A Comparison of Confidence Levels of Postpartum Depressed and Non-Depressed First-Time Mothers

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A COMPARISON OF CONFIDENCE LEVELS OF POSTPARTUM DEPRESSED
AND NON-DEPRESSED FIRST-TIME MOTHERS

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This study is dedicated to my husband, Jay, and to my children, Brad and Audrey. Without their support and sacrifices, this would not have been possible. I also dedicate this study to my parents, E.Gene and JoAnn Durden who instilled in me the value of an education.
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ABSTRACT

Ramona T. Mercer’s theory of Maternal Role Attainment was the framework that guided this study conducted to compare the maternal confidence levels of the depressed and non-depressed first-time mother 4 months after delivery. A sample of 104 women completed the First-time Mother Questionnaire, the Edinburgh Postnatal Depression Scale (EPDS), and the Maternal Confidence Questionnaire (MCQ). Fifteen (14.4%) of the mothers were considered depressed with a score 12, or higher, on the EPDS. With the exception of age and income, the demographics of the depressed and non-depressed mothers were very similar. Both groups of mothers were also found to have similar personal and family histories for depression, support systems, and perceptions of their support and of their infants.

Correlation coefficients using Spearman’s rho revealed a negative association between age and maternal confidence ($r = -.174$). Positive correlations were found between maternal confidence and support system size ($r = .241$), support satisfaction ($r = .319$), and perception of infant temperament ($r = .405$). Negative associations were found between postpartum depression and support system size ($r = -.112$), support satisfaction ($r = -.308$), and infant temperament ($r = -.201$).

An independent samples $t$-test was performed to test the equality mean maternal confidence levels for the populations of depressed and non-depressed first-time mothers. The depressed mother was found to be less confident in her role ($t = 2.455, p = .016, df = 102$). Pearson’s Product-Moment Correlation Coefficient was used to provide the correlation coefficient for the variable of postpartum depression and maternal confidence ($r = -.461; p = .001$). Approximately 21% of the information needed to predict depression is being provided by confidence ($r = .461, r^2 = .212$).
Hippocrates, who described psychiatric illness brought on by childbirth as “puerperal fever”, first recognized the association between childbirth and psychiatric illness in 460 BC. The 11th century gynecologist, Trotula of Salerno, surmised that "if the womb is too moist, the brain is filled with water and the moisture running over to the eyes, compels them to involuntarily shed tears" (Leopold & Zoschnick, 1997, para. 1). Marce delineated puerperal psychosis and depression in his 18th century "Treatise on Insanity in Pregnant and Lactating Women.” The systematic classification of postpartum mental illness began in the mid-19th century when Esquirol identified the "mental alienation of those recently confined and of nursing women” (Leopold & Zoschnick, 1997, para. 1).

Although women are not routinely screened for postpartum depression (PPD), researchers examining this phenomenon report prevalence rates between 9%-35.4% (Atkinson & Rickel, 1984; Beck & Gable, 2001; Beeghly, et al., 2002; Evins, Theofrastous, & Galvin, 2000; Georgiopoulos, Bryan, Yawn, Houston, Rummans, & Therneau, 1999; Gotlib, Whiffen, Mount, Milne, & Cordy, 1989; Gotlib, Whiffen, Wallace, & Mount, 1991; Montgomery, 2001; O’Hara, Neunaber, & Zekoski, 1984; Reigard & Evans, 1995). Furthermore, women who experience postpartum depression are at an increased risk of experiencing a recurrence of PPD with subsequent pregnancies (Peindl, Wisner, & Hanusa, 2003; Spinelli, 1998). As a criterion for diagnosis, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) limits the time of onset to the first 4 weeks after delivery (Spinelli, 1998). Sixty percent of women, however, exhibit symptoms within the first 6 weeks postpartum. The majority will suffer from this
illness for 6 months to a year if untreated (Beeghly, et al., 2002; Leopold & Zoschnick, 1997).

Many studies have been conducted on postpartum depression over the years. Characteristics of the women who experience it and its effects on the maternal-infant relationship have been examined extensively. These studies indicate women with postpartum depression have lower levels of self-esteem, education, income, and social support, history of depression, and increased levels of stress and have feelings of sadness, inability to find pleasure in activities, loss of control, inadequacies, and are tearful, irritable, anxious and may have thoughts of harming themselves or their infants (Beck, 1992, 1993, 1995, 2001; Campbell & Cohen, 1991; Gennaro, 1988; Gotlib et al., 1989, 1991; Hall, Gurley, Sachs, & Kryscio, 1991; Hall, Kotch, Browne, & Rayens, 1996; Mandl, Tronick, Brennan, Alpert, & Homer, 1999; O’Hara et al., 1984; O’Hara, Shlechte, Lewis, Varner, 1991; O’Hara, Zekoski, Philipps, & Wright, 1990; Ugarriza, 2002; Wood, Thomas, Droppleman, Heighan, 1997). They have also been found to be less attentive to their infants, lack interest in their infants, and perceive their infants negatively which impacts the relationship they have with their infants (Atkinson & Rickel, 1984; Beck, 1995; Campbell, Cohn, & Meyers, 1995; Cutrona & Troutman, 1986; Field, Sandberg, Vega-Lahr, Goldstein, & Guy, 1985; Field, Healy, Goldstein, Perry, Bendell, & Schanberg et al., 1988; Fleming, Ruble, Flett, & Shaul, 1988; Jennings, Ross, Popper, & Elmore, 1999; Pridham, Schroeder, Brown, & Clark, 2001; Righetti-Veltema, Conne-Perreard, Bousquet, & Manzano, 2002; Wood, et al, 1997).

In her maternal role attainment theory, Ramona Mercer (1981) identified acquisition of competency as a major component in the attainment of the maternal role. Competence is both a behavior and an attitude. As a behavior, the mother’s competence can be measured by observation. As an attitude, the mother’s perception of her maternal role competence is reflected in her confidence in maternal behaviors. This perceived competence, or confidence, determines her capacity as a mother and how she will respond to her child (Bullock & Pridham, 1988; Mercer, 1985; Mercer & Ferketich, 1994a, 1994b, 1995; Ruchala & James, 1997; Walker, Crain, & Thompson,
Observations of the postpartum depressed mother’s behaviors have shown her to be less attentive to her infant’s cues and to exhibit less affection toward her child (Beck, 1995; Campbell et al., 1995; Field et al., 1985; Fleming et al., 1988; Pridham et al., 2001; Righetti-Veltema et al., 2002). However, studies reportedly have shown no correlation between perceived maternal confidence and maternal behaviors (Walker & Crain, 1986b; Zahr, 1991). These studies have found that some mothers had inflated confidence but exhibited poor parenting behaviors and some mothers, although performing parenting skills with ease, have less confidence.

Mercer (1981) identified maternal, infant, and environmental factors that influenced the woman’s ability to attain the role of mother. Of the factors identified by Mercer (1981), self-esteem, social support, education level, socioeconomic status, and infant temperament have been found to influence the development of postpartum depression as well (Beck, 2001; Bullock & Pridham, 1988; Campbell & Cohn, 1991; Gotlib et al., 1989, 1991; Mercer & Ferketich, 1994b, 1995; O’Hara et al., 1984, 1991; Righetti-Veltema et al., 2002; Ruchala & Jones, 1997; Rutledge & Pridham, 1987; Walker et al., 1986a, 1986b; Zahr, 1991). Self-esteem, as defined by Mercer and Ferketich (1990), is the value placed on self or self-acceptance, is the maternal characteristic that has been found to be a consistent factor in maternal confidence (Mercer & Ferketich, 1990, 1994, 1995; Rutledge & Pridham, 1987; Woman et al., 1993)) as well as one of the strongest predictors of postpartum depression (Beck, 2001; Hall et al., 1996; Woman et al., 1993).

Statement of the Problem

Wood, et al., 1997). The lack of diagnosis and subsequent treatment for postpartum depression not only leaves the new mother psychologically crippled, but may also impede her success as a mother (Atkinson & Rickel, 1984; Beck, 1995; Campbell, Cohn, & Meyers, 1995; Cutrona & Troutman, 1986; Field, Sandberg, Vega-Lahr, Goldstein, & Guy, 1985; Field et al., 1988; Fleming, Ruble, Flett, & Shaul, 1988; Jennings et al., 1999; Pridham et al., 2001; Righetti-Veltema et al., 2002; Wood, et al., 1997).

Although the depressed woman is believed to be less competent as a mother, and her self-esteem, or the self-acceptance of herself, is a common factor in both her depression and her maternal confidence, little is known of the impact postpartum depression may have on her confidence as a mother (Beck, 2001; Hall et al., 1996; Mercer & Ferketch, 1990, 1994, 1995; Rutledge & Pridham, 1987; Wolman, Chalmer, Hofmeyer, Nikodem, 1993).

**Significance of Problem**

Previous studies have examined the role depression has on maternal competency and confidence, comparing high-risk and low-risk mothers, as well as experienced and inexperienced mothers. The comparison of these vastly different populations introduces inherent factors that may influence maternal role attainment other than depression. By comparing a more homogeneous group, first-time mothers, the impact postpartum depression may have on perceived confidence levels, hence, maternal role attainment, might be better understood.

Ramona Mercer described nurses as the health care providers having the most “sustained and intense interaction with women in the maternity cycle” and they are responsible for “promoting the health” of families and children (Meighan, Bee, Legge, & Oetting, 1998, p. 411) Although Mercer spoke primarily of the maternal/child nurse, this description applies to nurses who function in other capacities. The advanced practice nurse (APN) specializing in obstetrics, maternal/child, pediatrics, and family practice are
often the primary care providers directing all health care needs for these populations. The frequent contacts the APN and professional nurse have with the new mother and their families place them in the prime position to detect problems and intervene.

The findings of this study will provide additional knowledge of the effects PPD may exert on the first-time mother’s ability to feel confident in her new role. With this knowledge and the ability to identify those mothers who may be depressed, the APN would be able to implement interventions that support a more positive maternal-child relationship.

**Statement of Purpose**

The purpose of this study was to compare the perceived confidence levels of non-depressed and depressed primiparous women at 4 months after delivery. These findings may be used to describe the impact postpartum depression may have on maternal confidence, hence, maternal role attainment.

**Research Questions**

This study answered the following questions:

1. What are the demographic characteristics, social support systems, and infant temperament perceptions of depressed and non-depressed primiparous women 4 months after delivery?
2. What is the difference, if any, in confidence levels of depressed and non depressed primiparous women 4 months after delivery?
3. Is there a relationship between postpartum depression and confidence levels of primiparous women at 4 months postpartum?

**Hypotheses**

The hypotheses for this study were:

1. Depressed primiparous women will have lower confidence levels than non-depressed primiparous women 4 months after delivery.
2. There is a relationship between postpartum depression and confidence levels of primiparous women at 4 months postpartum.

**Definition of Terms**

The theoretical and operational terms that were used in this study are as follows:

Maternal Confidence: perception mothers have of their ability to care for and understand the needs of their infants (Zahr, 1991). In this study it was measured by the Maternal Confidence Questionnaire completed at 4 months postpartum. The possible range of scores is 14-70. A mean score calculated, with a high score indicating high perceived confidence. Maternal confidence was also measured in the First-time Mother Questionnaire as a question that was scored on a likert scale to determine the mother’s general perception of her confidence as a mother.

Major Depressive Disorder: “characterized by one or more Major Depressive Episodes (i.e., at least 2 weeks of depressed mood or loss of interest accompanied by at least four additional symptoms of depression)” (American Psychiatric Association [APA], 2000, p. 349).
Postpartum Depression: A major affective disorder, postpartum onset, within 4 weeks of delivery as categorized by the DSM-IV-TR. Common symptoms are fluctuations in mood, mood liability, and a preoccupation with infant well-being. (American Psychiatric Association [APA], 2000). Operationally, it was measured in this study with the Edinburgh Postnatal Depression Scale completed at 4 months postpartum. The possible range of scores is 0-30. Those who scored 12 or above were considered depressed. 

Primipara: “A woman who has completed one pregnancy with a fetus or fetuses who have reached the stage of fetal viability” (Bobak & Jensen, 1987, p. 206). Operationally this was determined by the infants’ medical records. 

Social Support: “The amount of help actually received, satisfaction with that help, and the person’s network providing that help. Help received may be in the form of instrumental or physical aid, information, emotional support, or the appraisal of one’s role performance” (Hanson, 2001, p. 424). Operationally it was measured in this study with two questions in the First-time Mother Questionnaire that asked the mother how many people she feels supports her, and how happy she is with this support, scored on a likert scale from “always” to “never”.

Infant Temperament: Temperament is defined as “a person’s nature as it controls the way he behaves and feels and thinks” (Oxford American Dictionary, p. 947). Operationally it was measured in this study with a question in the First-time Mother Questionnaire that asks the mother to rate her infant’s temperament on a likert scale from “always” to “never”.

Conceptual Framework

Ramona T. Mercer’s (1981) theory of maternal role attainment was the framework that guided this study. In her theory, Mercer identified characteristics of the
mother and infant and factors that influence maternal role attainment in the first year (Mercer, 1981).

Mercer defined maternal role attainment as a “process in which the mother achieves competence in the role and integrates the mothering behaviors into her established role set, so that she is comfortable with her identity as a mother” (Mercer, 1985, p.198). The endpoint of this process is maternal identity, where the mother experiences a sense of harmony, confidence, and competence. The mother’s partner in the process of maternal role attainment is her infant. The infant, as an active partner, both affects role enactment and is affected by it. The characteristics and behaviors of each partner interact in the role-taking process, and each partner reflects the progress of the process (Mercer, 1981).

Influencing the process of maternal attainment is role strain. This is defined as the mother’s felt conflict and difficulty in fulfilling her maternal role (Mercer, 1985). For the purpose of this study, postpartum depression was considered a role strain.

Role strain (postpartum depression) and maternal confidence are the aspects of the maternal role attainment theory that were used in this study. The attainment of the maternal role was evaluated by the empirical measurement of confidence; the presence of the role strain of postpartum depression was determined with a self-report depression inventory. By examining the extent to which postpartum depression impacts maternal confidence and the relationship between postpartum depression and maternal confidence, barriers to maternal role attainment might be better understood.

Assumptions

Assumptions of this study have been identified as:
1. An adequate number of subjects were willing to participate.
2. Subjects answered items on the questionnaires truthfully.
3. The sample contained a similar percentage of postpartum depressed women as has been found in the general population.
4. The subjects had no previous experience with four month-old infants.
5. The subject’s infant lived with her.

Limitations

Generalizibility of the findings of this study is limited to the early process of maternal role attainment and to first-time adult mothers of healthy, singleton infants. Although there are other factors that influence maternal confidence, this study is limited to the impact postpartum depression may have on maternal confidence. The use of a self-report inventory for depression may yield a higher rate of false-positive, indicating that the individual is depressed when in fact they are not, than would the use of standardized diagnostic criteria.

Summary

The devastating effect postpartum depression has on the mother and her relationship with her child has been well documented (Atkinson & Rickel, 1984; Beck, 1992, 1993, 1995, 2001; Campbell & Cohen, 1991; Campbell et al., 1995; Cutrona & Troutman, 1986; Field et al., 1985, 1988; Fleming et al., 1988; Gennaro, 1988; Gotlib et al., 1989, 1991; Hall et al., 1991, 1996; Jennings, et al., 1999; Mandl et al., 1999; O’Hara et al., 1984; Pridham et al., 2001; Righetti-Veltema, et al., 2002; Ugarriza, 2002; Wood et al., 1997). However, perceived confidence level, a large component in maternal role attainment (Mercer, 1981), of the depressed mother has received relatively little attention.

This study compared the confidence level of depressed and non-depressed first-time mothers at 4 months postpartum and investigated the relationship between PPD and
confidence. Studies have indicated that the mother feels most comfortable in her role 4 months after delivery (Mercer, 1985; Mercer & Ferketich, 1995). By determining the confidence level of the depressed primiparous woman at this time, the effect postpartum depression may have on maternal role attainment will be better understood.
This chapter reviews the literature that was used to support the purpose of this study. It is divided into two sections, theory and research. Topics discussed under each of these headings include the maternal role attainment theory, postpartum depression, the incidence, manifestations, risk factors of postpartum depression, and the impact postpartum depression has on the maternal-infant relationship. Other topics include maternal confidence and the relationship between maternal confidence and postpartum depression.

Theory

Maternal Role Attainment

The foundation for Ramona Mercer’s theory, Maternal Role Attainment was the theory of Maternal Role Identity developed by Reva Rubin (1977), Mercer’s mentor. Although stimulated by Rubin’s work on maternal role identity, Mercer saw the need to go beyond that of her predecessor. While Rubin examined maternal role attainment from the point of acceptance of the pregnancy to the first month after delivery, Mercer expanded the period to 12 months postpartum (Meighan et al., 1998). She relied heavily on role theories, knowledge of the infant’s innate traits, development, and review of the literature as the framework for studying the variables that impact maternal role attainment (Mercer, 1981).
An assumption of Mercer’s study was based on the role theories of Mead’s role enactment and Turner’s theory of “core self”. The assumption was:

Although the mother’s behavioral responses reflect her perceptions of her experiences in the role, her infant’s and others’ responses to her enactment of the role, and the situational context (Mead, 1934), a “core self” that is relatively stable in shaping and constraining the way she will define situations is acquired through socialization (Mercer, 1981, p. 73-74; Turner, 1978).

Rubin (1977) described maternal role attainment as occurring both progressively and simultaneously with each process affected by the other. Through mimicry, role-play, fantasy, introjection-projection-rejection, and grief work over the course of her pregnancy to six months after delivery, maternal identity was obtained (Mercer, 1981). At the final stage of maternal identity, when the maternal role is internalized, the mother is able to do and think with a feeling of competency (Mercer, 1986).

Mercer also borrowed from Thornton and Nardi’s (1975) theory of role acquisition. According to Thornton and Nardi, role acquisition is a process of four stages; a) anticipatory, b) formal, c) informal, and d) personal. The anticipatory stage is the period when the individual begins social and psychological adjustments to the role and learning the expectations of it. The formal stage is the period when role behavior is largely guided by the advice and expectations of others. The informal stage is the period when individuals develop their own way of dealing with the role that is not guided by others. When the final stage, the personal stage, is reached, individuals have their own style which is largely accepted by others (Mercer, 1981).

Rubin proposed the anticipatory stage occurs during pregnancy when the woman begins to adjust to the role through fantasy and role-play (Mercer, 1981). Mercer equated the informal stage to the time period after birth when the mother, unsure of herself, follows the advice of others. She asserted that the formal stage begins when the mother assumes care-taking tasks, with progression from adhering to rules and direction of others to evaluating her own role behaviors. The personal stage is congruent with maternal
identity, the end point of maternal attainment. At this stage, the mother is confident, competent, and experiences a sense of harmony in her role (Mercer, 1981, 1985; Mercer and Ferketich, 1995).

