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Transition to parenthood: The role of self-complexity

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Transition to Parenthood:

The Role of Self-Complexity

By

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Abstract

Becoming a parent is a significant event in the adult developmental cycle. Researchers agree that all couples experience at least some form of stress during this transition. The present study investigated the role that self-complexity plays in a couple's adjustment to becoming first-time parents. Self-complexity, which is defined as the number of roles or activities that an individual uses to describe himself or herself, was previously found to buffer the impact of stressful events among college students (Linville, 1987). Block (1961), however, found that individuals with higher levels of self-complexity were more maladjusted. The main purposes of this study were to examine whether or not self-complexity does play a role in a couple's adaptation to parenthood and, if it does, to examine the direction of this relationship. Forty-nine couples were interviewed during the third trimester of pregnancy and again when their babies were 6 months old. In addition, couples completed a number of self-report measures which assessed adjustment (e.g., stress and depression). Results showed that self-complexity did play a significant role in the changes that couples experienced from the prenatal to the postnatal phase. Contrary to what a stress-buffering model would predict, higher self-complexity, at high stress levels, was related to greater depression. Consistent with the Baruch et al. theory (1987) of multiple roles, it appeared that couples who reported having several self-aspects and indicated higher stress levels had greater difficulty adjusting to parenthood. The differences between these findings and Linville's (1987) may be attributable to the nature of the two samples.

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Introduction

Couples having their first child are faced with many stressors such as marital strain, lack of sleep, financial stress, and less freedom. It seems, however, that some couples are able to adapt better than others to the reorganization of the different aspects of their lives necessitated by parenthood. A number of factors, including social support, quality of the marital relationship, and the child's temperament may explain why certain couples are able to adjust better than others. The purpose of this study was to explore the role that another factor, known as self-complexity, may play in the couples' adjustment to parenthood.

Self-complexity is defined as the number of distinct aspects (e.g., roles or relationships) that an individual perceives when describing himself or herself (Linville, 1985; 1987). It is believed that the way in which people think about themselves (i.e., level of self-complexity) may affect how well they adjust to some stressful situations such as the transition to parenthood. However, the direction of this influence remains unclear. Some researchers theorize that people who are highly complex in their thinking about themselves (i.e., they perceive several distinct self-aspects) will adapt more easily to life changes. Other researchers, however, postulate that those who perceive fewer, and less distinct, self-aspects (lower self-complexity) are able to cope better. This study was designed to assess the nature and degree of the influence of self-complexity in the context of the transition to parenthood.

Review of the Literature

The onset of parenthood is one of the most important developmental milestones in a couple's life. Earlier studies on parenthood have described this period as a time of "crisis" and "disruption" for the couple, resulting in a major change and reorganization in the nature of the couple's relationship (Belsky, 1986; LeMasters, 1957; Russell, 1974). LeMasters (1957) explained that the addition of a new family member leads to the reassignment of roles and status, value modifications, and the development of new avenues to satisfy one another's needs. In his study, 48 couples participated in an unstructured interview, whereby their responses were rated on a five point scale ranging from "no crisis" to "severe crisis". The definition of crisis used in this analysis was "any sharp or decisive change for which old patterns are inadequate" (Hill, 1949, p. 51). The majority of couples admitted that they had completely romanticized parenthood and were not prepared for the loss of sleep, financial stress, increased responsibility, and emotional turmoil associated with having a new baby (LeMasters, 1957).

More recently, researchers (Cox, 1985; Cowan & Cowan, 1988; Grossman, 1988; Miller & Sollie, 1980; Palkovitz & Copes, 1988; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor, & Deutsch, 1990; Terry, 1991) have described the onset of parenthood as a "transition" rather than a crisis, focusing not only on the stresses related to parenting, but also the rewards and gratifications.

Rewards of Parenting

In the more recent literature, the period of pregnancy is commonly depicted as a period of optimism and contentment (Feldman & Nash, 1984; Leifer, 1977; Palkovitz & Copes, 1988), with the majority of couples experiencing a positive mood (Elliot, Rugg, Watson, & Brough, 1983; Raskin, Richman, & Gaines, 1990). During this time, parents often form positive expectations and ideals about parenting (Lawton & Coleman, 1983). Some couples, for example, practice role-playing as parents long before their babies arrive, often romanticizing what parenting involves (Duvall, 1977). Both fathers and mothers anticipate being affectionate, playful, patient parents who only occasionally need to arrange their lives around the baby (Feldman & Nash, 1984). Mothers have reported that the pregnancy experience, which is a sign of their "womanliness", is an enjoyable one (Leifer, 1977). In addition to feeling pride in their change of appearance, they enjoy the attention from other people (Leifer, 1977). Generally, these are women who report low symptomatology and feel a sense of personal growth and self-worth as they anticipate the role of motherhood (Leifer, 1977). Fathers, too, appear to derive satisfaction from the prenatal stage, regarding the pregnancy as a "mark of their sexual identity" (Humphrey, 1977).

Shortly after the delivery of the baby is a time of joy and happiness. According to Leifer (1977), the mood is one of euphoria and elation, followed by feelings of satisfaction and accomplishment. Raskin et al. (1990) found that for

62.8% of couples, both spouses experienced a positive mood. In addition, couples have indicated that the "love, joy, pride, happiness, and fun" that a child brings far outweigh the stresses (Belsky, 1986; Burman & de Anda, 1987). New parents also experience a closer sense of "family" with the birth of a new infant which is a part of both the mother and father (Belsky, 1986). Primiparous couples have reported that having a child adds "meaning" and a sense of "completeness" to one's life (Burman & de Anda, 1987; Leifer, 1977). Furthermore, couples report that having a child enhances one's self-esteem and maturity, changes one's focus to the future, and leads to less selfishness (Belsky, 1986).

Stresses During Parenthood

Although more emphasis has been placed on the positive aspects of parenting than previously, researchers do seem to agree that all couples experience at least some form of psychological stress during the transition to parenthood. For example, although Leifer (1977) discovered that many mothers have a positive experience during pregnancy, even these women began to show some dissatisfaction with their marked change in appearance, anxiety towards their developing fetus, and some negative alterations in mood. Furthermore, following the delivery of the baby, varying degrees of depression and anxiety were also experienced in spite of the joy of having a child of one's own (Leifer, 1977; Raskin et al. 1990). Another common strain among new parents is fatigue or lack of sleep (Belsky, 1986; Burman & de Anda, 1987; Hopkins, Marcus, & Campbell,

1984; Russell, 1974). In addition to physical demands, parents face emotional distress, deriving from concerns about their adequacy as parents (Belsky, 1986), and feelings of anxiety and edginess (Russell, 1974). Other common daily pressures relate to restrictions in their freedom and social life (Belsky, 1986; Burman & de Anda, 1987; Leifer, 1977), marital strain (Belsky, 1986; Burman & de Anda, 1987; Leifer, 1977; Miller & Sollie, 1980), increased responsibility (Burman & de Anda, 1987; Leifer, 1977), financial stress (Belsky, 1986; Burman & de Anda, 1987; Russell, 1974) and loss of career opportunities for the primary caretaker (Belsky, 1986; Hopkins et al., 1984).

While some couples seem to adjust quite well to the stresses related to parenting, other couples seem to have greater difficulty coping. Raskin et al. (1990) reported that for 37.2% of couples, at least one spouse (23.3% women and 14.0% men) reported moods of depression during pregnancy and that for 4.7% of couples, both spouses were depressed. In addition, Leifer (1977) found that about half the women in her sample expressed ambivalent or negative attitudes towards their pregnancy. Also, these women were more likely to report somatic problems, less satisfaction with their appearance, and greater apprehension regarding their own health than the health of their fetus.

Postnatally, almost 40% of couples reported that at least one spouse was depressed (Raskin et al., 1990). According to researchers (Hopkins et al., 1984; Terry, 1991), women have a more difficult time adjusting to the initial postnatal

period than men and are at a higher risk for depression. Three different levels of depressive reactions experienced by women have been identified in the literature (Hopkins et al., 1984). The "maternity blues", which affect the majority of women, last from 24 to 48 hours after the birth and involve frequent emotional upset such as crying (Pitt, 1973). Because maternity blues are common among primiparous women they are not of major concern to clinicians and are probably simply related to fatigue and other new changes associated with parenting (Gelder, 1978).

Mild to moderate postpartum depression, which is similar to clinical depression, affects as many as 20% of women (Hopkins et al., 1984). Postpartum depression is characterized by feelings of inadequacy as a mother, not being able to cope with infant's demands, depressed mood, irritability, and fatigue. This disorder may last anywhere from six weeks to one year (Hopkins et al., 1984). Finally, the third and most severe illness is postpartum psychosis. This malady, which is quite rare (1 per 1,000 births), is comparable to non-depressive psychosis (Herzog & Detre, 1976) and involves feelings of guilt and fear resulting from thoughts of infanticide (Hopkins et al., 1984).

Factors Influencing Parental Adjustment

Why is it that some couples adjust better than others to the new role of parenthood? A number of factors that influence a couple's transition to parenthood has been reported in the literature. Belsky (1984) provides a framework for

understanding the determinants of individual differences in parental functioning. According to Belsky's model, the personal psychological resources of parents, the characteristics of the child, and the contextual sources of stress and support all influence the way in which parents care for their children. Many of the factors that have been found to influence a couple's transition to parenthood seem to fit nicely into Belsky's model.

Maturity and health. The personal psychological resources in Belsky's model refer to one's personality and developmental history (Belsky, 1984). Thus, Belsky (1984) claims that one's level of maturity and state of psychological health are important influences in this category. If maturity is interpreted as "someone who is older", evidence shows that age is an important variable to consider in the father's adjustment to parenthood. Russell (1974) found that the younger the father was at the time of new parenthood, the greater the experienced crisis. Others found that age was an important adjustment factor for women as well (McLaughlin & Micklin, 1983; Whiffen, 1988), with older women demonstrating better adjustment.

In addition to the maturity of the individual, Belsky (1984) asserted that a couple's psychological health is also an important influence on how well individuals function as parents. Parents who are mentally healthy, as opposed to depressed, are more sensitive to the child's demands and needs (Belsky, 1984). In support of Belsky's assumptions, researchers have found that couples who are

having their first baby adjust more easily to their new role as parents when they have lower depression levels (Hopkins et al., 1984; Leifer, 1977, Terry, 1991).

