

EGO IDENTITY STATUS AS A DEVELOPMENTAL  
PREDICTOR OF POSTPARTUM DEPRESSION

by

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## Abstract

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Ego identity formation, as proposed by Erikson (1959), is the major psychosocial task of adolescence and young adulthood. Though past research on ego identity has focused on adolescent changes, recently a new question has emerged: Does the initial ego identity formed in adolescence undergo developmental changes or reformulations during adulthood? (Berzonsky & Adams, 1999; Kroger, 1995; Marcia, 2002). This study examined changes in ego identity status (Marcia, 1966) during the transition to motherhood and its relation to the development of postpartum depressive symptoms using a two-wave longitudinal design. The dissertation also examined three potential mediators of this relationship: prenatal commitment to the pregnancy; postpartum commitment to the infant; and parenting self-efficacy.

The sample consisted of 78 pregnant women between the ages of 18 to 47. Data were collected through mailed self-report questionnaires during prenatal weeks 20 to 40 (Time 1) and again during postpartum weeks 5 to 22 (Time 2). Measures included the Extended Objective Measure of Ego Identity Status-2 (EOMEIS-2; Adams, 1998) and the Center for Epidemiological Studies Depression scale (CES-D; Radloff, 1977) at both time points; the Commitment to the Pregnancy scale (Lydon, Dunkel-Schetter & Cohan, 1996) at Time 1 and the Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002), the Parenting Sense of Competence

scale (PSOC; Gibaud-Wallston & Wandersman, 1978) and the Commitment to the Infant scale (developed by the author) at Time 2. Based on their EOMEIS-2 scores, participants were classified in one of four identity statuses: diffusion, foreclosure, moratorium or achievement during both the late pregnancy and early postpartum periods.

There was some evidence of change in ego identity status from the pre-to post-partum period with more women changing to a less rather than a more differentiated ego identity status postpartum. Change in ego identity status was not related to postpartum depressive symptoms. In cross-sectional analyses, postpartum ego identity status was related to depressive symptoms when depressive symptoms were measured by the PDSS. However only one mediational process was identified: commitment to the pregnancy mediated the relationship between prenatal ego identity status and prenatal depressive symptoms.

The PDF version of the dissertation is comprised of two separate files: the main text and the supplemental file of landscaped tables.

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### *Introduction*

Major depression affects 10 to 15% of all postpartum women. Maternal postpartum depression affects not only the mother herself but impacts significantly on mothers' perceptions of their infants and subsequent maternal-infant bonding (Beck, 1992; Foreman & Henshaw, 2002). Long-term, maternal postpartum depression can have a negative impact on the cognitive, social and emotional development of depressed mothers' children (Beck, 1996, 1998; Fleming, A., Flett, G., Ruble, D., & Wagner, V., 1990; Phillips & O'Hara, 1991; Radke-Yarrow, Zahn-Waxler, Richardson, Susman & Martinez, 1994).

Past studies have identified contributors to postpartum depression, including prenatal depression (Cutrona & Troutman, 1986; O'Hara, Lewis, Schlechte, & Varner, 1991), lack of prenatal commitment to the pregnancy (Lydon, Dunkel-Schetter, Cohan & Pierce, 1996), lack of social support (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; O'Hara, M., Lewis, D., Schlechte, J., & Varner, M., 1991), and impaired parenting self-efficacy (Cutrona and Troutman, 1986). From another perspective, the qualitative studies of feminist researchers (Beck, 1992, 1993; Mauthner, 2003; Nicolson, 1998, 1999, 2003) have revealed the lived experiences of women who suffer from postpartum depression. Mauthner and Nicolson expressed the view that postpartum depression is not pathology, but rather, a normative process during which women make meaning of their pregnancy, birthing and postpartum experiences. For example, Nicolson (1999) framed postpartum depression as a paradox: women are happy to be mothers to their children while at the same time unhappy at the losses that early motherhood has inflicted upon them - - losses of autonomy and time, appearance, femininity and sexuality, and occupational identity. Nicolson suggested that within this framework, postpartum depression can be viewed as a healthy process towards psychological re-integration and personal growth rather than as a

pathological response to the birth of one's infant. In two studies with small samples ( $n = 7$  and  $12$  respectively) Beck (1992, 1993) found that the loss of one's self and pre-birth identity were major themes in women's lived experiences of postpartum depression. However, for the women in Beck's studies, postpartum depression was not a healthy process towards psychological re-integration and personal growth; rather these women experienced the sense of loss of control over their former selves/ identities as a *teetering on the edge*, a reference to walking the fine line between sanity and insanity (Beck, 1993, p. 44).

A number of researchers have examined women's transition to motherhood using some form of identity paradigm (Beck, 1992, 1993; Ethier, 1995; Hendrick, Altshuler, Strouse and Grosser, 2000; Nicolson, 1998, 1999; Porter & Hsu, 2003; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor & Deutsch, 1990). The transition has been examined in terms of changes in self-definition (Ruble et al. 1990; Hartrick, 1997), loss of self (Beck, 1992, 1993; Nicholson, 1998, 1999), ego resiliency (Paris & Helson, 2002); and the relationship between personal goals during pregnancy and into the postpartum period and the occurrence of depressive symptoms (Salmela-Aro, Nurmi, Saisto & Halmesmaeki, 2001). A maternal identity is not static, but rather, can change from pregnancy to pregnancy with no transference of a maternal identity from one child to another (Mercer, 2004). Thus an underlying assumption of the dissertation was that both primiparous and multiparous women could experience identity change.

Ego identity formation, as proposed by Erikson (1959, 1968), is the major psychosocial task of adolescence and young adulthood. The formation of an initial ego identity is the intrapsychic work of adolescence. Identity formation involves the exploration of and commitment to ideological and interpersonal choices that allow an individual to say "this is who I am".

Over the past forty years, much of identity research has focused on the study of identity formation in adolescence, but more recently a new question has emerged: Does the initial identity formed in adolescence undergo developmental changes or reformulations during adulthood and are there specific life events associated with these changes (Berzonsky & Adams, 1999; Kroger, 1995; Kroger & Green, 1996; Marcia, 2002)? To answer this question, some studies have examined prospectively the global impact of specific life events on identity change, for example, across the college years (Adams & Fitch, 1983; Waterman & Waterman, 1970; Waterman, Geary & Waterman, 1974; Waterman & Goldman, 1976). Other studies of middle-aged adults have examined changes in ego identity status retrospectively, as a consequence of specific life events such as, finding a partner, becoming a parent, and choosing one's career path (Takenori, 1980; Kroger & Green, 1996).

Changes in ego identity status can be either progressive (movement from a less to a more differentiated ego identity status) or regressive (movement from a more to a less differentiated ego identity status). Thus, the study looked to examine whether change in ego identity status occurred from pre-to post-partum. Pregnancy and the subsequent birth of the infant are normative events in women's lives that involve physical, psychological and role changes. The incorporation of the identity of mother into a woman's pre-existing identity is the psychosocial task of pregnancy, birthing, and the early postpartum period (Deutsch, 1944; Benedek, 1958; Mercer, 2004). Earlier studies have used various identity paradigms (Beck, 1992, 1993; Ethier, 1995; Hendrick, Altshuler, Strouse and Grosser, 2000; Nicolson, 1998, 1999; Porter & Hsu, 2003; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor & Deutsch, 1990) to explain this psychosocial process. The dissertation situated ego identity, the underlying intra-psychic

structure that is initially formed in adolescence, as the foundation upon which women build their identities as mothers.

For women, each pregnancy and birth is as unique as her life space at that particular point in time. During pregnancy, women engage in extensive psychological *maternal work*, i.e., preparing for, getting to know, and incorporating the soon-to-be-born infant into their present self systems (identities) (Rubin cited in Mercer, 2004). Later, during the postpartum period, psychological *maternal work* continues as women attempt to integrate their internalized self-representations of themselves as mother with their actual experiences of mothering and caring for their infants in real time. Since ego identity transformation sounds very much like Rubin's (1984) notion of *maternal work*, the study hypothesized that ego identity changes from the pre-to post-partum periods are developmentally normative intra-psychic processes that result in women's incorporation of the identity of mother into their pre-existing ego identities. It was further hypothesized that if these transformative changes or processes were developmentally normative, then change in ego identity status would not be related to postpartum depressive symptoms. Thus the study examined whether women's ego identity statuses changed or remained stable from pre-to post-partum and whether ego identity status change or stability was related to the occurrence of postpartum depressive symptoms.

Postpartum depression occurs in 10 to 15% of all postpartum women. This study tested the relationship between change in ego identity status from pre-to post-partum and the occurrence of depressive symptoms during the early postpartum period. The presence or absence of depressive symptoms in the early postpartum period was expected to be related to women's postpartum ego identity statuses. It was hypothesized that postpartum women classified as being in one of the least differentiated/immature ego identity statuses, diffusion or foreclosure, would

present with more depressive symptoms than those postpartum women who were in one of the more differentiated/mature ego identity statuses (moratorium or achievement). In addition, the relationship of change or stability in ego identity status and the occurrence of postpartum depressive symptoms were also examined.

Thus the dissertation united two areas of research, ego identity transformation and postpartum depression by situating pregnancy and the early postpartum period as significant normative life events during which women reexamine earlier identifications and reformulate their identities within the context of impending and later, actual motherhood.

The study examined several relationships: whether prenatal or postpartum ego identity status was related to postpartum depressive symptoms; whether there were changes in ego identity status from pre-to post-partum; what types of changes in ego identity status occurred; and whether there were particular types of ego identity status changes that led to postpartum depressive symptoms. In addition, several potential mediating mechanisms of these relationships were explored: *parenting self-efficacy*, a mediator for which there is strong evidentiary evidence and *prenatal commitment to the pregnancy* and *postpartum commitment to the infant*.

To this end, the study had three overarching aims: first, to document changes in ego identity status from late pregnancy through the early postpartum period; second, to examine whether prenatal ego identity status, postpartum ego identity status and/ or change in ego identity status from the pre- to post- partum period were related to the occurrence of postpartum depressive symptoms; and third, to examine the role of three potential mediators of these processes, prenatal commitment to the pregnancy, postpartum commitment to the infant, and parenting self-efficacy.

The dissertation employed a two-wave longitudinal design in which ego identity status and depressive symptoms were assessed in both the prenatal and postpartum periods. The use of this design extended current ego identity research into the study of intra-individual change over time, an area of identity research that has been critiqued as lacking (van Hoof, 1999).

## Background and Literature Review

### *Pregnancy as a Normative Transitional Life Event*

Pregnancy is a normative transitional life event during which time women experience biological and psychological changes that contribute to somatic and emotional experiences. The physical and psychological events of pregnancy are both universal and unique to each woman. Certain physical events are shared by all women (e.g., feeling the baby kick) and others show greater variability (e.g., morning sickness). The emotional experience of pregnancy is quite varied, depending on whether the pregnancy is planned or not (Deluca & Lobel, 1995), how supportive the father is (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993) and whether there is a history of depression (Cutrona & Troutman, 1986; O'Hara, Lewis, Schlechte, & Varner, 1991). More importantly, the psychological experience of pregnancy is unique to each woman as she finds meaning in the experience for herself. How women process these changes intrapsychically creates an opportunity for the transformation/reformulation of the existing ego identity to one that incorporates the identity of mother to this infant.

Becoming a mother is a creative and personally meaningful life event for most women. Once a woman commits to either the fantasy of being a mother sometime in the future or the actuality of being a mother as the end result of a real pregnancy, she begins the construction of a meaningful self-representation of herself as mother. This notion of commitment to the identity of mother is grounded in the personal meaning and value that an individual woman attaches to her goal of having a baby to mother (Lydon, Dunkel-Schetter, Cohan, & Pierce, 1996) and once pregnant, the process of ego identity transformation/reformulation becomes possible. The birth of the infant presents the woman with a real infant to mother; in the postpartum period being a mother is no longer a fantasy and the new mother matches her prenatal psychological self-

representation of mother with her actual experience (Mendell & Turrini, 2003). One way in which a woman does this is by appraising her competence in the day-to-day activities of mothering. This appraisal, along with the matching of the prenatal internalized self-representation of mother to the real experiences of mothering, affords the woman the opportunity to finalize her commitment to becoming a mother and complete the ego identity transformation/reformulation process. Earlier studies have identified commitment to the pregnancy (Deluca & Lobel, 1995, Lydon, Dunkel-Schetter, Cohan & Pierce, 1996), prenatal mood (Cutrona & Troutman, 1986; O'Hara, et al., 1991), and postpartum parenting self-efficacy (Cutrona & Troutman, 1986) as predictors of postpartum depression conferring both direct and indirect effects. To date no study has examined women's ego identity status as a contributor to postpartum depressive symptoms.

Pregnancy and parturition are potentially identity transformative events. Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor and Deutsch (1990) looked at women's transition to motherhood in terms of self-definition. They hypothesized that instability regarding attitudes and beliefs across the pre-pregnant, pregnant and postpartum phases might be indicative of a change in self-definition. Within a sample of 667 women, significant differences among phases were found for maternal self-confidence, identification with pregnancy, social boredom, and information seeking, with these attributes increasing across phases. Similarly, significant differences among phases were found for maternal worries, interest in sex, and negative aspects of caretaking, showing decreases across phases. No differences among phases were found for relationship with mother, body image, attitude towards breastfeeding, and feelings of dependency. Thus the findings were mixed for changes in self-identification from the prenatal to postpartum period, but the study was cross-sectional and did not assess intra-individual change.

Using a long-term longitudinal design, Salmela-Aro, Nurmi, Saisto and Halmesmaeki (2001) examined the relationship between women's construction and reconstruction of personal goals during pregnancy and into the postpartum periods and the occurrence of depressive symptoms. In a mixed sample of 348 primiparous and multiparous women, a decline in depressive symptoms was demonstrated in women who presented with an increase of family-related goals from pregnancy to after childbirth.

Mercer (2004) in her review of the extant literature on maternal role attainment cites Rubin (1984) who described change in maternal identity for multiparous women as that of a "new personality dimension (being incorporated) into a woman's self-system with the birth of each subsequent child, with no transference of a maternal identity from one child to another. Each childbearing experience is different, just as the woman's life space and self-system are different. The uniqueness of each child, and of the mother at that particular point in her life, require systematic, extensive maternal work in getting to know and incorporate each child into her self and family systems" (2004, p. 227).

Women's sense of loss of self (identity) following childbirth has been documented in the qualitative research of Beck (1992, 1993) and Nicolson (1998, 1999, 2003). Mercer (2004) explains the need for maternal grief work as women relinquish prenatal roles or parts of their lives that are incompatible with motherhood.

This dissertation situated ego identity status as the underlying psychological structure that contributes to women's committing to carry a pregnancy to term and committing to care for and nurture her infant once birthed. Previous studies have found that ego identity status can be an underlying contributor to affective expression, specifically, anxiety and depression (Marcia, 1967, 2003; Marcia & Friedman, 1970; Orlofsky, 1978; Waterman, 1982; Wautier & Blume,

2004). Thus, it was hypothesized that a woman's underlying ego identity status contributes to how she interprets and adjusts to the motherhood experience both in the prenatal and postpartum periods. Furthermore, when women experience a sense of competence in their parenting role this, too, contributes to maternal mood. Viewed through this lens, parenting self-efficacy was positioned as a mediator between postpartum ego identity status and postpartum depressive symptoms.

A conceptual model that illustrates the direct and indirect effects tested for the dissertation is presented in Figure 1. The model was developed to examine the relationships between women's ego identity status (prenatal, postpartum or change in ego identity status from the pre-to post-partum period) and prenatal and /or postpartum depressive symptoms. In the extant literature on postpartum depression parenting self-efficacy (Cutrona and Troutman, 1986; Teti & Gelfand, 1991; Zayas, Jankowski & McKee, 2005) is cited often as a mediator between some variable and postpartum depression. Thus I incorporated parenting self-efficacy into the model. The mediator of commitment to the pregnancy and the infant was more exploratory as I will describe in the literature review. Lydon, Dunkel-Schetter, Cohan and Pierce (1996) found that women's commitment to their unplanned pregnancies was related to their prenatal decision-making of whether to continue or terminate their pregnancies. As commitment is one of the two manifest behaviors (exploration being the other) that contributes to ego identity status, I conceptualized commitment to the pregnancy and commitment to the infant as potential mediators of the relationships in the proposed model Thus, the direct effects tested asked the question: "Was prenatal ego identity status, postpartum ego identity status and/or change in ego identity status from the pre-to the post-partum period related to postpartum depressive symptoms?". The indirect effects tested asked the question: "Was prenatal commitment to the

pregnancy, parenting self-efficacy and/or postpartum commitment to the infant mediators of these relationships?” In the following sections, I review the literature on each predictor in the model and its relationship to postpartum depressive symptoms. In the literature review I will more explicitly draw on the evidence supporting the paths in the model.

### *Postpartum Depression*

Postpartum depression (PPD) is an important psychological construct because of its impact on maternal mental health (Cutrona & Troutman, 1986; Beck, 1992, 1996; Collins, et al., 1993), maternal-infant attachment (Fleming, Flett, Ruble, & Shaul, 1988) and infant development (Philipps & O’Hara, 1991; Krech & Johnston, 1992; Beck, 1998). Researchers have studied PPD from both medical and psychosocial perspectives. Medical models of PPD focus on the physiological fluctuations in hormones that are directly related to the birth process, exhaustion from the work of labor, nursing, and lack of sleep as the precipitants of postpartum depression. From a psychosocial perspective, prenatal depression (Cutrona & Troutman, 1986; O’Hara, et al., 1991), social support (Collins, et al., 1993), infant temperament (Cutrona, 1986), parenting self-efficacy (Cutrona & Troutman, 1986), and problematic birth experiences (Mauthner, 2003) have been identified as predictors of PPD. To date no study has examined underlying ego processes as contributing to postpartum depression.

Postpartum moods range from negative to positive, from anxiety and depression to joy and elation. In the dissertation, I looked at only negative postpartum moods, as that is where psychological interventions would be targeted. Negative postpartum moods lie on a continuum from mild dysphoria to severe psychosis. The earliest postpartum mood change, called the baby blues, is a benign, self-limiting occurrence (Dalton, 1996). Symptoms include episodic crying, fatigue, poor concentration, and impaired cognition. The baby blues are generally seen as

normative and shaped by both psychological and biological (i.e., hormonal) forces. The baby blues resolve naturally within the first two weeks postpartum. A more serious occurrence that is not self-limiting or resolved within the first two weeks postpartum is postpartum depression, a clinical depression that affects 10-15% of women any time from a month to a year after childbirth (National Institutes of Health, 2005). Though the symptom presentation is similar to the baby blues, postpartum depression also includes the symptoms of hopelessness and overwhelming guilt and the fact that these symptoms persist beyond the initial two-week postpartum period. The most serious condition, postpartum psychosis is experienced by less than 1% of new mothers (National Institutes of Health, 2005) and is distinguished by hallucinations and threats of harm to self and infant.

In an effort to depathologize postpartum depression, some feminist researchers have contextualized postpartum mood changes as normative in the transition to motherhood (Mauthner, 2003; Nicolson, 1998, 1999, 2003). Mood changes are framed as the intra-psychic processing of the creative experiences of pregnancy and birthing, or as women's attempts to make meaning of their motherhood experiences. The idea of how women make meaning is contained in appraisals of their competencies as performers of mothering activities.

The Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-IV-TR, 2000) defines depression as a condition in which at least five symptoms (listed below) meet the following criteria: (a) they have persisted for a minimum two week period; (b) they are experienced nearly every day and (c) they are representative of a change from previous functioning. As indicated by either subjective report or observation of others, the depressive symptoms include: depressed mood most of the day, nearly every day; markedly diminished interest or pleasure in all, or almost all, activities most of the day; significant weight loss when

not dieting or weight gain, or decrease or increase in appetite nearly every day; insomnia or hypersomnia; psychomotor agitation or retardation nearly every day; fatigue or loss of energy nearly every day; feelings of worthlessness or excessive or inappropriate guilt nearly every day; diminished ability to think or concentrate, or indecisiveness; and recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or suicide attempt or a specific plan for committing suicide (DSM-IV-TR, 2000) Women who experience prenatal depressive symptoms and/or depression have been identified as “at risk” for the development of depression in the postpartum period (Cutrona & Troutman, 1986; O’Hara, et al., 1991; Downs, DiNallo, & Kirner, 2008). Women’s commitment to their pregnancies in the early prenatal period (Deluca & Lobel, 1995, Lydon, Dunkel-Schetter, Cohan & Pierce, 1996), as well women’s sense of postpartum parenting self-efficacy (Cutrona & Troutman, 1986) have also been identified as predicting postpartum depression; this will be discussed in more detail in a later section.

#### *Ego Identity Status as a Predictor of Postpartum Depression*

The construct of ego identity, as theorized by Erik Erikson (1959, 1968), is situated in the literature of ego psychoanalytic theory. Erikson views development as an epigenetic psychosocial process comprised of eight stages from birth to senescence with the developmental underpinnings present from birth. Each stage comes to ascendance in a developmentally ordered sequence. During each of the eight developmental stages, a specific psychosocial conflict emerges that affords an opportunity for resolution of the experiences and/or tasks that are salient to the stage. This process comprises developmental maturation. Resolution is not an all-or-none phenomenon. It is possible to return to earlier stages and rework the conflicts with the result being a more nuanced/mature ego identity.

Development evolves within the context of social interactions with significant others (Erikson, 1968). During these interactions, individuals identify and assimilate attributes of the other person as part of the self. For an infant or child, the “other” is his or her own mother; for an adolescent, it includes not only parental identifications, but also identifications with significant adults with whom the adolescent comes in contact; for a new mother it is the dual intra-psychic identifications of the woman’s self as an infant to her own mother and the woman’s self as mother to her own infant. The significance of early mother-infant interactions for ego development can also be found in the writings of major developmental theorists such as Sullivan (1953), Anna Freud (1973), Spitz (1973), Mahler (Mahler, Pine & Bergman, 1975); Blos, Sr. (1966) and Blos, Jr. (2003), but Erikson’s approach will provide the developmental framework for this study.

Early mother-child identifications lay the foundation for the identity formation task of late adolescence. Adolescents commit to a nascent identity that is both personally meaningful and personally expressive by selectively choosing to assimilate certain childhood skills, beliefs, and identifications while repudiating others, and by exploring personal values and goals, along with available societal values and social roles. This nascent adolescent identity provides the direction for the future. When the adolescent does not commit to a nascent identity, role confusion or identity non-commitment occurs. Later in the life cycle, these same early mother-child identifications can re-emerge within the context of impending motherhood. Thus, women’s identification with their own mothers as “mother” models contributes to the maternal identity transformation process (Benedek, 1958; Erikson, 1968).

Erikson’s work on ego identity is largely theoretical and descriptive. He examined ego identity by exploring case histories (his psychoanalytic patients and World War II veterans,

[Erikson, 1968]) and analyzing individual lives through autobiography (*Young Man Luther*, 1958; *Ghandi's Truth*, 1969). Marcia, a developmental psychologist, contributed to the further understanding of ego identity by developing a conceptual model to study two observable behavioral components of ego identity, *exploration* and *commitment*, which could be tested empirically (Marcia, 1966, 2003). *Exploration* is viewed as the examination of alternatives through the gathering of information and the practicing of age-appropriate activities related to those goals, values, or beliefs that pertain to some domain in one's life. *Commitment* to those values, goals and beliefs is the result of the exploration process and is demonstrated by age-appropriate knowledge and activity. An illustration of this process would be a high school adolescent who thinks that she/he might want to be a registered professional nurse and volunteers in a hospital during vacation breaks. Commitment to this career choice would be the application to a college nursing program in preparation for a nursing career. The final step of the process is the ability to project into the future with regard to this choice and its impact on the domain of reference, as well as other domains of one's life that may also be affected by this decision.

Intrinsic to the exploration and commitment processes of ego identity development is the formulation of conferred and constructed identities. A *conferred identity* is an identity given by or decided by one's parent or parental caregiver. For example, for most children parents confer on them a religious identity, or at least membership in a religious group. In contrast, a *constructed identity* is the result of active self-directed exploration of choices resulting in commitment to a personally decided career, political or religious affiliation, or values. For example, an adolescent may say, "even though I come from a family of Catholics, after careful exploration of the religions, I've committed to being a Unitarian." When an identity is consolidated, adolescents develop a core identity that allows them to have a future direction.

When an identity is consolidated, commitment follows. Commitment is the behavioral expression of the value and meaning that one either assigns or selects to the goals, values and life tasks that are especially expressive of self (Adams, 1998).

To assess the exploration and commitment processes underlying identity formation, Marcia (1966) “crossed” these dimensions, exploration and commitment, to create four identity statuses: *achievement*, *foreclosure*, *moratorium*, and *diffusion* (see Figure 2). Each identity status combines the depth of exploration with the commitment processes of identity formation.

*Achievement* status is reached when the individual has decided to commit to an identity after active exploration of alternatives. A *foreclosed* status occurs when an individual commits to an identity that is conferred on him or her; no exploration of choices has been involved. A *moratorium* status occurs when the individual is in the process of actively exploring identity alternatives but makes no commitment to an identity. A *diffusion* status occurs when the individual has failed to actively explore or commit to an identity.

Marcia’s model has been used extensively since its inception to explore identity development among middle and late adolescents (Adams, Abraham & Markstrom, 1987), young girls (Archer, 1985); female and male college students (Archer & Waterman, 1983; Bennion & Adams, 1986; Kroger, 1995; Wautier & Blume, 2004), women (Josselson, 1988) and mothers of preschool children (MacKinnon & Marcia, 2002). Within these populations, differences have been found among the four identity statuses on a range of variables, including: attachment style, commitment, anxiety and depression. In longitudinal studies with adolescents and college students (Archer & Waterman, 1983; Archer, 1985), a change in ego identity status from a less to a more differentiated status was found for students from the first to the final year of their educational experiences. In several studies (Marcia, 1967; Marcia & Friedman, 1970; Orlofsky,

1978; Waterman, 1982), adolescents and college-age young adults classified in the moratorium identity status had the highest levels of anxiety as compared to the other three statuses.

Marcia (1993) suggested that this was related to the “in-crisis state” of the moratorium status.

However, only one study was found that investigated the relationship between ego identity status and depression. In a sample of 150 undergraduate college students, Wautier & Blume (2004) found that secure individuals were less anxious and depressed than insecure individuals.

Therefore, though Marcia’s model had been used extensively over the last forty years with various populations, a review of the literature from 1966 to the present found no studies using populations of pregnant women. The search engines used were: Academic Search Premier; Psych Info; Psych Articles; and CINAHL PLUS and the key words entered included: commitment; mediation; commitment to the pregnancy; commitment to infant; transition to motherhood; and James Marcia. James Marcia, Ph.D. (J. Marcia, personal communication, October 13, 2008) stated that “the study is unique” and that he was “not aware of any studies with populations of pregnant women”.

The conceptual model that illustrates the direct effects tested for ego identity status and depressive symptoms is presented in Figure 1. Four separate relationships were tested: 1) the relationship between prenatal ego identity status and postpartum ego identity status; 2) the relationship between prenatal and postpartum depressive symptoms; 3) the relationship between prenatal ego identity status and prenatal depressive symptoms; and 4) the relationship between postpartum ego identity status and postpartum depressive symptoms.

#### *Mediators of the Relationship between Ego Identity Status and Postpartum Depression*

A major aim of this study was to understand *how* ego identity status, or change in ego identity status, might lead to postpartum depressive symptoms. Thus, three potential mediating

mechanisms were examined: Commitment to the pregnancy, commitment to the infant, and parenting self-efficacy. These mediational relationships are illustrated in the conceptual model (see Figure 1).

### *Commitment to the Pregnancy and to the Infant*

Commitment is an internal psychological state in which a person feels tied to or connected to someone or something (Lydon, et al., 1996); in this study it is the fetus during pregnancy and the infant postpartum. Previous studies (Lydon et al., 1996; DeLuca and Lobel, 1995) have found that commitment can act as a mediator of relationships within the pregnancy experience. In his conceptual model, Marcia defines commitment to values, beliefs and attitudes as one of the two behavioral components that contribute to ego identity status. In exploratory analyses, the potential role of commitment as a mediator of both women's commitment to their pregnancies and women's commitment to their infants was examined.

Only two studies have examined commitment within the pregnancy experience. Lydon et al. (1996) explored commitment as the underlying psychological state that predicted whether women decided to carry an unplanned pregnancy to term. They found that women's initial commitment to their pregnancies predicted not only their affective states but also their decision to terminate or continue their pregnancies. In a sample of 96 women at high risk for pregnancy complications, DeLuca and Lobel (1995) found that a planned pregnancy contributed to better prenatal health care practices and that commitment to the pregnancy mediated that relationship.

A literature review was conducted to find studies that examined commitment to the infant as a predictor of postpartum depression. The search engines: Academic Search Premier; Psych Info; Psych Articles; and CINAHL PLUS were used. Articles from 1966 to the present were searched. Key words included: commitment; mediation; commitment to the pregnancy; and

commitment to infant used in various combinations. No studies were found. However, since commitment to the pregnancy mediated prenatal relationships in earlier studies (Lydon et al., 1996; DeLuca and Lobel, 1995), I hypothesized that commitment to the infant might also act as a mediator during the early postpartum period. Thus, the role of commitment to the infant as a potential mediator of postpartum ego identity status and postpartum depressive symptoms was explored.

### *Parenting self-efficacy*

The concept of parenting self-efficacy derives from Bandura's self-efficacy theory (1977) and postulates that mothers who expect to be competent and effective in their performance of mothering activities (e.g., soothing a crying baby) will be motivated to actively engage in these activities even if presented with obstacles (e.g., a fussy baby) (Cutrona & Troutman, 1986). Parenting self-efficacy is a recent construct that sounds very much like Benedek's (1958) earlier notion of maternal confidence. Benedek, a psychoanalyst, described the mother's confidence in her "motherliness" as intrinsic to the developmental transition to parenthood (p. 393). She noted that motherliness develops within the activities of the mother-infant interaction (e.g., soothing, feeding, nurturing). When a new mother is able to gratify her infant's needs and the infant responds with satisfaction, maternal confidence develops. When a mother is not able to gratify her infant's needs and the infant is frustrated, a maternal sense of failure ensues. This frustration mirrors earlier frustrations that the mother herself experienced with her own mother. According to Benedek (1958), the development of the identity of mother is a spiral-like intra-psychic process. Upward rotation signifies the developing identity of the new mother in relationship to her own infant and backward rotation signifies the relationship of the woman as infant to her

own mother. This intra-psychoic balancing between self and other lays the foundation for the mother-infant relationship and the identity of mother.

Several studies have identified the negative impact that mood states, such as depression and anxiety, can have on a mother's sense of self-efficacy in the postpartum period (e.g., Cutrona & Troutman, 1986; Donovan & Levitt, 1989; Teti & Gelfand, 1991; Gondoli & Silverberg, 1997). For example, Porter and Hsu (2003) studied 61 first-time expectant mothers and found negative correlations between both prenatal depression and prenatal anxiety with 1-month postpartum maternal self-efficacy. Fleming, Flett, Ruble, and Shaul (1988) studied 68 pregnant women and found that mothers who were depressed during pregnancy engaged in significantly less affectionate contact behavior with their infants than did non-depressed mothers at one and three months postpartum.

Parenting self-efficacy has been found to operate as a mediator between social support and postpartum depression (Cutrona & Troutman, 1986) and between mothers' perceptions of infant difficulty and postpartum depression (Teti & Gelfand, 1991). In a longitudinal study, Cutrona and Troutman (1986) used the Skills/Knowledge subscale of the Parenting Sense of Competence (PSOC) instrument to measure parenting self-efficacy among a sample of 55 mothers of three month old infants. Skills/Knowledge scores were correlated with self-esteem and mediated the effects of infant temperament and social support on postpartum depression. Zayas, Jankowski & McKee (2005) used the PSOC to examine the association between parenting sense of competence, level of satisfaction and maternal depression among a sample of 52 African-American and 72 Hispanic women during the third trimester of pregnancy and again at three months postpartum. As levels of reported parenting self- efficacy and satisfaction increased across time, depressive symptoms decreased. Both Cutrona and Troutman

(1986) and Porter and Hsu (2003) found maternal self-efficacy to be positively correlated with maternal reports of positive (easy) infant temperament at three months postpartum. In addition, Porter and Hsu (2003) found that previous child-care experience was not predictive of 1-month maternal self-efficacy, a finding that contributed to the notion that performance feedback and outcome expectancies can be reshaped by the immediacy of intimate care given with one's own infant. In another study, Donovan and Leavitt (1989) found that depressed mothers exhibited a lesser sense of self-efficacy than non-depressed mothers did when it came to their perception of their own ability to calm a crying infant.

In qualitative research, Beck (1992, 1993, 1996) and Nicolson (1998, 1999, 2003) found that for multiparous women, their sense of maternal incompetence and depression was mirrored in their feelings of guilt over not being able to "mother" their older children along with caring for the new infant. In a study of 54 multiparous women's adaptation to motherhood within the first six weeks postpartum, Lederman and Lederman (1987) found that these mothers were reporting greater difficulty in adapting to motherhood because of their concern for their older children. In a similar vein, Walker, Crain, and Thompson (1985) examined maternal self-confidence in carrying out everyday baby care activities and maternal role attainment in a sample of 64 primiparous and 58 multiparous women. Though the multiparas reported greater self-confidence at Time 1 (1-3 days post delivery) than did the primiparas; at Time 2 (4 to 6 weeks postpartum), the primiparas demonstrated a greater gain in self-confidence. This gain in self-confidence seems to reflect the primiparas' mastery of the infant care skills that the multiparas had accomplished while caring for their older children as infants. In addition, the attitudes of the multiparas towards their babies were less positive at Time 2 than at Time 1. This negative change in attitude

seems to be a reflection of the multipara's sense that they were unable to care for the new infant along with their older children.

### *Study Hypotheses*

The dissertation united two areas of research, ego identity transformation and postpartum depression, by situating pregnancy and the early postpartum period as significant life events during which women can reexamine earlier identifications and reformulate their identities within the context of impending and later, actual motherhood.

To contribute to our further understanding of the etiology of postpartum depression, two research questions were asked: "What are the relationships between women's prenatal, postpartum and/ or change in ego identity status and the occurrence of depressive symptoms during the early postpartum period?" and "Are there variables that mediate these relationships?"

Thus, the study examined whether prenatal or postpartum ego identity status were related to postpartum depressive symptoms; whether there were changes in ego identity status from pre- to post-partum, what types of ego identity status changes occurred and whether there were particular types of changes that led to postpartum depressive symptoms. In addition, several potential mediating mechanisms of this relationship were explored: *parenting self-efficacy*, a mediator for which there is strong evidentiary evidence and *prenatal commitment to the pregnancy* and *postpartum commitment to the infant*.

Consequently, a conceptual model (Figure 1) was proposed to examine these relationships. Several hypotheses were tested: prenatal ego identity status would be related to postpartum depressive symptoms; postpartum ego identity status would be related to postpartum depressive symptoms; and change in ego identity status would be related to postpartum depressive symptoms. To explore potential mediators, several mediational hypotheses were

tested: commitment to the pregnancy would mediate the relationship between prenatal ego identity status and prenatal depressive symptoms and between change in ego identity status and postpartum depressive symptoms respectively; both commitment to the infant and parenting self-efficacy would mediate the relationship between postpartum ego identity status and postpartum depressive symptoms respectively.

## Method

### *Overview*

The study employed a two-wave longitudinal design. Pregnant women were given a questionnaire packet to complete at home during prenatal weeks 20 to 40 and again approximately 6 to 8 weeks after giving birth. Participants were recruited from multiple sources: hospital- based and private obstetrical practices; hospital- based and private practice Lamaze and Caesarean-section prepared childbirth classes; and internet advertising.

### *Recruitment*

Pregnant women were recruited during weeks 20 to 40 of their pregnancies to make sure that the prenatal measures were completed before the birth of the baby. Inclusion criteria for participation were: at least 18 years of age, having a single birth, and able to read and speak English. The only exclusion criterion was postpartum maternal or infant complications that prevented discharge of mother and baby from the hospital at the same time. Women could be either primiparous or multiparous as each pregnancy is unique and not shaped by prior pregnancies (Mercer, 2004; Porter & Hsu, 2003).

Cohen's (2003) formula for multiple regression analysis was used to determine the necessary sample size. With the desired power set at .80, alpha (Type I error) at .05, and a medium effect size (.30) expected, the study required a minimum longitudinal sample size of 76 women. Attrition rate was assessed after collecting data from 23 women; it was 17%. Thus, to ensure a response rate of 76 returned postpartum questionnaires, there was a 20% oversampling.

Recruitment efforts were multi-pronged, including hospital- based and private obstetrical practices; hospital- based and private practice Lamaze and Caesarean-section prepared childbirth

classes; and internet advertising. Two hospitals served as recruitment sites: Jamaica Hospital Medical Center and Long Island Jewish Hospital, an affiliate of the North Shore-Long Island Jewish Health System.

*Jamaica Hospital Medical Center (JHMC).* Participants were recruited from the hospital's prepared childbirth classes. At the classes, the PI explained the study, and requested participation (Appendix A). Consent procedures were explained and the prospective participants were told that they would be entered in a lottery for three \$100 gift certificates to *Babies R Us* at the completion of the study. If women verbally agreed to participate, they were given the Time 1 questionnaire packet to complete at home. The packet included two consent forms, that of the CUNY Graduate Center (Appendix B) and that of the JHMC (Appendix C). The women were instructed to read and sign the consent forms before beginning the questionnaire. Completed packets were mailed to the PI in pre-stamped return envelopes. If the completed Time 1 questionnaire was not received within two weeks, a postcard (Appendix D) was mailed with the request that the questionnaire be completed and mailed back.

*Long Island Jewish Hospital (NSLIJHS).* Participants were recruited from the obstetrical clinic. Obstetrical nurse practitioners introduced the study during the 28 to 32 week prenatal obstetrical visit. If the patient expressed interest, nurse practitioners gave the patient a recruitment flyer and collected her contact information on an index card. The index cards were mailed to the PI in a pre-stamped, self-addressed envelope at the end of each week. Once the index cards were received, the PI telephoned each potential participant, described the study and what participation entailed, and answered questions. The PI emphasized that no information would be obtained from medical records and that healthcare providers would not know whether the women participated or not. If the woman agreed to participate, a Time 1 packet was mailed,

including the Graduate Center version of the consent form. The remainder of the procedure was then the same as that used for the JHMC participants.

*Internet recruitment.* A recruitment flyer (Appendix E) was posted on the Graduate Center's web-based message center. An internet posting (Appendix F) was posted on Craig's list, a free internet service website, and Urban Baby.com, a national parenting website. The flyer and internet posting described the study and requested that potential participants contact the PI by phone or e-mail. From that point of contact the procedures were the same as those described for hospital recruitment. The Graduate Center version of the consent form was used for these participants.

*Self-referrals.* Self-referrals came from a number of sources. Nurse-midwives self-referred after reading an online posting by a peer of the PI. From this recruitment strategy, the recruitment flyer was posted in two midwifery offices in Baldwin, New York and Bonney Lake, Washington. A nurse practitioner from LIJH posted the recruitment flyer in a private obstetrical practice in Lake Success, New York. Still other self-referrals came from women who had heard about the study from friends or relatives. The procedures for self-referrals were identical to those used with internet postings.

One hundred seventy-nine Time 1 questionnaires were distributed. One hundred thirteen questionnaires were returned (63 % response rate). The response rate by recruitment strategy is presented in Table 2.

However, three cases were excluded because the women returned their prenatal questionnaires after giving birth. One hundred ten women were mailed Time 2 questionnaires after they had given birth and 81 women returned them. Thus the attrition rate from Time 1 (n = 110) to Time 2 (n = 78) was 29%.