Knowledge of the infant’s innate traits and development led Mercer to identify the infant as an active partner in maternal role attainment. The infant is seen as affecting role behavior as well as being affected by it. Therefore, the characteristics and behaviors of both mother and child interact in the role attainment process with each partner’s behavior reflecting the progression of the process (Mercer, 1981).

Through an extensive review of the literature, Mercer studied and identified interacting maternal variables that affect maternal role attainment. They are: maternal age at first birth, perception of the birth experience, early maternal-infant separation, support systems, self-concept, personality traits, maternal illness, and child-rearing attitudes. Confounding variables, those that may influence both the maternal variables, as well as maternal role attainment, were also identified. These confounding variables are socioeconomic levels and culture. Infant variables that were considered to impact maternal role attainment were temperament and health status (Mercer, 1981, 1986).

Role strain, the conflicts and difficulties felt by the mother, was identified as a factor that impacts the attainment of the maternal role (Mercer, 1985). Examples of role strain are stress, anxiety, and depression (Mercer & Ferketich, 1990).

The maternal and infant characteristics that influence both maternal role attainment and postpartum depression that were examined in this study are the amount and quality of support the mother feels she receives, education level, socioeconomic status, and mother’s perception of her infant’s temperament. Although maternal age has not been found to be a significant factor for PPD among adult women, (Beck, 2001; Campbell & Cohn, 1991; Gennaro, 1988; Gotlib et al., 1989, 1991; Hall et al., 1991, 1996; O’Hara et al., 1984, 1990, 1991; Seguin, Potvin, St.Denis, & Loiselle, 1999), it was addressed as well.

Mercer (1981) related social support to the adaptation to mothering based on several studies that found the mother’s perception of the amount of positive support she
favorably influenced her adaptive maternal behavior. Mothers with greater support systems were found in many studies to interact with their infants in a more positive way.

There are four types of support (a) emotional support - feeling loved and understood; (b) informational support - provision of information that is helpful; (c) physical support - a direct help; and, (d) Appraisal support - information that tells the mother how she is doing in her role. According to Mercer (1986), the type of support that is needed during the first year of motherhood is not known. However, it is known that it is more helpful if those offering the mother support are acquainted with each other and see each other on a regular basis to minimize conflict. Therefore, the quality of the support is more important than the quantity. She also asserts that studies indicate that emotional support from husbands seems to be the most influential in the woman’s transition into the mothering role (Mercer, 1986).

Infant temperament has been a consistent factor in the identification of factors that impact maternal role attainment. Mothers who have easily adapted to motherhood rate their child as having an easy temperament. Infants with difficult temperaments often display hard to read cues, resulting in frustration and feelings of failure for the mother. On the other hand, mothers who perceived their infants as happy, feel more content. (Mercer, 1986).

The review of literature supports’ the role infant temperament and social support have in both maternal role attainment and postpartum depression (Beck, 2001; Bullock & Pridham, 1988; Cutrona & Troutman, 1986; Gotlib et al., 1991; Hall et al., 1991; Hall et al., 1996; Mercer & Ferketich, 1995; O’Hara et al., 1990; Righett-Veltema, et al., 2002; Seguin et al., 1999; Wolman et al., 1993; Wood et al., 1997; Zahr, 1991). The mother’s perception of her support system and her infant’s temperament will be evaluated in this study.

Early maternal-infant separation and infant health status were not examined in this study, as the participants of this study were mothers of healthy infants. Study findings indicate that support received during labor greatly influenced the mother’s
perception of her performance (Mercer, Hackley, & Bostrom, 1983). Although the mother’s perception of her birth experience was not be assessed, support was evaluated.

Although the characteristics of personality traits, maternal illness and child-rearing attitudes were not empirically evaluated, they were considered elements of postpartum depression. Mercer (1986) theorized that aspects of the mother’s personality traits may make the transition to the maternal role more difficult by causing a “lack of fit” (p. 17) between her and her infant’s personalities. The review of literature supports the presence of certain personality traits found in the depressed mother.

Mercer (1986) primarily equated maternal illness to physiological complications of pregnancy. She determined that illness associated with pregnancy may decrease the woman’s self-esteem, or decrease her energy that would be needed for mothering. Maternal illness, may also lead to early maternal-infant separation, a variable in the attainment of the maternal role. Her review of literature supported maternal complications of pregnancy often resulted in abusive behaviors. This led her to conclude that attitudes, as reflected by mothering behaviors, are reactions to health complications. For the purpose of this study, postpartum depression was considered a maternal illness.

Child-rearing attitudes such as parent-child interactions and response to irritating child behaviors are felt to affect both the adaptation to the maternal role as well as the cognitive development of the child (Mercer, 1986). Mercer’s (1981) assertion that the mother’s child-rearing beliefs are reflected in her interactions with her child was based on studies that examined the behaviors of abusive mothers and mentally ill mothers. Although child-rearing attitudes were not assessed in this study, the review of literature supports the negative impact postpartum depression has on maternal-child interactions and was indirectly assessed by the presence of postpartum depression.

The additional role strains that impact maternal role attainment, stress and anxiety, were not studied. However, literature supports the presence of anxiety and the influence of stress in postpartum depression, as such, anxiety and stress were indirectly assessed by the determination of the presence of postpartum depression.
Postpartum depression

Postpartum depression has been defined as a major affective disorder that occurs during the postpartum period that is characterized by feeling of fear, guilt about being a bad mother, fear that harm will come to the infant, anxiety, and concentration impairment (Beck, 1995; Kennedy & Suttenfield, 2001). It has also been identified by Mercer (1985) as a factor that causes conflict for the mother as she adapts to her role.

The DSM-IV sets the time of onset, as criteria for diagnosis, as within the first 4 weeks (Jones & Veins, 2001, Kennedy & Suttendield, 2001). Most women who develop postpartum depression will do so within the first 6 weeks with a reported duration of 3 to 14 months (beeghly, et al., 2002; Jones & Venis, 2001).

Incidence. Jones and Venus (2001) wrote that women are twice as likely as men to develop depression over the course of a lifetime, with the postpartum period being a vulnerable time for depression. Wolman, Cahlmer, Hofmeyer, and Nikodem (1993) placed the incidence of postpartum depression among adult women at 6.8% to 16.5%, depending upon the instrument used and upon the length of time for the onset of symptoms. Using the strict criteria for diagnosis of the DSM-IV, postpartum depression rates are between 8% and 12% within the first 9 weeks of delivery in adult women (Jones & Venus, 2001). However, a wider variance in the prevalence of postpartum depression is seen in a study comparing screening and routine clinical evaluation. These researchers, through a review of literature, placed the rate between 3.5-33%. They attribute the variance to definition of PPD used, assessment tool used, and the time since delivery (Evins et al., 2000).

Manifestations. Symptoms vary in degree from mild dysphoria to melancholia to psychotic depression (Jones & Venis, 2001). While some women progress from maternity “blues” to PPD, others will gradually develop postpartum depression after a period of well being. Postpartum depression is characterized by tearfulness, sadness, emotional lability, guilt, anorexia, sleep disorders and feelings of inadequacy in coping with the infant. Other symptoms found to be associated with PPD are a sense of detachment from the infant, poor concentration, failing memory, fatigue, and irritability.
Mothers may consider themselves as “bad”, unloving, or inadequate. Additional symptoms of PPD include overconcern for the baby, excessive anxiety over the child’s health, agitation or sluggish movements, exaggerated highs/lows, lack of interest in sex/low libido, diminished interest in all, or almost all, activities, fear of losing control/“going crazy”, lack of interest in the child, fear of harming the baby, anxiety, obsessionality, and recurrent thoughts of death or suicide (Beck, 1992; Jones & Venis, 2001; Kennedy & Suttenfield, 2001; Moline, Kahn, Ross, Altshuler, & Cohen, 2001; Ugarriza, 2002; Wood et al., 1997).

Psychosocial characteristics. Many of the psychosocial risk factors that have been identified for postpartum depression are identical to those Mercer (1981) theorized would impact the attainment of the maternal role. Depression, perceived stress, anxiety, and obstetrical risk were found to be risk factors for postpartum depression in the antepartum period. A history of depression (personal or familial), low self-esteem, childcare stress, life stress, lack of social support, lower levels of education and income were factors found in the postpartum period (Beck, 2001; Campbell & Cohn, 1991; Gennaro, 1988; Gotlib et al., 1989, 1991; Hall et al., 1991, 1996; O’Hara et al., 1984, 1990, 1991; Seguin et al., 1999).

Effects on the maternal-infant interaction. Of importance to this study is the effect postpartum depression has on the maternal-infant relationship. This relationship is essential in the attainment of the maternal role. Mercer (1981) suggested that the behaviors and characteristics of both the mother and infant affect the process of role attainment by reflecting its progress. The characteristics of PPD, such as impaired concentration, anxiety, and depressive mood may have a negative impact on the maternal-infant relationship (Beck, 1995).

Postpartum depressed mothers exhibit less affection toward their children, are less attentive to infant cues, are withdrawn with a flat affect or are more hostile, and have thoughts of harming their infants. The infants of postpartum depressed mothers are fussier, less content and make fewer positive facial and vocal expressions than infants of nondepressed mothers. They are also perceived by their mothers as being difficult or
demanding (Campbell et al., 1995; Cutrona & Troutman, 1986; Field et al., 1985, 1988; Fleming et al., 1988; Gotlib et al., 1991; Jenneings, et al., 1999; Righetti-Veltema, et al., 2002; Wood et al., 1997).

These maternal behaviors have a tremendous impact on the maternal-infant relationship. The rapidly growing infant experiences the world through its primary caregivers; most often the primary caregiver is the mother. Mothers that are emotionally unavailable to their infants often fail to recognize the infants’ cues. Failure to provide positive responses to infant behaviors, such as smiles, robs the infant of the much needed feedback (Beck, 1995).

Two models describe the effect of postpartum depression on the developing infant. The Psychobiological Attunement Model suggests that the infant imitates the depressed mother’s behaviors, thereby, limiting the infant’s social skills. The other model, the Mutual Regulation Model, proposes the depressed mother’s infant receives poor stimulation and arousal modulation (Beck, 1995).

Maternal Confidence

Mercer (1981) described the mother’s ability to perform in her role in a confident and competent manner as the endpoint of maternal role attainment. In her theoretical framework, Mercer identified factors that impact the mother’s ability to adapt to her new role. Age, mother’s perception of the birth, early maternal-infant separation, support systems, self-concept, personality traits, maternal illness, child-rearing attitudes, culture and socioeconomic level were considered factors that impact maternal role attainment. The infant, as the mother’s partner, also influences the process. Infant traits were identified as the infant’s temperament and infant illness.

Over the years, the maternal role process has been the focus of many studies. Findings both support (Bullock & Pridahm, 1988; Mercer, 1985; Mercer & Ferketich, 1990, 1994a, 1994b, 1995; Mercer et al., 1983; Ruchala & James, 1997; Walker et al., 1986a; Zahr, 1991) and conflict with Mercer’s theory (Rutledge & Pridham, 1987; Walker et al., 1986b; Zahr, 1991)
Maternal Confidence and Postpartum Depression

Few studies have been conducted on the effect of postpartum depression on maternal confidence. Many of these studies measured depression, along with many other variables, when comparing different groups of mothers, such as the experienced and inexperienced mother and the high-risk and low-risk mother (Mercer & Ferketich, 1990, 1994a, 1994b, 1995). Other studies found have focused on the effect postpartum depression has on confidence in a specific culture or on a specific maternal function (Flemming et al., 1988; Montgomery, 2000; Pridham et al., 2001; Righetti-Veltema, et al., 2002). These study findings suggest that postpartum depression has, to some extent, predictive value for maternal confidence and is negatively correlated to the mother’s confidence.

Research

Maternal Role Attainment

Mercer (1985), studied the process of maternal role attainment over the first year among three age groups, 15–19, 20-29, and 30-42. Maternal role attainment was operationalized by the use of four measures: maternal feelings for baby, gratification in role, self-reported ways of handling irritating child behavior, and observations of maternal behavior. Data were collected at 1, 4, 8, and 12 months postpartum. Feelings about the baby varied over time. The patterns among the groups did not differ at 4 months, all subjects felt more positive about their infants than at any other time. However, the group means did differ over time ($F[3,702] = 6.36, p = .0003$). Gratification in maternal role differed over time ($F[3,708] = 22.09, p < .001$) as well as by age group patterns ($F[6,708] = 3.92, p = .0007$). All age groups had an increase in gratification at 4 months and a minimal decrease at 8 months. At 12 months, the teenagers experienced a decrease, the 20-29 year olds had an increase and the 30-40, whose means were consistently lower than those of the other groups, had little change.
Ways of handling irritating infant behaviors differed over time ($F[2,476] = 9.63, p < .001$), with group variations ($F[4,476] = 2.09, p = .08$). The teenage group means increased at 12 months, with lower scores indicating more positive parental response, while the 30 and over group decreased. Maternal responses were significantly less positive in all groups at 1 month than at 8 and 12 months ($p = .01$). There were differences over time with maternal behaviors ($F[3,708] = 74.31, p < .001$) while the patterns of responses were identical ($F[6,708] = 1.09, p < .37$). The group means were significantly higher at 4, 8, and 12 months than at 1 month ($p = .01$). The 4-month means were higher than the 12-month means ($p = .01$), and the 8-month means were higher than the 12-month means ($p = .01$). The teenager group’s means were consistently lower than those of the older women.

From these findings, Mercer (1985) concluded that the process of maternal role attainment does not differ in regards to age. She also asserted that although the teenagers scored lower in care taking behaviors, their perceptions of what constitutes an ideal mother differed in mother-infant interaction and nuturant care when measured by the instruments. This, according to Mercer, would explain why this group of young mothers felt less conflict and difficulty in fulfilling the role. Mercer also suspected that the failure of role strain to decrease with increased experience was due the challenge of the infant’s changing behaviors at 8 and 12 months of age.

To test her theory that the mother’s perception of her performance during delivery influences her ability in the mothering role, Mercer et al., (1983), studied 294 first-time mothers. Childbirth accounted for 39% of the variance in the performance in the mothering role. Fifty-six of these mothers delivered by Cesarean section. The type of delivery explained only 1% of the variance in the mother’s perception of her delivery performance. Those women who had a mate or other support person present had a more positive perception of her performance. Mate emotional support, informational support, and instrumental support accounted for the largest proportion of variance at 22.7%, with mate emotional support explaining slightly more than 20%.
In their study, Mercer and Ferketich (1995) looked at 136 experienced (multiparous) mothers and 166 inexperienced (primiparous) mothers to determine differences in self-reported maternal role competence and variables that predict competence at four time periods. They studied the period immediately following birth and before hospital discharge, and at 1, 4, and 8 months after delivery. Findings indicated that inexperienced mothers’ competence was higher at 4 and 8 months postpartum than at earlier test times. No change was noted in the competence of the experienced mothers. The mean scores and $SD$, with a range of 17 to 102, for the experienced mothers were 77.38 (8.23); 77.31 (7.63); 77.32 (9.56); and 77.25 (10.27). While the mean scores for the inexperienced mothers were 76.6 (10.31); 75.99 (10.4); 79.3 (9.86); and 80.24 (8.65). Thus, although the researchers had hypothesized that the experienced mother would report significantly higher perceived competence, it was not supported by the data. The study also revealed self-esteem as a consistent, major predictor for both groups. For the experienced mother, it explained from 8% at early postpartum to 34% at 8 months postpartum. Self-esteem, also a consistent factor in prediction of competence in the inexperienced group, accounted for 9.9% at early postpartum, 10.8% at 4 months, and 8.8% at 8 months postpartum. Self-esteem was not found to be a predictor at 1 month postpartum, however, depression accounted for 8.1% of the explained variance for that time.

Mercer and Ferdetich (1994b) also studied 128 antepartum high-risk women and 182 antepartum low risk women to determine predictors of perceived maternal competence. Perceived competence was measured by the Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978) at postpartum hospitalization, 1, 4, and 8 months postpartum. No significant difference was found in maternal confidence between the two groups. The mean scores for the high-risk women were: 78.07, $SD = 9.45$; 77.28, $SD = 9.60$; 79.08, $SD = 11.09$; and 79.52, $SD = 9.39$. Mean scores for the low risk group were: 76.28, $SD = 9.41$; 76.12, $SD = 9.13$; 78.11, $SD = 8.82$; and 78.73, $SD = 9.46$. These findings indicate that both groups had a significant increase in perceived maternal competence after a slight decrease at 1 month postpartum. Self-esteem was found to be
the strongest predictor for the high-risk group accounting for 12.1%, 8.2%, 6.1%, and 34.3% of explained variance during each test time. Sense of mastery or control was found to be the stronger predictor of perceived competence for the low risk group. It explained 20.1% of the variance at 1 month, 29.8% at 4 months, and 30.2% at 8 months.

**Incidence of Postpartum Depression**

Gotlib et al., (1989) asserted that the use of standardized diagnostic criteria will yield a much lower incidence rate of PPD than the use of a self-report depression inventory. In their study, the self-report depression inventory, Beck Depression Inventory (BDI) and the Schedule for Affective Disorder and Schizophrenia (SADS) standardized diagnostic criteria, were used. They were administered to 295 women at an average of 4.2 weeks post-delivery. The BDI yielded a postpartum depression rate of 24.8% compared to the SADS rate of 6.8%. They acknowledge, however, that considering the rates of attrition and false negatives yielded by the BDI, an estimate of 13% was closer to the true prevalence of PPD.

In a later study, Gotlib et al. (1991) administered the BDI to 730 women to screen for depression symptomology. Those who scored as mildly depressed were then administered the SADS to establish the diagnosis of depression. Of the 730 women, 10.3% were diagnosed as depressed during the antepartum period. During the postpartum period, an additional 4.9% were found to be depressed.

In their study to determine the prevalence of depression among primiparous parents, Atkinson and Rickel (1984) administered the BDI to 78 primiparous, middle socioeconomic status, married couples during the antepartum and postpartum period. During the antepartum period, 29% of the women scored depressed. The women’s BDI scores decreased overall from antepartum to postpartum with 26% of the postpartum women scoring as depressed; however, a t tests computed for the antepartum and postpartum scores did not reach significance.