Child's temperament. The second determinant of parental functioning in Belsky's model includes the characteristics of the child. The temperament of the child, which Belsky has highlighted as the main element in this category, has been found to play a significant role in how well men adjust to fatherhood (Russell, 1974; Sirignano & Lachman, 1985; Wilkie & Ames, 1986). For example, quieter babies that sleep well, eat well, and adapt easily make it easier for parents (especially the father) to cope with their new life changes. However, prior experience with children, especially for fathers, may help the adjustment to having a new child (Feldman & Nash, 1984; Fleming, Flett, Ruble, & Shaul, 1988)

Marital relations. Finally, the third component of Belsky's model is the contextual sources of stress and support. According to Belsky (1984), marital relations and social support are elements in this category. Researchers have found that those with good marriages experience less tension during the transitional phase and adjust more easily to their new role as parents (Field, Sandberg, Garcia, Vega-Lahr, Goldstein, & Guy, 1985; Fleming et al., 1988; Miller & Sollie, 1980; Russell, 1974; Whiffen, 1988). According to Grossman (1988), it is important for couples to have good marital relations so that they can provide each other with a sense of comfort and a feeling of confidence in taking on their new role as mother or father.

Some first-time parents endure more stress than others because the actual transition to parenthood "widens already existing differences between partners" (Cowan, Cowan, Heming, & Miller, 1991). For example, couples who have different expectations about parenting, about their assigned roles, and about their relationship as a couple, compounded with the lack of sleep and strong emotions related to parenting, experience greater distress as individuals and as couples (Cowan et al., 1991). Based on a sample of 72 first-time expectant couples, Cowan et al. (1991) found that the majority of women were less satisfied with their "couple relationship" and with the "change in their role status" than men. In addition, women's involvement in paid work outside the home declined, whereas for men, it either stayed the same or increased.

Although many fathers increased their participation in some household chores such as meal preparation, cleaning, and grocery shopping around the 6 month period after the child was born, they moved towards more traditional roles of providing the family income and doing fewer chores by 18 months after the birth (Cowan & Cowan, 1988). About two-thirds of women returned to work (some part-time) after their baby was born, but continued to take on the majority of household and child-care tasks (Cowan & Cowan, 1988). Overall, both men's and women's satisfaction with who does what in terms of tasks around the home are related to couple adaptation during the first year and a half after the baby is born (Cowan & Cowan, 1988; Cowan, Cowan, Coie, & Coie, 1978; Cowan, Cowan,

Heming, Garrett, Coysh, Curtis-Boles, & Boles, 1985). In other words, the more satisfied each couple is with the current arrangement of household chores, the better they adjust to their new role as parents.

In addition to the dissatisfaction with the division of chores, a popular complaint among couples is the limited amount of time that they have to spend alone together at the end of a day. After working all day, doing the household chores, and taking care of the baby, there is not much time left for the couple to "nurture" their relationship (Cowan & Cowan, 1992). Furthermore, couples claim that even when they set aside some time to be alone together, a lot of energy goes into finding a babysitter, leaving instructions, and preparing the bottles, making it difficult to be spontaneous. Overall, the strains and pressures from work, dividing the household and child care chores, and the lack of time, compounded together, begin to affect the intimate aspects of a couple's relationship, the amount of conflict, and their overall feelings about their marriage (Cowan & Cowan, 1992).

Social support. Social support, which Belsky places under the category of contextual sources of stress and support, is also an important determinant of how well individuals cope with stressful situations. Social support can be available from a number of sources such as one's spouse, family of origin, relatives, friends, or neighbours (Terry, 1991). Evidence indicates that social support can produce both direct beneficial effects on well-being (Cohen, Struening, Muhlin,

Genevie, Kaplan, Peck, 1982) and a more indirect stress-buffering effect, reducing negative consequences of stress under certain conditions (Cohen & Hoberman, 1983; Cohen & Wills, 1985; Eaton, 1978; Kessler & Essex, 1982).

Cohen & Hoberman (1983), for example, found that under conditions of high stress, social support helped reduce or buffer the adverse impact of stress on the individual (Cohen & Hoberman, 1983). At low stress levels, though, greater social support led to increased symptomatology because those who had more social support also had more responsibilities and demands upon them with regard to their relationships. Thus, such individuals experienced more adverse effects under conditions of low stress because their relationships were also a source of low-level background stress.

Similarly, Cobb (1976) discovered that women who were experiencing higher levels of stress and received more social support experienced fewer complications during their pregnancy. Of those who experienced lower levels of support, 91% experienced greater complications under higher conditions of stress, whereas of those who perceived higher levels of support under conditions of high stress, only 33% indicated pregnancy complications.

Tietjen and Bradley (1985) examined how social support would influence attitudes and adjustment to parenthood. They found that those women who had a close intimate relationship with their husbands during pregnancy experienced less depression and anxiety. This main effect suggested that intimate social support can

help adjustment to such stressful situations as parenthood. Others (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983; Terry, 1991) have also found that, especially for women, social support is an important factor for postnatal adjustment.

While most studies suggest beneficial effects of social support, especially at high stress levels, Cutrona (1984) found that social support was more beneficial at lower stress levels. Thus, greater social support was related to higher levels of depression when stress levels were high. Perhaps these findings are inconsistent with the literature due to the different methodologies used to assess social support. For example, the present study assessed the degree to which different social provisions (opportunity for guidance, feelings of closeness with others) were available. Although the study by Tietjen and Bradley (1985) found that social support (as measured by support from one's husband) provided a stress-buffering effect, when that support was received from the larger social network, there was not a stress-buffering effect. Therefore, it is important to consider the operational definition of social support when interpreting the results.

Additional transitory factors influencing adjustment. Although many of the variables that affect a couple's adjustment to parenthood do seem to fit into Belsky's paradigm, there are some existing influences which do not conform. The experiences and attitudes of the mother during pregnancy, for example, are also indicative of adjustment postnatally (Leifer, 1977; Whiffen, 1988). Women who

have more health problems and a less positive experience during pregnancy tend to have greater problems adjusting postnatally (Feldman & Nash, 1984; Fleming et al., 1988; Leifer, 1977; Palkovitz & Copes, 1988; Russell, 1974). Having an unplanned pregnancy (Field et al. 1985; Fleming et al., 1988; Leifer, 1977; McLaughlin & Micklin, 1983; Russell, 1974) has also been found to influence one's attitude toward becoming a parent, and subsequently, one's adjustment. For example, in Leifer's study, many of the women who experienced greater stress, anxiety, and psychological distress were women whose pregnancies were described as unplanned.

Other researchers (Cowan & Cowan, 1992; Kach & McGhee, 1982) have found that the greater the discrepancy between the person's ideal expectations and the actual experience of parenting, the poorer the adjustment. For example, couples who are able to discuss many of their expectations about being a parent, such as how to deal with the baby crying, how to divide household chores, and how to make time for their relationship as a couple, avoid many unnecessary conflicts and experience a more successful transition to parenthood (Cowan & Cowan, 1992).

Self-Complexity

The studies reviewed so far indicate that several factors, such as the child's temperament, marital relations, social support, and the attitudes during pregnancy influence how well a couple adjusts both prenatally and postnatally. However,

little attention has been given to the cognitive factors that may influence how well individuals adjust to their new status of mother or father. For example, how do the potential mothers and fathers view themselves (i.e., their self-schemas or self-concept) during the prenatal phase and how does this thinking change after they have a baby? It is possible that the way in which people think about themselves and their situation may influence how well they adjust to new stressful situations. Linville (1985, 1987), for example, found that college students who perceived a greater number of distinct self-aspects (i.e., higher levels of self-complexity) adjusted more easily to the adverse effects of stress.

Self-complexity is defined as the number of features or feature groups which an individual uses to describe herself or himself (Linville, 1985, 1987). Feature groups may consist of several different categories, such as distinct roles (teaching assistant, student, female), activities (musician, tennis player), subordinate characteristics (good traits, bad traits), or relationships (spouse, friend). The different characteristics within each group are known as features. The greater the number of these features and/or feature groups, and the greater the distinction between these feature groups (i.e., using nonredundant descriptions), the greater one's self-complexity.

Linville applied this self-complexity model to explain "affect" towards the self, speculating that "those with a simple self-representation would be more extreme in their moods and self-appraisals (affect) when given either positive or

negative feedback" (Linville, 1982, p. 92). If, however, an individual has a high degree of self-complexity, he or she will demonstrate more moderate changes in affect when given positive or negative feedback. In 1985, Linville tested her hypothesis with a sample of 59 male undergraduates. These participants were to respond to several different items pertaining to self-evaluation and affect on a computer terminal. Participants were then told how well they did on the given task as compared to the average person. After receiving positive (top 10%) or negative (bottom 10%) feedback, which was randomly assigned, participants were then told that the computer had broken down temporarily and that they would have to redo a portion of the task (questions on affect). As predicted, Linville (1985) found that those individuals who had lower levels of self-complexity experienced greater swings in affect and self-appraisal. That is, those with lower levels of self-complexity showed more positive affect when given positive feedback and a more depressed mood when given negative feedback than those who had higher levels of self-complexity.

Why do those with lower self-complexity experience more extreme affect? Linville (1985) explained that those who have lower levels of self-complexity react more negatively when given negative feedback, or more positively when given positive feedback, because they perceive fewer self-aspects and less distinction between these self-aspects. For example, a man with a lower level of self-complexity may perceive just two aspects of self (teacher and musician), both of

which he feels are strongly related because they are both accomplishments that he has to work hard at. If he has a bad day in the classroom, this may carry over and affect his evening at his recital. As a result, the negative affect (self-evaluation and mood) "spills over" and influences other related aspects of the self. In addition, because there are only two aspects of self, both of which have been affected by the spillover process, there are no unaffected self-aspects to serve as a buffer against stressful situations.

On the other hand, those who have higher levels of self-complexity have a more moderate affective reaction to feedback because they perceive a greater number of self-aspects and are able to differentiate more easily between these various facets of the self. For example, if this man (who is a teacher and musician) expanded his self-concept to include his role as a community member, a father, a husband, and a golfer, then he would be able to focus on these roles, activities, and relationships and use them to buffer the negative stresses of teaching. Rather than focusing on his failure at disciplining children in a classroom, he could focus on what a great parent and husband he is, or how likeable he is in the community. Thus, for those with higher self-complexity, only the relevant aspect of self is affected and the other unaffected aspects serve as a buffer, resulting in a more moderate mood.