### *Sample*

A sample of 110 pregnant women completed the prenatal questionnaire. Of those women, 81 (71%) returned the postpartum questionnaire. Three cases were excluded because the women returned their prenatal questionnaires after giving birth. Thus, the longitudinal sample consisted of 78 women who completed both questionnaires, were at least 18 years of age, had a single birth, and were able to read and speak English. The only exclusion criterion for the study was postpartum maternal or infant complications that prevented discharge of mother and baby from the hospital at the same time. Based on this exclusionary criterion, none of the Time 2 respondents were excluded. Despite the attrition rate of 29% from the prenatal to postpartum period and the three cases that could not be used for analyses, the sample meets the criterion for statistical power described earlier.

Women entered the study during prenatal weeks 20 to 40 ( $M = 33$ ,  $SD = 3.5$ ); that is, 97% of the sample was either in their second or third trimester. Participants ranged in age from 18 to 47 ( $M = 30$ ;  $SD = 5.77$ ). The majority (81%) had some college or a college degree. About half the sample (52%) reported an income less than \$50,000. Ethnically, this was a diverse sample with 48% of the women self-reporting as white, 17% Caribbean Black or African-American, 14% Hispanic, 16% Asian, 2% multiracial, and 1% Native American. Almost all (96%) were married or partnered and for slightly over half (58%) this was a first pregnancy.

To determine whether those women who completed both questionnaires were different from those women who completed only the prenatal questionnaire, a series of  $t$ -tests and  $X^2$  analyses were computed for the Time 1 variables describing demographic data, pregnancy characteristics and depressive symptoms (see Table 1). Significant differences were found for only four variables: recruitment source, ethnicity, income, and education. Women who

completed both questionnaires were more likely to be recruited from the internet or self-referred (64%), and were more likely to be white (57%), with a greater income and more education, than those who did not participate post-birth.

### *Procedures*

After the women agreed to participate in the study either verbally or by e-mail, a consent form was mailed along with the Time 1 questionnaire packet. Participants were asked to complete the consent form before beginning the questionnaire. Participants were instructed to return the completed questionnaire in the enclosed pre-addressed postage paid envelope. If the questionnaire was not received back within two weeks of mailing, a reminder postcard or e-mail was sent.

A pre-addressed postage-paid birth announcement postcard was included with the Time 1 packet, which the mother was asked to mail after she had her baby. (She could also telephone or email the PI after the birth if she so chose.) If the PI did not receive a response within two weeks after the expected due date, the mother was telephoned or e-mailed by the PI. The Time 2 (postpartum) questionnaire packet was mailed at the beginning of postpartum week five. Two weeks later, reminder postcards or e-mails were sent.

The Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002) was included in the Time 2 packet and scored immediately to determine whether the mother had potential postpartum dysthymia or depression. All mothers with scores greater than or equal to 60 on the PDSS were contacted by telephone by the Principal Investigator (see telephone script in Appendix G), and a recommendation was made to contact her obstetrician or nurse mid-wife. The PI answered any questions that the mother had and supported her in the understanding of this information. The PI is a licensed professional registered psychiatric nurse practitioner and

trained to offer interventions of this type. Of the 78 women who completed the Time 2 questionnaire, 33 participants (42%) were contacted about potential depression.

### *Measures*

The questionnaires contained a common set of measures at Time 1 and Time 2, as well as unique measures at each time point. The Time 1 (prenatal) packet contained a cover letter (Appendix H), the consent document(s) (Appendices B and C), a stamped birth notification card (Appendix I), and the questionnaire (Appendix J). The Time 2 (postpartum) packet contained a cover letter (Appendix K) and the questionnaire (Appendices L and M). Table 3 presents the measures that were collected at each time point. In the case of measures with missing data, the participant's mean for that measure was substituted for the item that was missing. Tables 4 and 5 present the descriptive statistics and alpha coefficients for the prenatal and postpartum measures.

*Sociodemographic and medical data.* At Time 1, information was collected on age, ethnicity, parity, whether the pregnancy was planned or unplanned, family income, marital status, and level of education. At Time 2, information regarding the birth was obtained, including length of labor, type of delivery (vaginal or Caesarian section), use of anesthesia to assist in delivery, length of hospital stay, whether the mother had help at home after the birth and type of feeding (breast, bottle or a combination of the two).

*Ego identity status.* Because the dissertation was exploratory and I wanted to sample as many women as possible to detect a signal, if a signal did in fact exist, between ego identity status and depressive symptoms, a decision was made to use the revised Extended Objective Measure of Ego Identity Status-2 (Adams, 1998) rather than a semi-structured clinical interview (Marcia, 1966). The revised Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998; Bennion & Adams, 1986) was used at both time points to classify ego identity

status. The EOMEIS-2 is a 64-item Likert-type self-report scale with a 6 point agrees-disagree response format. The items cover multiple aspects of ideological/ego identity (32 items covering occupational, religious, political and philosophical life-style values, goals, and standards) and interpersonal/social identity (32 items covering friendship, dating, sex roles and recreational choices). Items within both the ideological and interpersonal frameworks are grouped into four statuses: *diffusion status* (ideological item: “I haven’t chosen the occupation I really want to get into, and I’m just working at what is available until something better comes along.”; interpersonal item: “I don’t have any real close friends, and I don’t think I’m looking for one right now.”); *foreclosure status* (ideological item: “I might have thought about a lot of different jobs, but there’s never really been any questions since my parents said what they wanted.”; interpersonal item: “My parents know what’s best for me in terms of how to choose my friends.”); *moratorium status* (ideological item: “I’m still trying to decide how capable I am as a person and what work will be right for me.”; interpersonal item: “I really don’t know what kind of a friend is best for me. I’m trying to figure out exactly what friendship means to me.”); *achievement status* (ideological item: “It took me a while to figure it out, but now I really know what I want for a career.”; interpersonal item: “There are many reasons for friendship but I choose my close friends on the basis of certain values and similarities that I’ve personally decided on.”). The interpersonal identity framework was modified for this study to accommodate the married or partnered relationships of the women. For example, item 15, “Based on past experiences, I’ve chosen the type of dating relationship I want now” was changed to “Based on past experiences, I’ve chosen the type of relationship I want now.”

The original Objective Measure of Ego Identity Status (OMEIS) was tested on over 2000 adolescents and young adults from high school and college populations across the nation

(Adams, Shea & Fitch, 1979; Adams & Jones, 1983; Adams, Ryan, Hoffman, Dobson & Nielsen, 1985;). The revised EOMEIS-2 was tested on samples of college-aged students (Bennion & Adams, 1986; Perosa, Perosa & Tam, 1996). In the original OMEIS, standardized cut-off points for each of the status scales allow participants to be categorized into a single global identity status (diffusion, foreclosure, moratorium or achievement). In the revised EOMEIS-2 a distinction is made between ideological (ego) and interpersonal identity, thereby creating two larger scales, ideological and interpersonal (Bennion & Adams, 1986; Perosa, Perosa, & Tam, 1996) with four smaller subscales in each. Adams (1998) suggests that the separate ideological and interpersonal identity frameworks may be more appropriate for identifying gender differences in identity formation, especially for the interpersonal identity subscales (Bennion & Adams, 1986; Perosa, Perosa & Tam, 1996).

In the EOMEIS-2, 32 items comprise the ideological framework and another 32 items comprise the interpersonal framework. Within each of these two frameworks 8 unique items contribute to each of the four identity statuses (diffusion, foreclosure, moratorium and achievement). The raw scale scores for each of the four statuses are derived by summing responses across the 8 items that comprise each status, yielding eight potential subscales ranging from 8 - 48.

One of the main aims of the EOMEIS-2 is to categorize individuals into one of the four statuses. In order to accomplish this, Adams formulated (1998) a series of algorithms modeling those used in the Minnesota Multiple Personality Inventory (MMPI, 1942). In the EOMEIS-2, as in the MMPI, scores on raw subscales are only thought appropriate for interpretation if they exceed a certain threshold for magnitude above the norm (Adams, 1996). Because this study's sample size is small, the  $\frac{1}{2}$  *SD* above the mean rule was used to determine the status cutoffs.

The published cutoff scores for each of the statuses of the EOMEIS-2 are based on nationally tested samples of college-aged students wherein 1 *SD* above the mean is added to the sample mean thus determining the cutoff scores for the EOMEIS-2. Jones, Akers and White (1994) have recommended that with small sample sizes the means of each status for that particular sample be computed and  $\frac{1}{2}$  *SD* above the mean be added to that sample's status mean to determine the cutoff for each of the statuses.

To create these cutoff points for each subscale, sample-based means and standard deviations were generated for each of the eight raw subscale scores. With these cutoff scores, participants were classified into identity statuses in three ways: a global identity status based on the full scale EOMEIS-2 and an ideological and interpersonal identity status score. This was done for each of the two time points (prenatal and postpartum identities). The means, standard deviations and cutoffs for each of the statuses and the full scale EOMEIS-2 are presented in Table 6 for prenatal scores and Table 7 for postpartum scores.

The alpha coefficients were .88 for the full Time 1 scale ( $n = 110$ ), .79 for the ideological identity subscale, and .79 for the interpersonal identity subscale. The alpha coefficients were .86 for the full Time 2 scale ( $n = 78$ ), .79 for the ideological identity subscale, and .75 for the interpersonal identity subscale. These coefficients are consistent with studies using the measure with adolescent and college student populations (Adams & Jones, 1983; Adams & Montemayor, 1987; Perosa, Perosa, & Tam, 1996) and suggest that the total scale and its larger subscales have good internal consistency reliability.

*Depression.* Two measures of depressive symptoms were administered, the Center for Epidemiologic Studies Depression scale (CES-D; Radloff, 1977) and the Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002). The CES-D was used to control for baseline

depressive symptoms at Time 1 and to examine change over time. Since the CES-D is an epidemiological measure that assesses depressive symptoms within the general population, the Postpartum Depression Screening Scale was also administered at Time 2 because of its specificity for screening postpartum women for depressive symptoms.

The *Center for Epidemiologic Studies Depression scale* (CES-D) developed by Radloff (1977) was administered at Time 1 and Time 2. The CES-D is a 20-item self-report scale that measures depressive symptoms in the general population (Radloff, 1977). The CES-D has been used extensively in research studies, including some with pregnant women (Collins, Dunkel-Schetter, Lobel & Scrimshaw, 1993; Mosack & Shore, 2006). Participants are asked to describe how they have felt over the past week on a 4-point scale (rarely or none of the time [0] to most of the time [3]). The CES-D can be used as either a continuous measure or one that has a cut-off criterion for depression. In this study, the CES-D was used as a continuous score. The CES-D has a possible range of 0-60. In this sample the range was from 0-53 at Time 1 and from 0-51 at Time 2. The alpha coefficients were .92 at Time 1 ( $n = 110$ ) and .95 at Time 2 ( $n = 78$ ).

The two studies which used the CES-D (Collins et. al, 1993; Orr et. al, 2002) to assess both pregnancy and postpartum depressive symptoms did not use it as a continuous measure but instead used the cut-off criterion of 16 to categorize their samples as depressed or not depressed. Thus, it is difficult to make comparisons between the dissertation and those studies.

The *Postpartum Depression Screening Scale* (PDSS; Beck & Gable, 2002) was administered at Time 2 only. The PDSS is a self-report 35-item Likert-type scale that has a 5-point response format (1 = strongly disagree to 5 = strongly agree). Items cover seven symptom areas: Sleeping/Eating Disturbances (5 items), Anxiety/Insecurity (5 items), Emotional Lability (5 items), Mental Confusion (5 items), Loss of Self (5 items), Guilt/Shame (5 items),

and Suicidal Thoughts (5 items). All items are negatively worded and agreement with an item constitutes endorsement of a psychologically distressing symptom. The item responses are summed and yield a total score of 35 to 155. The authors (Beck & Gable, 2002) recommend using a cutoff score of 80 to indicate possible major postpartum depression and 60 for significant symptoms of postpartum depression (Depressive Disorder Not Otherwise Specified, DSM IV-TR, 2000). Continuous PDSS scores were used for all analyses. The alpha coefficient was .96.

Multivariate outliers were identified for both the CES-D and PDSS. To reduce the impact of these outliers, a square root transformation was undertaken. This transformation changes the shape of the distribution to more nearly normal (Tabchnick & Fidell, 2007). Thus, three new variables were created, and used in all analyses: Time 1 square root CES-D, Time 2 square root CES-D and square root PDSS .

#### *Commitment.*

Lydon's (1996) 8-item measure of *Commitment to the Pregnancy* was administered at Time 1 and adapted at Time 2 to assess *Commitment to the Infant*. As commitment is expressive of the core values, identities and assumptive beliefs that people have about themselves (Lydon et al., 1996) it was hoped that this measure would be salient for this study's population of pregnant women.

The *Commitment to the Pregnancy* scale (Lydon, Dunkel-Schetter & Cohan, 1996) includes eight items that measure the extent women feel committed, obligated, attached, enthusiastic, a sense of duty, a sense of enjoyment, a burden to have a baby and relief not being pregnant. Items are rated on a 5-point scale from 1 (not at all) to 5 (extremely), and averaged to form a scale score that can range from 1 to 5, with higher scores indicating greater commitment. The alpha coefficient for the Time 1 sample ( $n = 109$ ) was .55, an alpha coefficient that is

relatively weak. Item variances and intercorrelations were examined to determine if the internal consistency reliability could be increased. Item 7 (“would it be a relief not to be pregnant now”) was negatively correlated with “feeling enthusiastic about being pregnant” (item 5) and “feeling that you would really enjoy having a baby now” (item 8) but was positively correlated with feeling that having a baby “would be a burden” (item 6). This suggests that item 7 was measuring a different construct than commitment. More importantly, over three quarters of the sample (77%) responded “not at all” to this item, demonstrating a low variance. When this item is deleted from the scale, the alpha coefficient increases to .60; this is somewhat improved, but still markedly different from the .91 that was obtained in Lydon’s original study. However, in that study the scale was administered *prior* to the participants learning the results of a pregnancy test for a possible unplanned pregnancy. The meaning of commitment to a pregnancy is likely to be very different among first trimester women who have the option of continuing or ending an unplanned pregnancy, a far different question than that of this study.

Another possibility was that the scale was multi-dimensional. A principal components analysis with varimax rotation revealed two factors with eigenvalues greater than 1.0, which accounted for 55.5% of the total variance. The results of the principal components analysis are presented in Table 8, with factor loadings above .40 shown in bold. The first factor (5 items, accounting for 33.3% of the variance) was named “Commitment-Affective” because the items reflected a positive sense of feeling towards the pregnancy. The second factor (3 items, 22.2% of the variance) was named “Commitment- Obligation” because the items reflected a sense of duty or obligation towards the pregnancy. However, the two factors were correlated .60 ( $p < .01$ ), suggesting that they were not completely independent. The alpha coefficient for the Commitment-Affective factor was .69, whereas the alpha coefficient for the Commitment-

Obligation factor remained unacceptable at .55. As only the Commitment-Affective factor was significantly correlated with Time 1 CES-D ( $r = -.42, p < .01$ ) and Time 2 PDSS ( $r = -.27, p < .05$ ), only the Commitment-Affective factor was used in analyses.

*Commitment to the Infant* was measured at Time 2. This scale was adapted from the items of the Commitment to the Pregnancy scale. Eight items tapped the extent to which women felt committed, obligated, attached, and enthusiastic about their babies; that having a baby was a burden; that it would be a relief to not have to care for a baby and that having a baby was a duty. Items were rated on a 5-point scale from 1 (not at all) to 5 (extremely) and averaged to form a scale score that could range from 1 to 5, with higher scores indicating greater commitment.

The alpha coefficient for the full scale was unacceptable (.48). Creating the two subscales that had been found with the Commitment to the Pregnancy scale also yielded unacceptable reliability coefficients (.57 for the Commitment-Affective factor and .18 for the Commitment-Obligation factor). Thus, the Commitment to the Infant scale was factored using principal components analysis and varimax rotation. Three factors with eigenvalues greater than 1.0 emerged, accounting for 63.7% of the total variance (see Table 9). The first factor (4 items) was named "Commitment-Attachment", the second factor (2 items) was named "Burden" and the third factor (2 items) was named "Negative Affect". The reliability for the Commitment-Attachment factor was acceptable at .72. Because the Burden and Negative Affect factors were each comprised of only two items, reliabilities were not computed. The inter-item correlations for the Burden and Negative Affect factors were .56 ( $p = .01$ ) and .03 ( $p = .81$ ) respectively. As only the Commitment-Attachment factor was related to the Time 2 CES-D ( $r = -.28, p < .01$ ) and PDSS ( $r = -.38, p < .001$ ) only that subscale was used in analyses.

*Parenting Self-efficacy.* The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) was administered at Time 2 only. The PSOC contains 17 Likert-type items that measure parents' beliefs, values, and perceived skill/knowledge regarding being a parent. The PSOC allows for the assessment of parenting self-efficacy in both primiparous and multiparous mothers, since the PSOC assesses parenting competence in the global sense as it relates to mothers' sense of competence in the parenting of both newborns and other children. Respondents indicated their level of agreement or disagreement with each item on a 6-point scale ranging from strongly disagree (6) to strongly agree (1), producing a scale that can range from 17 to 102. Coefficient alpha was .79.

## Results

### *Overview of the Data Analysis*

Hierarchical multiple regression analyses were performed as a general analytic strategy to determine relationships among the key variables. Mediation analyses were conducted using the criteria described by Baron and Kenny (1986), described in more detail in the Mediation Section. The study analyses were conducted using SPSS data software in 2006 (version 15.0) and in 2007 and 2008 (version 16.0).

### *Level of Depression in the Sample*

#### *History of Depression*

The prenatal questionnaire asked women if they had a history of depression prior to their pregnancies as well as assessing current depressive symptoms. For the full Time 1 sample ( $N = 110$ ), 78 women (71%) reported a history of some degree of pre-pregnancy depressive symptoms; 18 (16%) reported receiving physician care for the pre-pregnancy depressive symptoms and 19 (17%) reported using medication for their pre-pregnancy depressive symptoms. However, the high incidence of self-reported pre-pregnancy depression may be inflated because of the wording of the item, which seemed to ask for a yes or no answer but allowed for five categories that warranted a positive response (that is, a range from a “little of the time” to “all of the time”). If only the three categories, “a good bit of the time”, “most of the time” and “all of the time” are considered as valid indicators of depressive symptoms, the percentage of women with pre-pregnancy depressive symptoms drops to 11%. This is one percentage point above the norm for pregnant women as reported in the University of Michigan Medical School’s *Woman’s Guide to Understanding Depression* ([http://www.med.umich.edu/womens\\_guide/pages/01.html](http://www.med.umich.edu/womens_guide/pages/01.html)) which states that 10% of women will

experience depression during their pregnancies and 20% to 25% of all women will experience depression at some point in their lifetimes. Thus, the 71% makes sense if one considers that depressive symptoms can range from mild dysthymia to major depression.

For the longitudinal sample ( $N = 78$ ), 53 (68%) women reported a history of some degree of pre-pregnancy depressive symptoms. Of those women, 13 (17%) reported receiving physician care for the pre-pregnancy depressive symptoms; and 13 (17%) reported using medication for the pre-pregnancy depressive symptoms. However, of the positive responders, only 6 (8%) of the women reported pre-pregnancy depression as “a good bit of the time”, “most of the time” or “all of the time”.

#### *Current Depression*

Current depressive symptoms were measured at both time points using the Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977). The mean for the longitudinal sample was 9.83 ( $SD = 8.85$ , range = 0 – 53) at Time 1 and 8.18 ( $SD = 10.26$ ; range = 0 - 51) at Time 2. Depressive symptoms were fairly stable pre- to post-partum: a paired  $t$ -test showed that the mean levels of prenatal and postpartum symptoms were not significantly different,  $t = 1.39$ ,  $df = 77$ ,  $p = .17$ .