A study examining not only the prevalence of postpartum depression among first-time mothers but its stability and change over the course of the first year found 8% of those assessed with the Center for Epidemiological Studies-Depression Scale (CES-D), a
self-report scale designed to measure depressive symptomatology in the general public, to have a score of $\geq 16$, the clinical cutoff indicating the presence of depression, at 2 months postpartum. To determine the stability and change of postpartum depression over the first year, 49 of the depressed mothers were recruited along with 57 non-depressed mothers who scored between 2-12 on the CES-D for contrast purposes. The mothers were reassessed at 3, 6, and 12 months with the CES-D. Mothers who were assigned to the depressed group had significantly higher average CES-D scores at the subsequent assessment times than mothers who were considered non-depressed at intake, 2 months postpartum. At 3 months, $t=7.53$, 6 months, $t=5.44$, and 12 months, $t=3.74$, all with $p=0.001$. To evaluate whether the mothers retained their intake rank order in CES-D scores beyond the intake assessment, a zero-order Pearson product-moment correlation coefficient was computed. Correlation indicated that individual mothers retained their relative rank order in level of depressive symptomatology over the first postpartum year (average $r \ [106] = 0.52$; intake-3 months $r \ [106] = 0.61$; intake-6 months $r \ [106] = 0.46$, intake-12 months $r \ [106] = 0.38$, 3-6 months $r \ [106] = 0.65$, 3-12 months $r \ [106] = 0.48$, 6-12 months $r \ [106] = 0.46$, all $p$ values $< 0.0001$).

Many studies in recent years have used the Edinburgh Postnatal Depression Scale (EPDS), a self-report scale, developed by Cox et al. (1987), specific to the postpartum woman. Reigard and Evans (1995) used the EPDS to screen 181 women for depression at their postpartum visit. Thirty-six (19.9%) of the participants scored 12 or above, the cutoff point identified by Cox et al. (1987) as an indicator of the presence of depression. In another study, the EPDS was given to 909 women 6 weeks after delivery. One hundred four (11.4%) scored at least 12, with a 95% confidence interval of 9.4%, 13.5% (Georgiopoulos et al. 1999). Beck and Gable (2001) administered the EPDS as well as the DSM-IV diagnostic interview, a standard criterion, to 150 women 2 to 12 weeks after giving birth. Eighteen (12%) were diagnosed with major depression with the use of the DSM-IV criterion. The EPDS identified 14 of these women as depressed.

In a study to justify the need for postpartum depression screening in primary care practices, Evins et al. (2000) compared women who were given the EPDS ($n = 79$) to
those in a clinical evaluation group who attended the 6-week postpartum visit ($n = 96$). The EPDS identified 35.4% as depressed. Of those who were evaluated during routine office visit, only 6.3% were identified by their care provider as exhibiting depressive symptoms $p(< .0001)$.

**Manifestation of Postpartum Depression**

In her qualitative study, Beck (1992) interviewed seven women who attended a local postpartum support group. From her interviews, eleven themes emerged as the essential structure of the lived experience of PPD. These themes mirror the clinical manifestation found through quantitative studies. They are Theme 1: Mothers felt enveloped in unbearable loneliness due to discomfort with others and a sense that no one understood what they were experiencing. Theme 2: Contemplation of death provided a gleam of hope to the end of their living nightmare. Theme 3: Obsessive thoughts of being a bad mother and about what was happening to them consumed their waking hours. Theme 4: Mothers grieved the loss of themselves fearing that any return to normalcy was impossible. Theme 5: Loss of all previous interests and goals. Theme 6: Feelings of guilt and fears over thoughts of harming their infants. Theme 7: Inability to concentrate, feeling of being shrouded in fog. Theme 8: Mothers envisioned themselves as robots, devoid of all positive feelings and just going through the motions. Theme 9: Uncontrolled anxiety attacks leading to feeling of being on the edge of insanity. Theme 10: Loss of control of mother’s emotions was difficult to accept. Theme 11: Because of their insecurities, the mothers felt the need to be mothered themselves (Beck, 1992).

Questioning whether women participating in support groups, as in Beck’s study, would have a different experience from those not in support groups, Wood et al. (1997) conducted a qualitative study with 11 women diagnosed with PPD not participating in support groups. They equated the experience of PPD with a downward spiral. The theme of “demanding infants” emerged, in which the mothers perceived their babies as demanding and difficult to satisfy. Counterparts to this theme were feelings of inadequacies as a mother and guilt about their ineptness. Obsessive thoughts of losing the baby or harm coming to the baby were recurrent themes. Feelings of being trapped and
tied down, anger, panic, isolation, as well as suicidal ideas and attempts, and perceptions of lack of support all emerged as themes in this study (Wood et al., 1997).

In a more recent qualitative study, Ugarriza (2002) interviewed 30 non-hospitalized women, self-identified as postpartum depressed to determine their beliefs about postpartum depression. Like Beck (1992, 1993), Ugarriza found the mothers to be tearful, overwhelmed, lonely, and fearful of losing control. They also expressed feelings of guilt because of thoughts of hurting their infants and feelings that they were bad mothers. Contrary to Beck’s finding, none of the mothers were suicidal.

Wanting to determine whether thoughts of harming their infants were more prevalent in depressed mothers as compared to non-depressed mothers, Jennings et al. (1999) conducted a study of 100 clinically depressed mothers and 46 non-depressed mothers. Forty-one percent of the depressed mothers reported some thoughts of harming their infants as compared to 6.5% of the non-depressed mothers (Pearson’s Chi-Square = 17.8, \( p < 0.001 \)). While 20% of the depressed women reported only passing thoughts of harming their child, 21% reported repeated thoughts. None of the non-depressed mothers experienced more than passing thoughts of doing harm to their infants. In addition to thoughts of harming their infants, the depressed mothers were also assessed for fear of being alone with their infants, ability to care for their infants, and their feelings toward their infants and their maternal role. Twenty-four percent of the depressed women expressed a fear of being alone with their infants and 7% of the depressed women felt they were completely unable to care for their children while 4% felt some difficulties in caring for their infants. Although the researcher found no association between thoughts of harming infant, fear of being alone with the infant, or inability to care for the infant, they did find that 54.1% of the depressed mothers had problems in at least one of these areas. They also found trends for thoughts of harm to be negatively associated with satisfaction in the maternal role (\( r = -0.19, p = 0.062 \)) and pleasure in their infants (\( r = -0.19, p = 0.054 \)).

The theme of the depressed mother’s over concern for her baby was supported by an analysis of two prospective cohort studies, with a sample of 1015 women with infants
ages 3-8 weeks, to study whether women who frequented primary care facilities with problem-oriented concerns for their infants were at an elevated risk for PPD. Controlling for sociodemographic variables and parity, the findings indicate that those women who had presented their infants more than once to a primary care facility for problem-oriented concern exhibited higher levels of depressive symptoms in both cohort studies (Mandl et al., 1999).

**Psychosocial Characteristics**

Gotlib et al. (1989) compared depressed and non-depressed women during the antepartum and postpartum period in an attempt to identify demographic characteristics associated with PPD. The participants (N = 295) were primarily white (90%), 50% multiparous, 50% primiparous with heterogeneous occupations and education levels. Compared to the non-depressed pregnant women, the depressed women in the antepartum period were younger, \( F(1, 293) = 5.00; \) less educated, \( F(1, 293) = 6.30; \) and had more children living with them, \( F(1, 293) = 4.28 \) (all \( ps < .05 \)). Those who reported themselves as being housewives were disproportionately represented \( \chi^2(1, N = 295) = 7.48, p < .001. \) Occupation and parity were the only demographic variables studied that did not differ among the depressed and non-depressed woman. However, those diagnosed with depression in the postpartum period did not differ in age, years of education, number of children in household, occupation, or parity when compared to their non-depressed counterparts. Again, housewives represented a large number of those suffering with PPD, 40%.

In a longitudinal study with a convenience sample of 730, Gotlib et al., (1991) assessed the psychosocial variable of antepartum and postpartum depression. Women were assessed for depressive symptomology during pregnancy and within 1-month postpartum. Following the antepartum assessment, the women were placed in two groups, those who were not depressed (\( n = 653, 89.7\% \)) and those who were depressed (\( n = 75, 10.3\% \)). They found that neither age, marital status, nor number of children was a significant indicator for antepartum depression. They did find, however, fewer years of formal education, \( t(728) = 2.76, p < .01 \) as significant. In addition, more non-depressed
mothers than depressed mothers were employed outside the home, $\chi^2 (1, N = 730) = 8.46$, $p < .005$.

In the postpartum period, 32 (4.9%) of the women who were not depressed at the antepartum assessment were diagnosed with depression. Women who scored depressed in the postpartum period, when compared to those who remained nondepressed, had elevated scores on the Beck Depression Inventory $t (653) = 4.89$, $p < .001$ and perceived stress during pregnancy, $t (653) = 2.78$, $p < .01$, this indicates a relationship between antepartum and postpartum depression. Other significant factors were decreased levels of marital satisfaction, $t (653) = 3.59$, $p < .001$, greater use of escape-avoidance as a coping strategy, $t (648) = 2.82$, $p < .005$, and more negative perceptions of the care they received from their own mothers, $t (653) = 5.05$, and fathers, $t (653) = 3.60$, both with $ps < .001$. The researchers speculated that those women who perceived being cared for by their parents may have had increased confidence in their abilities to care for their infants which may have prevented them from experiencing depressive symptomology (Gotlib et al., 1991).

During the postpartum period, the depressed women were again found to experience greater stress, $t (653) = 9.36$, $p < .001$, lower marital satisfaction, $t (653) = 5.41$, $p < .001$. These women reported greater use of escape-avoidance coping in the postpartum period, $t (648) = 3.14$, $p < .005$ (Gotlib et al., 1991).

Gotlib et al. (1991) also found that the depressed mother perceives her infant as difficult to care for and more bothersome than did the non-depressed mother. Perceptions were measured with the Neonatal Perception Inventory (NPI) and degree of bother was measured by the Degree of Bother Inventory (DBI). For the NPI, findings were $t (653) = 2.45$, $p < .05$, and for the DBI, $t (653) = 3.32$, $p < .001$.

O'Hara et al., (1984) studied 99 women, who were at least 18 years of age and married, from the second trimester through 6 months postpartum with depression diagnostic and severity assessments. Ninety-eight percent of these women were Caucasian, and 50% were multiparous. Little difference was found between those who were diagnosed with depression in the second trimester and those diagnosed 9 weeks
postpartum (9% vs. 12%). Antepartum depression symptomology and obstetric risk factors accounted for approximately 50% of the variance in depressive symptomology, while history of depression (personal and familial) and stressful childcare events accounted for 30% of variance in diagnostic status.

In order to determine the psychological and environmental factors of PPD, O’Hara et al. (1991) compared 182 women in the second trimester of pregnancy to 179 non-pregnant women. The subjects were evaluated for depression, social and cognitive vulnerability, and life stressors. For the childbearing women, depression history vulnerability accounted for 19% of the variance in postpartum depression symptomology. Vulnerability x Life Stress interactions was also significant, accounting for 17% of the variance. The Vulnerability x Life Stress included such factors as self-control attitudes x negative life events, \( t \) (136) = -3.11; antepartum depression x child-care related stressors, \( t \) (136) = 2.97; and antepartum depression x prepartum events, \( t \) (136) = -2.33, and were all found to be significant (\( p < .05 \)).

Campbell and Cohn (1991) studied 1,033 married, middle-class, first-time mothers of healthy, full-term infants to determine the demographic correlates of PPD. All participants had at least a high school education. Depressed women and their spouses were found to have a significantly lower education than their non-depressed counterparts, mothers \( t \) (1025) = 2.83, \( p < .005 \), spouses \( t \) (1025) = 3.33, \( p < .001 \). Occupations of the depressed women did not differ from non-depressed women, however, those of their spouses were lower than the spouses of non-depressed women, \( t \) (964) = 2.90, \( p < .005 \). Although there were no differences in the number of neonatal complications reported between the two groups, the depressed women were more likely to report pregnancy and labor complications, \( t \) (1025) = 3.79, \( p < .0001 \).

Hall et al. (1991) studied low-income, single mothers to investigate psychosocial predictors of postpartum depression. Greater use of avoidance coping, higher everyday stressors, poorer family function and less support predicted higher symptomology of depression, found to occur among 59.6 % of the women. The strongest predictor was
avoidance coping ($\beta = .37$), everyday stressors ($\beta = .17$), tangible support, ($\beta = .14$) and, quality of family relationships ($\beta = .12$).

In a recent meta-analysis of 84 studies, Beck (2001) found 13 significant factors for PPD. Cohen’s (1988) definitions of effect size were used to interpret the findings. Cohen’s operational definition of effect size, when using $r$ as the indicator, is $r = .10$ is small, $r = .30$ is medium, and $r = .50$ is considered large. The use of multiple operationism of the predictors and of PPD was used in the meta-analysis. Measurements for PPD used in the studies were self-report of depressive symptomology, 81% of the studies, and formal diagnostic assessment, 19%. Longitudinal research designs were used in 80% of the studies, while 20% were cross-sectional. Ninety percent of the studies used convenience sampling, 6% used random sampling, and 4% matched pairs.

Ten of the factors for PPD had moderate effect size while three had small effect size. The strongest predictors were prenatal depression ($r = .44$ to .45), self-esteem ($r = .45$ to .47), childcare stress ($r = .45$ to .16), and prenatal anxiety ($r = .41$ to .45). The effect sizes of these four predictors closely approached the cut off for a large effect size. Additional predictors with moderate effect size were life stress ($r = .38$ to .40), social support ($r = .36$ to .41), marital relationship ($r = .39$), history of depression ($r = .38$ to .39), infant temperament ($r = .33$ to .34), and maternity “blues” ($r = .25$ to .31). The remaining three predictors had small effect size. They were marital status ($r = .21$ to .25), socioeconomic status ($r = .19$ to .22), and unplanned/unwanted pregnancies($r = .14$ to .17) (Beck, 2001).

Effects of Postpartum Depression on Maternal-Infant Interaction

Beck’s meta-analysis, in an attempt to determine the magnitude of the effect of postpartum depression on maternal-infant interactions, consisted of 19 studies. The findings were divided into three subcategories: maternal interactive behavior, infant interactive behavior, and dyadic interactive behavior (Beck, 1995). The results were calculated as unweighted, weighted by sample size, and weighted by the quality index score. Eleven studies were examined for maternal interactive behavior ($r = .32$-. 36). For the subcategory of infant interactive behavior, eleven studies were also analyzed ($r = .35$-
The five studies on dyadic interactive behavior yield results of ($r = .47 - .50$). While the effect size for maternal interactive behavior and infant interactive behavior were considered in the medium range, the effect size for dyadic interactive behavior can be considered large.

Wood et al. (1997) found the theme of the demanding infant dominated the depressed mothers’ account of their experiences. These mothers spoke of their infants as burdensome and heavy. Parenting tasks such as feeding and changing diapers were felt to be exhausting.

In a model of postpartum depression, infant difficulty was considered a stressor while social support was considered a protective resource. Fifty-five married women were assessed during pregnancy and again at 3 months postpartum. During pregnancy, the women completed measures for social support and depressed mood. During the postpartum period, the women completed measures for depression, self-efficacy, and infant temperament. The researchers hypothesized both social support and infant temperament would play a direct role in parenting self-efficacy, and would affect postpartum depression only through the mediation of self-efficacy. However, study findings indicated infant temperament played a direct role in postpartum depression. Infant difficulty alone accounted for 30% variance in postpartum depression scores, $r = .55$. The researchers asserted that this association is not biased by maternal perceptions, as only one of the three methods of assessing infant difficulty were subjective (Cutrona & Troutman, 1986). Beck’s (2001) meta-analysis of the predictors of postpartum depression supported the existence relationship between postpartum depression and infant temperament finding a moderate effect size, $r = .33$ to .34.

Field et al. (1988) conducted a study to determine whether infants would interact with non-depressed women the same as they interacted with their depressed mothers. The sample consisted of 74 mothers ($n = 40$ depressed, 34 non-depressed) and their 3-6 month-old infants. The maternal-infant dyads were videotaped in 3-minute, face-to-face interactions. Heart rate and cortisol levels were also assessed as indicators of stress. The infants were then situated face-to-face with a non-depressed stranger, of the same
ethnicity of the mother. The strangers were blind to the results of the depression score. Both the depressed mothers and their infants received lower scores on all behaviors. The depressed mothers received the lowest scores on physical activity, vocalization, facial expressions, silence during infant gaze aversion, imitative behaviors, and contingent responsivity, and summary ratings. Their infants received the lowest scores on head orientation and gaze behavior when interacting with their mothers. The infants of depressed mothers also showed higher heart rates and higher cortisol levels; their mothers did not differ from the non-depressed mother in heart rate or cortisol levels. The infants scored lower on all behaviors with the stranger than did infants of non-depressed mothers except head orientation and gaze behavior. The stranger, however, also received lower scores when interacting with the infant of depressed mother than with their interaction with the infants of the non-depressed mothers. These findings would suggest that the infants of depressed mothers generalize their interactions from their mother to strangers. The researcher suggested the reason infants of depressed mothers displayed more head and gaze aversion with their mothers than with the strangers is that the strangers were a novelty. In addition, they asserted, because gaze aversion is more common with their mothers, it would indicate that it is more stimulus-specific.

The Righetti-Veltema et al. (2002) study that examined the mother-infant relationship of 3 month-olds and their depressed mothers support previous study findings that “depressed” dyads presented less vocal and visual communications as well as less corporal interactions and less smiling. Using the Edinburgh Postnatal Depression Scale, Righetti-Veltema et al. screened 570 women for depression at 3 months postpartum. This time was chosen for two reasons. First, the researchers felt at 3 months postpartum, the initial problems of eating and sleeping would have been resolved with the family reaching equilibrium, and secondly, they felt that at 3 months the relationship between mother and child would be richer and easier to observe, as 3-month-old infants are capable of interacting. Fifty-eight women (10.2%) met the criteria for PPD, scoring 12 or more. Two other questionnaires, a scale developed by Bur et al. (1989) that evaluates the mother–child relationship and Guaraldi’s test (1985) which shows the mother’s
capacities to take care of her infant and to appreciate its needs and demands, especially with regard to establishing a relationship were used to evaluate maternal interactions and relationship with her infant.

The Bur et al. scale is divided into four fields of interaction (corporeal, vocal, visual, and smiling), each one composed of four to eight behaviors that is cored by an observer. An intermediate score was established by the researchers at the 80\textsuperscript{th} percentile and a pathological score was established at the 90\textsuperscript{th} percentile.

Guaraldi’s test contains two parts. Part one is questions answered by the mother regarding her infants. The second part is questions answered by an observer about the mother’s attitude and her relationship with her infant after the interview is completed. A global score, the sum f all the observations describing a difficulty, was calculated. Two thresholds were determined by Guaraldi to be of significance, and intermediate status and a pathological status. The nurse-midwife who cared for her during the last trimester of her pregnancy conducted all assessments at the mother’s home.

Depressed mothers presented more frequently with medium and pathological (20.0\% and 21.8\%) scores on Bur’s scale as compared to non-depressed mothers (11.2\% and 10.6\%). The depressed mothers also scored in the intermediate range more frequently with Guaraldi’s test (34.5\%) as compared to non-depressed mothers (8.6\%) as well as the pathological range (10.3\%), non-depressed (0.2\%).