Based on these findings, Linville (1987) argued that self-complexity might be related to depression. She proposed that self-complexity could serve as a "buffer"

against the effects of stress, resulting in lower levels of depression. In other words, she predicted that under high levels of stress, those who had a high level of self-complexity would experience less depression. As well, Linville (1987) believed that those individuals who had a more simple self-representation would be more vulnerable to stress and depression. Linville explained that if an individual has high self-complexity, then only the relevant aspect of self would be affected by the negative situation (i.e. stress) and the other distinct aspects of self would serve to buffer the effects of stress.

Results of her study confirmed the buffering hypothesis (Linville, 1987). Linville found that college students who were experiencing high levels of stress, but had high self-complexity, experienced less depression than those with lower self-complexity. Linville also discovered the following crossover interaction: under low levels of stress, those who had higher levels of self-complexity showed higher depression than those with lower self-complexity levels. This crossover interaction suggests that higher self-complexity results in more adverse effects in the absence of stress. Linville (1987) explained that those who have a higher complexity level have more roles and situational demands placed upon them, resulting in chronic, low level background stress. Linville also found that individuals with higher levels of self-complexity, at high stress levels, experienced fewer physical symptoms (e.g., headache, sleeping problems, or back ache) than those individuals who had lower levels of self-complexity.

Other researchers (Baruch, Biener, & Barnett 1987; Korabik, McDonald, & Rosin, 1991; Pugliesi, 1989) propose that being more complex also has a **direct** positive effect on adjustment. Korabik et al. (1991) suggested that having multiple roles may result in "positive spillover" from one domain to another. For example, a woman who has a solid marriage and a happy home life is likely to carry over this positive affect into other areas of her life such as her career. One problem with this theory, however, is that Korabik et al. fail to account for "negative spillover" from one domain to another. The "enhancement" hypothesis implies that additional roles are beneficial for mental and physical health, increasing one's self-esteem, stimulation, and status (Baruch et al., 1987; Pugliesi, 1989). Similarly, others (Campbell, Chew, & Scratchley, 1991) found a significant relationship between Linville's self-complexity measure and self-esteem. Results of their study showed a positive correlation between self-complexity and self-esteem, which suggested that those individuals who had more complex self-schemas had higher levels of self-esteem (Campbell et al., 1991).

There is another body of research, however, that suggests that self-complexity may hinder a couple's adaptation to their new role (Block, 1961; Goode, 1960; Marks, 1977). Block (1961) introduced the term "role variability", which he claimed could best be explained by looking at the extreme ends on a continuum. At one end is the person who experiences "role diffusion" - defined as the situation where an individual is an "interpersonal chameleon, with no inner core of identity,

fitfully reacting in all ways to people" (p. 392). According to Block (1961), this type of person experiences many problems because he or she does not have an inner reference point in order to establish who he or she is as a person. At the other extreme is a person who experiences "role rigidity". Such an individual behaves exactly the same way in all situations, neglecting to behave appropriately as required by the situation. Again Block describes this type of individual as an unhealthy person who, as a result of fearing a change in his or her self-concept, inhibits growth and development. Block (1961) predicted that a happy medium would fall between these two extremes.

Block (1961) had forty-one college students describe themselves according to how they acted with each of 8 different individuals (e.g., "a friend", "a parent or parent figure", "an employer or someone of equal status"). Twenty different adjectives (e.g., "relaxed", "assertive", "independent", or "witty") were provided for the participants to use to describe themselves. Block used factor analysis to compute the percentage of variance shared across the individual's role ratings. Those participants who had a low percentage of shared variance across roles were labelled "interpersonally changeable", and those who had a high percentage of shared variance across roles were identified as "interpersonally consistent".

Unexpectedly, Block (1961) found that only those individuals who vary from situation to situation were more maladjusted. These individuals experienced more anxiety and disillusionment in their daily struggles, had a pessimistic outlook on

life, and were personally distressed. Conversely, it appeared that individuals who were more simple in their self-perceptions were more content, well-adjusted, and had a more positive outlook on their situation.

Baruch et al. (1987) also present a theory which conflicts with the notion that participation in a greater number of roles will result in beneficial effects. Their "scarcity hypothesis" proposes that an individual who takes on many different roles (and thus is likely to be more complex) has a greater potential of suffering from the detrimental effects of stress. According to this theory, human energy is viewed as limited, so that several added roles reduce the availability of resources, leading to overload and negative psychological well-being (Baruch et al., 1987). Similarly, Marks (1977) suggested that having multiple roles may lead to role strain when a person is overcommitted and has limited time and energy.

The contradictory literature presented makes it difficult to form confident conclusions regarding the relationship between self-complexity and well-being. On the one hand, it is proposed that having a complex self-representation may enhance adjustment to new and stressful situations such as parenthood (Baruch et al., 1987; Korabik et al., 1991; Linville, 1985, 1987; Pugliesi, 1989). One can extrapolate from the data provided by Linville (1987) that it is possible that self-complexity may affect how couples adjust to new parenthood. For example, Linville would predict that those individuals who had many distinct aspects of "self" would adjust more easily to their new parental role. This is because when problems arise

relating to "parenting", the other distinct aspects of the self (such as spousal relationship, career position, or sports activities) may serve to "buffer" the effects of the stresses that arise. A new parent who is having a rough day might concentrate on other aspects of his or her life, such as how well he or she is doing in his or her career, or how great it was to win that last tennis match. As a result, this person does not feel frustrated in other aspects of his or her life and this helps him or her experience a more moderate affect.

A less complex person, however, does not have alternative self-aspects which can serve as "distractors" during stressful times. Thus, a person with a lower level of self-complexity who has a rough day with a new baby may feel like a failure in all aspects of his or her life because this negative mood spills over into the other facets of life (which are not distinct from the parent role). From these assertions, one might predict that those couples who are more complex at the prenatal stage may adjust more easily to the postnatal phase than those who have more simple self-representations. In other words, experiencing a greater number of self-aspects such as roles and relationships, and a greater distinction between these aspects, would lead to better adjustment to stressful situations. When only the relevant self-aspect is affected, the other unaffected facets of the self would serve to buffer the adverse impact of negative events.

Conversely, others (Baruch et al., 1987; Block, 1961) suggest that a simple self-image is superior for facilitating adjustment. Block (1961) would predict that

the fewer the roles and the simpler one's self-concept, the easier it is to adjust to situations. This adaptation would occur because one has a unified sense of self which results in fewer situational demands. Although there is evidence that cognitive self-representations do affect adjustment to many stressful situations (Block, 1961; Linville, 1985, 1987), self-complexity has never been assessed on a primiparous population. If one's self-schema does play an important role in the transition to parenthood, what kind of role does it play? Does it help or hinder the process of adjustment?

Research Questions

The objectives of the present study were twofold: First, it examined the changes in thinking (self-complexity) that males and females experience during the transition to parenthood. It was proposed that women, who are usually the primary caregivers, may experience a decrease in their levels of self-complexity. The literature indicates that women experience more stress and role upheaval in the transition to parenthood (Hopkins et al., 1984; Leifer, 1977; Terry, 1991) than men. Usually it is the mother who leaves her career and takes on the role of full-time care-giver (Belsky, 1986; Feldman & Aschenbrenner, 1983; Hopkins et al., 1984; Waite, Haggstrom, & Kanouse, 1985). According to Cowan and Cowan (1992), many women who originally thought that they would return to work had changed their minds once their babies were born. Some women indicated that their priorities changed and work no longer seemed as important, while others expressed their need to be home with their new child (Cowan & Cowan, 1992). Therefore, it was proposed that females would experience a reduction in their number of roles and relationships and focus primarily on their new babies, resulting in lower levels of self-complexity.

On the other hand, it was expected that the men's levels of self-complexity would increase with the addition of the new role of parent. Although fathers invest part of their identity into being a parent, other aspects of their self (e.g., worker or student) remain unchanged (Cowan & Cowan, 1992). Fathers would

probably continue to live out their roles as they did previously, with very little change in their role status, with the exception of their additional new parental role. As a result, these fathers would demonstrate greater levels of self-complexity at the postnatal phase.

The second purpose of this study was to investigate the nature and extent to which self-complexity influences how well couples adjust during the transition to parenthood. If self-complexity were to be significantly related to adjustment, then subsequently, the direction of this relationship would be examined. It is possible that, similar to Linville's findings, self-complexity would serve to buffer the adverse effects of stress experienced by new parents. On the other hand, based on Block's (1961) findings, it may be that a higher degree of self-complexity may negatively affect adjustment, regardless of stress level. The key research question was a test of the stress-buffering hypothesis, which examined the relationship between the interaction of stress and self-complexity (prenatally) and depression (postnatally). Other measures of adjustment such as self-esteem, marital adjustment, and the amount of physical symptoms experienced were also examined. In addition, the relationship between the parenting stress index, which was used as additional stress measure, and the "feelings about parenting" measure were examined.

Design

The study was part of a broader investigation of the transition to parenthood, involving a longitudinal design in which couples were interviewed during the third trimester of their pregnancies and again six months after their babies were born. As part of the larger study, a third interview will take place when the babies are 18 months old. In general, the interviews consisted of questions pertaining to the effect that the prospect (prenatally) or the actual experience of parenting (postnatally) has had on various aspects of their lives and their way of thinking. In addition to an interview, couples completed a number of self-report measures at the prenatal and postnatal phase (See Table 1). The main independent variables (self-complexity, stress, and their interaction) were used to predict depression. All of the variables were treated as continuous.

Table 1

Prenatal and Postnatal Measures

Prenatal Measures	Postnatal Measures
Center for Epidemiologic Studies Depression Scale	Center for Epidemiologic Studies Depression Scale
Perceived Stress Scale	Perceived Stress Scale
Self-Complexity Measure	Self-Complexity Measure
"Who Does What" Scale (Parts 1 & 2)	"Who Does What" Scale (1,2,3)
Marital Adjustment Scale	Marital Adjustment Scale
Social Provisions Scale	Social Provisions Scale
Self-Esteem Scale	Self-Esteem Scale
Attachment Measure	Attachment Measure
Need for Cognition Scale	Feelings About Parenting
	Parenting Stress Inventory
	Infant Characteristics Questionnaire
	Cohen-Hoberman Inventory of Physical Symptoms
	Life Experiences Survey

Method

Sample

Forty-nine couples expecting their first child were recruited from prenatal classes and newspaper ads from the regions of Kitchener-Waterloo, Elmira, and Cambridge, Ontario. Each couple that volunteered received twenty dollars after each of the two interviews for participating in the study. Table 2 contains a summary of the demographic information of the couples in the study. The average age for females was 28 (*SD* = 3.62), and for males was 30 (*SD* = 5.70). Couples, on the average, had been living together 4 years (*SD* = 2.07). Employment and educational status of the men and women are also provided in Table 2.

