feel as if my family is pushing me.
23. I often get discouraged with what I am doing.
24. I often wish I were someone else.
25. I can’t be depended on.
## Table A: Descriptive Statistics for Age, Occupation and Education for the Sample

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in groups</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;26</td>
<td>21.0</td>
<td>16.2</td>
</tr>
<tr>
<td>26-31</td>
<td>39.0</td>
<td>30.0</td>
</tr>
<tr>
<td>32-35</td>
<td>44.0</td>
<td>33.8</td>
</tr>
<tr>
<td>35+</td>
<td>26.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Total</td>
<td>133.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>28.0</td>
<td>21.7</td>
</tr>
<tr>
<td>Teaching/Nursing</td>
<td>14.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Business/Manag</td>
<td>10.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Technical</td>
<td>10.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Services</td>
<td>23.0</td>
<td>17.8</td>
</tr>
<tr>
<td>Clerical</td>
<td>18.0</td>
<td>14.0</td>
</tr>
<tr>
<td>Housewife</td>
<td>26.0</td>
<td>20.2</td>
</tr>
<tr>
<td>Total</td>
<td>133.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
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<td></td>
</tr>
<tr>
<td>Year 10</td>
<td>20.0</td>
<td>15.5</td>
</tr>
<tr>
<td>HSC</td>
<td>31.0</td>
<td>24.0</td>
</tr>
<tr>
<td>TAFE</td>
<td>30.0</td>
<td>23.3</td>
</tr>
<tr>
<td>University</td>
<td>48.0</td>
<td>37.2</td>
</tr>
<tr>
<td>Total</td>
<td>133.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table B: Summary Statistics for Self-esteem, General Health Questionnaire, Edinburgh Postnatal Depression Scale and State Anxiety and Cronbach Alpha for the Full Scale.

<table>
<thead>
<tr>
<th>SCALE</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ses</td>
<td>.83</td>
<td>.14</td>
<td>0-100</td>
<td>.77 (25 items)</td>
</tr>
<tr>
<td>N=123</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghq</td>
<td>.17</td>
<td>.18</td>
<td>0-30</td>
<td>.90 (30 items)</td>
</tr>
<tr>
<td>N=120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epds</td>
<td>.64</td>
<td>.44</td>
<td>0-30</td>
<td>.84 (10 items)</td>
</tr>
<tr>
<td>N=120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EpdsA</td>
<td>.60</td>
<td>.45</td>
<td>0-30</td>
<td>.87 (10 items)</td>
</tr>
<tr>
<td>N=118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epdsb</td>
<td>.47</td>
<td>.50</td>
<td>0-30</td>
<td>.91 (10 items)</td>
</tr>
<tr>
<td>N=105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stanxa</td>
<td>1.60</td>
<td>.48</td>
<td>0-20</td>
<td>.94 (20 items)</td>
</tr>
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Table C: Summary Statistics for selected subscales and Cronbach Alpha for the Mother Acceptance, Mother Idealization, Attachment and Preoccupation subscales.

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Note: Accept: Mother acceptance; Reject: Mother rejection; Ideal: Mother idealization; Satisf: Marital satisfaction; Cohes: Marital cohesion; Attach: Attachment; Recog: Recognition of Worth; Conf: Confidence; Discomf: Discomfort; Related: Relatedness; Preocc: Preoccupation; Traxa: Trait anxiety 6 weeks; Tranxb: Trait anxiety 6 months; Stanxa: State anxiety 6 weeks; Stanxb: State anxiety 6 months; Symptom: General symptomatology (GHQ); Epdsi: Prenatal depression; Epdsa: Depression 6 weeks; Epdsb: Depression 6 months; Se: Self-esteem. *p < .05 (2-tailed) **p < .01 (2-tailed).
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Note: Occup: Occupation; Edu: Education; Cob: County of Birth; Misrab: Miscarriages; Tama: Ternimipan; Prevap: Previous depression; Planpg: Planned pregnancy; Party: Recent loss; Feddng: Preferred sex; Majevnt: Major event; Control: Maltave: Matrix; 
Lossto: Loss of the mother; Meplo: Medical procedures; Prmry: Premature baby; Staybsh: Stay in hospital; Majevnt: Major event; Control: Maltave: Matrix.