Depressed mothers described themselves as feeling more sad, more anxious, and more aggressive than non-depressed mothers. These descriptions were correlated with the midwives impressions. The depressed mothers compared with non-depressed mothers express less pleasure concerning their infant (10.7\% vs. 2.1\%, \( p < 0.001 \)); they were observed to be more awkward with their infants (10.9\% vs. 2.9\%, \( p < 0.01 \)); and held them in a more inadequate manner (27.3\% vs. 14.4\%, \( p < 0.05 \)). Depressed mothers also rated their infants as more demanding compared to non-depressed mothers (58.6\% vs. 39.1\%, \( p < 0.01 \)) and as crying more (25.9\% vs. 10.9\%, \( p < 0.01 \)). The midwives described the infants of the depressed mothers as being more anxious and depressed and were found to vocalize less than infants of non-depressed infants (27.3\% vs. 11.0\%, \( p < 0.01 \)).
logistic model constructed on all of the infants of depressed mothers retained two items: they snuggled less into their mother and presented less reciprocity interacting with her.

Logistic regressions were performed separately for primiparous and multiparous mothers as well as their infants. Primiparous others were found to have 15.9 more risks than non-depressed primaparous women to continue to encounter difficulties with bathing their infants and between 4 and 5 times ores risks to feel aggressive or nervous since their infant’s birth. Multiparous depressed mothers had 6.1 more risks than the non-depressed multiparous mothers to feel very tired, 4.8 more risks for feeling more excited, and had 5.6 more risks for decreased appetite. Infants of primiparous depressed mothers had 2.4 more risks to vocalize less than infants of non-depressed first-time mothers, whereas infants of multiparous depressed mothers had 16 times greater risk to show less reciprocity interacting with their mothers than those infants of non-depressed multiparous mothers.

Maternal Confidence

Walker et al. (1986a.) contended through their literature review that, as Rubin asserted, parity plays no role in maternal identity. They did, however, find that parity does influence maternal role attainment. They studied 64 primiparous and 58 multiparous women who were married, had uncomplicated pregnancies and deliveries of healthy singletons. The purpose of their study was to determine stability and change in maternal role attainment. They tested their subjects at 1-3 days after delivery, and at 4-6 weeks following delivery. To measure self-confidence, the Pharis Self-confidence Scale (Pharis, 1978) was used. The means and standard deviations at the two testing times for multiparous women were 59.83, $SD = 7.08$, and 61.26, $SD = 3.89$. The means and standard deviations for the primiparous groups were 48.52, $SD = 8.54$, and 55.83, $SD = 5.81$. A $2 \times 2$ analysis of variance in the self-confidence scale resulted in a significant effect for parity, $F(1,120) = 36.46$, $p = < .001$, with multiparous reporting greater self-confidence than primiparous. They also found a significant main effect for time of testing, $F(1,120) = 58.52$, $p = < .001$, with self-confidence being greater at the second test time. A significant interaction effect was also noted, $F(1,120) = 26.48$, $p = < .001$. The
primparous women were found to demonstrate a greater gain in self-confidence from the first to second testing periods compared to the multiparous women.

The researchers also measured the mother’s perceptions of themselves as mothers and how they perceived their infants. The experienced mothers showed a more positive attitude towards themselves, however, attitudes of both groups increased from the first to the second test. Both groups of mothers showed a decrease in their perceptions of their infants from the first testing period to the second testing period (Walker et al., 1986a.)

Later that same year, Walker et al., 1986b. reported the findings of their study of the relationships among subjective and behavioral components of maternal role attainment. They studied 64 primiparous and 60 multiparous women at 1 to 2 days postpartum and again at 4 to 6 weeks postpartum. Subjective confidence was measured with the Pharis Self-confidence Scale (Pharis, 1978) and objective, behavioral components were assessed by the maternal subscale of Price’s (1977) Maternal-Infant Adaptation Scale (MIAS) designed to rate videotaped mother-infant interactions during feeding. Most correlations between subjective and objective components of maternal role attainment were insignificant indicating the subjective component of maternal role attainment is not extensively interwoven with the behavioral component of maternal role attainment. These findings contradict Mercer and Ferketich’s (1995) assertion that the “mother’s perception of her maternal role competence reflects her confidence in her mothering behaviors” (p. 333). At the second test period, the first-time mothers showed a moderate correlation, $r = .37, p < .001$. This finding made self-confidence the most salient subjective correlate of mothering behaviors during the feeding of the infants among the primiparous mothers (Walker et al., 1986b).

A study to determine the relationship between perceptions of competence and early postpartum experience was conducted using 140 primiparous and multiparous women (Rutledge & Pridham, 1987). Again, their findings indicated that parity has a significant effect on perceptions of competence, $F (1,3) = 14.577, p = .001$. Their hypotheses that women who delivered vaginally would have a higher perception of competence and women who delivered infants considered at risk would have lower
perceptions of competence were not supported. Although their findings suggest that social status, age, and years of education is not related to perceived competence, the researchers conceded that their findings are limited as their sample was relatively homogenous and nonrandom.

Zahr (1991) used Mercer’s theory on maternal role attainment to guide her study on maternal confidence and mother-infant behaviors in premature infants. The results revealed that maternal confidence was related to income, parity, education, infant temperament, and to the severity of the infant’s intraventricular bleed. There was no relationship, however, between observed maternal behaviors and skills and confidence perceived by the mothers. Maternal education \( (r = .31, p < .01) \), family income \( (r = .35, p < .01) \), and social support \( (r = .32, p < .01) \) were found to be significantly correlated at 4 months. At 8 months, correlations between maternal confidence and maternal were education \( (r = .22, p < .05) \), family income \( (r = .23, p < .05) \), and social support \( (r = .36, p < .01) \).

The mean score of perceived maternal confidence with the use of the Maternal Confidence Questionnaire (MCQ) was 4.26 \( (SD = 1.24) \) at 4 months and 4.02 \( (SD = .43) \) at 8 months. Observed behaviors and skills of the mother-infant pairs were mother’s caretaking skills, mother’s affective behavior, and baby’s social behavior. The intercorrelations of these three observed factors with the MCQ were not significant suggesting that although the mother may be performing parenting skills with competence, she does not necessarily feel confident. (Zahr, 1991).

Her findings also supported Mercer’s theory that infant temperament influences maternal role attainment. Scores on the MCQ were negatively correlated with three of the four categories of infant temperament. They were at 4 and 8 months respectively: infant fussy/difficult, \( r = -.38, r = -.27 \); infant unadaptable, \( r = -.32, r = -.36 \); infant unpredictable, \( r = -.39, r = -.34 \). The only infant temperament category that was not significantly related to maternal confidence was infants that were perceived as dull, \( r = -.11, r = -.14 \) (Zahr, 1991).
Bullock and Pridham (1988) interviewed 49 women with healthy newborns at 30 and 90 days postpartum in a study. As inclusion criteria, these women were at least 17 years old and either married or partnered. Their purpose was to study sources of confidence and uncertainties in the new mother. They found that the infant’s mood, (45.2%) at 30 days and (38.5%) at 90 days, was the factor most frequently reported for sources of confidence and uncertainties at both test periods.

The Ruchala and James (1997) study explored the influences of social support and knowledge of infant development on maternal confidence among adolescent and adult mothers. Of the sample of 217 participants, 101 were adolescents between the ages of 13 and 19, 166 were adults ranging in age between 20 and 41. The participants completed questionnaires that measured mothers’ knowledge of children’s development and parenting, perceived social support and a self-efficacy in infant care within 24 hours of delivery. Although no significant differences were noted between adolescent and adult mothers of the variables of perceived social support or confidence, the adult mothers reported a significantly higher levels of knowledge about infant development, \( t = -2.99, p = .003 \). Both social support and knowledge of infant development were found to have a significant positive correlation with confidence among the adolescents and adult mothers. A significant positive correlation was found between parity and confidence for the adults suggesting parity is a factor in maternal confidence accounting for 10% of the variance in maternal confidence.

**Postpartum Depression and Maternal Confidence**

Mercer and Ferketich studied the role depression plays in maternal confidence in the previously mentioned studies comparing high risk and low risk mothers (1994a) and experienced and inexperienced mothers (1995). In the 1994 study they found that depression explained more variance in maternal competence of high-risk women entering at 1 month postpartum (24%) and 8 months postpartum (9.5%). In contrast, depression explained variance in perceived competence in the first month postpartum period only for the low risk mothers, accounting for 6% of the variance (Mercer & Ferketich, 1994a).

The Mercer & Ferketich (1995) study revealed no significant difference
between experienced and inexperienced mothers at any test period for depression. For the experienced mother, depression entered as a predictor for confidence at the immediate postpartum period only accounting for 1.8% of the variance. Depression became a predictor for confidence for inexperienced mothers at the month postpartum period explaining 8.1% of the variance.

Hypothesizing that the new mother’s confidence in her role contributes to the prevention of PPD, Wolman et al., 1993, conducted a study to determine the effect support during labor and delivery has on the new mother’s confidence. One hundred eighty-nine women were randomly allocated to support (n = 92) or to the control group (n = 97). Fifty-four of the 92 women in the support group responded positively when asked how they felt they coped during their labor compared to 23 of the 96 women in the control group (p < 0.001). When asked questions at 6 weeks postpartum designed to assess their feelings of competency as mothers, again, the support group yielded more positive responses. These findings suggest that support during labor influences the mother’s perception of her experience.

The participants of this study were evaluated for depression with the Pitt Depression Inventory at the 6-week postpartum period as well. The mean depression score of the control group of mothers was 23.27 (SD = 1.28), while the means score of the supported mothers was 10.4 (SD = 0.77) both with p = 0.001. Although the depression screen is not designed to differentiate degrees of depression, the researchers assigned the range of scores into three categories representing low, medium, and high to differentiate those women with higher or lower depression ratings. They found significant differences (p < 0.0001) between the supported and control group women. None of the women in the support group fell into the high depression category; the majority of them obtained low ratings. The control group women, however, were frequently represented in the moderate and high depression categories (Wolman et al., 1993).

Fleming et al. (1988) examined middle-income, first-time mothers to determine the relations between mood and maternal attitude. Testing periods were during pregnancy, 1, and 3 months postpartum. They hypothesized that pregnancy mood would
explain more variance in maternal attitudes than would postpartum mood. They found however, that postpartum mood accounted for a significant proportion of the variance over and above the significant contribution made by pregnancy mood. While pregnancy mood accounted for 25% of the variance for maternal attitude at 1 month, postpartum mood accounted for an additional 13% of variance. In addition, at 3 months postpartum pregnancy mood accounted for 27% of the variance and postpartum mood accounted for an additional 28%.

As her dissertation, Diane Montgomery (2001) studied the relationship of postpartum depression and maternal confidence in Hispanic women. Each of the 60 subjects completed the Edinburgh Postnatal Depression Scale and Maternal Confidence Questionnaire at 2 and 4 months after delivery. She found that at two months, 21% scored as depressed and at 4 months 26% of the women scored depressed. Using a Pearson Product-Moment Correlation, she found a significant inverse relationship between PPD and maternal confidence at both test periods, with a stronger correlation at 4 months. At 2 months, n = 49, r = -.383, p = .007, at four months, n = 45, r = -.573, p < 0.001. Postpartum depression accounted for 14.7% of the variation in maternal confidence at two months and 32.8% of the variance at four months. She also found a significant relationship between education and maternal confidence (r = .488, p < 0.01, n = 54).

Summary

Self-esteem, social support, infant temperament, and stress have been factors that, through the review of literature, have been found to have predictive value for the onset of postpartum depression as well as how the new mother will adapt to her role (Beck, 1992, 2001; Bullock & Pridham, 1988; Campbell & Cohn, 1991; Gotlib et al., 1989, 1991; Mercer, 1985; Mercer & Ferketich, 1994b, 1995; O’Hara et al., 1984, 1991; Ruchala & Jones, 1997; Rutledge & Pridham, 1987; Walker et al., 1986a, 1986b; 1988; Woods et
al., 1997; Zahr, 1991). Although they share similar influencing factors, postpartum depression and maternal role attainment have been largely studied separately. This study will assess the two variables of postpartum depression and maternal confidence together, thereby, offering insight to how depression may affect the mother’s ability to confidently perform in her role.

Chapter 3 discusses the study methodology. The research design, setting, sampling plan and protection of human subjects are discussed in detail. The instruments and procedure that were used to collect the data, and statistical analysis of the obtained data are also discussed.
CHAPTER 3
METHODOLOGY

This chapter describes the methodology used to collect and analyze data to answer the following research questions:
1. What are the demographic characteristics, social support systems, and infant temperament perceptions of depressed and non-depressed primiparous women 4 months after delivery?
2. What is the difference, if any, in the perceived confidence levels of depressed and non-depressed women at 4 months postpartum?
3. Is there a relationship between postpartum depression and confidence levels of primiparous women at 4 months postpartum?

The study’s design, setting, sampling plan, human subject protection, instruments, procedure, and data analysis are discussed in detail.

Research Design

A non-experimental, comparative design was used to investigate the differences, if any, in perceived confidence levels for depressed and non-depressed first-time mothers. According to Norwood (2000), the purpose of comparative designs is to compare characteristics that are often subject characteristics, of two or more groups. This design allowed the researcher to compare the perceived maternal confidence levels of depressed and non-depressed first-time mothers. Cross-sectional data were also analyzed for the relationship between maternal confidence and postpartum depression (PPD) as well as the degree to which maternal confidence serves as a predictor of PPD.
A group of first-time mothers was screened for postpartum depression, as well as maternal confidence, at 4 months postpartum. This time period is appropriate, as most women will exhibit symptoms of depression within the first 6 weeks after delivery that will continue for 6 months to a year (Leopold & Zoschnick, 1997). Women feel most confident in their role as mothers in the fourth postpartum month (Mercer, 1985; Mercer & Ferketich, 1995). By assessing maternal confidence at this time in the postpartum period an optimal score may be achieved.

Setting

The settings for the study were pediatric offices located in and surrounding a small, metropolitan, North Florida city (See Appendixes A and B), a rural county Healthy Start Program (See Appendix C), an infant nutrition class (See Appendix D), a breastfeeding support group (See Appendix E), and friends and acquaintances of the researcher. The use of pediatric offices was chosen because pediatric health care providers routinely see infants at 4 months for check-ups and immunization. The use of more than one clinical setting helped to ensure an adequate number of participants, as well as, according to Polit and Hungler (1999), increase the generalizability of a study.

Sampling Plan

The target populations for this study were depressed and non-depressed first-time mothers. The accessible population was mothers of 4-month-old infants who brought their infants to pediatric offices, enrolled in area Healthy Start Programs, attended infant nutrition classes, or who attended a breastfeeding support group, as well as friends or acquaintances of the researcher. Convenience sampling was used to select participants for the study.
Inclusion criteria were first-time mothers, 18 years of age or older, able to speak English, who delivered healthy singleton infants 4 months prior to participation in the study. Exclusion criteria were mothers who remained in the hospital over 1 week after delivery and mothers of infants with physical disabilities.

Montgomery (2000) conducted a pilot study prior to her study on the relationship between postpartum depression and maternal confidence in Hispanic women. Using the same instruments that were used in this study, she found the effect size to be 0.50. Power analysis using Cohen’s medium effect size of 0.5, alpha of .05 one-tailed, and a power of .80, determined that a sample size of 50 depressed and 50 non-depressed primiparous women was needed for this study (Cohen, 1988). The selection of a medium effect size indicates the degree of difference in confidence levels among the depressed and non-depressed women the researcher has chosen to be of value.

By setting the alpha level, or level of significance, at .05, the researcher wanted to be 95% sure of not committing a type I error, the acceptance that there is a difference in the confidence levels of the depressed and non-depressed women when in fact, there is not. The declaration of directional hypotheses, based on both empirical findings and theory, supported the use of a one-tailed test of significance (Norwood, 2000).

Protection of Human Subjects

Approval from the Florida State University’s Institutional Review Board (See Appendix F) was obtained prior to data collection. The staff of the pediatric offices determined interest in participation in the study as the mothers brought their infants in for their appointment. Only those who met criteria as determined by review of the schedule by the office staff were asked.

Mothers enrolled in Healthy Start programs, who met the study’s criteria as determined by the researcher, were contacted by phone to determine interest in participating in the study. Those who were interested were provided the option of
completing the questionnaires during a home visit, with the researcher, or by mail. If a home visit was chosen, a time convenient for the mother was scheduled.

Participants who completed the questionnaires under the guidance of designated research assistants or by mail were provided with a letter (See Appendixes G, H, and I). The letter informed them that their participation in the study would be anonymous and that the researcher would not be able to provide them with their EPDS scores.

Eligibility of participants present at the infant nutrition classes, the breastfeeding support group, and friends and acquaintances of the researcher to participate in the study was determined by the researcher. The potential participants were made aware of the purpose of the study and were given the option to either complete the questionnaires in the presence of the researcher or to return completed questionnaires by mail.

Interested women were provided with the consent form (See Appendix J) to read; if they could not read, the researcher read the consent form to them. The researcher disclosed the purpose of the study and answered any questions participants had. Potential participants were assured that their names and responses on the tools would be confidential, to the extent allowed by law. Potential participants were made aware that they could discontinue their participation at any time without fear of reproach. Informed consent was obtained. Participants were provided a copy of the consent form that contained the names and phone numbers of the thesis committee chairperson, researcher, and FSU IRB, should they have had questions. The participants were asked to complete the First-Time Mother Demographic Questionnaire (See Appendix K), The Edinburgh Postnatal Depression Scale (Appendix L), and the Maternal Confidence Questionnaire (See Appendixes M and N). The EDPS was scored immediately. Participants who scored 12 or above on the EPDS were encouraged to discuss results with her health care provider. Participants who indicated having thoughts of harming themselves were further questioned to determine whether they had a plan to harm themselves. If there was an indication of a plan, the local law enforcement would have been contacted to intervene as per their protocol. Each set of questionnaires were number coded to enable the researcher to identify them as being completed by the same individual. The signed consent forms were kept separate from the questionnaires to prevent the researcher from linking the participant to the questionnaires.
No treatment was administered so there was minimal risk to participants. However, because results of the Edinburgh Postnatal Depression Scale (EPDS) and the Maternal Confidence Questionnaire may be upsetting, the mother was given adequate time to voice her concerns or questions.

All participants were provided with written information on postpartum depression. Methods for contacting local counselors, the telephone number and e-mail address for the North Florida coordinator of Postpartum Support International (PSI), as well as postpartum depression websites that offer information and support was included (See Appendix O).

**First-time Mother Demographic Questionnaire**

The First-time Mother Demographic Questionnaire, a researcher-developed instrument was used to obtain questions that have been found to influence postpartum depression, maternal confidence, and maternal role attainment. Maternal age, history or family history of depression, marital status, living arrangements, support, education level, and perception of infants’ temperament were addressed.