Primary Measures

The primary measures that were used in the present study were the Center for Epidemiologic Studies Depression Scale (CES-D), Perceived Stress Scale (PSS), and Linville's (1985, 1987) Self-Complexity Measure. Each measure is discussed in turn below.

Center for Epidemiologic Studies depression scale. The CES-D, a twenty item questionnaire, was designed to measure the current frequency of depressive symptoms, with emphasis on depressed affect or mood (Radloff, 1977). The following six components are represented on this measure: depressed mood, feelings of guilt and worthlessness, feelings of helplessness, and hopelessness,

Table 2

Demographic Information for Participants

	Females	Males
Age (from first interview)	28 (3.62)[a]	30 (5.70)
	[18 - 40][b]	[19 - 48]
Years Living Together (from first interview)	4.24 (2.07)	4.32 (1.96)
	[1 - 11]	[1 -11]
Education: (from first interview)		
University Degree	36.73%, n=18	28.57%, n=14
College	28.57%, n=14	18.37%, n=9
University Courses	14.29%, n=7	18.37%, n=9
High School Diploma	12.24%, n=6	28.57%, n=14
Some High School	8.16%, n=4	6.12%, n=3
Prenatal Employment:		
Full	67.35%, n=33	89.80%, n=44
Part	12.24%, n= 6	6.12%, n= 3
Unemployed	20.41%, n=10	4.08%, n= 2
Postnatal Employment:		
Same	8.16%, n=4	73.47%, n=36
Some Time Off	55.10%, n=27	8.16%, n=4
Cut Back on Work	4.08%, n=2	16.33%, n=8
Part-Time Work	16.33%, n=8	---
Quit Employment	16.33%, n=8	---

Note. N = 48 (One missing data point for postnatal employment for males).

[a] The top numbers in parentheses represent the standard deviation. [b] The numbers in squared brackets represent the range.

psychomotor retardation, loss of appetite, and sleep disturbance. However, only one overall score was used when calculating the degree of depression on this measure. Each symptom on the CES-D was rated on a 4-point response format, indicating the frequency of occurrence during the previous week (See Appendix A). The responses can range from **rarely or none of the time** (which is assigned a zero for scoring purposes) to **most all of the time** (which is assigned a three). Scores, based on the responses, may range from 0 to 60, with higher scores indicating greater depression (Radloff, 1977). The four items worded in the positive direction were reversed before scoring. Responses which obtain a score of 16 or more indicate high depression levels.

This measure has been shown to have excellent reliability. Coefficient alpha and Spearman-Brown coefficients were .90 or above for both samples. Split-half correlations were .85 for patient groups and .77 for normal groups. Test-retest correlations were .67 for 4 weeks, and .32 for 12 months, based on the normal group.

The CES-D, which was validated on both a normal and a clinical sample, has strong correlations with the Beck Depression Inventory and the Self-Rating Depression Scale (.81 and .90, respectively) (Radloff, 1977). Several researchers (Gotlib & Whiffen, 1989; Linville, 1987; Raskin et al., 1990) have found the CES-D to be an acceptable measure of depression.

Perceived stress scale. The Perceived Stress Scale (PSS) is a 14-item scale designed to measure the degree to which individuals appraise situations in their lives as stressful, specifically tapping the degree to which individuals find their lives "unpredictable", "uncontrollable", and "overloading" (Cohen, 1986). Overall, this scale measures those situations where persons perceive that the demands exceed their ability to cope (Cohen, 1986). Participants used a 5-point response format, ranging from never (which is assigned a zero for scoring purposes) to very often (which is assigned a four), to indicate how often in the last month they experienced specified feelings (See Appendix B). The seven "positively worded" items were reversed for scoring purposes. The actual range of scores can be from 0 to 56. (Cohen, 1986). The mean based on the standardized population was 25 (SD = 8) (Cohen, 1986).

The PSS was tested on two college samples and a sample of adults enrolled in a smoking-cessation program. This measure has been found to have adequate reliability. The coefficient alpha reliabilities for the three samples were .84, .85, and .86, respectively. The test-retest correlations were .85 for the college sample (over two days) and .55 for the smoking sample (six week period). Although its psychometric properties are not as strong as might be desired, the PSS has been found to positively correlate with the number of life events (which is an alternative measure of stress) for the college samples (.20) and for the smoking sample (.39). In addition, the PSS correlates with self-rated impact of events for the two college

samples (.35, .29) and for the smoking sample (.49).

Self-complexity measure. Self-complexity is defined as the number of distinct aspects that a person uses to think about himself or herself. The Self-Complexity Measure developed by Linville (1985, 1987) in her studies of mood variability, reactions to feedback, and in her stress-buffering study, consists of a sorting task.

Subjects were asked to describe themselves using 33 index cards, each of which contained a different adjective. It should be noted that sixteen of the words used in Linville's study were substituted with characteristics more appropriate for this particular sample. For example, "studious" was replaced with "hard-working", "soft-hearted" was replaced with "caring", and "unconventional" was replaced with "non-traditional" (see Appendix C for a listing of the words used in this study). Each card contained a characteristic used to describe an aspect of a person or a person's life. Participants were asked to sort these characteristics into groups on any meaningful basis that described them. Participants were told that they could use the same characteristics more than once if they wished and that they did not have to use all of the characteristics, only the ones that described them. After they had formed each group (they were told that they could form as many or as few groups as they wished), they wrote down the number that appeared on the top right hand corner of each card onto the supplied recording sheets. Each column on the recording sheet corresponded to a different group or a different

aspect of that person. Columns could be labelled, but this was not a necessary requirement (See Appendix D for actual instructions of the trait sort).

Self-complexity scores were calculated in two ways: first, by using the *H*-statistic measure of self-complexity, and second, by using the feature groups measure. The *H*-statistic was calculated using the following formula (Scott, 1969; Linville, 1987):

$$H = \log_2 n - (\Sigma_i n_i \log_2 n_i)/n$$

In this formula, n refers to the total number of characteristics (i.e., 33) and n_i is the number of features that appear in a particular group combination. The greater the number of self-aspects that were nonredundant in terms of the features that described them, the higher the self-complexity. In other words, this formula was important in calculating not only how many groups (or self-aspects) were generated, but also the distinction between these groups. Scores on this task could range from 0 to 5.044. Linville's college sample obtained a mean self-complexity score of 3.089 (SD = .69).

Based on her studies (1985, 1987), Linville reported that this task was a reliable and valid measure of self-complexity. The test-retest correlation was .70 for a two week period. The characteristics used in Linville's trait sort were generated from a pre-test sample of college students.

In addition to using the H-statistic as a measure of self-complexity, counting the number of feature groups or columns was used as a simpler measure of self-complexity. Linville (1987) found a correlation of .72 between the number of feature groups and the H-statistic measure of self-complexity. Linville's sample had a mean of 6.57 (*SD* = 2.16) feature groups, with a possible range of 1 - 14 groups.

Additional Measures of Adjustment

Participants also completed the following additional measures of adjustment: Rosenberg's Self-Esteem Scale, the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS), the Marital Adjustment Scale (MAS), a "Parenting Affect" measure, and the Parenting Stress Inventory (PSI).

Self-esteem scale. The self-esteem scale, which was developed by Rosenberg (1965), is a ten-item measure dealing with "how favourable" the respondent's attitude is towards himself or herself. Participants indicated on a four point response format (ranging from **strongly agree** to **strongly disagree**) how strongly they agreed or disagreed with each statement (See Appendix E). In order to reduce response bias, positive and negative items were presented alternately. The scores on this scale could range from 10 to 40. Five items were reversed before scoring, so that higher total scores were indicative of greater self-esteem.

The self-esteem scale was validated on a normal sample of 50 volunteers from the National Institute of Health. The scale has been found to be fairly stable, with

a test-retest score of .85. In terms of validity, the scale has been found to be related to depression, anxiety, respect, and social class (Rosenberg, 1965).

Cohen-Hoberman Inventory of Physical Symptoms. The Cohen-Hoberman Inventory of Physical Symptoms (CHIPS) is a list of 39 common physical symptoms (e.g., dizziness, sleep problems, stomach pain) devised by Cohen and Hoberman (1983). For purposes of this study, 6 items were omitted, leaving a total of 33 items (See Appendix F). Cohen and Hoberman carefully selected items to avoid including symptoms which were obviously psychological in nature (e.g., feeling nervous or depressed). Participants indicated on a five-point response format, ranging from "not at all" (which was assigned a score of 0 for scoring purposes) to "extremely" (which was assigned a score of 4), how often each issue bothered or distressed them in the past two weeks.

The CHIPS scale was validated on two separate college samples (N = 331 and N = 114) and was found to be significantly correlated (.22 and .29, respectively) with use of student health facilities in the 5-week period after completing the scale (Cohen & Hoberman, 1983). The internal reliability (Cronbach's alpha) of the CHIPS is .88. The CES-D is moderately correlated with the CHIPS, r = .44.

Marital adjustment scale. The Marital Adjustment scale (MAS) is a 15-item measure which assesses the accommodation of a husband and wife to each other at a given time (Locke & Wallace, 1959). Participants were to indicate the extent

to which they agree or disagree on such issues as finances, recreation, showing affection, or philosophy of life (See Appendix G). Each of these items was assigned a particular score, depending on the extent of agreement. For example, if the participant indicated that he or she always disagrees with his or her spouse on the issue of finances, then this person would receive a score of zero for this item, whereas reporting "always agree" would be assigned a score of five. Also, each subject indicated his or her degree of happiness in the relationship with his or her partner by placing an "X" on a line, with the end points being "very unhappy" (which was assigned a value of 0) to "perfectly happy" (which was assigned a value of 35) and the midpoint being "happy" (which was assigned a value of 15). Couples also responded to a number of questions pertaining to their relationship (e.g., "How many outside interests do you share with your partner?"; "Do you ever wish you had not gotten together with your partner?"). Again, these questions were assigned different scores depending on the response. For example, if the participant indicated that he or she prefers to be "on the go" during leisure time, whereas his or her spouse prefers to "stay at home", then this question would be assigned a score of two.