Although the CES-D is not a clinical predictor of depression, a cut-off score of 16 or greater is accepted as the criterion for classification of possible depression among non-clinical samples (Radloff, 1977). Beeghly et al. (2002) found 8% of their sample of 106 primiparous women to be classified as possibly depressed. In a study of 109 primiparous women (Logsdon et al., 1994), almost one-half of the women prenatally (48%) and one third of them postpartum (32%) had depression scores that would lead to a possible diagnosis of depression. In a study of 129 postpartum women (Collins et al., 1993) the CES-D ranged from 20 - 63 with a mean of 34.

Marcus et al. (2003) found 20% of their sample of 3472 pregnant primiparous and multiparous women to be possibly depressed, and finally, Mosack et al. (2006) found depressive symptoms in 32% of their pregnant sample and 40% of their postpartum sample. In my sample, the means were lower; however, even though the sample was smaller, 21% of the women in the longitudinal sample at Time 1 and 17% at Time 2 met the criterion for possible depression. Thus the occurrences of depressive symptoms in populations of pregnant and postpartum women show a fair amount of variance.

### *Postpartum Depression*

Whereas the Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) is a screening measure for depressive symptoms within any community sample, the Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002) is a clinical measure designed specifically to screen for postpartum depression. The range for the PDSS in this sample was 35 to 141 ( $M = 60.24$ ;  $SD = 22.54$ ), out of a possible range of 35 to 175. The clinical cut-off scores for this measure are 60 to 79 for depressive symptoms and 80 or above for clinical depression (Beck & Gable, 2002). Nearly half of the longitudinal sample (42%) had scores of 60 or greater with 13% ( $n = 10$ ) meeting the criterion for clinical postpartum depression (PDSS  $\geq 80$ ). This latter percentage is within the national average of 10-15% for postpartum depression ([newsinhealth.nih.gov/2005/December2005/docs/01features\\_02.htm](http://newsinhealth.nih.gov/2005/December2005/docs/01features_02.htm)). In comparison to earlier studies of postpartum women using the PDSS, the percentage of women in this study experiencing major postpartum depression is similar. In a study of 109 postpartum military women with mixed parity, Rychnovsky (2006) found major depression in 11% of the sample (PDSS scores  $\geq 80$ ). Similarly in a sample of 755 postpartum women of mixed parity being seen in a collaborative obstetrical practice, Mancini, Carlson and Albers (2007) found major

postpartum depression in 16% of their sample and symptoms of potential depression in another 20% of their sample. Beck and Gable (2002), the developers of the PDSS, diagnosed major depression in 12% of their sample of 122 postpartum women and minor depression in 19%. Although the percentage of this study is similar for major depression (13%), the percentage (42%) for symptoms of potential depression is much greater.

Despite the fact that the Time 2 CES-D and PDSS were significantly correlated ( $r = .78$ ,  $p < .001$ ), a decision was made to use the measures in separate analyses for two reasons. First, the CES-D is an epidemiological measure that assesses depressive symptoms within the general population and has been used routinely in populations of pregnant and postpartum women, thus affording a comparison in depressive symptoms between this study and others. Second, as the study hypothesized a link between postpartum ego identity status and clinical postpartum depression, there is a need for a clinical measure as well.

#### *Ego Identity Status in the Prenatal and Postpartum Periods*

My first research question investigated the nature of pregnant women's prenatal ego identity status and whether ego identity status changed from the pre-to post-partum period. Thus, all analyses from this point forward use the longitudinal sample of 78 women. The revised Extended Objective Measure of Ego Identity Status-2 (EOMEIS-2), a self-report measure, was used to assess ego identity status at both time points because of its ease in administration. Using the EOMEIS-2, one can classify women into one of four identity statuses: diffusion, foreclosure, moratorium, or achievement<sup>1</sup>.

Classification into an ego identity status is based upon the presence, absence and degree of two processes: exploration and commitment to identity choices (Marcia, 1966). These two processes reflect identity self-differentiation as each respondent explores and commits to

ideological and interpersonal identities. The statuses are developmentally hierarchical (Kroger, 2003) and rank-ordered (Adams, 1998) on a continuum from less to more differentiation (diffusion, foreclosure, moratorium and achievement) based on the underlying presence, absence or degree of exploration and commitment that individuals demonstrate.

The categorization of the sample into the four identity statuses at both time points is presented in Table 10. The major underlying assumption of the dissertation was that pregnancy and the early postpartum time periods afford women the opportunity for identity reformation as they incorporate the identity of being a mother to their infant into their pre-existing identities. Therefore, to analyze whether being in a specific prenatal ego identity status predicted postpartum ego identity status, a Chi-Square test was computed. The Pearson Chi-square value was significant ( $X^2 = 54.32$ ,  $df = 9$ ,  $p < .001$ ). However, 59% of the women remained in the same status and 41% changed status from the pre- to post-partum period. Thus, although more women remained stable, there was evidence of change in ego identity status from the pre-to post-partum period.

#### *Correlates of prenatal ego identity status*

To determine whether any of the demographic variables, pregnancy characteristics, or depression variables was related to prenatal ego identity status, a series of *t*-tests and  $X^2$  analyses were computed. As expected, parity was not associated with prenatal ego identity status; however, four variables were significantly associated with prenatal ego identity status: income, education, prenatal Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) scores, and whether the pregnancy was planned (see Table 11). Post-hoc Tukey comparisons were computed to determine the nature of these effects. Women in the diffusion status (indicating an absence of exploration and commitment) had lower incomes and less

education than women in either the moratorium (presence of exploration with absence of commitment) or achievement (presence of exploration and commitment) statuses. Thus, it appeared that exploration of choices and the decisions that follow from this exploratory process are associated with greater socioeconomic status (education and greater income). Of the women who had a planned pregnancy, 64% ( $n = 36$ ) were classified in one of the more differentiated ego identity statuses, moratorium or achievement and 36% ( $n = 20$ ) were classified in one of the least differentiated ego identity statuses, diffusion or foreclosure prenatally. Of the prenatal women in the most differentiated ego identity status, achievement all had a planned pregnancy. Finally, women classified in the diffusion ego identity status during the prenatal period had significantly greater CES-D scores than those women in the achievement status ( $p = .04$ ) and marginally greater scores than those women in the foreclosure status ( $p = .08$ ). This suggests that women classified in the diffusion ego identity status during the prenatal period are at greatest risk for developing prenatal depressive symptoms.

#### *Change in Ego Identity Status from the Prenatal to Postpartum Period*

To index change in ego identity status three categories were constructed using participants Time 1 and Time 2 Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998; Bennion & Adams, 1986) scores. To create this new variable ego identity status was numerically coded (diffusion = 1, foreclosure = 2, moratorium = 3, achievement = 4) and the numerical code for prenatal ego identity status was subtracted from the numerical code for postpartum ego identity status. Change categories were then computed using Adams' rank ordering of the identity statuses (diffusion, foreclosure, moratorium, achievement). *Regression* is the movement from a more to a less differentiated ego identity status from the pre- to postpartum period, including: a) movement from the achievement status prenatally to either

moratorium, foreclosure, or diffusion postpartum; b) movement from the moratorium status prenatally to either foreclosure or diffusion postpartum; or c) movement from the foreclosure status prenatally to diffusion postpartum. In contrast, *progression* is the movement to a more differentiated ego identity status from the pre- to post-partum period. Possible progression patterns were: a) movement from the diffusion status prenatally to foreclosure, moratorium, or achievement postpartum; b) movement from the foreclosure status prenatally to moratorium or achievement postpartum; and c) movement from the moratorium status prenatally to achievement postpartum. Women were classified as *stable* if they remained in the same ego identity status at both the prenatal and postpartum time points.

Of the total longitudinal sample (n = 78), 46 (59%) remained in the same ego identity status from the pre- to post-partum period. Of these 46 women, 14 (30%) remained in the diffusion status; 6 (13%) remained in the foreclosure status; 19 (41%) remained in the moratorium status; and 7 (15%) remained in the achievement status. Of the 32 (41%) women who changed status, 22 (69%) regressed and 10 (31%) progressed.

*What were the “paths” of regression and progression from different starting points?*

For women who were classified in the diffusion status prenatally, 14 remained stable and 1 woman progressed into the foreclosure status. For women who were classified in the foreclosure status prenatally, 6 remained stable, 7 regressed into the diffusion status, 1 woman progressed into the moratorium status and 2 women progressed into the achievement status. For women who were classified in the moratorium status prenatally, 19 remained stable, 5 regressed into the diffusion status, 3 regressed into the foreclosure status and 6 progressed into the achievement status. Finally for women who were classified in the achievement status prenatally, 7 remained stable and 1 regressed into the diffusion status, 2 regressed into the foreclosure status

and 4 regressed into the moratorium status. Thus, on the whole, there was slightly more stability than change in identity status, but of those women who changed status from the pre- to post-partum period, twice as many regressed as progressed.

#### *Correlates of ego identity status change*

To determine whether any demographic variables, pregnancy characteristics, or history of depressive symptoms were related to *change* in ego identity status, a series of *t*-tests and  $X^2$  analyses were computed. As shown in Table 12, only one variable was significantly related to change in ego identity status: whether the pregnancy was planned or not. For those women whose ego identity status remained stable from pre-to post-partum, 61% had a planned pregnancy and 39% had an unplanned pregnancy. For women whose identity status regressed, 91% had a planned pregnancy and 9% had an unplanned pregnancy and for women whose identity status progressed 89% had a planned pregnancy and 11% had an unplanned pregnancy.

To make sense of this finding, a new variable was created, dichotomous change in ego identity status. This new variable represented either stability or change (regression or progression) in ego identity status from pre-to post-partum. Next, to analyze whether having a planned pregnancy predicted change in ego identity status, a Chi-square test was computed. The Pearson Chi-square value was significant ( $X^2 = 8.1$ ,  $df = 1$ ,  $p < .01$ ). Of the women who changed identity status pre-to- post-partum, 90% had a planned pregnancy and 10% had an unplanned pregnancy; whereas, of the women who remained in the same status pre-to post-partum, 61% had a planned pregnancy and 39% had an unplanned pregnancy.

#### *Ego Identity Status as a Predictor of Postpartum Depression*

To determine whether prenatal ego identity status, postpartum ego identity status and/or change in ego identity status from pre- to post-partum were related to postpartum depressive

symptoms, a series of regression equations were computed based on the proposed conceptual model (presented in Figure 1). Prenatal Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) scores were entered on the first step of all equations to control for baseline depressive symptoms. Tables 14 and 15 show the results of the equations for *prenatal* ego identity status on CES-D and PDSS (Postpartum Depression Screening Scale; Beck & Gable, 2002) respectively, and Tables 16 and 17 show the results of the equations for *postpartum* ego identity status on CES-D and PDSS respectively. The results of one-way analyses of variance between *change* in ego identity status and postpartum CES-D and PDSS respectively are shown in Tables 18 and 19 respectively. As described earlier, all analyses were computed with the square root transformations of the prenatal and postpartum CES-D and postpartum PDSS variables.

Prenatal ego identity status was not related to postpartum CES-D ( $\beta = -0.23$ ,  $df = 2$ ,  $p = .15$ ) but was marginally related to postpartum PDSS ( $\beta = -0.24$ ,  $df = 2$ ,  $p = .10$ ). Postpartum ego identity status was marginally related to postpartum CES-D ( $\beta = -0.25$ ,  $df = 2$ ,  $p = .06$ ) and significantly related to postpartum PDSS ( $\beta = -0.29$ ,  $df = 2$ ,  $p = .02$ ). Thus, there is little empirical evidence for a relationship between ego identity status and postpartum depression. The only significant finding was cross-sectional and that was with a clinical measure of depression. Change in ego identity status was not related to postpartum CES-D ( $F = 0.57$ ,  $df = 2$ ,  $p = .57$ ) or postpartum PDSS ( $F = 1.52$ ,  $df = 2$ ,  $p = .23$ ).

#### *Mediators of the Relationship between Ego Identity Status and Depressive Symptoms*

Several mediators of the relationship between ego identity status and postpartum depressive symptoms were tested (see Figure 1). First, commitment to the pregnancy-affective factor was expected to mediate the relationship between prenatal ego identity status and prenatal

depressive symptoms. Second, postpartum commitment to the infant- attachment factor and parenting self-efficacy were independently expected to mediate the relationship between postpartum ego identity status and postpartum depressive symptoms. Finally, commitment to the pregnancy-affective factor was expected to mediate the relationship between change in ego identity status and postpartum depressive symptoms.

Mediation was tested by a series of hierarchical multiple regression equations using the method described by Baron and Kenny (1976), which involves four steps or criteria that must all be met: The criterion variable is first regressed onto the predictor. If that relationship is significant, then the mediating variable is regressed onto the predictor. If that relationship is significant, then the criterion variable is regressed onto the mediator (controlling for the predictor). If that relationship is significant, then the criterion variable is regressed on the predictor, controlling for the mediator. Mediation occurs if, in this final equation, the relationship between the predictor and the criterion becomes non-significant or is reduced significantly in size.

*Commitment to the Pregnancy.* The first mediation question tested was whether commitment to the pregnancy- affective factor mediated the relationship between prenatal ego identity status and prenatal depressive symptom, as measured by the prenatal Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977). The relationship between prenatal ego identity status and prenatal depressive symptoms was significant ( $\beta = -0.30$ ,  $df=1$ ,  $p = .05$ ). The relationship between prenatal ego identity status and commitment to the pregnancy-affective factor was marginally significant ( $\beta = -0.11$ ,  $df=1$ ,  $p = .07$ ), and so, I decided to compute the next step in the equation. The relationship between commitment to the pregnancy-affective factor and prenatal CES-D was also significant ( $\beta = 0.92$ ,  $df=1$ ,  $p = .001$ ). Finally

prenatal CES-D was regressed on prenatal ego identity status, controlling for commitment to the pregnancy-affective factor; the relationship between prenatal ego identity status and prenatal CES-D became non-significant ( $\beta = -0.22$ ,  $df=1$ ,  $p = .14$ ). Thus commitment to the pregnancy-affective factor appears to mediate the relationship between prenatal ego identity status and prenatal depressive symptoms.

*Commitment to the Infant.* The second mediation question tested was whether commitment to the infant- attachment factor mediated the relationship between postpartum ego identity status and postpartum depressive symptoms. Separate equations were computed for the CES-D (Center for Epidemiological Studies- Depression scale; Radloff, 1977) and PDSS (Postpartum Depression Screening Scale; Beck & Gable, 2002) scores. Looking at the CES-D first, the relationship between postpartum ego identity status and postpartum depressive symptoms was marginally significant ( $\beta = -0.25$ ,  $df=2$ ,  $p = .06$ ), and so, I decided to compute the next step in the equation. However, the relationship between postpartum ego identity status and commitment to the infant-attachment factor was not significant ( $\beta = -0.07$ ,  $df = 2$ ,  $p = .21$ ), and therefore mediation cannot occur. Given the absence of this relationship, mediation with the PDSS was not tested as the second criterion would not be met.

*Parenting Self-Efficacy.* The third mediation question tested was whether parenting self-efficacy as measured by total Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) score mediated the relationship between postpartum ego identity status and postpartum depressive symptoms, again using the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977) and Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002) as outcome measures in separate equations. Looking at the CES-D first, the relationship between postpartum ego identity status and postpartum CES-D was marginally

significant ( $\beta = -0.25$ ,  $df = 2$ ,  $p = .06$ ), and so, I decided to compute the next step in the equation. However, the relationship between postpartum ego identity status and parenting self-efficacy was not significant ( $\beta = 1.32$ ,  $df = 2$ ,  $p = .19$ ), and therefore mediation did not occur. Given the absence of this relationship, mediation with the PDSS was not tested as the second criterion would not be met.

Because a number of studies (Cutrona and Troutman, 1986; Donovan and Leavitt, 1989; Teti & Gelfand, 1991; Zayas, Jankowski & McKee, 2005) had found parenting self-efficacy to be a mediator of maternal relationships, I questioned my null finding. In re-reviewing the literature I found that some studies used only the Skills/Knowledge subscale of the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) (Cutrona and Troutman, 1986) while others used specific items of the measure to satisfy the delimitations of the particular study (Teti & Gelfand, 1991). Thus a post-hoc decision was made to replicate the mediational analyses described above using the two subscales, Skills/Knowledge and Valuing/Comfort (in separate regression equations).

Looking at the equation for postpartum Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) first, the relationship between postpartum ego identity status and postpartum depressive symptoms was significant ( $\beta = -0.39$ ,  $df = 1$ ,  $p = .01$ ). However, the relationship between postpartum ego identity status and the Skills/ Knowledge subscale was not significant ( $\beta = .41$ ,  $df = 1$ ,  $p = .50$ ) and therefore mediation did not occur. Given the absence of this relationship, mediation with the Postpartum Depression Screening Scale (Beck & Gable, 2002) was not tested. However, the relationship between postpartum ego identity status and the Valuing/Comfort subscale *was* significant ( $\beta = 1.69$ ,  $df = 1$ ,  $p = .01$ ) and the relationship between Valuing/Comfort and postpartum CES-D was also significant ( $\beta = -0.19$ ,  $df = 1$ ,  $p = .001$ ). Thus

in a final regression equation, postpartum CES-D was regressed on postpartum ego identity status, controlling for the Valuing/Comfort subscale of the PSOC. The relationship between postpartum ego identity status and postpartum CES-D became non-significant ( $\beta = -0.09$ ,  $df = 2$ ,  $p = .49$ ). Thus, the Valuing/Comfort subscale appears to mediate the relationship between postpartum ego identity status and postpartum CES-D.

A parallel set of regression equations was computed substituting the Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002) as outcome variable. All three bivariate criteria for mediation were met: the relationship between postpartum ego identity status and postpartum depressive symptoms was significant ( $\beta = -0.38$ ,  $df = 1$ ,  $p = .01$ ); the relationship between postpartum ego identity status and the Valuing/Comfort subscale was significant ( $\beta = 1.69$ ,  $df = 1$ ,  $p = .01$ ); and the relationship between Valuing/Comfort and postpartum PDSS was significant ( $\beta = -.15$ ,  $df = 1$ ,  $p = .001$ ). In the final step, postpartum PDSS was regressed on postpartum ego identity status, controlling for the Valuing/Comfort subscale and again, the relationship between postpartum ego identity status and postpartum PDSS became non-significant ( $\beta = -0.14$ ,  $df = 2$ ,  $p = .20$ ). Thus the Valuing/Comfort subscale also appears to mediate the relationship between postpartum ego identity status and postpartum PDSS.

The final mediation question tested was whether commitment to the pregnancy- affective factor mediated the relationship between change in ego identity status and postpartum depressive symptoms. However as change in ego identity status was not related to either the CES-D ( $\beta = -0.08$ ,  $df = 2$ ,  $p = .71$ ) or the PDSS ( $\beta = -0.24$ ,  $df = 2$ ,  $p = .23$ ), no further mediation analyses were computed.

In sum, only one of the four original mediational hypotheses was supported, and it was with cross-sectional data: commitment to the pregnancy mediated the relationship between

prenatal ego identity status and prenatal depressive symptoms. Post-hoc analyses of the parenting self-efficacy subscales revealed a second cross-sectional mediational process: the Valuing/Comfort subscale of the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) mediated the relationship between postpartum ego identity status and postpartum depressive symptoms as measured by both the postpartum Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) and Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002). Finally, it is important to note that even though parenting self-efficacy and commitment to the infant did not operate as mediators; both variables were independently related to postpartum depressive symptoms.