**Edinburgh Postnatal Depression Scale**

The Edinburgh Postnatal Depression Scale (EPDS) was used to identify depressed women in the study. The EPDS is a 10-item, self-report scale that is scored 0-3 according to increased severity of the symptoms, which can be completed in 5 minutes. Question numbers 3, 5, 6, 7,8, 9,and 10 are reverse scored. The instrument contains statements such as “I have blamed myself unnecessarily when things went wrong” and “The thought of harming myself has occurred to me” (Cox, Holden, & Sagovsky, 1987).

The EPDS was originally a 13-item scale but with further analysis by the developers, omission of three items was found to increase the specificity, the true negative rate (Cox et al., 1987). The validation study of the 10-item scale was conducted with 84 mothers. The results of the EPDS were compared with results of the Goldberg’s Standardized Psychiatric Interview (SPI), which was administered immediately after completion of the EPDS. With a cutoff score of 12/13, the sensitivity, or true positive rate, of the EPDS was found to be 86%, with a specificity of 78%. The split-half reliability was found to be 0.88 and the alpha coefficient to be 0.87. These high reliability coefficients indicate the items in the EPDS are homogeneous, measuring one construct.
(Norwood, 2000). Since its development, the screening tool has been widely used (Beck & Gable, 2001; Evins, et al., 2000; Georgiopoulos, et al., 1999; Mercer & Ferketich, 1990, 1994, 1995; Montgomery, 2000). In their recent analysis of PPD screening instruments, Beck and Gable (2001) found the EPDS to have an internal consistency reliability alpha coefficient of 0.89. The sensitivity, ability of the instrument to determine accurately the presence of depression, and specificity, the instrument’s ability to determine the absence of depression, with a cutoff score of 12 were determined to be 78% and 99% (Beck & Gable, 2001).

**Maternal Confidence Questionnaire**

The Maternal Confidence Questionnaire (MCQ), was designed to measure a mother’s confidence in her parenting skills and her ability to recognize her infant’s needs. The questionnaire contains 14 items, answered on a 5-point Likert-type scale from 1= “never” to 5 = “a great deal”. It contains questions such as “I know what makes my baby happy” and “I can feed my baby adequately” (Zahr, 1991). After reversing the negatively worded items, a total score is calculated from the mean with a higher score indicating higher confidence. The alpha coefficients for the total items ranged from 0.86 to 0.93.

The test-retest reliability of the scale measured at 4 and 8 months was 0.69 (Zahr, 1991). This low test-retest reliability is not surprising as maternal confidence is expected to change with time (Montgomery, 2000). Because there were no instruments to measure maternal confidence, the MCQ was correlated with the Parenting Sense of Competence Scale ($r = 0.53$) and the NET-HELP questionnaire ($r = 0.68$), an instrument designed to measure perceived social support to provide concurrent validity (Zahr, 1991). The MCQ take approximately 5-10 minutes to complete (Montgomery, 2000).

**Procedure**

Mothers who met criteria were asked if they were interested in participating in a research study by the pediatric office staff as they brought their infants in for their appointment. Those interested were provided with the consent form to read; if they could not read, the researcher read the consent form to them. Following their visit with the
health care provider, those who were willing to participate in the study were shown to a private area. In this private area, the potential participant met the researcher who explained the study. The researcher answered any questions she may have had. Once the signed consent was obtained, a copy of the consent form was provided to the participant. The participants were asked to complete the First-Time Mother Demographic Questionnaire, The Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire; each set of questionnaires were number coded to enable the researcher to identify them as being completed by the same individual. The signed consents were kept separate from the questionnaires to prevent the researcher from linking the participant to the questionnaires.

The questionnaires took approximately 15 minutes to complete. The EDPS was scored immediately. Any participant who scored 12 or above was encouraged to discuss results with her health care provider for further evaluation. Those participants who indicated thoughts of harming themselves were further questioned to determine whether they had a plan to harm themselves. If there was an indication of a plan, local law enforcement would have been contacted to intervene as per their protocol.

Participants who preferred to complete questionnaires at a later time were provided with a self-addressed, stamped envelope. Signed consent was not obtained as the return of the completed questionnaires implied consent; however, these participants retained a copy of the informed consent which contained methods to contact the researcher, the committee chairperson, and the IRB.

In the absence of the researcher, pediatric office personnel designated as research assistants approached mothers who met the study’s criteria to determine interest in participation. Office personnel designated by the researcher as research assistants included nurse practitioners, nurses, and medical assistants. Interested mothers were provided with the informed consent form and letter to read. Mothers who were willing to participate in the study were asked to sign the informed consent form, and complete The First Time Mother Questionnaire, the Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire. After providing the participant with a copy of the informed consent form and information on Postpartum Depression, the research assistant,
Mothers enrolled in Healthy Start programs, who met the study’s criteria as determined by the researcher, were contacted by phone to determine interest in participating in the study. Those who were interested were provided the option of completing the questionnaires during a home visit, with the researcher, or by mail. If a home visit was chosen, a time convenient for the mother would have been scheduled. During the home visit, the participant would be provided the informed consent form to read; if they could not read, the researcher would read the consent form to them. The researcher answered any questions the participant had. Once the signed consent was obtained, a copy of the consent form was provided to the participant. The participants were asked to complete the First-Time Mother Demographic Questionnaire, The Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire; each set of questionnaires were number coded to enable the researcher to identify them as being completed by the same individual. The signed consent was kept separate from the questionnaires to prevent the researcher from identifying the participant to the questionnaires. The questionnaires took approximately 15 minutes to complete. The EDPS was scored immediately. Any participant who scored 12 or above was encouraged to discuss results with her health care provider for further evaluation. Those participants who indicated thoughts of harming themselves were further questioned to determine whether they had a plan to harm themselves. If there was an indication of a plan, local law enforcement would have been contacted to intervene as per their protocol.

If the mother chose to participate in the study by mail, the researcher verified the participant’s address. The First-time Mother Questionnaire, the Maternal Confidence Questionnaire, information on Postpartum Depression, a self-addressed, stamped envelope, and a letter instructing the participant was sent. Signed consent was not obtained as the return of the completed questionnaires implied consent; however, these participants retained a copy of the informed consent that contains methods to contact the researcher, the committee chairperson, and the IRB.

Mothers enrolled in Healthy Start programs, who met the study’s criteria as determined by the researcher, who had no phone was contacted by mail. A letter
explaining the study, an informed consent form, The First-Time Mother Questionnaire, the Edinburgh Postnatal Depression Scale, the Maternal Confidence Questionnaire, and a self-addressed, stamped envelope were sent to the address listed on the mother’s chart. Signed consent was not obtained as the return of the completed questionnaires implied consent; however, these participants retained a copy of the informed consent, which contained methods to contact the researcher, the committee chairperson, and the IRB.

Interested women from the infant nutrition classes, the breastfeeding support group, and friends and acquaintances of the researcher were provided with the consent form to read; if they could not read, the researcher read the consent form to them. The researcher disclosed the purpose of the study and answered any questions participants had. Potential participants were assured that their names and responses on the tools would be confidential, to the extent allowed by law. Potential participants were made aware that they could discontinue their participation at any time without fear of reproach. Informed consent was obtained. Participants were provided a copy of the consent form that contained the names and phone numbers of the thesis committee chairperson, researcher, and FSU IRB, should they have had questions. The participants were asked to complete the First-Time Mother Demographic Questionnaire, The Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire. The EDPS was scored immediately. Participants who scored 12 or above on the EPDS were encouraged to discuss results with her health care provider. Participants who indicated having thoughts of harming themselves were further questioned to determine whether they had a plan to harm themselves. If there were an indication of a plan, the local law enforcement would have been contacted to intervene as per their protocol. Each set of questionnaires were number coded to enable the researcher to identify them as being completed by the same individual. The signed consent forms were kept separate from the questionnaires to prevent the researcher from identifying the participant to the questionnaires.

No treatment was administered so there was minimal risk to participants. However, because results of the Edinburgh Postnatal Depression Scale (EPDS) and the Maternal Confidence Questionnaire may be upsetting, the mother was given adequate time to voice her concerns or questions.
All participants were provided with written information on Postpartum Depression. Methods for contacting local counselors, the telephone number and e-mail address for the North Florida coordinator of Postpartum Support International (PSI), as well as postpartum depression websites that offer information and support will be included.

Data Analysis

Pertinent information obtained from the demographic tool was analyzed with the use of frequencies to identify characteristics of the depressed and non-depressed mothers. Variables, other than age, were treated as nominal. Measures of central location and variability are provided for age. The relationship between the demographic variables and postpartum depression are described in contingency tables. The association between demographic variables and confidence are provided in both contingency tables, for those demographic variables that are categorical, and with Pearson’s Product-Moment Correlations, for those demographic variables that are interval in scale. Graphic displays are provided when informative.

Although depression is a continuous variable, the scores from the Edinburgh Postnatal Depression Scale were treated as a discrete variable, nominal in scale. Those who scored 12 or above were considered depressed. Those scoring below 12 were considered non-depressed. Confidence was treated as a continuous variable; the Maternal Confidence Questionnaire scores were scaled as interval. An independent samples $t$-test was used to compare the confidence levels of the depressed and non-depressed mothers. There are three assumptions required of the independent samples $t$-test: (a) the scores within each of the two populations are normally distributed; (b) the two population variances are equal; and (c) the individual observations are independent (Glass & Hopkins, 1996).
The Point Biserial Correlation was used to determine the relationship between perceived maternal confidence and PPD. Again, the scores of the EPDS were scaled as nominal and the scores of the MCQ were scaled as interval.

Summary

The purpose of this study was to determine if there is a difference in the perceived confidence levels of depressed and non-depressed first-time mothers and to determine if there is a relationship between PPD and maternal confidence. The participants were asked to complete self-administered questionnaires that required approximately 15 minutes to complete. The completed instruments were analyzed with the use of an independent samples t-test and Point Biserial Correlation. Since the majority of women develop postpartum depression within the first 6 weeks of delivery and remain depressed for up to a year and mothers are most comfortable with their infants 4 months after delivery, the time frame for conduction of this study is appropriate. The use of pediatric offices as the setting to collect data is also felt to be appropriate as infants 4 months of age are routinely seen for well visits and immunizations. Because mothers are often the primary caregivers, it is felt that mothers will accompany the majority of infants coming for well visits. This setting, therefore, will provide an excellent opportunity to obtain participants in the accessible population.

Chapter 4 will present data analysis findings with interpretation and conclusions for each research question. Graphic displays that are informative and support research questions will also be provided. Summary and conclusions of additional findings will be presented in the following chapter as well.
CHAPTER 4
RESULTS

This chapter will provide the results, conclusions, and a summary of findings established through analysis of the data collected for this study designed to determine the confidence levels of the depressed and non-depressed first-time mothers of 4 month-old infants. In addition to providing answers to the research questions, tables will be provided where appropriate as well as findings as they pertain to maternal confidence and postpartum depression.

The following research questions were posed:

1. What are the demographic characteristics, social support systems, and infant temperament perceptions of depressed and non-depressed primiparous women 4 months after delivery?

2. What is the difference, if any, in the perceived confidence levels of depressed and non-depressed women at 4 months postpartum?

3. Is there a relationship between postpartum depression and confidence levels of primiparous women at 4 months postpartum?

A total of 104 women completed the First-time Mother Demographic Questionnaire, the Maternal Confidence Questionnaire, and Edinburgh Postnatal Depression Scale. Of the 104 participants, 15 (14.4%) were considered depressed by having a score of 12 or more on the Edinburgh Postnatal Depression Scale. Eighty-nine of the participants (85.6%) were considered not depressed by scoring less than 12 on the Edinburgh Postnatal Depression Scale.
Research Question 1

This research question was posed to describe the characteristics of the first-time mothers who participated in this study. According to Glass & Hopkins (1996), descriptive statistics involve tabulating large amounts of data into a more manageable form from which properties can be described, depicted, and summarized.

The First-time Mother Questionnaire sought responses for maternal age, ethnicity, marital status, living arrangements, education level, household income, support system size and satisfaction, and perceptions of infant temperament. Using a likert scale, it also evaluated the mothers’ confidence in caring for her infant as a question independent of the Maternal Confidence Questionnaire. Ramona Mercer’s framework of Maternal Role Attainment and factors found to influence the development of postpartum depression guided the development of the First-time Mother Questionnaire. Responses to this questionnaire provided information to determine:

What are the demographic characteristics, social support systems, and infant temperament perceptions of depressed and non-depressed primiparous women 4 months after delivery?

Demographics of the Depressed Primiparous Mothers

Ages for the depressed mothers (n = 15) ranged from 18 to 36 years. The majority of these mothers were white and married (see Table 1). One of the depressed mothers lived with a roommate, the remaining mothers (n = 14) indicated that they were living with either their spouses or partners. They were represented in all levels of education, with the exception of the Doctoral level, and at all levels of household incomes (see Table 2). The percentage of depressed women was identical at 26.7% for both the lower level of household income, $14,999 or less, and the upper level of income, $50,000 or more. Many of the depressed mothers of this study indicated having a personal history of depression, a family history of depression, or both (see Table 3). Two of the depressed mothers had been treated for depression during the last 12 months.

The feelings the depressed mother experienced were assessed through the Edinburgh Postnatal Depression Scale (EPDS). Although the postpartum depressed
mothers were experiencing, in varying degrees, the negative attributes of depression such as feeling unhappy, inability to sleep, feelings of anxiety, panic, self blame, and thoughts of self-harm, some of them seemed to be able to counter these feelings with more positive attributes. Seven of the depressed mothers reported laughing as much as they ever could and five of the mothers looked forward to things as much as ever. In addition, the majority of depressed mothers responded that they never cried or cried only on occasion (n = 10) in spite of the unhappiness felt.

*Demographics of the Non-Derpressed Primiparous Mothers*

Ages for the non-depressed mothers (n= 89) ranged from 18 to 38 years. The majority of the non-depressed mothers were white and married (see Table 1). They lived with their spouses or partners (n = 66), alone, (n =9), with extended families (n = 9), or had other living arrangements (n = 5). They had varying degrees of educational levels and household income levels (see Table 2). Like the depressed mothers, some of the non-depressed mothers indicated having a personal history of depression, a family history of depression, or both (see Table 3). However, none of the non-depressed mothers of this study had been treated in the last twelve months for depression.

*Depressed and Non-Depressed Primiparous Mothers*

With the exception of age and income, the demographics of the depressed and non-depressed mothers were much the same. Although the depressed mothers of this study were slightly younger than the non-depressed mothers, it did not seem to be a factor for depression in this study. However, income did seem to be a factor for depression. Two-thirds (66.7%) of the depressed mothers reported household incomes of $ 34,999 or less, 3/4 (75%) of the non-depressed mothers indicated having household incomes of $ 25,000 or more.

Having a personal or family history of depression did not seem to be a factor for depression in this study. Essentially equal numbers of depressed and non-depressed mothers reported a personal history of depression as well as having a combination of both personal and family histories of depression. In addition, 27% of the non-depressed mothers reported a family history of depression.
<table>
<thead>
<tr>
<th>Age</th>
<th>Depressed $n = 15$</th>
<th>Non-Depressed $n = 89$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>25.7</td>
<td>27.4</td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td>23.0</td>
<td></td>
</tr>
<tr>
<td>St. Dev.</td>
<td>6.1</td>
<td>5.2</td>
</tr>
<tr>
<td>Marital Status (%)</td>
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<td></td>
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<tr>
<td>Married</td>
<td>66.7</td>
<td>67.0</td>
</tr>
<tr>
<td>Single</td>
<td>26.7</td>
<td>28.4</td>
</tr>
<tr>
<td>Separated</td>
<td>0.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.0</td>
<td>1.1</td>
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<tr>
<td>Widowed</td>
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<td>0.0</td>
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<td>Ethnicity (%)</td>
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<tr>
<td>Caucasian</td>
<td>53.3</td>
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</tr>
<tr>
<td>African American</td>
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<td>25.8</td>
</tr>
<tr>
<td>Asian</td>
<td>6.7</td>
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</tr>
<tr>
<td>Native</td>
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</tr>
<tr>
<td>Hispanic</td>
<td>20.0</td>
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<td>Multiracial</td>
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<td>1.1</td>
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<tr>
<td>Education Level (%)</td>
<td>Depressed $n = 15$</td>
<td>Non-Depressed $n = 89$</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------</td>
<td>-------------------------</td>
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<tr>
<td>Some High School</td>
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<td>Vocational School</td>
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<td>Bachelor’s Degree</td>
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<td>Doctoral Degree</td>
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<td>Income Level (%)</td>
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<td>$15,000-$24,999</td>
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<td>$25,000-$34,999</td>
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<td>$35,000-$44,999</td>
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<td>19.3</td>
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<td>$50,000 or more</td>
<td>26.7</td>
<td>40.9</td>
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Table 3. Personal and Family History of Depression for Depressed and Non-Depressed Primiparous Mothers

<table>
<thead>
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<th></th>
<th>Personal History</th>
<th>Family History</th>
<th>Personal and Family History</th>
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</thead>
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<tr>
<td><strong>Depressed (n = 15)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td><strong>Non-Depressed (n = 89)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>No</td>
<td>80</td>
<td>65</td>
<td>-</td>
</tr>
</tbody>
</table>

Support group size. The depressed and non-depressed mothers of this study had similar support systems. Response options for determining support size ranged from 1-5 and greater than five. The majority of mothers (n = 94) felt they had support systems of greater than five. Included in this majority were 14 (93.3%) of the depressed mothers. The one remaining depressed mother felt she had two people supporting her in her new role. Eight non-depressed mothers indicated having support systems consisting of 1-4 people. One non-depressed participant indicated having support systems consisting of 1-4 people. One non-depressed participant chose not to answer this question.

Support satisfaction. In addition to determining the size of the support systems, satisfaction with the support these mothers received was also explored. Responses to this question included: always, most of the time, some of the time, and never. The depressed and non-depressed mothers had similar perceptions of their support. An overwhelming majority had positive views of the support provided with 52% (n = 53) indicating they were happy most of the time with their support and 47.1% indicating they were always happy with the support provided. Eleven (73.3%) of the depressed mothers were happy most of the time with their support and 4 (26.7%) of those depressed were always happy with their support system. One hundred-two of the participants responded to this question, with one non-depressed mother indicating she was satisfied with her support some of the time.

Infant temperament. The mothers’ perception of their infants’ temperament was evaluated by asking them how often they felt their baby was content or happy. Responses
to choose from were: always, most of the time, some of the time, and never. One respondent who was not depressed chose not to answer the question. In addition to having similar perceptions of support systems, the depressed and non-depressed mothers of this study also had similar perceptions of their infants. Of the 103 mothers who responded to this question, 49.5% \( (n = 51) \) felt their infants were happy most of the time, seven were depressed. The remaining mothers, 50.5% \( (n = 52) \), considered their infants to be happy all of the time, eight of them were depressed.