The scores on the MAS could range from 2 to 158, where higher scores indicate better adjustment (Locke & Wallace, 1959). The scale was validated on a predominantly young, white, educated, Protestant, white-collar and professional, urban sample - most representative of a middle class group. The marital

adjustment test has high internal reliability of .90, as computed by the split-half technique. Forty-eight of the 236 participants had been known through other sources to be maladjusted in marriage. This group was matched with 48 participants who were judged by close friends to have exceptionally well-adjusted marriages. The mean adjustment score for the well-adjusted group was 135.9, with as many as 96 per cent scoring 100 or higher. The mean score for the maladjusted group was 71.7, with only 17 per cent scoring one hundred or more (Locke & Wallace, 1959). There was a significant difference in the mean scores between the two groups, indicating that this scale clearly differentiates between those couples who have maladjusted marriages and those who have well-adjusted marriages (Locke & Wallace, 1959).

Feelings about parenting. The "Feelings About Parenting" questionnaire was a measure of parenting affect devised by Pancer and Pratt (1992) for this study (See Appendix H). Nine of the thirteen items in the questionnaire were selected from Russell's (1974) Gratification Checklist, which had been created simply by asking parents what they liked about their new role. The 13-item "Feelings About Parenting" questionnaire was designed to measure affect related to parenting (e.g., "how often have you felt irritated with your baby?", or "how often have you felt pleasure from playing with your baby?"). Participants were asked to report the frequency of their affect using a five point response format, ranging from **never** (which is assigned a score of 1) to **very often** (which is

assigned a score of 5), indicating how often they had felt the sentiment in each item within the last month. Five items were reversed before scoring. Scores could range from 13 to 65, with higher scores indicating a more positive affect.

Parenting stress index. The Parenting Stress Index (PSI) is a widely-used measure of parenting stress, consisting of 101 items developed by Abidin (1983). This long version of the measure consists of a parent domain and a child domain. The 47 items in the child domain are associated with characteristics of the child which make it difficult for the parent to carry out his/her parental role. The child domain consists of the following six subscales: adaptability, acceptability, demandingness, mood, distractibility, and parent reinforcers. The 54 items in the parent domain consist of sources of stress which are associated with the parent. The seven subscales in this domain are depression, attachment, role restrictions, sense of competence, social isolation, relationship with spouse, and parent health.

The shorter version of the scale (Abidin, 1990), consisting of 38 items, was the scale used in this study (See Appendix I). The shorter version of the scale consists of three main factors: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. Factor one, the parental distress factor, correlates .92 with the parent domain in the longer version of the PSI. This parental factor consists of 12 items which measure sources of stress for the parent (e.g., "I feel trapped by my responsibilities as a parent"). The second factor, parent-child dysfunctional interaction, correlates moderately with the child ($r = .73$) and parent

domain (r = .50) on the larger scale. The focus of the parent-child factor is on whether or not the parent is satisfied from the interaction with his or her child and on whether or not the child meets the parent's expectations (e.g., "I expected to have closer and warmer feelings for my child than I do and this bothers me"). The third factor, "difficult child", correlates .87 with the child domain on the longer version of the scale and measures different aspects of the child's temperament (e.g., "My child seems to cry or fuss more often than most children").

Responses on the Parenting Stress Index , which has a 5-point response format, ranged from **strongly agree** to **strongly disagree**, indicating the extent to which he or she agreed with each statement. There were also a few questions where participants had a choice of four or five answers (e.g., "Overall, how would you rate your child's health? : Excellent, Good, Fair, or Poor"). Respondents were told that their "first reaction" should be their answer. All items were reversed before scoring. Ranges of possible scores for each of the 3 subscales were from 12-60, with higher scores indicating greater parenting stress. In addition to the three subscale scores, a total parenting stress score was computed. A score of ten or below on seven marked items indicated a flag for possible social desirability responding. Scores above 36 for the parent domain, above 27 for the parent-child domain, and above 36 for the child domain are indications of clinically significant stress levels. An overall score of 90 or above for the total

PSI score is also an indication that the individual is experiencing clinically significant levels of stress (Abidin, 1990).

The PSI (short form) has been found to be a reliable and valid measure (Abidin, 1990). The PSI was tested on a sample of 270 parents that were visiting small group pediatric clinics in Virginia. The test-retest coefficient for the total score on the short form of the PSI was .84 over a 6 month re-test period (Abidin, 1983). For the 3 subscale factors, test re-test correlations ranged from .68 to .85 over a 6 month re-test period (Abidin, 1983).

Validity research has not been carried out on the PSI (short form). However, Abidin (1990) suggested referring to the validation of the long version of the PSI. The PSI (long form) has been found to be useful as an evaluation outcome measure of change in an individual after that individual has experienced certain events or interventions (Abidin, 1983). In addition, the total score on the PSI has been found to correlate with Trait Anxiety (.84) and with State Anxiety (.71) scores of the State-Trait Anxiety Index (Abidin, 1983).

Measures from Larger Study

In addition to the measures discussed previously, participants completed the Who Does What Scale (Cowan & Cowan, 1988), the Social Provisions Scale (Cutrona, 1984), the Need for Cognition Scale (Cacioppo & Petty, 1982), Hazan and Shaver's measure of attachment (1987), the Infant Characteristics Questionnaire (Bates, Bennett-Freeland, & Lounsbury, 1979), and the Life

Experiences Survey (Sarason, Johnson, & Siegel, 1978). These measures are part of a larger ongoing study and will not be addressed in this research paper.

Procedure

Couples who volunteered for this study were recruited from prenatal classes and newspaper ads from the Kitchener-Waterloo region of Ontario. Couples recruited from prenatal classes were verbally informed about the purpose of the study, about what would be involved in each interview, and about confidentiality (See Appendix J). Generally, each couple was told that the purpose of the "New Families Research Project" was to look at how people adjust to parenthood. They were told that the study would involve three different interviews: the first, when the couple would be in their third trimester of pregnancy; the second, when the couple's baby would be 6 months old; and the third, when their child would be 18 months old. However, only the data from the first two interviews were used in the present study. In addition, couples were told that they would receive twenty dollars after each interview for their participation. A sign-up sheet was left with the prenatal class instructor to pass around after the researcher had left the room. The instructor then mailed the sign-up sheet to the researcher at Wilfrid Laurier University.

The newspaper ad that was used to recruit other couples in the Kitchener-Waterloo region read as follows: "We are seeking couples who are expecting their first child to take part in a research study at W.L.U. Small payment provided for

participation. For more information, call 884-1970 (ext. 2272), weekdays 8:30 - 4:30." The researcher then contacted those couples who agreed to participate and provided them with the same information that was given to those who signed up through prenatal classes (See Appendix J). All couples who signed up for the study were again contacted when they were at the beginning of the third trimester of pregnancy in order to set up an appointment for the first interview.

Two female researchers went to the couple's home for each interview. Before the interview, the researchers went over the consent form, which included the purpose of the research study, a general overview of the type of questions to be asked in the interview and the questionnaire package, and reassurance about anonymity (See Appendix K). After the consent forms were signed, one researcher interviewed the female in one room and the other researcher interviewed the male in another room, simultaneously. Each partner received identical interviews. The prenatal interview, which was part of a larger study, consisted of questions pertaining to the prospect of parenthood and how it has had an effect on each individual's sense of self, relationship with his or her partner, ideas about parenting, concept of family life, and ideas about work and career (See Appendix L). In addition to the interview, which took approximately thirty to forty minutes to complete, participants were asked to participate in a card-sorting task (Linville's self-complexity measure, 1987). This task, which was a main component of the present study, took approximately fifteen minutes to

complete. (See Appendix D for actual instructions provided for this task).

The researchers then briefly went over the questionnaire package that was to be left for each partner to fill out separately and mail to Wilfrid Laurier University within the next couple of days. The prenatal questionnaire package consisted of demographic questions, the Perceived Stress Scale, the Center for Epidemiologic Studies Depression Scale, the Rosenberg Self-Esteem Scale, and the Marital Adjustment Scale. As part of a larger study, participants also completed the Who Does What scale, Parts I and II, the Social Provisions Scale, Hazan & Shaver's measure of attachment, and the Need for Cognition questionnaire. At the end of each interview, researchers allowed a period of time for questions regarding the interview and the actual research study. After the questionnaire was received by mail, a thank you card and a twenty dollar cheque were sent to each couple. The researcher also mailed a birth congratulations card to each couple, after their baby was born. In addition, when each baby was 3 months old, he or she received a Wilfrid Laurier University t-shirt, with a reminder to the couple that their second interview would be in three months.

The second interview occurred when each couple's baby was six months old. Again, two researchers went to the couple's home and interviewed the couple separately, but simultaneously. Before beginning the actual interview, the researchers outlined the consent form which highlighted the purpose of the research study, gave a general overview of the type of questions to be asked in the

interview and the questionnaire package, and reassured the couple about confidentiality (See Appendix M). In addition, couples were informed that the focus of this interview would be on the experiences of parenting. At this time, couples were also given several referral names and numbers of different organizations that they could call in the event that they needed some outside support to help them with their new role as parents (See Appendix N). Each participant was told that as part of any psychology study it was a researcher's obligation to provide referral numbers to each couple in the event that anyone had any difficulty adjusting and needed outside support.

After signing the consent form, participants completed the postnatal interview, which took approximately fifty to sixty minutes to complete. As part of the postnatal interview, participants were asked questions concerning the effect that the actual experience of parenting has had on their sense of self, their relationship with their partner, their ideas about parenting, and their ideas about work and career (See Appendix O). In addition to the interview, each parent introduced a new toy (provided by the researcher) to his or her baby and interacted with him or her for about five minutes while being videotaped. Both the interview questions and the videotaped portion were part of a larger ongoing study. Again, each participant completed the card-sorting task (Linville, 1987) and was given the same instructions as in the first interview (See Appendix D).

Another questionnaire package was left with each parent, and was to be filled out separately within the subsequent few days. The researchers briefly reviewed the postnatal questionnaires with each participant. The questionnaire package, which was similar to the first questionnaire package, consisted of demographic questions pertaining to the new baby (rather than the couple), the Perceived Stress Scale, the Center for Epidemiologic Studies Depression Scale, the Rosenberg Self-Esteem Scale, and the Marital Adjustment Scale. In addition, the following new measures were added: the Feelings About Parenting measure, the Parenting Stress Inventory, and the Cohen and Hoberman Inventory of Physical Symptoms (CHIPS). Other measures such as the "Who Does What" scale, the Social Provisions Scale, Hazan & Shaver's measure of attachment, the Need for Cognition scale, the Infant Characteristics Questionnaire, and the Life Experiences Survey were also given to couples as part of a larger study.