#### *Summary of Findings*

The study's central research questions were: "Is there a relationship between a woman's prenatal, postpartum or change in ego identity status from pre- to post-partum and postpartum depressive symptoms?" and "Do commitment to the pregnancy, commitment to the infant, and/or parenting self-efficacy act as mediators of these relationships?". The dissertation provided only limited evidence supporting a "yes". Only cross-sectional associations were found between prenatal ego identity status and prenatal depressive symptoms and between postpartum ego identity status and postpartum depressive symptoms; there were neither longitudinal associations nor evidence that *change* in identity was related to depressive symptoms. In addition, only one mediational process was identified and, again, it occurred in cross-sectional analyses: commitment to the pregnancy mediated prenatal ego identity status and prenatal depressive symptoms. Parenting self-efficacy and commitment to the infant were not mediators. However, post-hoc analyses found that both of these variables were correlated (cross-sectionally) with postpartum depressive symptoms. Post-hoc analyses also found that the Valuing/Comfort

subscale of the parenting self-efficacy scale to be a mediator of the cross-sectional relationship between postpartum ego identity status and postpartum depressive symptoms.

## Discussion

Although the literature views women's transition to motherhood as a normative life event with creative potential for identity change, postpartum depression, a negative outcome, affects 10 to 15% of all new mothers. In the study, ego identity status was framed as a determinant of a new mother's emotional state, and in some cases, a risk factor for postpartum depression. Thus, the relationships between women's ego identity statuses and depressive symptoms were examined. A conceptual model (Figure 1) that illustrated the direct and indirect effects tested was proposed.

The study's findings provided little support for the hypotheses that examined the relationships between ego identity status and postpartum depressive symptoms. However, the data did support a few paths in the model; each of these will be discussed in turn.

### *Direct Effects*

Direct effects were found between prenatal and postpartum ego identity status (path A') and between prenatal and postpartum depressive symptoms (path B'). To assess ego identity, the intra-psychic structure that represents a person's underlying values, goals, beliefs, and attitudes, ego identity status, an empirically measureable construct based on the behaviors of *exploration* and *commitment* (Marcia, 1993) was measured. The Extended Objective Measure of Ego Identity Status-2 (EOMEIS-2; Adams, 1998), an instrument that measures *global* or overall ego identity status was used. *Global* ego identity status represents the totality of underlying values, beliefs, and attitudes across domains. According to Flum (1990), "Although the reformulated [*sic*] identity is to some extent a new one, it is continuous..." (Cited in Marcia, 2002, p.16). Consequently, the causal relationship between women's pre-and post-partum *global* ego identity statuses supports Flum's premise of identity continuity.

Prenatal and postpartum depressive symptoms were also directly related (path B'), a finding that is consistent with previous research on postpartum depression (Cutrona & Troutman, 1986; O'Hara, Lewis, Schlechte, & Varner, 1991; Downs, DiNallo, & Kirner, 2008). Because of the robustness of this relationship, the routine assessment of pregnant women for depressive symptoms during their prenatal visits is encouraged. By identifying "at risk" mothers-to-be, interventions can be implemented prior to the women giving birth with the expectation that postpartum depression and its concomitant negative consequences may be prevented.

The causal relationship between prenatal ego identity status (path A) and postpartum depressive symptoms was unfounded. However, the relationship between pre- and post-partum ego identity statuses (path A') was supported; as was postpartum ego identity status and postpartum depressive symptoms (path B'). In light of these findings, the absence of a relationship between prenatal ego identity status (path A) and postpartum depressive symptoms was surprising. However change in ego identity status (path C) also was not related to postpartum depressive symptoms, and so, a new question arose: "Why were these proposed causal relationships not supported?"

There are two instruments that researchers use routinely to measure ego identity status: one, a self-report measure, the Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998); and the other, a structured interview (Marcia, 1993). In the study, the EOMEIS-2 was used. The EOMEIS-2 classified both pre-and post-partum women into a *global ego* identity status so that patterns of *global ego* identity status change or stability could be identified. The *global ego* identity status that the EOMEIS-2 assigns is an overall status that encompasses both ideological and interpersonal identity frameworks and the domains that contribute to each of them. However, Marcia (2002) writes that "individuals are never just one status; even if one

status is predominant; there will be a mixture of statuses” (Marcia, 2002; p. 23). To tease out these differences, an interview methodology must be used. In an interview, separate ego identity statuses can be identified and assigned based on the individual domains (dimensions) under investigation. For example, in a longitudinal study of male college students from freshman to senior year (Waterman & Waterman, 1970, 1972), ego identity status changes within only the domains of occupational choice, religion, and political ideology was studied. Status changes were found, such that there was a significant increase in identity achievement status for occupational choice over the course of the investigation. In this study, although change in ego identity status was not related to depressive symptoms, change did occur for some women. In order to gain a deeper understanding of the processes that contributed to change or stability from pre-to post-partum, future studies should employ an interview methodology for ego identity status classification and focus on domains (dimensions) specific to *becoming a mother*, e.g., the degree of emotional connection that the new mother feels towards her infant.

In the literature (Beck, 1992, 1993; Deutsch, 1945; Ethier, 1995; Hendrick, Altshuler, Strouse and Grosser, 2000; Nicolson, 1998, 1999; Mercer, 2004; Mendell and Turrini, 2003; Oberman, & Josselson, 1996; Porter & Hsu, 2003; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor & Deutsch, 1990) regardless of the identity paradigm used, there is a consensus that a change in identity is a normative experience for women as they transition from pre-to post-partum. Since *normative* life events are not pathologic, that postpartum depressive symptoms, a pathologic outcome, were not related to change in ego identity status seems supportive of the literature. However, the processes that contributed to the patterns of change and/ or stability were not examined, and so, a direction for future research.

### *Indirect Effects*

Of the four indirect effects (paths a, b, c, d) tested only one mediational process was supported by the data and that was only a cross-sectional and not a causal path. Because commitment to the pregnancy was known to be a mediator within the pregnancy experience (Lydon et al., 1996; DeLuca and Lobel, 1995) and parenting self-efficacy was known to operate both as a mediator of postpartum relationships (Cutrona & Troutman, 1986; Teti & Gelfand, 1991) and to have a negative impact on postpartum mood states, such as depression and anxiety, (Cutrona & Troutman, 1986; Donovan & Levitt, 1989; Teti & Gelfand, 1991; Gondoli & Silverberg, 1997) both variables were included in the conceptual model (Figure 1).

Commitment to the pregnancy was tested as a mediator between prenatal ego identity status and prenatal depressive symptoms (path a) and between change in ego identity status and postpartum depressive symptoms (path d). During the prenatal period, commitment to the pregnancy did mediate the relationship between prenatal ego identity status and prenatal depressive symptoms; thereby providing further evidence supporting prenatal commitment to the pregnancy as a mediator of relationships within the pregnancy experience. However, because change in ego identity status was not related to postpartum depressive symptoms, no mediational processes could occur.

Because *commitment* was a proven mediator of relationships within the pregnancy experience and *commitment* to values, beliefs, and attitudes was a behavioral component of ego identity status, a new variable, *commitment to the infant*, was hypothesized as a potential mediator of the relationship between postpartum ego identity status and postpartum depressive symptoms (path b). Although the findings did not support commitment to the infant as a mediator, post-hoc analyses did support commitment to the infant as conferring direct effects

with postpartum depressive symptoms. Thus, the more committed a mother was to her infant; the less likely she was to experience depressive symptoms postpartum.

Retrospectively, it is possible that the psychological processes operating within a commitment directed towards a fantasized object, a baby-to-be during pregnancy and a commitment directed towards a real object, an infant during the postpartum period (see Mendell & Turrini, 2003; Mercer, 2004) are uniquely different. However, because these processes were not examined, this too is a direction for future research.

Finally, parenting self-efficacy was tested as a mediator of the relationship between postpartum ego identity status and postpartum depressive symptoms (path c). The finding was null and surprising since the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) had been used routinely in empirical studies with populations of postpartum women to measure parenting self-efficacy both as a mediator in postpartum relationships between some variable (social support and mothers' perceptions of infant difficulty [Cutrona and Troutman, 1986]; maternal perceptions of infant difficulty and social-marital supports [Teti & Gelfand, 1991]) and depressive symptoms; and as an outcome variable (with negative maternal life events and depressive symptoms as a mediator [Zayas et al., 2005]). However, its use across studies has not been consistent: Cutrona and Troutman (1986) used only the Skills/Knowledge subscale; Teti & Gelfand, (1991) used only specific items of the measure to satisfy the delimitations of the study; and Zayas et al. (2005) used the full scale. Post-hoc I found that parenting self-efficacy although not a mediator, did confer direct effects with postpartum depressive symptoms, such that, the more self-efficacious the mothers felt postpartum, the less depressive symptoms they experienced; thereby demonstrating that either through direct (Zayas et al., 2005) or indirect effects (Cutrona and Troutman, 1986; Teti & Gelfand, 1991), parenting

self-efficacy can be a protective factor against the occurrence of postpartum depressive symptoms.

A major aim of the study was to understand the mechanisms of *how* ego identity status affects postpartum depressive symptoms. Although parenting self-efficacy and commitment to the infant were not mediators, post-hoc the relationship between postpartum ego identity status and postpartum depressive symptoms was mediated by women's sense of value in and satisfaction with their mothering (parenting) role when measured by the Valuing/Comfort subscale of the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978), such that, the impact of women's ego identity statuses on the occurrence of postpartum depression was diminished if they experienced a sense of value and satisfaction in their role as a mother. Ego identity status is the psychological construct that represents ego identity, the intrapsychic structure that is expressive of the explorations and commitments that individuals make towards identity values, goals, beliefs, and attitudes. Retrospectively, it seems if one values and finds satisfaction in the identity of being a mother, then the occurrence of depressive symptoms will be mitigated despite the ego identity status that one is in. However, this dynamic is speculative and needs to be further researched.

#### *Future Research*

The study was exploratory and although not all of the hypotheses were supported, a direction for future research was advanced. The Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998), a measure of *global* ego identity status was used. According to Marcia (2002), "individuals are never just one status; even if one status is predominant..." (Marcia, 2002; p. 23). In the study, several patterns of ego identity status change were identified; however, the patterns of change were in the *global* ego identity status. Future research should

employ an interview methodology; a method that is descriptive. Since individuals are never in only one ego identity status (Marcia, 2002), the interview methodology allows individuals to be evaluated across categories and dimensions both globally and within domains specific to the topic of research, in this case, *becoming a mother*.

Not all disequilibrating life events result in pathology, but rather, are normative with changes in ego identity status, especially regression, occurring with “a purpose”, i.e., the facilitation of ego identity reconstruction (Marcia, 2002). Since the changes in ego identity status were not related to postpartum depressive symptoms, perhaps they were an exemplar of the identity reconstruction process described by Marcia (2002). Thus future research should focus on exploring the underlying processes that contribute to the patterns of ego identity status change or stability in postpartum women.

To become a mother (parent) is a developmentally normative adult life event for women, and so, to decide and to plan to become pregnant is part of the decision-making process to accomplish that goal. Among the women sampled, there was a significant difference on the variable of having a planned or unplanned pregnancy. In comparing women’s prenatal ego identity statuses and whether they had a planned or unplanned pregnancy, all of the prenatal women in the achievement ego identity status had a planned pregnancy. The achievement ego identity status is the most differentiated and the most hierarchically mature of the four ego identity statuses (Marcia, 2002) and is representative of the agentic decision-making processes that individuals engage in prior to committing to identity values, beliefs, attitudes, and choices. Thus these identity achieved prenatal women seemed to have demonstrated how identity achieved adults enact the role of agency in their decision-making processes with respect to *becoming a mother*. However, this is speculative and is open to further investigation.

Cross-sectional associations were found between ego identity status and depressive symptoms in both the prenatal (path C') and postpartum periods (path B). These cross-sectional relationships are of interest clinically because the patient's presenting mood is the usual focus of treatment and it is therein that interventions lie.

Past studies (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; Cutrona, C. & Troutman, B., 1986; O'Hara, M., Lewis, D., Schlechte, J., & Varner, M., 1991) have shown that women's perceptions of lack of global social support during both the prenatal and postpartum periods contributed to their experiencing postpartum depressive symptoms. Dennis and Letourneau (2007) found that when postpartum women perceived a lack of relationship-specific social support from their mothers they, too, were at risk for developing depressive symptoms postpartum.

The major developmental task of the pre-and post-partum periods is the integration of the identity of being a mother *to this particular infant* into a woman's pre-existing ego identity. One of the main intra-psycho processes that results in the accomplishment of this developmental task is women's identifying with their own mothers, not only in the present, but also through past identifications as infant to their own mother. When a woman does not feel that her mother supports her maternity and/ or her mothering behaviors or when women unconsciously re-experience the maternal rejecting behaviors of their own infancies, not only will ego identity transformation be problematic, but also, the resulting feelings of inadequacy and poor self esteem will lead to the development of depressive symptoms. Consequently, a focus for future research would be to explore the relation between ego identity status and women's perceived social support from their own mothers as a potential contributor to postpartum depressive symptoms.

A priori the study hypothesized that prenatal and postpartum women classified in the least differentiated or most immature ego identity status, diffusion, would have the greatest number of depressive symptoms compared to women classified in any of the other four ego identity statuses. As expected, the mean number of depressive symptoms was greatest for women in the diffusion ego identity status both pre- and post-partum; also as expected the women's mean number of depressive symptoms decreased along the continuum from less to greater ego identity differentiation (diffusion to foreclosure to moratorium to achievement).

In the narratives of depressed postpartum women, a major theme is their experiences of feeling a lack of emotional connection towards their infants (Beck, 1992; Nicolson, 1999; Mauthner, 2003). According to Marcia (2002), "individuals who exhibit identity diffusion are potential isolates who might find it difficult to give and receive care, to others and for oneself, if one feels *isolated* [italics added] from them" (Marcia, 2002, p.12). This sounds very much like the mother-infant scenarios described by depressed postpartum mothers (Beck, 1992; Nicolson, 1999; Mauthner, 2003). Thus it's possible that the underlying contributing factor to depressed postpartum women's feeling a lack of emotional connection to their infants is their being in the diffusion ego identity status postpartum; however, since neither this relationship nor the processes that underlie it were examined, this is a direction for future research.

Finally, in order to advance this line of research, different populations should be examined. The study's sample was adult women over 18 years of age; two other populations to investigate are pregnant adolescents and fathers-to-be. Pregnant adolescents are more "at risk" for developing postpartum depression than are pregnant women and non-pregnant adolescents (Miller, 1998; Szigethy & Ruiz, 1999). The formation (construction) of an initial ego identity is the psychosocial task of adolescence. A direction for future research is to examine the

underlying processes that are involved in the formation of an initial ego identity, an on-time developmental process along with the formation of a maternal identity, an off-time developmental process. Is it possible to do both simultaneously without negative outcomes (Marcia, 2002) or is this the underlying reason that pregnant adolescents have a higher incidence of postpartum depression?

The other population to study is fathers-to-be. Women's transition to motherhood has been a much researched topic. However, research on men's transition to fatherhood is limited and none has used Marcia's conceptual model to investigate this developmental event in men's lives. How does men's transition to fatherhood differ from women's transition to motherhood? How does change or stability manifest itself in men during their partners' pregnancies and after the birth of their infants? These are questions for future research.

#### *Strengths and Limitations*

This was the first longitudinal study to examine the role of ego identity status in a heterogeneous population of pregnant and postpartum women and the first study to use Marcia's conceptual model of ego identity with a population of mothers-to-be. A conceptual model (Figure 1) was proposed that examined the proposed relationships and although not all causal paths were supported empirically, cross-sectional evidence was found to support the relationships between ego identity status and the occurrence of depressive symptoms both pre- and post-partum.

The lack of support for the major hypotheses may have resulted from weaknesses in the measure of identity used, the Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998). The EOMEIS-2 is a self-report scale that measures *global* ego identity, that is, the women's individual values, beliefs, and attitudes within ideological and interpersonal

frameworks. The EOMEIS-2 is not specific to any particular developmental transition. Previous studies (Waterman, Geary, & Waterman, 1974; Waterman & Goldman, 1976) that have examined specific developmental transitions, for example, across the college years have used this measure in its structured interview format. This format allows the interviewer to ask questions that pertain to the specific developmental transition under investigation. I used the self-report EOMEIS-2 questionnaire version because of the nature of the study methods, and also because it combined the interpersonal and ideological frameworks into a single scale. Although the interview and self-report formats should be equivalent, the lack of findings with the self-report measure raises the question of whether it captured the phenomenon of interest. Perhaps I should have untangled the domains specific to each framework, that is, politics, occupation, and religion for ideological ego identity; and relationships, friendships and recreational choices for interpersonal ego identity as they might differentially contribute to women's identity change upon becoming a mother. I would recommend that future studies use the interview methodology, if possible, to allow for the identification of the values, attitudes, beliefs, and choices across ego identity frameworks that are unique to the transition being studied.

### *Clinical Implications*

The findings of the study have implications for two areas of clinical practice: obstetrical care and maternal mental health treatment. Postpartum depression is a major health issue for both women and their children with 10 to 15% of all postpartum women experiencing this disorder. Although contributors to this disorder have been identified, the study looked to expand the scope of the literature by situating a woman's underlying ego identity, an intra-psychoic structure as an underlying contributor. To that end, women's underlying ego identity statuses and their relationship with the occurrence of depressive symptoms both pre-and post-partum were

examined. Because a person's present mood state is the usual focus of mental health treatment, two cross-sectional relationships were hypothesized and supported: prenatal ego identity status was negatively associated with prenatal depressive symptoms; and postpartum ego identity status was negatively associated with postpartum depressive symptoms with women in the least differentiated ego identity status, diffusion, having the greatest number of depressive symptoms both pre-and post-partum.

As in previous studies (Cutrona & Troutman, 1986; Collins, Dunkle-Schetter, Lobel & Scrimshaw, 1993; Mosack & Shore, 2006; Orr et. al, 2002), the findings supported the direct relationship between prenatal and postpartum depressive symptoms. However, although the significance of treating depression in postpartum women has been emphasized both empirically and in social discourse, little attention has been directed at the importance of treating prenatal depression despite the evidentiary support of the causal relationship between prenatal and postpartum depressive symptoms. Consequently, it is recommended that preventative measures to screen pregnant women for depressive symptoms be introduced into routine prenatal obstetrical care with the expectation that the early case finding will reduce the negative consequences of maternal postpartum depression on both the mother and her children.

The Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) is an epidemiological measure that has been routinely used in empirical studies with populations of pregnant and postpartum women (Cutrona & Troutman, 1986; Collins, Dunkle-Schetter, Lobel & Scrimshaw, 1993; Mosack & Shore, 2006; Orr et. al, 2002). The CES-D has the advantage of being easily administered and scored, and so, its use in prenatal case finding is recommended. Women could complete the measure during their prenatal visits while waiting to be seen by their obstetrical healthcare provider; and because it is easily scored, healthcare providers could make

an assessment during the same visit. However, there is a caveat in using the CES-D with pregnant women; because the CES-D is an epidemiological measure, it assesses symptoms that are generic for depression but commonly experienced by pregnant women, such as, difficulty sleeping, feeling more tired than usual, and loss of interest in day to day activities. Therefore, before making a referral to a mental health provider, the obstetrical provider needs to assess depressive symptoms based, not only on the patient's CES-D score, but also the direct questioning of the mother-to-be about her symptoms and mood state.

Whereas the Center for Epidemiological Studies- Depression scale (CES-D; Radloff, 1977) can be used both pre-and post-partum, the Postpartum Depression Screening Scale (PDSS; Beck & Gable, 2002) can only be used postpartum. In the study, the postpartum CES-D and PDSS were significantly correlated. However, the mean for the CES-D was lower than the usual cut-off of 16 (as was the mean for the prenatal CES-D); the mean for the PDSS was 60, the cut-off for postpartum depressive symptoms. Consequently, the PDSS identified more women "at risk" for postpartum depressive symptoms than did the CES-D. In addition, the PDSS has the unique advantage of targeting depressive symptoms specific to the postpartum period, such as, feelings of loss of self and loss of identity, loss of control, guilt related to not being a "good enough" mother, anxiety, mental confusion, and contemplation of self harm. For these reasons, the use of the PDSS in both postpartum clinical and research settings is recommended. The study's primary assumption that women's underlying ego identity statuses contributed to the occurrence of depressive symptoms both pre-and post-partum was supported, and so, a new direction for treating depressed prenatal and postpartum women is offered.