**Confidence caring for baby.** A question was posed to the participants concerning their confidence in caring for their babies. This question was included on the First-time Mother Questionnaire and was independent of the Maternal Confidence Questionnaire. The mother could choose to respond as always feeling confident, feeling confident most of the time, some of the time, or never, when caring for her baby. One depressed mother responded to feeling confident some of the time; the other 14 depressed mothers were equally divided in their responses as either always feeling confident \( (n = 7) \) or feeling confident most of the time \( (n = 7) \). The non-depressed mothers felt confident all of the time \( (n = 49) \) or most of the time \( (n = 39) \). One non-depressed mother did not respond to this question.

**Correlations of Maternal Confidence, Postpartum Depression, and Demographics**

Correlation coefficients answer to what extent two variables are related and provide direction of the relationship as either positive, when higher scores on one variable are associated with higher scores on the other, or negative (inverse) when higher scores on one variable are associated with lower scores on the other. The Pearson’s Product-Moment Correlation Coefficient provides an index of the linear relationship between two variables with a range of 0 to ± 1 (Polit & Hungler, 1999). Although there are no guidelines to determine what indicates a strong or weak relationship, correlations between variables that are considered psychosocial in nature are usually in the 0.1-0.4 range (Polit & Hungler, 1999). Cohen’s (1988) operational definition of effect size, when using \( r \) as the indicator, is \( r = .10 \) is small, \( r = .30 \) is medium, and \( r = .50 \) is considered large.

Correlation coefficients were performed using Spearman’s rho on the responses to The First-time Mother Questionnaire, the Maternal Confidence Questionnaire (MCQ)
sum scores, and the final scores on the Edinburgh Postnatal Depression Scale (EPDS) (see Table 4). With the exception of age, MCQ sums, and EPDS scores, all other variables in this data set were treated as ordinal in scale, therefore; the Spearman’s rho, the correlation index usually used for ordinal measures, was appropriate (Polit & Hungler, 1999).

While age was positively correlated with educational level ($r_s = .479$) and household income ($r_s = .582$), it was negatively correlated with support satisfaction ($r_s = -.220$), perceptions of infant temperament ($r_s = -.158$), and maternal confidence ($r_s = -.174$). Factors that had a positive impact on maternal confidence were the number of individuals the mother felt supported her in her new role ($r_s = .241$), satisfaction with the support received ($r_s = .319$), and her perception of her infant ($r_s = .405$). These same factors, support systems ($r_s = -.112$), support satisfaction ($r_s = -.308$), and infant temperament ($r_s = -.201$) had an inverse relationship with postpartum depressed.

**Research Question 2**

What is the difference, if any, in perceived confidence levels of depressed and non depressed primiparous women 4 months after delivery?

The Maternal Confidence Questionnaire, with a possible score of 1-5, was used to measure the confidence of these mothers. Although there are no established interpretations for level of confidence based on the scores, the higher the score, the higher the level of confidence. The scores in this study ranged from $3.36 – 5.0$, with a mean score of $4.56$ ($SD = 0.35$).
<table>
<thead>
<tr>
<th>Demographics, Maternal Confidence, and Postpartum Depression Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table 4</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Educational Level</th>
<th>Household Income</th>
<th>Size of Support Group</th>
<th>Happy with Support Provided</th>
<th>Baby is Content/Happy</th>
<th>Confident when Caring for Baby</th>
<th>MCSUM</th>
<th>EDSFINAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>0.479**</td>
<td>0.582**</td>
<td>-0.220*</td>
<td>-0.158</td>
<td>-0.294**</td>
<td>-0.174*</td>
<td>-0.116</td>
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<tr>
<td><strong>Educational Level</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>0.453**</td>
<td>0.092</td>
<td>-0.385**</td>
<td>-0.307**</td>
<td>-0.205*</td>
<td>-0.157</td>
<td>-0.096</td>
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<tr>
<td><strong>Household Income</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>0.265**</td>
<td>-0.176*</td>
<td>-0.249**</td>
<td>-0.279**</td>
<td>-0.179*</td>
<td>-0.172*</td>
<td></td>
</tr>
<tr>
<td><strong>Size of Support Group</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>-0.010</td>
<td>-0.37</td>
<td>0.001</td>
<td>0.241**</td>
<td>-0.112</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Happy with Support Provided Baby is Content/Happy</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>0.320**</td>
<td>0.428**</td>
<td>0.319**</td>
<td>-0.308**</td>
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<td></td>
</tr>
<tr>
<td><strong>Confident when Caring for Baby</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>0.421**</td>
<td>0.405**</td>
<td>-0.201*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MCSUM</strong></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>-0.416*</td>
</tr>
</tbody>
</table>

**Correlation is significant at the .01 level (1-tailed)
* Correlation is significant at the .05 level (1-tailed)
The mean score on the Maternal Confidence Questionnaire for the depressed mothers \((n=15)\) was 4.35 \((SD = 0.54)\). While the depressed mothers’ mean score was below that of the entire sample, the non-depressed mothers’ mean score was slightly higher 4.59 \((SD = 0.29, n = 89)\). In addition, there was greater variability in the depressed mothers’ scores. The mean difference of the two groups was 0.23. The independent samples \(t\)-test, a parametric statistical test, was used to test the statistical hypothesis, or null hypothesis, that there is no difference in the levels of confidence in the depressed and non-depressed primiparous women 4 months after delivery. There are three assumptions required of the independent samples \(t\)-test: (a) the scores within each of the two populations are normally distributed; (b) the two population variances are equal; and (c) the individual observations are independent (Glass & Hopkins, 1996).

The Levene’s Test for Equality of Variances evaluates the second assumption, the homogeneity of variance. This assumption may not be tenable based on the results of the Levene’s test \((p = 0.001)\). However, the reader must be reminded that in the rejection of this assumption, the researcher may have committed a type I error. Subsequent to the Levene’s test, an independent samples \(t\)-test was performed to test the equality of mean maternal confidence levels for the populations of depressed and non-depressed first-time mothers \((t = 2.455, p = .016, df = 102)\). These results were statistically significant for alpha 0.05. In addition, the 0.23 mean difference found in the sample was of clinical importance based on the \(a’\) priori setting for the level of effect that would be of clinical importance for this investigator.

**Research Question 3**

Research question 3 sought to determine if a relationship between postpartum depression and maternal confidence exists. Originally, as explained in chapter three, postpartum depression was to be treated as nominal in scale and the scores for maternal confidence were to be treated as interval in scale. As such, the appropriate statistic to
analyze the relationship between these two variables would have been the Point Biserial Correlation. However, treating both depression and maternal confidence as continuous, interval in scale variables, was felt to provide a more revealing answer to research question 3. Using the sum score of the Maternal Confidence Questionnaire (MCQ) and the final scores on the Edinburgh Postnatal Depression Scale (EPDS), the Pearson’s Product-Moment Correlation Coefficient was used to provide the correlation coefficient for the variable of postpartum depression and maternal confidence ($r = -.461; p = .001$).

According to Polit & Hungler (1999), the square of $r$ ($r^2$), the coefficient of determination, explains the proportion of the variance in a variable, postpartum depression, that can be accounted for by the variable, confidence, or the proportion of information confidence provides toward the perfect prediction of postpartum depression ($r = .461, r^2 = .212$).

These findings indicate that there is a relationship between postpartum depression and confidence levels of first-time mothers 4 months after delivery. In general, the maternal confidence scores that were below the mean were paired with scores for depression that were above the mean. In addition, maternal confidence helps in the prediction of postpartum depression by providing 21% of the information needed.

**Maternal Confidence and Postpartum Depression**

Inter-item correlations for the items on the Maternal Confidence Questionnaire revealed internal consistencies for three specific factors of maternal confidence: skill, attitude, and ability to recognize infant cues. Questions number 6, 7, 8 were determined to assess maternal skills, questions 2, 10, 11, 12, 13, and 14 assessed the mother’s attitudes, and questions 1, 3, 4, 5, and 9 evaluated her ability to respond to her infant’s cues. Questions that were felt to assess more than one factor, such as question 5, were placed in a category based on the internal consistencies for the MCQ.

The responses for these questions were compressed from five options to three. The original responses of “never” and “seldom” were both considered negative in nature and were assigned a value of 1; the response of “some” was considered neutral and was given the value of 2; responses “often” and “a great deal” were determined to be positive responses and were assigned the value of 3. These changes were appropriate for the
reverse scores of questions 10 and 12, as well. The sum of each category was calculated and reported findings are based on frequency tables, contingency tables, and Pearson’s Product-Moment Correlation Coefficients.

**Skills.** All participants \((n = 104)\) were evaluated on maternal skills. Scores ranged from 7-9 for this category with a mean score of 8.98 \((SD = .20)\) and a median score of 9.0. All but one of the respondents scored a 9 in this category, depressed \((n = 14)\) and non-depressed \((n = 89)\), one depressed mother had a score of 7. An inverse relationship was found between maternal skill and depression, \(r = -.203\). In other words, the depressed mother, four months into her role, was less confident than the non-depressed mother in the skills of holding, feeding, and bathing her infant.

**Attitude.** A minimum score of 13 and a maximum score of 18 was found on maternal attitude with 102 participants evaluated; data for two non-depressed mothers were missing. The mean score was 16.86 \((SD = 1.29)\) with a median score of 17. Again, the majority of the participants scored the highest possible score of 18, 33.3\% \((n = 5)\) of the depressed women and 46\% \((n = 40)\) of the non-depressed. A score of 17 was attained by 20\% \((n = 3)\) of the depressed mothers and 20.7\% \((n = 18)\) of the non-depressed mothers. Twenty-one participants, 6.7\% \((n = 1)\) depressed and 23\% \((n = 20)\) non-depressed had a score of 16. Thirteen participants, both depressed and non-depressed, scored either 15 or 14 with two depressed women representing 13.3\% of this group scoring 13. An inverted relationship was found between maternal attitude and postpartum depression, \(r = -.432\). The depressed mother was less likely to feel that she could care for her baby better than anyone else, posses the skills to be a good mother, and to be satisfied in her role as mother. The depressed mother was also more likely to feel frustrated while caring for her infant and to feel that parenting is demanding and unrewarding.

**Cues.** One depressed mother was missing from data assessing the mother’s ability to recognize her infant’s needs. Descriptive statistics on the data \((n = 103)\) revealed a high score of 15 and low score of 10 with a mean of 14.64 \((SD = .91)\) and a median of 15. Nine \((64.3\%)\) of the depressed mothers and 74 \((83.1\%)\) of the non-depressed mothers felt strong in their abilities to understand their infants’, cues scoring 15. The score of 14 was achieved by 14.3\% \((n = 2)\) of the depressed mothers and 81.8\% \((n = 9)\) of the non-
depressed. Of the five women scoring 13, two were depressed and four were not depressed. No non-depressed women received a score of 12; one depressed woman received this score. Two women, one depressed and one non-depressed, scored an 11 and one non-depressed woman scored a 10. Again a negative relationship was found between this attribute of maternal confidence and postpartum depression, \( r = -.338 \). This inverse relationship indicates the depressed mother is less likely to know when her baby is ready for play, why her baby is cranky, or when her baby is sick or tired.

**Conclusions**

The following conclusions were reached through analysis of the findings and are presented according to research questions and additional findings.

*Research Question 1*

With the exception of age and household income, the depressed mothers of this study closely resembled their non-depressed counterparts. Similarities between these two groups were found in their ethnicities, marital status, living arrangements, education levels, support systems, perceptions of their infants, as well as personal and family histories of depression. Some of these same factors were found to influence the mother’s ability to feel confident in her role. This study found that the older mother, and the mother with more income and education was less confident in her abilities as a mother. Factors that buoyed maternal confidence were positive perceptions of her infant and of her support. These same factors had an association with postpartum depression. The depressed mothers of this study were found to be less satisfied with their support and to perceive their infant as less content. Although the depressed mother blamed herself, feels anxious, scared, unhappy, is unable to sleep or cope, and has thoughts of self-harm, she did possess some coping mechanisms such as the ability to laugh and look to the future.
Research Questions 2 and 3

The depressed mothers of this study were found to be less confident in their roles when compared to the non-depressed mothers. In addition, maternal confidence was found to be negatively impacted by postpartum depression providing 21% of the information needed to predict postpartum depression. The depression had a negative impact on the mother’s abilities to perform mothering skills, understand her infant’s cues, and view her role in a positive manner.

Summary

While the women of this study were largely similar in regards to their demographics, the study’s findings revealed the internal conflict the postpartum depressed mother feels and how living with postpartum depression increases the conflict felt in the woman’s struggle to attain the role of motherhood. The study also revealed that although the depressed mother was struggling, she possessed some coping mechanisms that might help her overcome the depression. In addition to finding what role postpartum depression had on maternal confidence, this study also offered an insight into other factors that may influence the mother’s ability to feel confident as a mother.

The next and final chapter will discuss the findings and how they relate to the literature, Mercer’s Maternal Attainment framework, and assumptions. It will also reveal the study’s limitations, implications for nursing, and recommendations for future research.
CHAPTER 5
DISCUSSION

This chapter will discuss the significance, or non-significance, of the findings revealed with the analysis of data collected on depressed and non-depressed first-time mothers of 4-month old infants. How these findings may support the literature and Ramona Mercer’s (1981) theory of Maternal Role Attainment and the interpretation of their clinical significance will be addressed. Limitations of the study, both those that were anticipated and those encountered during the study, will be explained, as well as the assumptions made. Most importantly, implications for nursing practice and the various roles of the advanced practice nurse will be delineated to offer a guide for improvement in the care of the first-time mother, both depressed and non-depressed. Lastly, recommendations for further study in the area of maternal-child nursing will be offered.

Demographics

Participants of this study were from a small metropolitan north Florida city and its surrounding areas. Comparisons were made between the demographics of the participants and the county census of the small metropolitan city. The mean age of the mothers of this study, 27.2 years, closely mirrors the national average age of first-time mothers that has been recently reported as 25.1 years (CDC, 2003). Not surprisingly, the majority of the women who participated in this study were married and either lived with their spouses or partners.
The finding that 45.2% of the participants held advanced degrees, Bachelor’s or higher, is a reflection of the population living in the north Florida area in which this study was conducted. This area is the home of two major universities which would explain why 41.7% of the community members holds a Bachelor’s degree or higher. The household incomes of those participating in the study were also similar to the area’s median income of $37,517 with 57% of the participants earning $34,999 or less per year (“Leon County”, 2003). The ethnicities of the women in this study are as follows: white, 66.3%; African-American, 25%; Asian, 1.9%; Native American, 1%; Multiracial, 1%, and Hispanic, 4.8%. When compared to the area’s ethnicities, from the year 2000 census: white, 66.4%, African-American, 29.1%, Asian, 1.9%, Native American, 0.3%, Multiracial, 1.5%, and Hispanics, 3.5% (“General Demographics”, n.d.), it is easy to see that the ethnicity of the women who participated in this study is also quite similar to the makeup of the county. The similarities found in the demographic backgrounds of the women of this study and the area in which they live help to ensure the generalizability of the study’s findings to this north Florida area.

**Depression and Confidence**

While the depressed women of this study scored significantly less on confidence when compared to their non-depressed counterparts, they shared many of the same characteristics of the non-depressed mothers. The majority was married, living either with their spouses or partners, had large support systems, was happy with this support, had positive perceptions of their infants’ temperament, and felt confident overall in the care of their infants. In addition, having a personal history or family history of depression did not impact their consequential development of postpartum depression, as again, these histories were very similar to those mothers who were not depressed. The homogeneity of these two groups makes one difference found, their maternal confidence levels, even more interesting.
The difference in confidence among the depressed and non-depressed mothers may be explained by the feelings the depressed mother experiences day to day. The feelings of anxiety, panic, inability to cope, self-blame, and unhappiness leading to sleeping problems may certainly undermine the mother’s ability to care for her child in a confident manner. In spite of living with postpartum depression, a portion of these depressed mothers seemed to possess an inner strength that may help them in their struggle to overcome the depression. These women were able to continue to see the joy in life by finding humor in it and by looking forward to the future. They also did not allow themselves to cry. This is a very unusual finding in that women tend to be very emotional beings. Women tend to express both joy and sorrow with crying. Why then, are these women who are so unhappy not crying? The answer may be that these women use their stoicism as a defense mechanism. Perhaps they feel that by crying, they give in to the depression. If they cry, they may no longer be able to laugh; if they cry, they may no longer look toward the future; and if they cry, they may not find happiness ever again.

**Literature**

**Age**

Age was not found, in this study, to be a significant factor in the development of postpartum depression. This lack of association between age and postpartum depression is supported by other studies in which these two factors were examined (Beck, 2001; Gotlib et al., 1989, 1991). This study, however, did find a negative relationship between age and maternal confidence. This finding is supported by Mercer’s (1985) findings that the older mother’s confidence, over a period of time, was consistently lower than that of younger mothers.

**Educational Level**

There was no relationship found between educational level and postpartum depression. This finding is supported by two studies that assessed these two variables.
However, these findings conflict with Campbell and Cohn (1991) who found that depressed women and their spouses had significantly lower education than their non-depressed counterparts. In addition they found that although the occupations of the depressed mothers did not differ from the non-depressed mothers, the occupations of their spouses were lower than the spouses of the non-depressed women. A comparison of the Campbell and Cohn (1991) study with this study is not possible as this study’s purpose did not include the evaluation of the mothers’ spouses. Education level was negatively correlated with the question, independent of the Maternal Confidence Questionnaire, regarding confidence in caring for the infant. In addition, there was a negative relationship between the scores on the Maternal Confidence Questionnaire and education, however; it was not statistically significant. Although not statistically relevant, it may be of clinical value. This finding is supported by Mercer & Ferketich (1995) who found that education had a negative impact on maternal competence. Rutledge & Pridham (1987) found no relationship between education and maternal confidence; however, they conceded that their sample was relatively homogeneous. Zahr (1991) and Montgomery (2001) both found a positive relationship between education and maternal confidence, however, they targeted specific groups of women, those with ill children and Hispanics, respectively, and these might have been confounding factors in their findings.

The negative relationship between education and maternal confidence found in this study may be due to the fact that a mother who is more educated is likely to be more task oriented and is more likely to work outside of the home. This juggling of work or professional obligations while trying to meet the needs of an infant may lead to conflict in the adaptation to the new role of motherhood. In addition, the gratification with completing a work task and its rewards, pay and acknowledgment, differs greatly from those tasks a new mother undertakes with her infant, as the rewards are not immediate and acknowledgement of a job well done may not be forth coming.

*Household Income*

A negative association between postpartum depression and income was found. Beck (2001) also found a small effect size for socioeconomic status when predicting for depression in her meta-analysis of factors that influence postpartum depression.
An inverse relationship was also found between maternal confidence and household income. This finding is supported by Mercer (1995) who asserted that income is often determined by education and that the educated woman experiences more crises during adaptation to the mothering role. However, Zahr (1991) found a positive relationship between confidence and income in addition to the positive relationship between education and confidence in her study of mothers of seriously ill infants.