Each couple was given an opportunity to comment on or ask questions about the interview or the actual research study. Upon completing the second questionnaire package, each couple again received a twenty dollar cheque. After the third interview (which is part of a larger study), when each child is about eighteen months old, each couple will be debriefed and provided with the final results of the study.

Results

As each analysis was conducted, the data were checked for the assumptions of normality. Any noticeable outliers, as indicated by three deviations beyond the mean and examination of the casewise and normal probability plots (See Complete Statistical System Manual, 1991) were excluded. The means, standard deviations, and ranges for the main variables of stress, self-complexity (as measured by the *H*-statistic and the number of feature groups), and depression for both the prenatal and postnatal phases are provided in Table 3 for females and Table 4 for males.

Gender Differences between the Pre and Postnatal Phases

It was predicted that the self-complexity levels of males and females would change from the prenatal to the postnatal phase. More specifically, it was proposed that males would demonstrate an increase in self-complexity as they assumed the additional role of father, but that females would experience a decrease in self-complexity due to the role reduction associated with becoming a primary caregiver. To test this hypothesis, a repeated measures analysis of variance was performed, using time (prenatal, postnatal) and gender as the within variables, and self-complexity (as measured by the *H*-statistic) as the dependent measure. There were no significant main effects for gender, $F(1, 47) < 1$, or for time, $F(1, 47) < 1$. The interaction of gender and time was also nonsignificant, $F(1, 47) < 1$. A second analysis, which used the feature groups variable as the measure of self-complexity, also showed nonsignificant main effects for gender, $F(1, 47) < 1$, and for time, $F(1, 47) = 1.18$, $p = .28$. The interaction

Table 3

Means, Standard Deviations, and Ranges for Stress, Depression, *H*-Statistic, and Feature Group Measures for Females

Variables	Mean	SD	Min	Max
Prenatal Phase				
Stress	21.68	5.57	10.00	36.00
Depression	10.08	6.52	0.00	37.00
H-Stat	2.68	0.77	1.14	4.29
Feature Groups	4.24	1.45	2.00	8.00
Postnatal Phase				
Stress	23.06	7.28	11.00	41.00
Depression	10.76	10.02	0.00	44.00
H-Stat	2.62	0.83	0.95	4.35
Feature Groups	3.94	1.43	1.00	7.00

Note. Total N = 48 (prenatal), N = 48 (postnatal). An outlier was removed for prenatal stress; missing data for postnatal stress.

Table 4

Means, Standard Deviations, and Ranges for Stress, Depression, *H*-Statistic, and Feature Group Measures for Males

Variables	Mean	SD	Min	Max
Prenatal Phase				
Stress	18.81	5.47	7.00	30.00
Depression	6.76	5.52	0.00	26.00
H-Stat	2.67	0.93	1.00	4.54
Feature Groups	4.33	1.72	1.00	9.00
Postnatal Phase				
Stress	19.71	5.22	9.00	31.00
Depression	5.79	4.68	0.00	17.00
H-Stat	2.77	0.94	0.89	4.60
Feature Groups	4.35	1.77	1.00	9.00

Note. Total N = 47 (prenatal), N = 47 (postnatal). There were missing data for prenatal *H*-stat and feature groups; two outliers removed for postnatal depression.

of gender and time, with the feature groups variable as the dependent measure, was also nonsignificant, $F(1, 47) < 1$.

In addition to self-complexity, the variables depression, stress, self-esteem,

and marital adjustment were also examined for possible gender differences over time. A repeated measures analysis of variance, which used gender and time as the within variables, and depression as the dependent variable, showed a significant main effect for gender, F (1, 46) = 13.50, $p < .01$. The mean depression score for females (M = 10.52) was significantly higher than the mean depression score for males (M = 5.99). There were no significant differences in depression scores between the pre and postnatal phases, however, F (1, 46) < 1. The interaction term was also nonsignificant, F (1, 46) < 1.

Another repeated measures ANOVA was executed using stress as the dependent variable. Results showed a significant main effect for gender, F (1, 46) = 11.03, $p < .01$. Females had a mean stress score of 22.41, whereas males had a mean stress score of 19.26. There was also a significant difference in stress scores between the prenatal phase and the postnatal phase, F (1, 46) = 4.20, $p < .05$. The overall mean stress score at the prenatal phase was 20.16 and at the postnatal phase was 21.51. The interaction of gender and time was not significant, F (1, 46) < 1.

Gender differences were also found between males and females on levels of self-esteem. Males reported having significantly higher levels of self-esteem (M = 35.56) than females (M = 33.76), F (1, 48) = 8.19, $p < .01$. However, there was not a significant main effect for time, F (1, 48) < 1. The interaction of gender and time, with self-esteem as the dependent variable was also

nonsignificant, F (1, 48) < 1.

A repeated measures ANOVA, with the dependent measure being marital adjustment, revealed that couples had significantly lower marital adjustment scores at the postnatal phase (M = 120.69) than at the prenatal phase (M = 125.17), F (1, 45) = 7.39, p < .01. The interaction of time and gender in predicting marital adjustment was nonsignificant, F (1, 45) = 1.37, p = .25.

Relationship between Variables at Pre and Postnatal Phases

Correlations among the main prenatal variables (stress, depression, and self-complexity) are reported in Table 5. Note that the feature groups measure and the *H*-statistic measure were highly correlated for females (r = .73, p < .01) and for males (r = .79, p < .01). Postnatal Stress, depression, and self-complexity (*H*-statistic and feature groups) were then correlated with the comparable prenatal scores (See Table 6). Self-complexity (as measured by the *H*-statistic) was significantly correlated from the prenatal phase to the postnatal phase for females (r = .45, p < .01) and for males (r = .47, p < .01). When self-complexity was measured using the number of feature groups, there was also a significant correlation from the prenatal to the postnatal phase for females (r = .36, p < .05) and for males (r = .55, p < .01) (See Table 6).

In addition, self-complexity (the *H*-statistic and feature groups), stress, and depression were correlated with each other at the postnatal phase (See Table 7). The number of feature groups and the *H*-statistic were significantly correlated at the postnatal phase for females (r = .84, p < .01) and for males (r = .78, p < .01).

Additionally, the demographic variables of age and education were correlated with self-complexity (assessed by the *H*-statistic and the feature groups measure). Results showed that there was a significant correlation between age and both the *H*-statistic measure, r (47) = .42, $p < .01$, and the feature groups measure, r (47) = .31, $p < .05$, at the prenatal phase for females. There were no significant relationships between self-complexity and these demographic variables at the postnatal phase for females. For males, there were no significant relationships between self-complexity and these demographic variables at either the prenatal or the postnatal phase.

Table 5

Correlations among Stress, *H*-Statistic, Depression, and Feature Groups (FG) at the Prenatal Phase for Females and Males

	H-Statistic	Depression	FG
Females			
Stress	.14	.52**	.25
H-Stat	---	.15	.73**
Depression	---	---	.11
Males			
Stress	.08	.57**	-.05
H-Stat	---	.16	.79**
Depression	---	---	.18

Note. Total N = 48 (females), N = 47 (males). One outlier was removed for female stress. For males, there were missing data for *H*-statistic and feature groups.
*$p < .05$. **$p < .01$.

Table 6

Correlations among Stress, *H*-Statistic, Depression and Feature Groups (FG) at Pre and Postnatal Phases for Females and Males

	Post Stress	Post *H*-Stat	Post Depress	Post FG
Prenatal				
Females				
Stress	.57**	.08	.48**	-.04
H-Stat	-.11	.45**	.06	.25
Depression	.39**	.14	.56**	.01
FG	.08	.39**	.14	.36*
Males				
Stress	.55**	-.12	.44**	-.20
H-Stat	.01	.47**	.03	.41**
Depression	.42**	-.02	.60**	-.17
FG	-.06	.50**	.14	.55**

Note. Total N = 47 (females), N = 45 (males). For females, one outlier was removed for prenatal stress; missing data for postnatal stress. For males, two outliers were removed for depression; missing data for feature groups and *H*-statistic.

*$p < .05$. **$p < .01$.

Table 7

Correlations among Stress, *H*-Statistic, Depression and Feature Groups (FG) at Postnatal Phase for Females and Males

	H-Stat	Depress	FG
Females			
Stress	-.11	.83**	-.13
H-Stat	---	-.01	.84**
Depression	---	---	-.10
Males			
Stress	.01	.60**	-.06
H-Stat	---	.07	.78**
Depression	---	---	-.08

Note. Total N = 48 (females), N = 47 (males). For females, there was a missing data point for stress. Two outliers were removed for male depression.
*p < .05. **p < .01.

Stress-Buffering Hypothesis

The central purpose of this study was to examine whether or not self-complexity influences a couple's adjustment during the transition to parenthood, and if so, to examine the nature of this influence. According to Linville (1987), higher self-complexity at high stress levels results in lower levels of depression due to a stress-buffering effect. A hierarchical multiple regression was the analysis used to test this stress-buffering hypothesis. The variables of stress, self-complexity (as measured by the *H*-statistic and the number of feature groups), and their interaction were entered, in turn, into a hierarchical regression to predict postnatal depression. As these main variables

were measured both prenatally and postnatally, separate regressions were performed for each phase. First, the main variables from the prenatal phase were entered into the equation to predict postnatal depression. Secondly, the main variables from the postnatal phase were used in the regression to predict postnatal depression. A significant negative *Beta* for the interaction term (stress by self-complexity) would indicate support for the buffering hypothesis. Separate analyses were executed for females and males and will be discussed, in turn, below.

Females. Stress, the *H*-statistic, and their interaction (from the prenatal phase) were entered, in turn, into a regression equation to predict postnatal depression. When stress was entered into the equation, it accounted for about 23% of the variance in depression, F (1, 46) = 13.96, $p < .01$ (See Table 8). There was a significant positive relationship between stress and depression, which indicated that higher stress levels predicted greater depression. At step two, when the *H*-statistic measure of self-complexity was entered into the equation, there was not a significant change in R^2, F (2, 45) < 1 (See Table 8). When the interaction term (stress by *H*-statistic) was entered into the model, R^2 only changed from .2329 to .2611, F (3, 44) = 1.68, $p = .20$.

Another valid measure of self-complexity can be generated by simply counting the number of feature groups. A hierarchical multiple regression was executed using prenatal stress, the feature groups variable, and their interaction as the independent variables to predict depression postnatally. Stress, as indicated in the previous analysis, had a positive significant relationship with depression, F (1,46) = 13.96, $p < .01$. At step 2, when the feature groups variable was entered into the

Table 8

Hierarchical Multiple Regression Predicting Postnatal Depression from *H*-Statistic and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2328			13.96 (1.46)[b]**
H-Stat	.2329	.0001	.01	6.83 (2,45)**
Stress x *H*-Stat[a]	.2611	.0282	1.68	5.18 (3,44)**

Note. Total N = 48 (One outlier for stress removed).