Postpartum, the first line of treatment for depressed mood is mood stabilization. Antidepressant medication is used if the mother is not breastfeeding because it stabilizes the

biological neurotransmitter dysregulation and improves mood and sleep patterns; however, medication is only an adjunct to the primary intervention -- structurally oriented psychotherapy. Structurally oriented psychotherapy allows women the opportunity to construct a new representation of "...themselves-in-relationship (to their infant) and of themselves-in-the-world (as a mother)..." (Marcia, 1999; p. 401).

Much has been written about the psychological *maternal work* of the prenatal and postpartum periods (Beck, 1992, 1993; Benedek, 1958; Deutsch, 1944; Mauthner, 2003; Mendell & Turrini, 2003; Mercer, 2004; and Nicolson, 1999, 2003) resulting in women incorporating the identity of mother into their pre-existing identities. Prenatally, the mother-to-be fantasizes about *becoming a mother* to her to-be-born infant in the future; and postpartum, to *being a mother* to her infant in the real world. During pregnancy, the early mother-child identifications that had laid the foundation for the earlier psychosocial task of adolescent identity formation re-emerge within the context of impending motherhood with women's identifications with their own mothers as "mother" models contributing to the maternal identity transformation process (Benedek, 1958; Erikson, 1968). Later, during the postpartum period, psychological *maternal work* continues as women attempt to integrate their internalized self-representations of themselves as mother with their actual experiences of mothering and caring for their infants. It is postpartum that new mothers experience and cope with the underlying intra-psychic spiral-like processes of themselves as infants to their own mothers and themselves as mothers to their own infants. Consequently, the demands of the *psychological maternal work* along with the *physical work* of labor and giving birth and then parenting a newborn, can give rise to feelings of vulnerability, dependency, inadequacy, and loss of self (identity) in the new mother.

As previously stated, the cross-sectional relationship between postpartum ego identity status and postpartum depressive symptoms was negatively associated; postpartum women in the diffusion ego identity status had the greatest number of depressive symptoms. In the retrospective study of adult women, Josselson (1988) found that women who were identified as being in the diffusion ego identity status spoke of feeling emotionally distant from their parents; having been emotionally abandoned by their parents in childhood; and having a fear of being “hurt” by them even in their present adult lives (Josselson, 1988). Marcia (1999) adds that as children, diffusions are treated as pawns by their narcissistic parents who view their children’s performances as reflections of their own self-esteem. Consequently, it is speculated that when a pre-or post- partum woman in the diffusion ego identity status has to confront the re-emerging identifications of herself as infant to her own emotionally with-holding mother along with having to satisfy the dependency needs of her own infant, if postpartum, depression ensues.

In the study, change in ego identity status was not related to postpartum depression even though some women regressed into the diffusion ego identity status postpartum. It is possible that for these select women the regressive shift into the diffusion ego identity status from a more differentiated ego identity status was normative and “in the service of the ego” as they transformed their pre-existing identities to incorporate the identity of *being a mother*. In longitudinal studies of college-aged students, both Kroger (1995) and Marcia (1989) found differences in the identity transformative processes among individuals who regressed into one of the least differentiated ego identity statuses (diffusion or foreclosure) from a more differentiated ego identity status (moratorium or achievement). These resulting differences depended on whether the regression in identity status was *developmental* (normative and open to identity reformation) or *firm* (not open to identity reformation). However, it is not possible to determine

from the data whether the regressive differences found in the study were exemplars of the patterns that Kroger and Marcia described. Therefore, future research should be directed at identifying the patterns of change in ego identity status from pre-to post-partum that occur in pregnant women as they transition from pre-to post-partum with special emphasis on whether the regressive changes into the diffusion ego identity status are *developmental* or *firm*.

In order to treat postpartum depression, the primary intervention is structurally oriented psychotherapy. If postpartum depression is positioned as a negative outcome of women's postpartum ego identity statuses that result from the re-emergence in women of their disordered identifications with their own mother models, then the aim of treatment is to facilitate a secure attachment relationship between the patient and her therapist so that these disordered identifications can be cognitively restructured. Because feelings of vulnerability, maternal inadequacy, and a loss of connection to their infants is experienced by depressed postpartum women, the therapist's role is to provide a safe "holding" environment in which the therapist is receptive, non-judgmental, calming and soothing, and nurturing--the transference of "good mother"; with the goal that the new mother in feeling understood, accepted, and respected will be able to cognitively work through her own negative maternal representations. Consequently, the postpartum depression will resolve as the new mother via the therapeutic process explores her past while at the same time exploring her present and future before ultimately committing to the identity of herself as *being a mother*.

### *Conclusions*

Identity researchers have recently begun to ask: "Does the initial identity formed in adolescence undergo developmental changes or reformulations during adulthood?" (Berzonsky & Adams, 1999; Kroger, 1995; Marcia, 2002). The study looked to answer the question by

positioning pregnancy and the early postpartum period as normative developmental events in adult women's lives during which ego identity status changes may occur as women transition from pre-to post-partum. The study found that yes, change in ego identity status did occur from pre-to post-partum for some women; but, no, the changes in ego identity status were not related to the occurrence of depressive symptoms; suggesting that the changes in ego identity status that occurred from pre-to post-partum were normative and not pathologic.

Although the primary goal of empirical studies is to support causal relationships, the study examined two cross-sectional relationships that were of primary interest clinically. Both prenatal ego identity status and postpartum ego identity status were found to be related to the occurrences of depressive symptoms cross-sectionally with women who were in the least differentiated ego identity status, diffusion, the status that represents the absence of both exploration of and commitment to identity values, beliefs, and choices, having the greatest number of depressive symptoms. In addition, the causal relationship between pre-and post-partum ego identity status was also supported. Clinically these findings have import because it is the patient's presenting mood that is the usual focus of treatment and it is therein that clinical interventions lie.

Clinical interventions derived from the study include the prenatal assessment of depressive symptoms during women's routine obstetrical visits with the expectation that early case-finding will prevent or at least minimize the negative consequences of postpartum depression on both mother and infant. Prenatal and postpartum structurally oriented psychotherapy is also recommended to treat women's depressive symptoms. The aims of psychotherapy is the correction of women's underlying disordered early mother-child identifications and through the therapeutic relationship provide a nurturing, supportive, and

caring environment so that the depressed mother's ego can heal, transform, and incorporate the identity of *being a mother*.

The Extended Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998), a self-report measure that assessed the women's overall *global* ego identity statuses both pre-and post-partum was used. However the use of a self-report measure had limitations: the EOMEIS-2 did not identify the underlying processes that contributed to the women's *global* ego identity status classification; or identify the specific processes that contributed to the domain of their *becoming a mother*; or identify the variety of types of shifts in ego identity status changes that occurred; therefore, to understand the nature of these changes and the processes by which these changes occurred, future researchers should use a structured interview procedure (Marcia, 1993).

Change in ego identity status was not related to depressive symptoms as predicted; however, for some women change in ego identity status did occur from pre-to post-partum with some women regressing into the diffusion ego identity status postpartum after having been in a more differentiated ego identity status prenatally. Earlier researchers (Kroger, 1995; Marcia, 1989) have identified two types of changes in adults as they regress into the diffusion ego identity status from a more differentiated ego identity status: *developmental* or *firm*. However, because of the study's design, use of the EOMEIS-2, the identification of the type of regressive change, *developmental* (normative and open to identity reformation) or *firm* (not open to identity reformation) that occurred in women who regressed into the diffusion ego identity status postpartum were not identifiable. Therefore future research should look to identifying these types of regressive patterns in women who move into the diffusion ego identity status postpartum and identify which regressive patterns, if any, result in the occurrence of postpartum depressive symptoms.

Another aim of the study was to understand *how* women's ego identity statuses and depressive symptoms were related. Commitment to the pregnancy, a known mediator of relationships within the pregnancy experience was supported; postpartum, no hypothesized mediational relationships were supported; but post-hoc, women's valuing in/ and comfort (satisfaction) with the mothering role was a mediator between postpartum ego identity status and postpartum depressive symptoms. In the future, studies should employ a structured interview procedure to understand more fully these underlying processes so that clinical interventions can be developed with the objective of preventing or minimizing postpartum depression.

Because postpartum depression affects not only the mother herself but impacts significantly on mothers' perceptions of their infants and subsequent maternal-infant bonding (Beck, 1992; Foreman & Henshaw, 2002); has a negative impact on the cognitive, social and emotional development of their children (Beck, 1996, 1998; Fleming, A., Flett, G., Ruble, D., & Wagner, V., 1990; Phillips & O'Hara, 1991; Radke-Yarrow, Zahn-Waxler, Richardson, Susman & Martinez, 1994); and is experienced by 10 to 15% of all postpartum women living in Western cultures, postpartum depression is a significant health issue. Although childbirth is a universal biological event it occurs within a socio-cultural context and in Eastern cultures postpartum depression is rare or almost non-existent (Stern and Kruckman, 1983; Wong, 2008) because of the cultural practices that are intrinsic to the postpartum period. In Western cultures the focus of attention is on the mother-to-be and her pregnancy; in Eastern cultures, the focus of attention is on the postpartum mother herself. In Eastern cultures the new mother is recognized as both vulnerable and as having a changed social status as a result of her giving birth and having *become a mother*. In recognition of the mother's physical and emotional vulnerability and change in social status, the new mother is secluded and confined to her home or the home of her

mother and attended to with care and nurturance by her mother, mother-in-law, and/or the other women of the community. For women living in Eastern cultures, the postpartum is an extended period of time to recuperate and to incorporate their changed status (*becoming a mother*) into their pre-existing identities.

How different for new mothers in Western culture where vulnerability is viewed as a negative attribute and the expectation is that new mothers will assume the full care of their infants, other children, and themselves post-hospitalization, a hospitalization that now has been reduced to 48 hours. In addition to the physical work, there is the psychological *maternal work* of the postpartum period wherein women incorporate the role of *being a mother* into their pre-existing identities. Is it any wonder that 10 to 15% of all postpartum women experience some degree of postpartum depression? Consequently, when postpartum women enter mental health treatment for their depression, it is the psychotherapist who assumes the role of nurturing other and allows the woman via the therapeutic process the permission to be vulnerable and cared for in the psychological sense while at the same time engaging and encouraging her husband or partner to participate in the physical care of their day-to-day lives so that the new mother can recuperate and regain both her physical and mental health. It is towards this end that the study directs future research- - propose and research changes in Western postpartum cultural practices so that women can be supported in their *maternal work* of adult identity transformation in *becoming mothers* without incidence of maternal postpartum depression.

## Footnotes

<sup>1</sup>These statuses can be determined using either the full scale score or on either of the two subscale scores in the measure, ideological and interpersonal identity. My initial decision to classify participants into separate ideological and interpersonal statuses was based on the work of ego identity researchers (Adams, 1998; Bennion & Adams, 1986; Perosa, Perosa & Tam, 1996) who suggested that the separation of the global framework into these two frameworks might be more appropriate for identifying gender differences in identity formation. However, the scores on the ideological and interpersonal subscales were highly associated in this study ( $X^2 = 30.54$ ,  $df = 6$ ,  $p < .001$ ). Therefore, I chose to analyze the data using only the full (global) identity status scale.

Table 1

## Comparisons between Women Who Completed Only Time 1 and Both Questionnaires

	Time 1 Only ( <i>n</i> = 110)		Time 2 Completers ( <i>n</i> = 78)		<i>t</i> -test or $X^2$
	<i>n</i>	%	<i>n</i>	%	
<b>Recruitment Source</b>					
JHMC	14	(13%)	9	(12%)	$X^2 = 20.07$ (5), <i>p</i> = .001***
LIJH	34	(31%)	16	(21%)	
Internet posting	39	(36%)	33	(42%)	
Self-referral	19	(17%)	17	(22%)	
Certified Nurse Midwife	3	(3%)	3	(3%)	
Private obstetrical practice	1	(1%)	0		
<b>Demographic Variables</b>					
Age	<i>M</i> = 29.94 <i>SD</i> = 5.77		<i>M</i> = 30.50 <i>SD</i> = 5.42		<i>t</i> = - 1.61 (108), <i>p</i> = .11
<b>Religion</b>					
Protestant	9	(8%)	7	(9%)	$X^2 = 3.97$ (5), <i>p</i> = .55
Roman Catholic	31	(28%)	21	(27%)	
Jewish	15	(14%)	13	(5%)	
Moslem	6	(6%)	4	(5%)	
Agnostic	14	(13%)	11	(14%)	
Other	34	(31%)	21	(27%)	
<b>Ethnicity</b>					
White	54	(48%)	44	(56%)	$X^2 = 9.90$ (4), <i>p</i> = .04*
Black/African-American	17	(13%)	9	(12%)	
Hispanic	16	(14%)	12	(15%)	
Asian	18	(16%)	10	(13%)	
Multiracial	2	(2%)	2	(3%)	
Native American	1	(1%)	1	(1%)	
<b>Occupational status</b>					
Employed, full-time	34	(31%)	27	(34%)	$X^2 = 1.796$ (3), <i>p</i> = .62
Employed, part-time	23	(21%)	16	(21%)	
Homemaker	27	(24%)	19	(24%)	
Unemployed	25	(23%)	16	(21%)	

Table 1 (continued)

	Time 1 Only ( <i>n</i> = 110)		Time 2 Completers ( <i>n</i> = 78)		<i>t</i> -test or $X^2$
	<i>n</i>	%	<i>n</i>	%	
<b>Income</b>					
< 10,000	9	(9%)	7	(7%)	$X^2 = 25.07 (5),$ $p = .001^{***}$
< 20,000	13	(12%)	8	(11%)	
< 30,000	10	(9%)	2	(3%)	
< 50,000	23	(22%)	15	(20%)	
< 70,000	13	(12%)	8	(11%)	
> 70,000	38	(36%)	36	(47%)	
<b>Education completed</b>					
Under 8 years	3	(3%)	2	(3%)	$X^2 = 17.67 (5),$ $p = .01^{**}$
9 - 11 years	1	(1%)	0		
High school graduate	18	(16%)	10	(13%)	
Some college	22	(20%)	10	(13%)	
College graduate	38	(35%)	32	(41%)	
Graduate or professional degree	28	(26%)	24	(31%)	
<b>Relationship status</b>					
Married	83	(76%)	59	(76%)	$X^2 = .28 (2),$ $p = .87$
Partnered	22	(20%)	15	(19%)	
Single	5	(5%)	4	(5%)	
<b><u>Pregnancy Characteristics</u></b>					
<b>Parity</b>					
Primiparous	64	(58%)	48	(62%)	$X^2 = 1.24 (1),$ $p = .27$
Multiparous	46	(42%)	30	(39%)	
<b>Pregnancy planned</b>					
Yes	75	(69%)	56	(73%)	$X^2 = 1.88 (1),$ $p = .17$
No	34	(31%)	21	(27%)	

Table 1 (continued)

	Time 1 Only ( <i>n</i> = 110)		Time 2 Completers ( <i>n</i> = 78)		<i>t</i> -test or $X^2$
	<i>n</i>	%	<i>n</i>	%	
<u>Depression Variables</u>					
Self-reported History of Depression					
None of the time	32	(22%)	25	(32%)	$X^2 = 7.80$ (4) <i>p</i> = .10
Little of the time	44	(28%)	35	(45%)	
Some of the time	22	(31%)	12	(15%)	
Good bit of the time	8	(13%)	4	(5%)	
Most of the time	4	(6%)	2	(3%)	
Prenatal Center for Epidemiological Studies- Depression (CES-D)	<i>M</i> = 9.83 <i>SD</i> = 8.85		<i>M</i> = 8.18 <i>SD</i> = 10.26		<i>t</i> = - 1.39 (77) <i>p</i> = .17
Dichotomous Prenatal CES-D	89	(81%)	62	(80%)	$X^2 = .351$ (1) <i>p</i> = .55
< or = 15	21	(19%)	16	(21%)	
> or = 16					
Postpartum CES-D			<i>M</i> = 8.2 <i>SD</i> = 10.26		
Dichotomous Postpartum CES-D			65	(83%)	
< or = 15			13	(17%)	
> or = 16					
Postpartum Depression Screening Scale (PDSS)			<i>M</i> = 60.24 <i>SD</i> = 22.54		
Categorical PDSS			45	(58%)	
< or = 59			23	(30%)	
< or = 60-79			10	(13%)	
> or = 80					

\**p* < .05 ; \*\**p* < .01 ; \*\*\**p* < .001.

Table 2

## Prenatal and Postpartum Questionnaires Returned by Recruitment Strategy

Recruitment Source	Prenatal Return		Postpartum Return	
	%	( <i>n</i> )	%	( <i>n</i> )
Jamaica Hospital Medical Center	13	(14)	12	(9)
Long Island Jewish Hospital	31	(34)	21	(16)
Internet	36	(39)	42	(33)
Self-referrals	20	(23)	25	(20)
TOTAL	100	(110)	100	(78)



Table 4

## Descriptive Statistics and Alpha Coefficients of Prenatal (Time 1) Measures

	Prenatal Measures ( $n = 110$ )				
	$k$	$M$	$SD$	Range	Coefficient Alpha
EOMEIS-2	64	190.55	27.56	140 - 268	.88
CES-D	20	10.30	9.00	0 – 53	.92
Commitment to the Pregnancy	8	3.94	0.71	2 – 5	.55

EOMEIS-2 = Extended Objective Measure of Ego Identity Status

CES-D = Center for Epidemiologic Studies-Depression

Table 5

## Descriptive Statistics and Alpha Coefficients of Postpartum (Time 2) Measures

	Postpartum Measures ( $n = 78$ )				
	$k$	$M$	$SD$	Range	Coefficient Alpha
EOMEIS-2	64	186.85	25.19	138 - 242	.86
CES-D	20	8.20	10.30	0 - 51	.95
PDSS	35	60.20	22.50	35 - 141	.96
Commitment to the Infant	8	4.06	0.39	3 - 5	.48
PSOC	17	75.30	9.50	48 - 102	.78

EOMEIS-2 = Extended Objective Measure of Ego Identity Status-2

CES-D = Center for Epidemiologic Studies-Depression

PDSS = Postpartum Depression Screening Scale

PSOC = Parenting Sense of Competence Scale









Table 10

## Categorization of the Sample by Identity Status at Each Time Point

Identity Status	Prenatal Return		Postpartum Return	
	%	( <i>n</i> )	%	( <i>n</i> )
Diffusion	19	(15)	35	(27)
Foreclosure	21	(16)	15	(12)
Moratorium	42	(33)	31	(24)
Achievement	18	(14)	19	(15)
TOTAL	100	(78)	100	(78)

































*Figure 2.* Marcia's conceptual model of ego identity status.

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*Note.* From "Concurrent Patterns of Women's Identity Status, Attachment Styles, and Understanding of Children's Development," by Joanne L. MacKinnon and James E. Marcia, 2002, *International Journal of Behavioral Development*, 26, p.71. Copyright 2002 by The International Society for the Study of Behavioral Development.

## Appendix A

### **Oral Script for Childbirth Classes Prospective Participants**

Thank you for giving me a few moments of your time. My name is Karen Giuliani and I am a Registered Professional Nurse and a doctoral student in developmental psychology at the Graduate Center of the City University of New York. I'm conducting a research study on how expectant mothers' prenatal attitudes and beliefs affect how they feel after their babies are born. For most women having a new baby is an exciting and challenging time; for others it's a time of turmoil and upset. My research study looks at how a woman's attitudes, values, beliefs and goals before giving birth affect how she feels after the baby is born.

My study is open to women who are in weeks 28-40 of their pregnancies, at least 18 years of age, married or partnered and having a single birth. So if you agree to participate, I will contact you twice, once, during weeks 28-40 of the pregnancy and again 6-8 weeks after your baby is born. At each time, I will ask you to complete a questionnaire of approximately 10 pages that asks about your attitudes, beliefs, values and mood and mail it back to me in a self-addressed, stamped envelope.

To thank you for being one of the new moms in my study, I'm going to have a lottery for three \$100.00 gift certificates to *Babies R Us*.