Support Systems

This study found that a vast majority of all mothers, both depressed and non-depressed, had large support systems and were happy with the support they received. A positive association was found between maternal confidence and size of support system and satisfaction with support. An inverse relationship was found between postpartum depression and these two factors. Several studies have found that women with support systems are happy and adapt more easily to the role of motherhood (Mercer, 1981, 1986; Rucala & James, 1997). Support systems have also been found by some authors to be influential in the prevention of postpartum depression (Beck, 2001; Hall, 1991; Wolman et al., 1993). One explanation for the study’s findings that the depressed mother had large support systems and were happy with them may be that these two factors were determined by direct questions and not by a tool that would have closely evaluated and quantified the responses assessing quality of support. In addition this study only examined first-time mothers. Mercer (1986) found that the quality of support was more important than the quantity and that individuals of the mother’s support system should be acquainted to minimize conflicting advice. The depressed mothers of this study may have received advice from many different sources and because of their inexperience may not have felt the conflict associated with receiving differing suggestions, as they were accepting of all help pertaining to the care of their baby. Lastly, the support they felt they received may not be of the quality they perceive it to be. For example, while recruiting participants for this study from the breast-feeding support group, this researcher noticed that the mothers divided themselves up into small groups and that these groups were intact with each additional visit. During one visit, a group of three mothers volunteered to participate in the study. Of the three mothers, two were screened
as depressed and the other scored quite high on the screen but was not depressed. Although this group of mothers were providing support to each other, the fact that they exhibited depressive symptomology to some degree brings to question the quality of support being provided.

**Infant Temperament**

A finding of this study indicated that the mother’s perception of her infant’s temperament had a positive impact on her maternal confidence. This finding is supported by other studies that found that women who adapt to their role as mothers with ease consider their infants to be happy (Bullock & Pridham, 1988; Mercer, 1986; Zahr, 1991).

This study also found that as scores on the Edinburgh Postnatal Depression scale increased, the infants were perceived as being less happy. Numerous studies have examined how the depressed mother views her infant and support this study’s findings (Beck, 2001; Cutrona & Troutman, 1986; Field et al., 1988; Gotlib et al., 1991; Jennings et al., 1999; Righetti-Veltema et al., 2002; Wood et al., 1997).

**Postpartum Depression**

**Incidence.** Using a cutoff score of 12 on the Edinburgh Postnatal Depression Scale, 14.4% of the women in this study were found to be depressed. This is consistent with the findings of other studies (Atkinson & Rickel, 1984; Beck & Gable, 2001; Beeghly, et al., 2002; Evins et al., 2000; Georgiopoulos et al., 1999; Gotlib et al., 1989, 1991; O’Hara et al., 1984; Montgomery, 2001; Reigard & Evans, 1995).

**History of Depression.**

Having a personal or family history of depression did not seem to influence the subsequent development of depression in this study. Approximately one-half of the depressed mothers of this study either denied having a history of depression or having family members with a positive history of depression. This finding conflicts with findings of other studies that indicate personal and familial histories of depression a factor in postpartum depression (Beck, 2001; Campbell & Cohn, 1991; Gennaro, 1988; Gotlib et al., 1989, 1991; Hall et al., 1991, 1996; O’Hara et al., 1984, 1990, 1991; Seguin, Potvin, St.Denis, & Loiselle, 1999). However, two depressed mothers in this study did indicate that they had been treated in the past 12 months for depression.
There are a couple of possible reasons why this study’s findings conflict with the findings from previous studies. First, in the past decade, there has been a destigmatizing of depression. It is common place to view television commercials advertising various medications to treat depression and many people are seeking and receiving these treatments, often without the use of diagnostic tool or screenings to confirm the diagnosis of depression. This heightened awareness and acceptance of depression might explain why so many of those reporting a history of depression were not depressed in this study. They may or may not have been diagnosed with depression in the past but rather felt like they had depression. On the other hand, there are those who would still deny the possibility that they are depressed and may not seek diagnosis and treatment. This might explain the numbers in this study who scored depressed but denied having a history of depression. In addition, the findings of depression during this study may be the first depressive episode for those with no history of depression. A possible explanation for the conflict in findings regarding a family history of depression would be that some of the respondents simply might not have known whether such history existed or not.

**Manifestations.** Analysis of responses on the Edinburgh Postnatal Depression Scale for the depressed mothers of this study revealed that they experienced self-blame, anxiety, panic, sadness, and an inability to sleep due to their unhappiness. These findings are consistent with both qualitative and quantitative studies seeking to reveal the lived experience of the postpartum depressed mother (Beck, 1992, 1995; Righetti-Veltema et al., 2002; Ugarizza, 2002; Wood et al., 1997). However, this study revealed that a good portion of these women were able to see humor in life and look forward to the future as much as always. In addition, although the previously mentioned studies found a theme of tearfulness in the postpartum depressed mother, this study reveals that a majority of its depressed mothers did not cry. These abilities to laugh, look forward to things, and not cry despite the misery felt might be coping mechanisms these mothers employ to combat the darkness of depression.

**Postpartum Depression and Maternal Confidence**

This study found the depressed first-time mother to be less confident in the care of her infant. Furthermore, analysis of different components that constitute maternal
confidence such as skills, ability to recognize infant cues, and attitude found these to have an inverse relationship with postpartum depression. While no other studies have been found that compared the confidence levels of depressed and non-depressed mothers, this study’s findings that the depressed mother is less sure of herself when caring for her infant is supported by the Jennings et al. (1999) and Righetti-Veltema et al. (2002) studies that determined depressed mothers had trouble caring for their infants.

Again, although no other studies have examined the difference in confidence levels of the depressed and non-depressed first-time mother, studies examining factors that affect confidence have found depression to be a factor in varying degrees just as this study found that 21% of the information needed to predict postpartum depression is being provided by confidence and an inverse relationship exists between maternal confidence and postpartum depression. In their 1994 study comparing confidence levels of high-risk and low-risk mothers, Mercer and Ferketich found depression explained more variance in the maternal competence of high-risk women entering 1 month postpartum (24%) and at 8 months postpartum (9.5%) and for the low-risk mother only in the first month postpartum (6%). When studying the difference in confidence levels of the inexperienced and experienced mother, they found depression to be predictor for the inexperienced mother only at 1 month postpartum (8.1%) and for the experienced mother only at the early postpartum period (1.8%). The women in both of these studies were examined during postpartum hospitalization, 1, 4, and 8 months postpartum. Fleming et al. (1988) found in their study of middle-income first-time mothers that postpartum mood accounted for 13% of variance in maternal attitude at 1 month postpartum and 28% of variance at 3 months postpartum. Montgomery’s (2001) study of Hispanic mothers found an inverse relationship between postpartum depression and maternal confidence. In addition, she found that postpartum depression accounted for 14.7% of the variation in maternal confidence at 2 months postpartum and 32.8% of the variance at 4 months postpartum.

An explanation for such a wide range of variances for the prediction of maternal confidence from postpartum depression may be that while this study examined a reasonably heterogeneous group of women in regards to ethnicity and income and
homogeneous group in regards to being first-time mothers of healthy infants, the previous studies examined homogeneous groups and the homogeneity of the groups may be considered a confounding factor. However, it does not explain why Mercer & Ferketich (1994a) found an explained variance of 6% in the low-risk mother in the first month postpartum and a variance of 8.1% for the inexperienced mother in the first month postpartum period. A possible explanation for this discrepancy between their studies’ and this study’s findings of explained variance for maternal confidence from depression is that their mothers may have sought treatment for their depression after the 1 month postpartum screening for depression. It is unclear by reading these studies if the depressed mothers were informed of their depression during that period.

**Conceptual Framework**

Ramona Mercer (1981) defined maternal role attainment in her theory of Maternal Role Attainment as the acquisition of competency. This competency determines the woman’s capacity to mother as well as how she will interact with her child. Competence has both a behavior and attitude component. Behavior can be measured by observing the mother with her child. Competence, as an attitude, is the perception the mother has of her maternal behaviors. Factors identified by Mercer as influencing the ability of the mother to care for her infant in a competent manner, thereby attaining the maternal role, are maternal age at first birth, perception of the birth experience, early maternal-infant separation, support systems, self-concept, personality traits, maternal illness, and child-rearing attitudes. Those factors she considered confounding factors were socioeconomic level, largely determined by education, and culture. The conflicts and difficulties felt by the mother are role strain and were also identified as factors that impact maternal role attainment. The woman’s partner in her quest to attain the role of mother is her infant. The infant affects the role behavior and is affected by it so the behaviors of both mother...
and child interact in the role attainment process and reflects the progression of the process. Infant variables that affect this process are infant temperament and infant illness.

This study examined the attitude component of competence, confidence, and how it may be affected by postpartum depression. The factors that influence maternal role attainment that were examined were age, support systems, socioeconomic level, levels of education, and infant temperament. With the exception of age, these factors have also been found to influence the development of postpartum depression.

**Age**

Like Mercer (1981), this study found the older woman to be less confident in her role as mother. In addition, the older first-time mother is less likely to be happy with the support she receives and is more likely to view her infant as being unhappy.

**Education Levels and Socioeconomic Status**

In her theoretical framework, Mercer (1981) asserted that socioeconomic status is largely influenced by educational level and considered them confounding factors. She also asserted that these two factors would have a negative relationship with maternal confidence as although the more educated mother may be more mature she also may have higher expectations of herself. This study also found a positive relationship between age, educational level, and socioeconomic status, and a negative relationship between these and maternal confidence.

**Support Systems**

Based on her review of literature, Mercer (1981) included support systems as a positive factor in the mother’s ability to attain her role. The study also found support systems to be influential in helping the mother to fulfill her role in a confident manner; both support system size and mother’s satisfaction with her support system had a positive impact on her confidence.

**Infant Temperament**

As the mother’s partner in role attainment, Mercer (1981), described the infant as both affecting the process and well as being affected by it. She also asserted that the more confident mother regards her infant as being happy whereas the less confident mother sees her infant as being more difficult. Again, this study’s findings are consistent with
Mercer’s theory as the more confidence the mother had in her role, the more content she perceived her infant to be.

Maternal Illness

Postpartum depression was considered a maternal illness for the purpose of this study, a factor that also impacts maternal role attainment. Mercer (1986) addressed maternal illness in a physiological sense rather than psychological such as depression. She found that maternal illness undermines the mother’s ability to attain her role by decreasing her self-esteem and depriving her of the energy that is needed to care for her infant. Considering postpartum depression as a maternal illness was based on review of the postpartum depression literature. This study’s findings that the depressed mother is unhappy, has disturbed sleep, feels anxious and panicky, and blames herself when things go awry lend validity to the use of postpartum depression as a maternal illness. In addition, although not considered before in this study, Mercer’s assertion that maternal-infant separation impacts maternal role attainment may be applied to this study. Mercer focused on early maternal–infant separation that occurs with infant or maternal illness shortly after giving birth, however, this study’s finding that the depressed mother is less likely to recognize her infant’s needs through infant cues may be considered a form of separation as an emotional detachment.

Role Strain

Mercer (1985) identified role strain as the conflict felt by the mother during the process of maternal role attainment. In addition to maternal illness, postpartum depression was considered a role strain for the purpose of this study. The use of postpartum depression as a role strain is supported by this study’s findings that the depressed mother is less confident in her role. In addition, the depressed mother was found to perceive her partner, the infant, as unhappy causing further conflict in her ability to attain the role.

Figure 1 depicts the relationship between postpartum depression and maternal confidence, as well as factors that were found to have an association with both. The positive and negative signs indicate the directions of the relationship. They also indicate the value of the mother’s perception of her support and infant temperament. The arrow
between postpartum depression and maternal confidence indicates an association between the two; the presence of a negative sign indicates that it is a negative relationship. The arrows with negative signs between support and postpartum depression and infant temperament and postpartum depression indicate that dissatisfaction with support and a negative perception of the infant’s temperament were paired with higher scores on the postpartum depression screening. However, more favorable perceptions of support and infant temperament were associated with increased maternal confidence.

*Figure 1* A Model of Maternal Confidence and Postpartum Depression
Assumptions

Assumptions identified for this study prior to data collection were:

1. An adequate number of qualified subjects would be willing to participate.
2. Subjects will answer questionnaires truthfully.
3. The sample will contain a similar percentage of postpartum depressed women as has been found in the general population.
4. The subjects have no previous experience with 4-month-old infants.
5. The subject’s infant lives with her.

The use of power analysis indicated that a sample of 50 depressed and 50 non-depressed mothers would be used in this study. This assumption was not met as the study used data collected on 89 non-depressed mothers and 15 depressed mothers. However, with a rate of 14.4% depressed mothers, the third assumption was met as this rate is similar to those found in other studies of the depressed mother (Atkinson & Rickel, 1984; Beck & Gable, 2001; Beeghly, et al., 2002; Evins, Theofrastous, & Galvin, 2000; Georgiopoulos, Bryan, Yawn, Houston, Rummans, & Therneau, 1999; Gotlib, Whiffen, Mount, Milne, & Cordy, 1989; Gotlib, Whiffen, Wallace, & Mount, 1991; Montgomery, 2001; O’Hara, Neunaber, & Zekoski, 1984; Reigard & Evans, 1995). The assumptions that the subjects would respond truthfully, had no previous experience with 4-month-old infants, and that the infant lived with the mother, remain assumptions for this study. The methodological assumptions for this study are those for the parametric statistical, independent samples t-test, as previously discussed.
Limitations

Limitations stated prior to data collection for this study were that the findings would be limited to the early process of maternal role attainment and to first-time adult mothers of healthy, singleton infants. In addition, although there are other factors that influence maternal confidence, this study was limited to the impact postpartum depression may have on maternal confidence. Lastly, the use of a self-report inventory for depression may yield a higher rate of false positives than would the use of standardized diagnostic criteria.

Limitations encountered during data collection were largely due to the use of mail surveys. Although all efforts were made to have only subjects that met the criteria for participation in the study, the mail out component of this study relied on the mother’s ability to understand the criteria of the study, as provided in cover letter, and adhere to them.

A methodological limitation of the study is the failure to have an adequate number of depressed subjects. This failure to have equal samples for the depressed and non-depressed mothers decreases the power, the ability to detect a relationship, from 0.80 which was set a’prori.

Nursing Implications

This study’s findings have implications for both the professional nurse and the many roles of the advanced practice nurse. Not only does it shed light on factors that affect the mother’s ability to attain her role but it also provides an increased awareness of the impact postpartum depression may have on her ability to attain the role. With the heightened awareness of postpartum depression that is present today, largely due to the
tragic events of a mother, who was believed to be suffering from postpartum psychosis, drowning her children, the advanced practice nurse, as educator, clinician, consultant, researcher, and administrator/ leader, must act on this awareness and become an agent of change.

*Advanced Practice Nurse*

The advanced practice nurse as clinician, or nurse practitioner, has the unique opportunity to develop a relationship with the mother, child, and family during the frequent encounters made. Given this, it behooves the nurse practitioner to be aware of the factors that may impede the mother’s ability to fulfill her role. The art of observation and communication are the advantages the nurse practitioner has in the day-to-day contact with the new mother and her infant. Observation of interactions between mother and child, and the physical assessment of mother and or child, allows the nurse practitioner to assess for needs, whether verbalized or not, that may be present, and to intervene.

The art of communication is used by the nurse practitioner as a means to form a trusting relationship with the mother, assess the mother’s verbalized needs, and to educate the mother. The formation of a trusting relationship requires the nurse practitioner to address the woman as an individual separate from her role as mother. This must occur whether the visit is for the mother or for the child. By doing so, not only does a relationship begin to form, but also the nurse practitioner may become aware of existing factors that may influence the woman’s ability to attain the role of mother.

From the immediate postpartum period in the hospital to visits made to the pediatric, obstetric, and primary care offices, the nurse practitioner has numerous opportunities to educate the new mother on skills needed, provide advice and encouragement, involve support systems, and to discuss postpartum depression. By discussing postpartum depression with every new mother, the nurse practitioner conveys to the mother awareness and acceptance of it, thereby, opening the door for further discussion should the mother feel she may be having problems or should the nurse practitioner feel that a problem might be present. This awareness is the first step in combating the devastating effects of postpartum depression. It is the very least nurse
practitioners that care for the mother, child, or family should include as part of their practice. Ideally, however, the nurse practitioner should advocate screening for postpartum depression. By doing so, the nurse practitioner could intercede appropriately and enhance the process of maternal role attainment.

Administration

As administrator/leader, the advanced practice nurse should institute policies increasing the awareness of postpartum depression and where applicable, the screening of such. Although some state legislators have attempted to implement laws that would inform the new mother of postpartum depression (Sobey, 2002), a law should not have to be in place for this to occur. As a profession, nurses are entrusted to be patient advocates. By being advocates of both the mother and child, nurses should, at least, be informing the new mother of the potential for postpartum depression. This could certainly be included as part of the postpartum discharge instructions provided by nurses in hospitals across the nation. Just as nurses would not discharge a surgical patient from the hospital without instructions regarding the possibilities of developing a post-surgical infection, they should not be discharging a mother and her infant without information regarding a condition that has been recognized for centuries.

Secondly, the advanced practice nurse as administrator/leader should implement screening for postpartum depression in practices where women at risk are seen. This would include obstetrical offices, family practice where the care of the whole family may be provided, and pediatric offices. The awareness of postpartum depression is there; this researcher did not have to explain what postpartum depression was to her participants; they were more than eager to participate and to be screened. However, new mothers should not have to wait for a graduate student conducting a study on this phenomenon to be screened. Policies should be instituted in obstetrical, pediatric, and family offices to routinely screen the postpartum mother for depression. Peindl et al. (2003) developed an algorithm that helps to identify those women who may be at an increased risk of developing depression during the first year postpartum based on the EPDS score calculated for them during any visit during the first six weeks postpartum. This algorithm is useful when asking the questions when screening is best done. Regardless of when,
screening must be done so that appropriated interventions can be implemented to ensure the well being of the mother and child.

**Education**

The concepts of maternal confidence and postpartum depression should be included in both the undergraduate nursing and continuing education curricula. As a profession that hails itself as evidence based, it would be remiss not to expose those who are seeking admission to this profession, as well as those who have already been admitted, to these two components. As this study has shown, as well as numerous others, these two concepts have interrelating components that influence the mother’s ability to care for her child.

The nursing student seeking her degree, whether an Associate’s, a Bachelor’s, or Master’s should be taught the concepts of Maternal Role Attainment and of postpartum depression. Nursing educators at these levels have many opportunities to incorporate these concepts into the curriculum. Maternal-child and family classes should include discussion about Maternal Role Attainment and postpartum depression while psychiatric nursing classes could continue the discussion on postpartum depression. If students are exposed to these concepts during their educational years, perhaps they will embrace them and implement them throughout their nursing careers.