[a]ß = 1.09. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

equation, there was only a slight change in R^2, F (2, 45) < 1. At step 3, when the interaction of the feature groups measure and stress was entered into the model, there was a significant change in R^2, F (3, 44), p < .01, and the entire model then accounted for about 35% of the variance in depression (See Table 9). The *Beta* for the interaction term was in the positive direction, ß = 2.84. Thus, the greater the number of feature groups (e.g., roles, relationships, and activities), at high stress levels, the greater the depression.

Figure 1 provides a model of the way in which stress and self-complexity (i.e., feature groups) interact in predicting depression. The regression lines were generated by calculating predicted values for depression at high (one standard deviation above the mean) and low (one standard deviation below the mean) values of stress and self-complexity using ther regression equation (See the Complete Statistical System Manuel, 1991).

Table 9

Hierarchical Multiple Regression Predicting Postnatal Depression from Feature Groups (FG) and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-test on Increment	F-value for Model
Stress	.2328			13.96 (1,46)[b]**
FG	.2330	.0002	.01	6.84 (2,45)**
Stress x FG[a]	.3547	.1217	8.30**	8.06 (3,44)**

Note. Total N = 48 (One outlier for stress removed).

[a]ß = 2.84. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

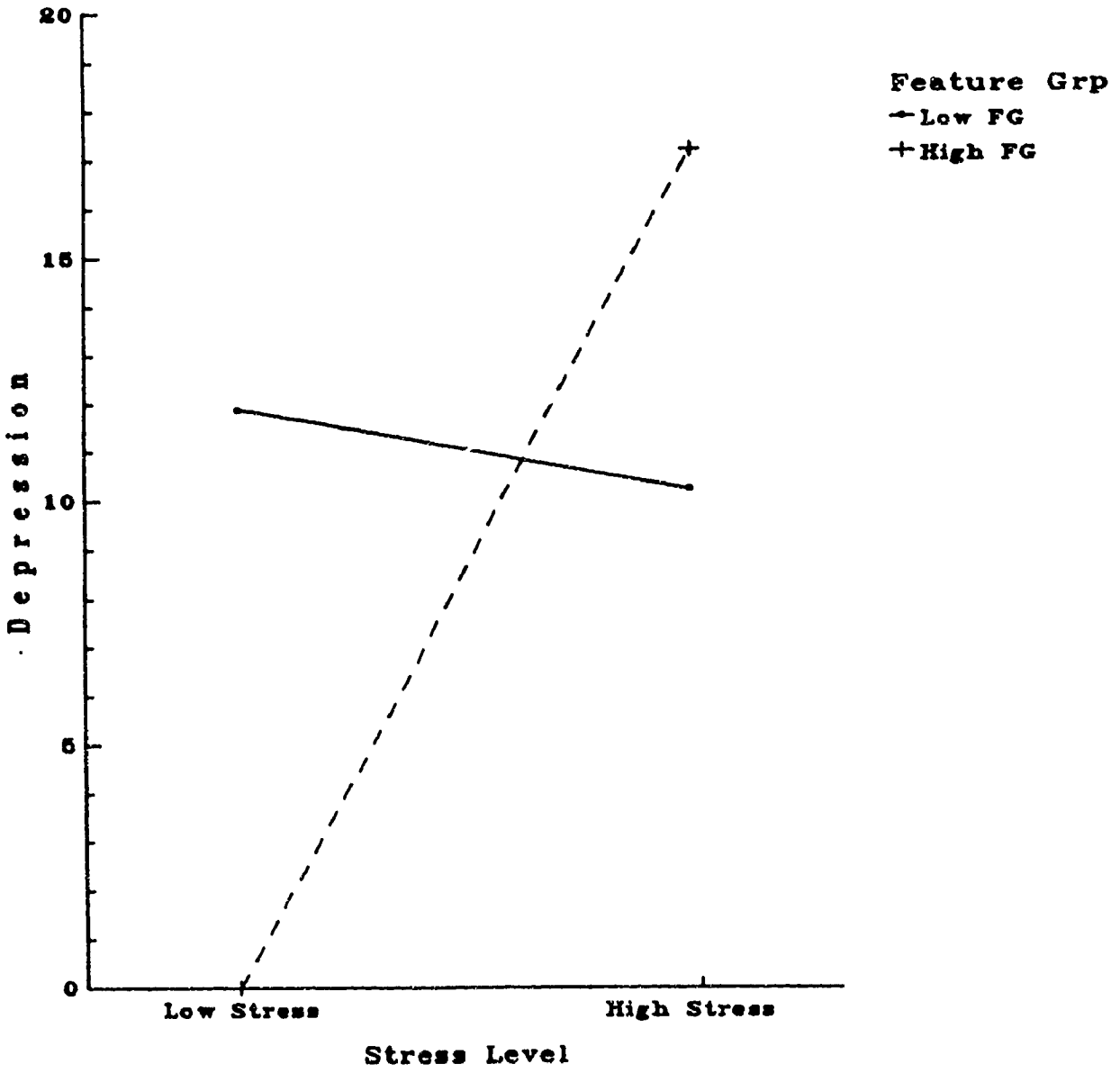
It is clear from the figure that females who had a greater number of self-aspects (feature groups) and higher stress levels, experienced greater depression than those with fewer self-aspects. On the other hand, females who had higher self-complexity at low stress levels, experienced less depression than those with fewer self-aspects.

The stress-buffering hypothesis was also tested using the main variables (stress, *H*-statistic or feature groups, and their interaction) from the postnatal phase in a hierarchical multiple regression, to predict depression postnatally. Stress, the *H*-statistic, and their interaction from the postnatal phase were each subsequently entered into the multiple regression equation. When stress was entered into the model, it accounted for about 69% of the variance in depression, F (1, 46) = 101.29, p < .01 (See Table 10). Stress

Figure 1.

Interaction of Stress and Feature Groups

in Predicting Depression for Females



was positively correlated with depression, which suggested that greater stress predicted greater depression. At step 2, the *H*-statistic measure of self-complexity was entered into the equation, but did not significantly change the R^2 value, F (2, 45) < 1. At step 3, the interaction of stress and the *H*-statistic added about 2% of the variance to the model, and the change in R^2 approached significance, F (3, 44) = 3.25, p = .078. The *Beta* for this interaction term was positive, ß = .76 (See Table 10). Although nonsignificant, the trend indicated that greater stress and greater self-complexity (assessed on the *H*-statistic) may be related to greater depression.

Another hierarchical regression was executed using postnatal stress, the feature groups variable, and their interaction to predict postnatal depression. As indicated in the previous analysis, stress had a significant positive relationship with depression, F (1, 46) = 101.29, p < .01 (See Table 11). When the feature groups variable (postnatal) was entered in the second step, R^2 did not significantly change, F (2, 45) < 1. At step 3, when the interaction term of the feature groups variable and stress was added, there was a marginally significant change in R^2, F (3, 44) = 3.97, p = .053. The entire model accounted for about 71% of the variance in depression (See Table 11). The *Beta* for the interaction term was in the positive direction, ß = .95. Although marginal, the trend indicated that the greater the number of feature groups postnatally, the greater the postnatal depression, at higher stress levels.

In summary, the present findings did not support the stress-buffering hypothesis. For females, reporting a greater number of self-aspects (as measured by the prenatal feature groups variable), at higher levels of stress, was significantly related to higher,

Table 10

Hierarchical Multiple Regression Predicting Postnatal Depression from *H*-Statistic and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.6877			101.29 (1,46)**
H-Stat	.6931	.0054	.81	50.83 (2,45)**
Stress x *H*-Stat[a]	.7143	.0212	3.25	36.67 (3,44)**

Note. Total N = 48 (A missing data point for stress).

[a]ß = .76. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 11

Hierarchical Multiple Regression Predicting Postnatal Depression from Feature Groups (FG) and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.6877			101.29 (1,46)[b]**
FG	.6877	.000002	.0003	49.54 (2,45)**
Stress x FG[a]	.7135	.0258	3.97	36.53 (3,44)**

Note. Total N = 48 (A missing data point for stress)

[a]ß = .95. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

rather than lower, levels of postnatal depression. Postnatally, higher self-complexity (as assessed by the *H*-statistic and the feature groups measure) was marginally related to elevated levels of depression, when stress levels were high.

Males. The variables of stress, the *H*-statistic, and their interaction (from the prenatal phase) were first entered into a hierarchical multiple equation to predict postnatal depression. When stress was entered into the equation, it accounted for about 19% of the variance in depression, F (1, 44) = 10.36, p < .01 (See Table 12). Stress was positively correlated with depression, which showed that greater stress predicted greater depression. At step 2, when the *H*-statistic was entered into the equation, there was only a slight change in R^2, F (2, 43) < 1. When the interaction term was entered at step 3, it produced a marginally significant increase in R^2, F (3, 42) = 3.92, p = .054 (See Table 12). The *Beta* for the interaction term was in the positive direction, ß = 1.37.

Thus, similar to the findings for females, although only marginal, males who reported higher levels of self-complexity seemed to show greater levels of depression, at higher stress levels, than those who reported lower levels of self-complexity.

Table 12

Hierarchical Multiple Regression Predicting Postnatal Depression from *H*-Statistic and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1906			10.36 (1,44)[b]**
H-Stat	.1906	.00008	.0004	5.06 (2,43)*
Stress x *H*-Stat[a]	.2597	.0690	3.92	4.91 (3,42)**

Note. Total N = 46 (Two outliers removed for depression and missing data for *H*-statistic).

[a]ß = 1.37. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Another regression was executed using prenatal stress, feature groups, and their interaction as the independent variables from the prenatal phase to predict postnatal depression. Stress, as indicated in the previous regression analysis, was significantly correlated with depression, F (1, 44) = 10.36, p < .01 (See Table 13). At the second step, when the feature groups variable was entered into the equation, there was only a slight and nonsignificant change in R^2, F (2, 43) < 1. Again, when the interaction term of stress and the feature groups variable was entered into the model, the change in R^2

was nonsignificant, F (3, 42) = 1.65, p = .21 (See Table 13).