Thank you again for listening to me. Let me hand out the flyers. My name, phone number and email are on them for you to contact me. I will then get back to you and describe the study in more detail. Please call me with any questions.

I would also be willing to stay if anyone wants to talk to me after class.

Again, thanks for your time.

Good night.

## Appendix B

(On GC Psychology Program Letterhead)

### MOM-TO-BE STUDY

#### Consent Form

My name is Karen Giuliani and I am a Registered Professional Nurse and a student in the Developmental Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY), and Principal Investigator of this project, entitled Do Expectant Mothers' Attitudes and Beliefs Affect How They Feel Postpartum. This is a research study of whether pregnant women's attitudes, values, beliefs and goals will affect their moods and how they feel six to eight weeks after giving birth. The study is expected to add to our understanding of postpartum mood. I would like permission to contact you at two time points, during weeks 32 - 40 of your pregnancy, and again 6 - 8 weeks after giving birth.

Participation in the study is completely voluntary and involves completing a 10-page questionnaire at two times: once during weeks 32 - 40 of your pregnancy, and again 6 - 8 weeks after giving birth. At Time 1, the questions ask about life choices, values and beliefs; mood and feelings; and your attitudes about being pregnant. At Time 2, the questions ask again about life choices, values and beliefs; mood and feelings; as well as your attitudes about being a new mother and caring for your new baby.

The time required to complete each questionnaire is approximately one hour. All information gathered will be coded and kept strictly confidential with all information to be stored in a locked file cabinet, to which only I, and my advisor, will have access. At any time you can refuse to answer any questions or end your participation in the study without penalty.

As a way of thanking the 75 participants, each time I receive a completed questionnaire, the woman's name will be entered by me into a lottery for 3 \$100.00 gift certificates to *Babies R Us*. If 75 women participate, each woman will have a chance with each returned completed questionnaire. If all questionnaires are returned, each woman will have 2 chances out of 150 entries to win. The drawing will take place after I receive the last completed Time 2 questionnaires from all the participating moms.

The risk involved in this study is no more than minimal; however, exploring your feelings and ideas about becoming a new mother may be stressful for some new moms. All participants will be given a list of support groups and agencies that specifically address the emotional and practical issues of new mothers. In addition, because the purpose of this study is to examine how women feel and their moods after giving birth, it is possible that some participants might be identified as having a more difficult time adjusting to the postpartum period and the birth of their baby on some of the scales. If this is the case for you, I will contact you by telephone with this information and recommend that you make an appointment with your obstetrician/mid-wife. The benefits of your participation are the opportunity to think and reflect

Over —>

on your feelings and ideas about becoming a mother to your new baby and how the experience is affecting you. There will be approximately 75 new mothers taking part in this study.

I may publish results of the study, but names of the women, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please check the statement at the end of this form and I will send you a copy in the future.

If you have any questions about this research, you can contact me at 516-659-3294 or email: [kag4811@yahoo.com](mailto:kag4811@yahoo.com), or my advisor, Dr. Tracey Revenson at 212-817-8709, or email [trevenson@gc.cuny.edu](mailto:trevenson@gc.cuny.edu). If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, 212-817-7525, [kpowell@gc.cuny.edu](mailto:kpowell@gc.cuny.edu).

Thank you in advance for your participation in the study. Please sign below and mail this consent form along with your completed questionnaire packet in the enclosed postage-paid, self-addressed envelope. Please keep one copy of this form for your records.

If you agree to participate, please sign below:

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher's signature

\_\_\_\_\_  
Date

Please send me a copy of the study. \_\_\_\_\_

## Appendix C

### Jamaica Hospital Consent

### MOM-TO-BE STUDY

### Consent Form

My name is Karen Giuliani and I am a Registered Professional Nurse and a student in the Developmental Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY), and Collaborating Investigator with Dr. Wayne Cohen, Principal Investigator of Jamaica Hospital Medical Center of this project, entitled Do Expectant Mothers' Attitudes and Beliefs Affect How They Feel Postpartum. This is a research study of whether pregnant women's attitudes, values, beliefs and goals will affect their moods and how they feel six to eight weeks after giving birth. The study is expected to add to our understanding of postpartum mood. I would like permission to contact you at two time points, during weeks 32 - 40 of your pregnancy, and again 6 - 8 weeks after giving birth.

Participation in the study is completely voluntary and involves completing a 10-page questionnaire at two times: once during weeks 32 - 40 of your pregnancy, and again 6 - 8 weeks after giving birth. At Time 1, the questions ask about life choices, values and beliefs; mood and feelings; and your attitudes about being pregnant. At Time 2, the questions ask again about life choices, values and beliefs; mood and feelings; as well as your attitudes about being a new mother and caring for your new baby.

The time required to complete each questionnaire is approximately one hour. All information gathered will be coded and kept strictly confidential with all information to be stored in a locked file cabinet, to which only I, my advisor and Dr. Cohen, will have access. At any time you can refuse to answer any questions or end your participation in the study without penalty or compromise to your access to services. This consent adheres to the Code of Federal Regulations Title 45 Section 46.116.

As a way of thanking the 75 participants, each time I receive a completed questionnaire, the woman's name will be entered by me into a lottery for 3 \$100.00 gift certificates to *Babies R Us*. If 75 women participate, each woman will have a chance with each returned completed questionnaire. If all questionnaires are returned, each woman will have 2 chances out of 150 entries to win. The drawing will take place after I receive the last completed Time 2 questionnaires from all the participating moms.

The risk involved in this study is no more than minimal; however, exploring your feelings and ideas about becoming a new mother may be stressful for some new moms. All participants will be given a list of support groups and agencies that specifically address the emotional and practical issues of new mothers. In addition, because the purpose of this study is to examine how women feel and their moods after giving birth, it is possible that some participants might be identified as having a more difficult time adjusting to the postpartum period and the birth of their

baby on some of the scales. If this is the case for you, I will contact you by telephone with this information and recommend that you make an appointment with your obstetrician/mid-wife. If I am unable to contact you, I will contact the person whom you have named at the end of this consent form. The benefits of your participation are the opportunity to think and reflect on your feelings and ideas about becoming a mother to your new baby and how the experience is affecting you. There will be approximately 75 new mothers taking part in this study.

I may publish results of the study, but names of the women, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please check the statement at the end of this form and I will send you a copy in the future.

If you have any questions about this research, you can contact me at 516-659-3294, or my advisor, Dr. Tracey Revenson at 212-817-8709, or email [trevenson@gc.cuny.edu](mailto:trevenson@gc.cuny.edu), or Dr. Wayne Cohen at 718-206-6808, or e-mail: [WCohen@jhmc.org](mailto:WCohen@jhmc.org). If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, 212-817-7525, [kpowell@gc.cuny.edu](mailto:kpowell@gc.cuny.edu) or Dr. Mohan Sharma, Chairman Institutional Review Board Committee of Jamaica Hospital Medical Center at 718-206-6768.

Thank you in advance for your participation in the study. Please sign below and mail this consent form along with your completed questionnaire packet in the enclosed postage-paid, self-addressed envelope. Please keep one copy of this form for your records.

If you agree to participate, please sign below:

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher's signature

\_\_\_\_\_  
Date

Please send me a copy of the study \_\_\_\_\_

In the event that I cannot be contacted, I give permission for you to contact:

Name: \_\_\_\_\_

Relationship: \_\_\_\_\_

Telephone number: (    ) \_\_\_\_\_



Page 1 of 4

## AUTHORIZATION TO RELEASE PERSONAL HEALTH INFORMATION

Study Title:	
Principal Investigator:	
Co Investigator(s):	
Sponsor (if applicable):	Protocol No. (if applicable):

This section explains how personal health information collected about you for the study may be used. Your personal health information includes, but is not limited to, information that was collected for your entry into the study and information that is collected during the study. The purpose of collecting this information is to allow the study staff and the study doctor to conduct the study and to analyze the study results.

By signing this informed release form you authorize The Jamaica Hospital Medical Center, the study's principal investigator, and the research staff to use and disclose your personal health information that is created or collected in the course of the research study to regulatory agencies in the United States such as the Food and Drug Administration, or agencies from other countries, affiliated Institutional Review Boards and privacy boards, the research sponsor, its affiliates, agents and employees, other research sites involved in the study, health care providers who provide services to you in connection with this study, and laboratories and other individuals or organizations that analyze your health information in connection with this study.

### **Authorization to Release Personal Health Information**

Your personal health information may be used or disclosed in order to conduct the research study, as necessary for your research-related treatment or payment for such treatment, to allow the Jamaica Hospital Medical Center to conduct its normal business operations, and to ensure that information relating to the study is available to the parties that need it for research purposes. This personal health information may include, but is not limited to, your name, address, telephone number, date of birth, government identification number (Social Security number), medical records and charts, the results of all tests and procedures performed during the study including HIV-related information.

This includes any information indicating that you have had an HIV-related test, or have HIV infection, HIV-related illness or AIDS, or any information which could indicate that you have been potentially exposed to HIV.

Every effort will be made to keep your personal health information private. But after the study staff or the study doctor share your personal health information from the study, federal privacy laws may not keep it private. There might be laws in your state or other federal laws that would protect the privacy of this information.

The results of the study may be published in a medical book or journal, or presented at meetings for educational purposes. Neither your name, nor any other personal health information that specifically identifies you, will be used in those materials or presentations.

You may decide not to give permission for the release of your personal health information for the study. In that case, you will not be able to participate in the study. This is because the study staff and/or the study doctor would not be able to collect the information needed.

You may ask the doctor to see and copy your personal health information related to the study. You may also ask the study doctor to correct any study related information about you that is wrong. You may have to wait until the end of the study to see your study records, so that the study can be organized properly.

This permission to share your personal health information for this study does not have an expiration date. If you no longer want to share your personal health information, you may cancel your permission at any time by writing to the study doctor at the following address:

**Authorization to Release Personal Health Information****(Name of Principal Investigator and Department)**

The Jamaica Hospital Medical Center  
8900 Van Wyck Expressway  
Jamaica, NY 11418

You may also write to the Privacy Officer at The Jamaica Hospital Medical Center, 8900 Van Wyck Expressway, Jamaica, NY 11418.

However, if you cancel your permission after you have started in the study, the study staff and the doctor will stop collecting your personal health information. Although they will stop collecting new information about you, they will need to use the information they have already collected to evaluate the study results. If you start the study and then cancel your permission, you will not be able to continue to participate in the study. This is because the study staff and/or the study doctor would not be able to collect the information needed.

**Notice Concerning HIV-Related Information**

If you are authorizing the release of HIV-related information, you should be aware that the recipient is prohibited from re-disclosing any HIV-related information without your authorization unless permitted to do so under federal or state law. You also have a right to request a list of people who may receive or use your HIV-related information without authorization. If you experience discrimination because of the release or disclosure of HIV-related information, you may contact the New York State Division of Human Rights at 718-741-8400 or the New York City Commission of Human Rights at 212-306-7500. These agencies are responsible for protecting your rights.

**Authorization to Release Personal Health Information**

I have read this form and all of my questions about this form have been answered. By signing below, I acknowledge that I have read and accept all of the above. I have received a copy of the Notice of Privacy Practices.

**PATIENTS FAMILY AND FIRST NAME (PRINT):**

---

**PATIENT'S SIGNATURE:**

---

**DATE AND TIME OF SIGNATURE:**

---

## Appendix D

### **Postcard for Non-returned Questionnaire**

Just a reminder! Please mail back the Mom-to-Be Study Questionnaire.  
Karen (Giuliani)

## Appendix E

(On Baby Paper)

### **Text Template for Recruitment Flyer**

#### **Moms-to-Be Needed For Research Study**

If you are:

- in weeks 32 to 40 of your pregnancy
- at least 18 years of age
- married or partnered
- having a single birth

Please consider participating in a research study on how expectant mothers' prenatal attitudes and beliefs affect how they feel after their babies are born.

Participation in the study involves being contacted at two different times, during weeks 32-40 of the pregnancy and again 6-8 weeks after giving birth. At each time, you will be asked to complete a 10-page questionnaire and mail it back in a stamped envelope that I provide.

All participants will be entered in a lottery to win three \$100.00 gift certificates to Babies R Us.

For more information please contact:  
Karen Giuliani, R.N.: (516) 659-3294  
or email me [kag4811@yahoo.com](mailto:kag4811@yahoo.com)

## Appendix F

### **Internet Posting**

I am a RN and a doctoral student in the developmental psychology program at the Graduate Center of CUNY and am doing a study on pregnant women's beliefs and attitudes as a predictor of postpartum mood. If you are a pregnant woman in weeks 32-40 of your pregnancy and at least 18 years of age, please consider participating. The study involves completing 2 questionnaires and returning them in postage paid envelopes. As a thank you, all names of women who complete the questionnaires will be included in a lottery for 3 \$100.00 gift certificates to Babies R Us. Please consider participating and email me for particulars at [kag4811@yahoo.com](mailto:kag4811@yahoo.com).

Thank you.

Karen Giuliani RN

## Appendix G

### **Telephone Script for Participants who are at Risk for Postpartum Depression**

Hello (name of new mom). This is Karen Giuliani. I'm the nurse who is conducting the study of pregnant women's attitudes, beliefs and moods before and after giving birth.

How are things going? (Woman to talk) I've just finished scoring the questionnaire that you mailed back to me. I called because your answers suggest that you might be having a rough time since you've been home. How have you been feeling lately? (Woman to talk) Remember when we first spoke, I told you that one of the questionnaires had to do with postpartum mood and depression...well your answers scored in the range that suggests that you might be experiencing a mood problem. I'm calling because I'm concerned for you and want to suggest that you contact your obstetrician/ nurse mid-wife with this information and go and have a talk with him or her about how you've been feeling lately. Also, remember the referral list I included with the second questionnaire? You might want to contact The Postpartum Resource Center at (631) 422-2255 or one of the other numbers. Do you have any questions for me? Please be well and thank you again for being one of the new moms in my study.

## Appendix H

(On GC Psychology Program Letterhead)

### **Letter to MOM-TO-BE**

Dear Mom-to-Be:

As the mother of three and the grandmother of one, I personally know that expecting a new baby can be an exciting and challenging time and that for some women it can be a time of turmoil. This research is a study on how expectant mothers' prenatal attitudes and beliefs might affect their mood and attitudes postpartum. We know that after giving birth and for about two weeks afterwards 80% of new mothers experience changes in their mood, for example, crying, fatigue, poor concentration and that these changes are normal as a result of the birth experience itself, lack of sleep and the sheer amount of work that a new baby creates. For some new mothers, however, these mood changes last longer and can affect how they feel about themselves and their new baby. If unrecognized and left untreated, postpartum depression can occur. It is the purpose of this study to learn if a woman's prenatal beliefs, values and choices have any bearing on her mood both before and after giving birth. Your acceptance to take the time to participate in this questionnaire study and your involvement will, hopefully, provide us with a better understanding of new mothers' experiences.

As I told you during our phone conversation, this study is open to women who are in weeks 32 - 40 of their pregnancies, at least 18 years of age, married or partnered and having a single birth. Participation in the study will involve each woman being contacted at two different times—one, during weeks 32 to 40 of the pregnancy (T1), and again 6 to 8 weeks after giving birth (T2). Participation will involve the completion of a questionnaire at both times.

Included in this envelope are Questionnaire 1, a return envelope, and a prepaid birth announcement postcard that you will complete after giving birth. I suggest that you might want to put the card in your hospital bag and mail it directly from the hospital. If I do not receive the card, I will telephone you two weeks after your due date to see if the baby has been born. When your baby is six weeks old, I will mail you the Time 2 packet.

I realize that participating in this study will take time—a valuable commodity for any new mom—and so, in appreciation, I will enter each woman's name in a lottery for three \$100.00 gift certificates to *Babies R Us* for each completed and returned packet.

Once again, let me thank you for being part of this research study.

Sincerely,

Karen Giuliani, RN

## Appendix I

**Birth Announcement Postcard**

*Hi Karen-*

*My baby was born on* \_\_\_\_\_

*Name:* \_\_\_\_\_

*Address:* \_\_\_\_\_

\_\_\_\_\_

## Appendix J

**MOM-TO-BE STUDY****Questionnaire 1****General Instructions**

Please complete the entire booklet in order. Most often, you will be asked to circle a number next to the response that best describes your feelings. Specific instructions are written for each section. While you may sometimes feel that no response is exactly right, please choose one answer for each question, unless the specific instructions ask otherwise. You may choose not to answer a question; however, it is important that you try to answer every question. Always feel free to expand upon any of your answers on the back of the booklet page. Also, I have attached several Post-it notes to this page because I understand that you may want to comment on a particular question or explain one of your responses. If you would like to offer such a comment or explain, please write on the Post-it and attach it near the question.

When you are done, please send back the completed booklet in the enclosed pre-addressed envelope.

**You are ready to begin . . .**

This questionnaire should take under an hour to complete, so you might want to make yourself a cup of herbal tea or a cold drink, find a comfy chair, put your feet up and begin.

Thanks again.

**Now, please turn to the next page to begin —>**

## Background Information

The following questions are about you:

Today's Date: \_\_\_\_\_

What time is it now: \_\_\_\_\_

am  
pm

1. Your age: \_\_\_\_\_
2. Your religion:
  - (1) Protestant
  - (2) Catholic
  - (3) Jewish
  - (4) Moslem
  - (5) No religion
  - (6) Other (*please specify*) \_\_\_\_\_
3. What is your ethnic background?
  - (1) White (non-Hispanic)
  - (2) Black/African-American
  - (3) Hispanic
  - (4) Asian
  - (5) Other (*please specify*) \_\_\_\_\_
4. What is your current occupational status? *Circle those choices 1 through 4 that pertain to you and then fill in the appropriate box next to it.*

(1) Employed, full-time ) ---> (2) Employed, part-time ) --->	What is your current occupation? _____ -----
(3) Homemaker ) ---> (4) Unemployed ) --->	What was your occupation when you last worked? _____

5. Are you currently a student?
  - (1) No
  - (2) Yes, part-time
  - (3) Yes, full-time

6. Who is the primary wage earner in your household?  
(1) I  
(2) My spouse  
(3) Equally shared
7. Please indicate your total family income for 2004.  
(1) Under \$10,000  
(2) \$10,000 - \$19,999  
(3) \$20,000 - \$29,999  
(4) \$30,000 - \$49,999  
(5) \$50,000 - \$69,999  
(6) \$70,000 or above
8. What is the highest year of school you completed?  
(1) 8 years or less  
(2) 9 - 11 years  
(3) High school graduate  
(4) Some college  
(5) College graduate  
(6) Graduate or professional school
9. Relationship status: married \_\_\_\_\_ partnered \_\_\_\_\_ single \_\_\_\_\_
10. Number of years together: \_\_\_\_\_
11. Number of pregnancies (including the present one): \_\_\_\_\_
12. Expected due date: \_\_\_\_\_
13. Are there children living at home? Yes \_\_\_\_ No \_\_\_\_
- How many? \_\_\_\_\_
14. If yes, their ages: \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_
15. Was this pregnancy planned? \_\_\_\_\_ or not planned? \_\_\_\_\_

Please circle the number that corresponds to your response for each of the following questions, using this scale.