The practicing nurse, especially those who work closely with the mother, child, and family should certainly be made aware of the effects postpartum depression has on the mother’s ability to care for her child in a confident manner. This could be accomplished by publishing current studies in the many general nursing journals as well as the specialty journals. For the professional nurse, these journals are often their primary source for information on how they may improve their care. This knowledge would be of immense value to the health care professional who has the most contact with clients on a day-to-day basis. Arming themselves with this information, the professional nurses too can become an agent of change and improve the lives they are entrusted with.

Failure of the nursing profession to acknowledge the devastating effects that postpartum depression has on the family would be a travesty to all mothers, present and
future. Now is the time that the nursing profession, at all levels, should offer a helping hand to those in the black hole of depression.

**Future Research**

Research on maternal confidence and postpartum depression seems to be cyclic. Most of the studies on maternal confidence, as well as postpartum depression, were conducted in the 1980’s with a resurgence of research on postpartum depression in recent years. Still there is a need for more.

As most of the research regarding Maternal Role Attainment and postpartum depression is somewhat dated, a study measuring both the attitude and behavior components of confidence in the depressed mother may provide new insights. In addition, as this study only examined the first-time mother of 4-month-old infants, a study examining experienced and inexperienced mothers with infants of all ages up to a year may offer information how postpartum depression affects the continual process of maternal role attainment.

Although Peindl et al. (2003) developed an algorithm for screening of postpartum depression, future studies are needed to validate their findings. As postpartum depression may occur at any time up to the first year, and sometimes beyond, knowledge of how to identify these women based on one screening would be fundamental to ensure that no woman suffers in silence.
Summary

The homogeneity of the demographic characteristics of the non-depressed and depressed mothers of this study helps to lend validity to the difference found in their maternal confidence. Although the emotional conflicts felt by the depressed mother may account for these differences, some of the depressed mothers seemed to possess coping mechanisms that help them see through the darkness of depression.

Consistent with Mercer’s (1981) theory of Maternal Role Attainment, this study found that age, education, and socioeconomic status have a negative impact on the mother’s ability to feel confident in her role. However, again as Mercer theorized, support systems and how the mother perceives her infant influence the process in a positive manner. These same factors were also found to influence postpartum depression. Although age and education did not impact postpartum depression, the depressed mother was found to be of a lower socioeconomic level. In addition, this study found a positive relationship between support systems, and a negative relationship with infant temperament for postpartum depression.

These findings have nursing implications for all levels of nursing. As an evidence-based profession, it is time to implement the knowledge gained through research into practice. Only by identifying those that are depressed, recognizing factors that may influence the mother’s ability to fulfill her role or place her at risk for developing postpartum depression, and supporting her through the process, can nurses help to ensure the health of the mother, child, and family.
APPENDIX A

NORTH FLORIDA PEDIATRICS PERMISSION LETTER
August 20, 2002

To Whom It May Concern:

Deborah Dilmore has permission to conduct her study at North Florida Pediatrics Associates following approval from the IRB at Florida State University.

Catherine Glidden, MN, ARNP
Pediatric Nurse Practitioner, Certified
APPENDIX B

RENO FAMILY PEDIATRICS PERMISSION LETTER
November 11, 2002

Deborah Dilmore, graduate student at the Florida State University School of Nursing, has permission to conduct her study at Reno Family Pediatrics.

Richard Reno, M.D.
December 16, 2002

To Whom It May Concern,

Debbie Dilmore R.N.  B.S.N.  N.P. Student.  FSU Student of Nursing has permission to Conduct research at Wakulla County Health Department on Postpartum Depression. She has accessed client information on four month postpartum mothers that have agreed to Healthy Start Program in Wakulla. Enclosed is the security protocol 7.0 on maintaining confidentiality information for volunteers. She has viewed DOH policies, procedures and Protocols related to security and release of information.

Sincerely,

Lu Stringer RNC
Healthy Start Coordinator
October 1, 2002

Deborah Dilmore, graduate student at the Florida State University School of Nursing has permission to seek participants for her study at my “Introducing Solids” classes.

[Linda DeBruyne's signature]

Linda DeBruyne, M.S., R.D.
APPENDIX E

BREAST-FEEDING SUPPORT GROUP PERMISSION LETTER
June 24, 2003

Deborah Dilmore, graduate student of the Florida State University School of Nursing, had permission to recruit participants for her study from the members of the breast-feeding support group.

Molly Shakar
Molly Shakar RN IBCLC
APPROVAL MEMORANDUM
from the Human Subjects Committee

Date: September 23, 2002

From: David Quadagno, Chair

To: Deborah Lynn Dilmore
2796 McFarlane Court
Tallahassee, Fl 32303

Dept: Nursing

Re: Use of Human subjects in Research
Project entitled: A Comparison of Confidence Levels of Postpartum Depressed and Non-depressed First-time Mothers

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Human Subjects Committee at its meeting on September 11, 2002. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by September 10, 2003, you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

APPLICATION NO. 02.439
Cc: J. Flannery
APPENDIX G

STUDY LETTER
Dear First-time Mother,

Thank you for your interest in my study. If you decide to participate, you will be asked to complete: The First-time Mother Questionnaire, The Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire. These questionnaires take approximately 15 minutes to complete.

Please read the Informed Consent Form, if you agree to participate in the study, sign and date it. You will be provided with a copy of it so that you can contact me if you have any questions about the study. Unfortunately, I will not be able to provide you with your scores as I will have no way of identifying your competed questionnaires.

You will also be provided with information on postpartum depression. Please take the time to read this information and consult your health care provider if you think you are experiencing postpartum depression. The information packet also contains some helpful websites for not only postpartum depression but about parenting as well.

Again, thank you for your interest. Your participation would be greatly appreciated.

Sincerely,
Deborah L. Dilmore, R.N., B.S.N.
APPENDIX H

MAIL OUT LETTER
Dear,

Thank you for interest in participating in my study. Enclosed are three questionnaires: The First-time Mother Questionnaire, The Edinburgh Postnatal Depression Scale, and the Maternal Confidence Questionnaire. Please complete these three questionnaires and return them in the envelope provided.

Retain the Informed Consent Form and the information on postpartum depression. Because your answers will be anonymous, I will not be able to tell you your scores. Please take time to read the postpartum depression information and consult your physician if you think you are experiencing postpartum depression. It also has some helpful websites for not only information on postpartum depression but parenting as well.

Again, thank you for your time. It is greatly appreciated.

Sincerely,

Deborah L. Dilmore, R.N., B.S.N.
APPENDIX I

MAIL OUT LETTER FOR NO PHONE
Dear First-time Mom,

I am a graduate student at Florida State University School of Nursing conducting a study on first-time mothers of 4-month old infants. Lou Stringer, R.N.C., Healthy Start Coordinator for Wakulla County provided me with your name and address. Her records indicate this is your first baby and that your baby is now four months old. Please disregard this letter if this information is incorrect.

If this information is correct, I hope you will consider participating in my study. It will take approximately 15 minutes and will be completely anonymous. Please complete The First-Time Mother Questionnaire, the Edinburgh Postnatal Depression Scale, the Maternal Confidence Questionnaire and return them in the envelope provided. You do not need to sign the Informed Consent Form. Keep it and the information packet on postpartum depression.

Because your answers will be anonymous, I will not be able to tell you your scores. Please take the time to read the postpartum depression information and consult your physician if you think you are experiencing postpartum depression. It also has some helpful websites for information on postpartum depression and parenting.

Thank you,

Deborah Dilmore, R.N., B.S.N.
APPENDIX J

CONSENT FORM
Informed Consent Form

You are being asked to participate in a study conducted by Deborah Dilmore, RN, BSN, a Family Nurse Practitioner student at Florida State University. The purpose of this research is to study adaptation to the role of motherhood and the mother’s emotional responses that follow the birth of a baby.

All of your answers will be kept confidential, to the extent allowed by law, and will be available only to the researcher. Your participation is completely voluntary and you may stop participation at any time. You may choose not to answer any question that you do not wish to answer. Consent may be withdrawn at any time without fear of reproach.

You will be asked to fill out three paper questionnaires that ask questions about yourself, feelings, and emotions you have experienced over the last week, and how well you feel you are doing as a new mother. It should take approximately 15 minutes to complete these questionnaires. Mrs. Dilmore will score the questionnaire about the emotions and feelings you have recently experienced and you will have the opportunity to discuss the score with her. All of the data collected in this study will be kept secured in a locked box and will remain in the researcher’s possession until August, 2008, at which time all data will be completely destroyed. Results will be presented as group data; no names will be used. Mrs. Dilmore will answer any questions you may have about this study or she will refer you to a knowledgeable source.

There is a possibility of minimal risk to you if you agree to participate in the study. You might experience some emotional discomfort when thinking about feelings you have experienced recently or if you suspect that you are experiencing postpartum depression. Mrs. Dilmore will be available to talk to you about any emotional discomfort you may experience. You will be provided written information on Postpartum Depression, methods for contacting local counselors and the North Florida coordinator of Postpartum Support International (PSI), as well as postpartum depression websites.

Benefits for participating in this study may be an increased awareness of your feelings and health. In addition, you will be providing health care professionals with valuable insight into postpartum depression and how it may affect the new mother’s confidence in herself. This knowledge may help health care professionals assist the new mother become more comfortable and confident.

I have been given the right to ask and have answered any questions I have had about this study. In the future, I may contact Deborah Dilmore, RN, BSN or Dr. Jeanne Flannery through the School of Nursing at (850) 644 – 5626 or the Institutional Review Board for Research Involving Human Subjects at (850) 644 – 8633 for answers to questions about this research or my rights. I have read and understand this consent form and freely and voluntarily consent to be a participant.

Study Participant __________________________ Date __________________________

[Stamp] 9-10-03

[Stamp] 9-11-02

FRONT STATE UNIVERSITY

[Stamp] NS No.

INSTITUTIONAL REVIEW BOARD

[Stamp] 02.439

[Stamp] EXP. July 2003
The First-time Mother Questionnaire

1. Your age: ___

2. Marital Status: Married ___ Single ___ Separated ___ Divorced ___ Widowed ___

3. Living with: Spouse/Partner ____ Alone ____ Extended family ____ Other, please specify____________________________________

4. Educational Level: Some High School ___ High School diploma ___ Some college ___ Vocational School ___ Bachelor’s degree ___ Master’s degree ___ Doctoral degree ___

5. What is your total household income? 14,999 or less ___ 15,000-24,999 ___ 25,000-34,999 ___ 35,000-44,999 ___ 50,000 or more ___

6. Ethnic Background: Caucasian ___ African American ___ Asian ___ Native American ___ Hispanic ___ Multiracial ___

7. Do you have a history of depression?   Yes ___ No ___

8. Have you been treated for depression in the last 12 months?  Yes ___ No ___

9. Does anyone in your family have a history of depression? Yes ___ No ___

10. How many people in your life do you feel support you as a mother?  1 ___ 2 ___ 3 ___ 4 ___ 5 ___ Greater than 5 ___
11. I am happy with the support these people provide?
   Always ___ Most of the time ___ Some of the time ___
   Never ___

12. My baby is content/happy.
   Always ___ Most of the time ___ Some of the time ___ Never ___

13. I feel confident when caring for my baby.
   Always ___ Most of the time ___ Some of the time ___ Never ___
APPENDIX L

EDINBURGH POSTNATAL DEPRESSION SCALE
Edinburgh Postnatal Depression Scale

Please underline the response which comes closest to how you have been feeling in the last 7 days, not just how you feel today.

**In the last 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 much
   - 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 without very good reason.
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. * Things have been bothering 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 has occurred to me.
    Yes, quite often
    Sometimes
    Hardly ever
    Never

Published in the British Journal of Psychiatry
June, 1987, Volume 150
by J. L. Cox, J.M. Holden, & R. Sagovsky
APPENDIX M

MATERNAL CONFIDENCE QUESTIONNAIRE
Maternal Confidence Questionnaire

How confident do you feel in your parenting role? (Check appropriate box)

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Seldom</th>
<th>Some</th>
<th>Often</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I know when my baby wants me to play with him/her.</td>
<td></td>
<td></td>
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<tr>
<td>2. I know how to take care of my baby better than anyone else.</td>
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<tr>
<td>3. When my baby is cranky, I know the reason.</td>
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<td>4. I can tell when my baby is tired and needs to sleep.</td>
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<td>5. I know what makes my baby happy.</td>
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<td>6. I can give my baby a bath.</td>
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<td>7. I can feed my baby adequately.</td>
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<td>8. I can hold my baby properly.</td>
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<td>9. I can tell when my baby is sick.</td>
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<td>10. I feel frustrated taking care of my baby.</td>
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<tr>
<td>11. I would be good at helping other mothers learn how to take care of their infants.</td>
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<tr>
<td>12. Being a parent is demanding and unrewarding.</td>
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<tr>
<td>13. I have all the skills needed to be a good parent.</td>
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<td></td>
<td></td>
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<tr>
<td>14. I am satisfied with my role as a parent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
June 24, 2002

Dear Debra,

You have my permission to use the MCQ scale.
Best Wishes,
Sincerely,

Lina K. Badr
APPENDIX O

POSTPARTUM DEPRESSION AND ‘BABY BLUES’
Postpartum Depression and the 'Baby Blues'

Are mood changes common after childbirth?

After having a baby, many women have mood swings. One minute they feel happy, the next minute they start to cry. They may feel a little depressed, have a hard time concentrating, lose their appetite or find that they can't sleep well even when the baby is asleep. These symptoms usually start about 3 to 4 days after delivery and may last several days. If you're a new mother and have any of these symptoms, you have what called the "baby blues." "The blues" are considered a normal part of early motherhood and usually go away within 10 days after delivery. However, some women have worse symptoms or symptoms last longer. This is called "postpartum depression."

What is postpartum depression?

Postpartum depression is an illness, like diabetes or heart disease. It can be treated with therapy, support networks and medicines such as antidepressants. Here are some symptoms of postpartum depression:

- Loss of interest or pleasure in life
- Loss of appetite
- Less energy and motivation to do things
- A hard time falling asleep or staying asleep
- Sleeping more than usual
- Increased crying or tearfulness
- Feeling worthless, hopeless or overly guilty
- Feeling restless, irritable or anxious
- Unexplained weight loss or gain
- Feeling like life isn't worth living
- Having thoughts about hurting yourself
- Worrying about hurting your baby

Although many women get depressed right after childbirth, some women don't feel "down" until several weeks or months later. Depression that occurs within 6 months of childbirth may be postpartum depression.

Who gets postpartum depression?

Postpartum depression is more likely if you had any of the following:

- Previous postpartum depression
- Depression not related to pregnancy
- Severe premenstrual syndrome (PMS)
- A difficult marriage
- Few family members or friends to talk to or depend on
- Stressful life events during the pregnancy or after the childbirth

Why do women get postpartum depression?

The exact cause isn't known. Hormone levels change during pregnancy and right after childbirth. Those hormone changes may produce chemical changes in the brain that play a part in causing depression. Feeling depressed doesn't mean that you're a bad person, or that you did something wrong or that you brought this on yourself.

How long does postpartum depression last?
It's hard to say. Some women feel better within a few weeks, but others feel depressed or "not themselves" for many months. Women who have more severe symptoms of depression or who have had depression in the past may take longer to get well. Just remember that help is available and that you can get better.

**What kinds of treatments help with postpartum depression?**

Postpartum depression is treated much like any other depression. Support, counseling ("talk therapy") and medicines can help. If I'm breast-feeding, can I take an antidepressant? If you take an antidepressant medicine, it will go into your breast milk. Talk to your doctor about the risks of taking an antidepressant while breast-feeding. Your doctor can decide which medicine you can use while nursing your baby.

**What can I do to help myself?**

If you have given birth recently and are feeling sad, blue, anxious, irritable, tired or have any of the other symptoms mentioned here, remember that many other women have had the same experience. You're not "losing your mind" or "going crazy" and you shouldn't feel that you just have to suffer. Here are some things you can do that other mothers with postpartum depression have found helpful:

- Find someone to talk to--and tell that person about your feelings.
- Get in touch with people who can help you with childcare, household chores and errands. This social support network will help you find time for yourself so you can rest.
- Find time to do something for yourself, even if it's only 15 minutes a day.
- Try reading, exercising (walking is good for you and easy to do), taking a bath or meditating.
- Keep a diary. Every day, write down your emotions and feelings as a way of "letting it all out." Once you begin to feel better, you can go back and reread your diary--this will help you see how much better you are.
- Even if you can only get one thing done in any given day, this is a step in the right direction. There may be days when you can't get anything done. Try not to get angry with yourself when this happens.

It's OK to feel overwhelmed. Childbirth brings many changes, and parenting is challenging. When you're not feeling like yourself, these changes can seem like too much to cope with. You're not expected to be a "supermom." Be honest about how much you can do, and ask other people to help you. Find a support group in your area or contact one of the organizations listed below. They can put you in touch with people near you who have experience with postpartum depression. Talk with your doctor about how you feel. He or she may offer counseling and/or medicines that can help. Postpartum Depression Resources. The following organizations can help you find a support group:

Postpartum Support International  
927 N. Kellogg  
Santa Barbara, CA 93111  
Telephone: 805-967-7636  
Fax: 805-967-0608  
Internet: www.chss.iup.edu/postpartum

Postpartum Education for Parents  
P.O. Box 6154  
Santa Barbara, CA 93160  
Internet: www.sbpep.org
This handout provides a general overview on this topic and may not apply to everyone. To find out if this handout applies to you and to get more information on this subject, talk to your family doctor. Visit familydoctor.org for information on this and many other health-related topics.

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Additional Resources

The following web pages offer information and support for postpartum depression and new parents:

www.ppdsupportpage.com
www.parentsplace.com
www.wellmother.com
www.parentsoup.com
www.4women.gov/faq/postpartum.htm
www.depressionafterdelivery.com / Phone: (800) 944-4773
www.ndmda.org Phone: (800) 826-3632 or (312) 642-0049

Counseling and Support:

Jennifer Moyer, B.S.
North Florida Coordinator for Postpartum Support International
Phone: (850) 936-7161; Fax: (850) 936-7161
E-mail : PostpartumFL@yahoolcom

Judy Welch, R.N.,L.C.S.W.
(850) 431-4922
Tallahassee Memorial Women’s Pavilion

Gadsen County Health Department
Margaret Awad
(850) 875-7200

Wakulla County Health Department
Cathy Price
(850) 926-3591

Life Management Center of Northwest Florida
Marianna, Florida
(850) 482-7441

Telephone Counseling
224 –NEED (6333)
REFERENCES


BIOGRAPHICAL SKETCH

Deborah L. Durden Dilmore was born in Chattahoochee, Florida to the parents of E. Gene and JoAnn Durden. Raised in Grand Ridge, Florida, she attended Grand Ridge High School, graduating in 1983. She received her Associates of Arts degree from Chipola Junior College, Marianna, Florida, and her Bachelor of Science in 1987 from The Florida State University, School of Nursing, Tallahassee, Florida. She has held various positions as a registered nurse and currently resides in Tallahassee with her husband, Jay, and her two children, Brad and Audrey.