<b>1</b> <b>None of the time</b>	<b>2</b> <b>A little of the time</b>	<b>3</b> <b>Some of the time</b>	<b>4</b> <b>A good bit of the time</b>	<b>5</b> <b>Most of The time</b>	<b>6</b> <b>All of the Time</b>	
1. Do you feel good about yourself as a person?	1	2	3	4	5	6
2. Do you feel worthwhile?	1	2	3	4	5	6
3. Do you feel you have a number of good qualities as a person?	1	2	3	4	5	6
4. Before this pregnancy, have you ever been depressed?	1	2	3	4	5	6
5. If yes, have you been under a physician's care for this past depression?	1	2	3	4	5	6
6. If yes, did the physician prescribe any medication for your depression?	1	2	3	4	5	6
7. Do you feel you receive adequate emotional support from your partner?	1	2	3	4	5	6
8. Do you feel you receive adequate instrumental support from your partner (e.g., help with household chores or baby sitting)?	1	2	3	4	5	6
9. Do you feel you can rely on your partner when you need help?	1	2	3	4	5	6
10. Do you feel you can confide in your partner? (repeat same questions for family and again for friends)	1	2	3	4	5	6
11. Are you satisfied with your marriage (or living arrangements)?	1	2	3	4	5	6
12. Are you currently experiencing any marital problems?	1	2	3	4	5	6
13. Are things going well between you and your partner?	1	2	3	4	5	6
14. Are you currently experiencing any stressful events in your life, such as:						
• financial problems	1	2	3	4	5	6
• marital problems	1	2	3	4	5	6
• death in the family	1	2	3	4	5	6
• serious illness in the family	1	2	3	4	5	6
• moving	1	2	3	4	5	6
• unemployment	1	2	3	4	5	6
• job change	1	2	3	4	5	6
15. Have you felt depressed during your pregnancy?	1	2	3	4	5	6
16. Have you been feeling anxious during your pregnancy?	1	2	3	4	5	6

The next questions are about your thoughts, feelings and attitudes about being pregnant. Please circle the number at the end of each question that best describes how you feel.

<i>Please circle the applicable number.</i>		<i>Extremely</i>	<i>Very Much</i>	<i>Pretty Much</i>	<i>Somewhat</i>	<i>Not at all</i>
To what extent . . .						
1.	do you feel committed to having a baby right now?	1	2	3	4	5
2.	do you feel obligated to carry this pregnancy?	1	2	3	4	5
3.	do you feel attached to having a baby right now?	1	2	3	4	5
4.	do you feel that it is your duty to have a baby right now?	1	2	3	4	5
5.	do you feel enthusiastic about being pregnant right now?	1	2	3	4	5
6.	would a baby be a burden to you right now?	1	2	3	4	5
7.	would it be a relief not to be pregnant right now?	1	2	3	4	5
8.	do you feel that you would really enjoy having a baby right now?	1	2	3	4	5
9.	is it stressful for you being pregnant?	1	2	3	4	5
10.	do you feel threatened or upset about being pregnant?	1	2	3	4	5

### Attitudes, Values, Beliefs and Goals

<b>The next section concerns your attitude, values, beliefs and goals. Please circle the number that best indicates how strongly you agree or disagree with each of the statements.</b>							
<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately disagree</i>	<i>Strongly disagree</i>
1.	I haven't chosen the occupation I really want to get into, and I'm just working at what is available until something better comes along.	1	2	3	4	5	6
2.	When it comes to religion, I just haven't found anything that appeals and I don't really feel the need to look.	1	2	3	4	5	6
3.	My idea about men's and women's roles are identical to my parents'. What has worked for them will obviously work for me.	1	2	3	4	5	6
4.	There's no single "life style" which appeals to me more than another.	1	2	3	4	5	6
5.	There are a lot of different kinds of people. I am still exploring the many possibilities to find the right kind of friends for me.	1	2	3	4	5	6
6.	I sometimes join in recreational activities when asked, but I rarely try anything on my own.	1	2	3	4	5	6
7.	I haven't really thought about a relationship. I'm not too concerned whether I have a relationship or not.	1	2	3	4	5	6
8.	Politics is something that I can never be too sure about because things change so fast. But I do think it's important to know what I can politically stand for and believe in.	1	2	3	4	5	6
9.	I'm still trying to decide how capable I am as a person and what work will be right for me.	1	2	3	4	5	6

<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately</i>	<i>Strongly</i>
10.	I don't give religion much thought and it doesn't bother me one way or the other.	1	2	3	4	5	6
11.	There are so many ways to divide responsibilities in marriage, I'm trying to decide what will work for me.	1	2	3	4	5	6
12.	I'm looking for an acceptable perspective for my own "life style," but haven't really found it yet.	1	2	3	4	5	6
13.	There are many reasons for friendship, but I choose my close friends on the basis of certain values and similarities that I've personally decided on.	1	2	3	4	5	6
14.	While I don't have one recreational activity I'm really committed to, I'm experiencing numerous leisure outlets to identify one I can truly enjoy.	1	2	3	4	5	6
15.	Based on past experiences, I've chosen the type of relationship I want now.	1	2	3	4	5	6
16.	I haven't really considered politics. It just doesn't excite me much.	1	2	3	4	5	6
17.	I might have thought about a lot of different jobs, but there has never really been any question since my parents said what they wanted.	1	2	3	4	5	6
18.	A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe.	1	2	3	4	5	6
19.	I've never really seriously considered men's and women's roles in marriage. It just doesn't seem to concern me.	1	2	3	4	5	6
20.	After considerable thought I've developed my own individual viewpoint of what is for me an ideal "life style" and don't believe anyone will be likely to change my perspective.	1	2	3	4	5	6
21.	My parents know what's best for me in terms of how to choose my friends.	1	2	3	4	5	6

<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately</i>	<i>Strongly</i>
22.	I've chosen one or more recreational activities to engage in regularly from lots of things and I'm satisfied with those choices.	1	2	3	4	5	6
23.	I don't think about relationships much. I just kind of take it as it comes.	1	2	3	4	5	6
24.	I guess I'm pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.	1	2	3	4	5	6
25.	I'm not really interested in finding the right job, any job will do. I just seem to flow with what is available.	1	2	3	4	5	6
26.	I'm not sure what religion means to me. I'd like to make up my mind but I'm not done looking yet.	1	2	3	4	5	6
27.	My ideas about men's and women's roles have come right from my parents and family. I haven't seen any need to look further.	1	2	3	4	5	6
28.	My own views on a desirable life style were taught to me by my parents and I don't see any need to question what they taught me.	1	2	3	4	5	6
29.	I don't have any real close friends, and I don't think I'm looking for one right now.	1	2	3	4	5	6
30.	Sometimes I join in leisure activities, but I really don't see a need to look for a particular activity to do regularly.	1	2	3	4	5	6
31.	I'm trying our different types of relationships. I just haven't decided what is best for me.	1	2	3	4	5	6
32.	There are so many different political parties and ideals. I can't decide which to follow until I figure it all out.	1	2	3	4	5	6
33.	It took me a while to figure it out, but now I really know what I want for a career.	1	2	3	4	5	6

<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately</i>	<i>Strongly</i>
34.	Religion is confusing to me right now. I keep changing my views on what is right and wrong for me.	1	2	3	4	5	6
35.	I've spent some time thinking about men's and women's roles in marriage and I've decided what will work best for me.	1	2	3	4	5	6
36.	I'm finding an acceptable viewpoint to life itself, I find myself engaging in a lot of discussions with others and some self-exploration.	1	2	3	4	5	6
37.	I only pick friends my parents would approve of.	1	2	3	4	5	6
38.	I've always liked to do the same recreational activities my parents do and haven't ever seriously considered anything else.	1	2	3	4	5	6
39.	I only go out with the type of people my parents expect me to have relationships with.	1	2	3	4	5	6
40.	I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe.	1	2	3	4	5	6
41.	My parents decided a long time ago what I should go into for employment and I'm following through their plans.	1	2	3	4	5	6
42.	I've gone through a period of serious questions about faith and can now say I understand what I believe in as an individual.	1	2	3	4	5	6
43.	I've been thinking about the roles that husbands and wives play a lot these days, and I'm trying to make a final decision.	1	2	3	4	5	6
44.	My parent's views of life are good enough for me, I don't need anything else.	1	2	3	4	5	6
45.	I've had many different friendships and now I have a clear idea of what I look for in a friend.	1	2	3	4	5	6
46.	After trying a lot of different recreational activities I've found one or more I really enjoy doing by myself or with friends.	1	2	3	4	5	6

<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately</i>	<i>Strongly</i>
47.	My preferences about dating are still in the process of developing. I haven't fully decided yet.	1	2	3	4	5	6
48.	I'm not sure about my political beliefs, but I'm trying to figure out what I can truly believe in.	1	2	3	4	5	6
49.	It took me a long time to decide but now I know for sure what direction to move in for a career.	1	2	3	4	5	6
50.	I attend the same church as my family has always attended. I've never really questioned why.	1	2	3	4	5	6
51.	There are many ways that married couples can divide up family responsibilities. I've thought about lots of ways, and I know exactly how I want it to happen for me.	1	2	3	4	5	6
52.	I guess I just kind of enjoy life in general, and I don't see myself living by any particular viewpoint of life.	1	2	3	4	5	6
53.	I don't have any close friends. I just like to hang around with the crowd.	1	2	3	4	5	6
54.	I've been experiencing a variety of recreational activities in hope of finding one or more I can really enjoy for some time to come.	1	2	3	4	5	6
55.	I've dated different types of people and know exactly what my own "unwritten rules" for relationships are and who I will have relationships with.	1	2	3	4	5	6
56.	I really have never been involved in politics enough to have made a firm stand one way or the other.	1	2	3	4	5	6
57.	I just can't decide what to do for an occupation. There are so many possibilities.	1	2	3	4	5	6
58.	I've never really questioned my religion. If it's right for my parents, it must be right for me.	1	2	3	4	5	6

<i>Please circle the applicable number.</i>		<i>Strongly agree</i>	<i>Moderately</i>	<i>Agree</i>	<i>Disagree</i>	<i>Moderately</i>	<i>Strongly</i>
59.	Opinions on men's and women's roles seem so varied that I don't think much about it.	1	2	3	4	5	6
60.	After a lot of self-examination I have established a very definite view on what my own life style will be.	1	2	3	4	5	6
61.	I really don't know what kind of friend is best for me. I'm trying to figure out exactly what friendship means to me.	1	2	3	4	5	6
62.	All of my recreational preferences I got from my parents, and I haven't really tried anything else.	1	2	3	4	5	6
63.	I only have relationships with people my parents would approve of.	1	2	3	4	5	6
64.	My folks always had their own political and moral beliefs about issues like abortion and mercy killing, and I've always gone along accepting what they have.	1	2	3	4	5	6

Now I am interested in how you have been feeling over the past week. For the following questions, circle the number that indicates how you have felt over the past week.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>		
	<b>Rarely or None of the time (Less than 1 day)</b>	<b>Some or a Little of the time (1-2 days)</b>	<b>Occasionally or A moderate amount of the time (3-4 days)</b>	<b>Most or All of the time (5-7 days)</b>		
	<i>Please circle the applicable number.</i>					
1.	I was bothered by things that usually don't bother me.		1	2	3	4
2.	I did not feel like eating; my appetite was poor.		1	2	3	4
3.	I felt that I could not shake off the blues even with the help from my family and friends.		1	2	3	4
4.	I felt that I was not as good as other people.		1	2	3	4
5.	I had trouble keeping my mind on what I was doing.		1	2	3	4
6.	I felt depressed.		1	2	3	4
7.	I felt that everything I did was an effort.		1	2	3	4
8.	I felt hopeless about the future.		1	2	3	4
9.	I thought my life had been a failure.		1	2	3	4
10.	I felt fearful.		1	2	3	4
11.	My sleep was restless.		1	2	3	4
12.	I was unhappy.		1	2	3	4
13.	I talked less than usual.		1	2	3	4
14.	I felt lonely.		1	2	3	4
15.	People were unfriendly.		1	2	3	4
16.	I did not enjoy life.		1	2	3	4
17.	I had crying spells.		1	2	3	4
18.	I felt sad.		1	2	3	4
19.	I felt that people disliked me.		1	2	3	4
20.	I could not get going.		1	2	3	4



**Before sending in your questionnaire, please check to see that:**

<input type="checkbox"/>	You have signed the consent form.
--------------------------	-----------------------------------

<input type="checkbox"/>	You have answered all the questions.
--------------------------	--------------------------------------

<input type="checkbox"/>	You have the birth announcement card to mail when your baby is born.
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**You're done! Please put your completed questionnaire into the enclosed envelope and mail it back to me. I will mail you the follow-up questionnaire after I receive your birth announcement and the baby is about six weeks old. Again, thank you, and good luck in the coming weeks. I'll be thinking about you.**

## Appendix K

### Cover Letter to Questionnaire 2

Dear New Mom,

Congratulations on the baby! I hope all is well and that you and your baby are both adjusting well. Enclosed is the second questionnaire for my study. Please complete it and mail it back in the enclosed self-addressed; stamped envelope. Once I receive it, I'll add your name a second time to the lottery for the gift certificate.

I just want to remind you that participation in the study is completely voluntary. In addition because the purpose of this study is to examine how women feel and their moods after giving birth, it is possible that some new mothers might be identified as having a more difficult time adjusting to the postpartum period and the birth of their baby on some of the scales. If this is the case for you, I will contact you by telephone with this information and recommend that you contact your obstetrician or mid-wife or one of the support referrals that I provided in the first mailing.

Remember, if you have any questions about this part of the study you can contact me at 516-659-3294 or email [kag4811@yahoo.com](mailto:kag4811@yahoo.com) or my advisor, Dr. Tracey Revenson at 212- 817 – 8709 or email [trevenson@gc.cuny.edu](mailto:trevenson@gc.cuny.edu). If you have questions about your rights as a participant in this study, you can contact Kay Powell , IRB Administrator, The Graduate Center/City University of New York, 212-817- 7525 , [kpowell@gc.cuny.edu](mailto:kpowell@gc.cuny.edu).

Once again thank you for your time and effort. I appreciate it beyond words.

Sincerely,

Karen Giuliani, M.S., R.N.

## Appendix L

**MOM-TO-BE STUDY  
Questionnaire 2****General Instructions**

Please complete the entire booklet in order. Most often, you will be asked to circle a number next to the response that best describes your feelings. Specific instructions are written for each section. While you may sometimes feel that no response is exactly right, please choose one answer for each question, unless the specific instructions ask otherwise. You may choose not to answer a question; however, it is important that you try to answer every question. Always feel free to expand upon any of your answers on the back of the booklet page. Also, I have attached several Post-it notes to this page because I understand that you may want to comment on a particular question or explain one of your responses. If you would like to offer such a comment or explain, please write on the Post-it and attach it near the question.

When you are done, please send back the completed booklet in the enclosed pre-addressed envelope.

**You are ready to begin . . .**

This questionnaire should take under an hour to complete, so you might want to make yourself a cup of herbal tea or a cold drink, find a comfy chair, put your feet up and begin.

Thanks again.

### Background Information

The following questions are about you:

Today's Date: \_\_\_\_\_ What time is it now: \_\_\_\_\_ a.m.  
p.m.

1. Date of delivery: \_\_\_\_\_
2. Where did you deliver your baby: hospital\_\_\_\_; home\_\_\_\_; other\_\_\_\_\_
3. Length of labor: \_\_\_\_\_
4. Type of Delivery: \_\_\_\_\_ (enter a, b, or c)
  - a) vaginal
  - b) Caesarian (C-section)
  - c) vaginal after Caesarian (VBAC)
5. Type of anesthesia (if any): \_\_\_\_\_
6. Length of hospital stay: \_\_\_\_\_
7. Did you and the baby come home together? No \_\_\_\_ Yes \_\_\_\_
8. Did your baby experience any health problems? No \_\_\_\_ Yes \_\_\_\_  
If "Yes", explain: \_\_\_\_\_
9. Are there any health problems now? No \_\_\_\_ Yes \_\_\_\_  
If "Yes", explain: \_\_\_\_\_
10. Type of feeding: \_\_\_\_\_(enter a, b, or c)
  - a) breast
  - b) bottle
  - c) combination of the two
11. Are you having problems with your baby feeding? No \_\_\_\_ Yes \_\_\_\_
12. Would you consider your baby to be irritable or fussy? No \_\_\_\_ Yes \_\_\_\_
13. Does your baby cry a lot? No \_\_\_\_ Yes \_\_\_\_
14. Is your baby difficult to console or soothe? No \_\_\_\_ Yes \_\_\_\_
15. Do you have help at home? No \_\_\_\_ Yes \_\_\_\_

*Please circle the number that corresponds to your response for each of the following questions, using this scale.*

1	2	3	4	5	6
None of the time	A little of the time	Some of the time	A good bit of the time	Most of the time	All of the time

Since your baby was born . . . .

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| 1. Do you feel you receive adequate emotional support from your partner?   | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. Do you feel you receive adequate instrumental support from your partner (e.g., help with household chores or baby sitting)? | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. Do you feel you can rely on your partner when you need help?  | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. Are you currently experiencing any problems with the baby's father?   | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. Are things going well between you and your partner?   | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. Are you currently experiencing any stressful events in your life, such as:  |   |   |   |   |   |   |
| • financial problems   | 1 | 2 | 3 | 4 | 5 | 6 |
| • marital/relationship problems  | 1 | 2 | 3 | 4 | 5 | 6 |
| • death in the family  | 1 | 2 | 3 | 4 | 5 | 6 |
| • serious illness in the family  | 1 | 2 | 3 | 4 | 5 | 6 |
| • moving   | 1 | 2 | 3 | 4 | 5 | 6 |
| • unemployment   | 1 | 2 | 3 | 4 | 5 | 6 |
| • job change   | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. Are you having problems with your baby feeding?   | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. Are you having problems with your baby sleeping?  | 1 | 2 | 3 | 4 | 5 | 6 |

The next questions are about your thoughts, feelings and attitudes about your baby.  
Please circle the number at the end of each question that best describes how you feel.

<i>Please circle the applicable number.</i>		<i>Extremely</i>	<i>Very Much</i>	<i>Pretty Much</i>	<i>Somewhat</i>	<i>Not at all</i>
To what extent . . .						
1.	Do you feel committed to your baby right now?	1	2	3	4	5
2.	Do you feel obligated to your baby now?	1	2	3	4	5
3.	do you feel attached to your baby right now?	1	2	3	4	5
4.	do you feel that your baby is a duty right now?	1	2	3	4	5
5.	do you feel enthusiastic about your baby right now?	1	2	3	4	5
6.	is your baby a burden to you right now?	1	2	3	4	5
7.	would it be a relief not to have to care for your baby right now?	1	2	3	4	5
8.	do you feel that you would really enjoy not having your baby right now?	1	2	3	4	5
9.	is it stressful to have your baby right now?	1	2	3	4	5
10.	do you feel threatened or upset by your baby right now?	1	2	3	4	5

The next statements are about how you feel about being a parent. Please circle the number at the end of each statement that best describes how you feel about being a parent.

*Please circle the applicable number.*

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Slightly Agree</i>	<i>Slightly</i>	<i>Disagree</i>	<i>Strongly</i>
1. The problems of taking care of a baby are easy to solve once you know how your actions affect your baby, an understanding I have acquired.	1	2	3	4	5	6
2. Even though being a parent could be rewarding, I am frustrated now while my child is only an infant.	1	2	3	4	5	6
3. I go to bed the same way I wake up in the morning—feeling I have not accomplished a whole lot.	1	2	3	4	5	6
4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.	1	2	3	4	5	6
5. My mother was better prepared to be a good mother than I am.	1	2	3	4	5	6
6. I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent.	1	2	3	4	5	6
7. Being a parent is manageable, and any problems are easily solved.	1	2	3	4	5	6
8. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.	1	2	3	4	5	6
9. Sometimes I feel like I'm not getting anything done.	1	2	3	4	5	6
10. I meet my own personal expectations for expertise in caring for my baby.	1	2	3	4	5	6
11. If anyone can find the answer to what is troubling my baby, I am the one.	1	2	3	4	5	6
12. My talents and interests are in other areas, not in being a parent	1	2	3	4	5	6
13. Considering how long I've been a mother, I feel thoroughly familiar with this role.	1	2	3	4	5	6
14. If being a mother of an infant were only more interesting, I would be motivated to do a better job as a parent.	1	2	3	4	5	6
15. I honestly believe I have all the skills necessary to be a good mother to my baby.	1	2	3	4	5	6
16. Being a parent makes me tense and anxious.	1	2	3	4	5	6
17. Being a good mother is a reward in itself.	1	2	3	4	5	6

## Appendix M

### **Postpartum Depression Screening Scale**

Copyright requires insertion of instrument

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