Table 13

Hierarchical Multiple Regression Predicting Postnatal Depression from Feature Groups (FG) and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1906			10.36 (1,44)[b]**
FG	.1984	.0078	.42	5.32 (2,43)**
Stress x FG[a]	.2289	.0304	1.65	4.15 (3,42)*

Note. Total N = 46 (Two outliers removed for depression and missing data for feature groups).

[a]ß = .84. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

The stress-buffering hypothesis was also tested using the main variables (stress, the *H*-statistic or feature groups, and their interaction) from the postnatal phase to predict postnatal depression. Stress, the *H*-statistic, and their interaction were sequentially entered into a hierarchical multiple regression analysis. When stress was entered into the equation, about 36% of the variance in depression was accounted for, F (1, 45) = 24.80, p < .01 (See Table 14). Postnatal stress had a positive significant relationship with postnatal depression, which indicated that greater stress predicted greater depression. At step 2, when the *H*-statistic was entered into the equation, the change in

R^2 was nonsignificant, F (2, 44) < 1. At the third step, when the interaction was entered into the model, the R^2 change was again nonsignificant, F (3, 43) < 1 (See Table 14).

Table 14

Hierarchical Multiple Regression Predicting Postnatal Depression from *H*-Statistic and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3553			24.80 (1,45)[b]**
H-Stat	.3598	.0045	.31	12.36 (2,44)**
Stress x *H*-Stat[a]	.3659	.0061	.41	8.27 (3,43)**

Note. Total N = 47 (Two outliers removed for depression).

[a]ß = -.41. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

An additional hierarchical multiple regression was executed using stress, feature groups, and their interaction from the postnatal phase to predict postnatal depression. As indicated in the previous analysis, when stress was entered into the equation for males, it significantly correlated with depression, F (1, 45) = 24.80, $p < .01$ (See Table 15). When the feature groups variable was added to the model, there was not a significant change in R^2, F (2, 44) < 1. In addition,

when the interaction of the feature groups variable and stress was entered into the equation, there was a nonsignificant change in R^2, F (3, 43) < 1 (See Table 15).

Table 15

Hierarchical Multiple Regression Predicting Postnatal Depression from Feature Groups (FG) and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3553			24.80 (1,45)[b]**
FG	.3571	.0018	.13	12.22 (2,44)**
Stress x FG[a]	.3586	.0015	.05	8.01 (3,43)**

Note. Total N = 47 (Two outliers removed for depression)

[a]ß = -.19. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

In summary, the findings for males did not support the stress-buffering hypothesis. Males showed a trend, although marginal, similar to the findings for females, whereby higher self-complexity (assessed by the prenatal *H*-statistic measure), at higher levels of stress, was related to greater depression.

Additional Adjustment Measures: Females

In addition to using depression as a dependent variable, self-esteem, marital adjustment (MAS), and number of physical symptoms (CHIPS) were used as other measures of postnatal adjustment. Also, an alternative measure of stress, the

Parenting Stress Index (PSI), was used with self-complexity to predict feelings about parenting. Correlations among these additional adjustment variables and the main variables (stress, depression, the *H*-statistic, and feature groups) are reported in Table 16 for females. In order to test the stress-buffering model, separate hierarchical multiple regressions were executed for each of these variables for both females and males. The results of each, beginning with females, will be discussed, in turn, below.

Self-esteem. Prenatal stress, the *H*-statistic, and their interaction were entered, in turn, into the multiple regression to predict postnatal self-esteem. When stress was entered into the regression, results showed that it was marginally related to self-esteem, F (1, 46) = 3.46, p = .069 (See Table 17). There was a negative relationship between stress and self-esteem, which suggested that greater stress was related to lower self-esteem. When the *H*-statistic was entered into the model, there was a significant change in R^2, F (2, 45) = 4.29, $p < .05$ (See Table 17). This main effect suggested that higher self-complexity (measured by the *H*-statistic) was related to higher levels of self-esteem, as indicated by the significant positive *Beta*, ß = .29. When the interaction term of stress and the *H*-statistic was entered into the equation, however, there was not a significant change in R^2, F (3, 44) < 1 (See Table 17).

Table 16

Correlations among Postnatal Measures of Self-Esteem, Marital Adjustment, CHIPS, Parent Stress, and Parent Affect and the Main Adjustment Variables (Postnatal) for Females

	Self-Esteem	Marital Adjustment	CHIPS	Parent Stress	Parent Affect
Main Variables					
Stress	-.43**	-.56**	.31*	.61**	-.42**
Depression	-.39**	-.47**	.38**	.44**	-.33**
H-Stat	.12	.10	-.03	-.31*	.24
FG	.18	.10	-.20	-.28	.13
Additional Variables					
Esteem	---	.30*	-.12	-.42**	.09
MAS	---	---	-.34*	-.43**	.43**
CHIPS	---	---	---	.23	-.05
Parent Stress	---	---	---	---	-.57**
Parent Affect	---	---	---	---	---

Note. Total N = 46. (One outlier removed for marital adjustment, and one for CHIPS; missing data for stress)

*p < .05; **p < .01.

Table 17

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from *H*-Statistic and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.0700			3.46 (1,46)[c]
H-Stat[a]	.1509	.0809	4.29*	4.00 (2,45)*
Stress x *H*-Stat[b]	.1515	.0006	.03	2.62 (3,44)

Note. Total N = 48 (One outlier removed for stress)

[a]ß = .29. [b]ß = -.14. [c]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Prenatal stress, feature groups, and their interaction were entered, in turn, in a multiple regression to predict postnatal self-esteem. As indicated in the previous analysis, stress was marginally related to self-esteem, F (1, 46) = 3.46, p = .069 (See Table 18). At the second step, when the feature groups variable was entered into the model, there was a marginally significant change in R^2, F (2, 45) = 3.35, p = .074). The *Beta* for the feature group variable was in the positive direction, ß = .26, indicating that higher self-complexity may be related to higher self-esteem. The interaction term, which was entered at step 3, added a significant amount of variance to the model, F (3, 44) = 4.20, p < .05. The significant *Beta* was in the negative direction, ß = -2.24 (See Table 18). This

finding suggested that a greater number of feature groups (e.g., roles, relationships, or activities) at higher stress levels, predicted lower self-esteem.

Table 18

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from Feature Groups (FG) and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.0700			3.46 (1,46)[b]
FG	.1344	.0644	3.35	3.49 (2,45)*
Stress x FG[a]	.2099	.0755	4.20*	3.90 (3,44)*

Note. Total N = 48 (One outlier removed for stress).

[a]ß = -2.24. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Stress, self-complexity (as measured by the *H*-statistic or the number of feature groups), and their interaction at the postnatal phase were each entered into the regression equation to predict postnatal self-esteem. Stress was found to be significantly related to self-esteem, F (1, 46) = 12.65, p < .01 (See Table 19 and Table 20). The negative relationship between stress and self-esteem, indicated that greater stress predicted lower self-esteem. Neither self-complexity (as measured by the *H*-statistic or the number of feature groups) nor its interaction with stress significantly changed the R^2, however (See Table 19 and Table 20).

Table 19

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from *H*-Statistic and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2157			12.65 (1,46)[b]**
H-Stat	.2189	.0032	.18	6.31 (2,45)**
Stress x *H*-Stat[a]	.2362	.0173	1.00	4.54 (3,44)**

Note. Total N = 48 (Missing data for stress).

[a]ß = .68. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 20

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from Feature Groups (FG) and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2157			12.65 (1,46)[b]**
FG	.2288	.0131	.76	6.67 (2,45)**
Stress x FG[a]	.2406	.0118	.69	4.65 (3,44)**

Note. Total N = 48 (Missing data for stress).

[a]ß = .64. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Cohen-Hoberman Inventory of Physical Symptoms (CHIPS). Another dependent measure used to indicate adjustment was the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS). The variables stress, the *H*-statistic, and their interaction from the prenatal phase were each sequentially entered into the regression equation to predict CHIPS. For females, when stress was entered at step one, there was a significant positive relationship between stress and number of physical symptoms reported, F (1,45) = 4.82, p < .05 (See Table 21). High stress levels were accompanied by more physical symptoms. Neither the *H*-statistic nor its interaction with stress significantly predicted CHIPS (See Table 21).

Table 21

Hierarchical Multiple Regression Predicting Postnatal CHIPS from *H*-Statistic and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.0967			4.82 (1,45)[b]*
H-Stat	.1392	.0425	2.18	3.56 (2,44)*
Stress x *H*-Stat[a]	.1686	.0294	1.52	2.91 (3,43)*

Note. Total N = 47 (One outlier removed for CHIPS and one for stress)

[a]ß = 1.11. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Prenatal stress, feature groups, and their interaction were then each entered into the model to predict CHIPS. As in the previous analysis, stress was found to have a significant positive relationship with physical symptoms, F (1, 45) = 4.82, p < .05. At the second step, the feature groups variable did not significantly add to the model (See Table 22). At step 3, however, the interaction of stress and feature groups produced a significant change in R^2, F (3, 43) = 4.39, p < .05, with the entire model then accounting for about 20% of the variance in physical symptoms. The significant *Beta* for the interaction term was in the positive direction, ß = 2.28. This suggested that females who perceived a greater number of self-aspects reported more physical symptoms, when stress

levels were high, than did those who had a more simple self-representation (See Table 22).

Table 22

Hierarchical Multiple Regression Predicting Postnatal CHIPS from Feature Groups (FG) and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.0967			4.82 (1,45)[b]*
FG	.1216	.0249	1.25	3.04 (2,44)
Stress x FG[a]	.2029	.0813	4.39*	3.65 (3,43)*

Note. Total N = 47 (One outlier removed for CHIPS and one for stress).

[a]ß = 2.28. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Stress, the *H*-statistic, and their interaction at the postnatal phase were then entered systematically into the equation to predict CHIPS postnatally. Stress was found to have a significant positive relationship with physical symptoms, F (1, 45) = 4.93, p < .05, accounting for about 10% of the variance. These results showed that greater stress predicted a greater number of physical symptoms. At the second step, the *H*-statistic did not significantly add any variance to the model (See Table 23). At step 3, the interaction of stress and the

H-statistic resulted in a significant addition to R^2, F (3, 43) = 5.26 , $p < .05$, with the entire model then accounting for about 20% of the variance in physical symptoms. The significant *Beta* for the interaction term was in the positive direction, ß = 1.61. This finding indicated that those females who perceived a greater number of distinct self-aspects (e.g., roles or relationships) experienced a greater number of physical symptoms, when stress levels were high, than those who perceived fewer distinct roles or relationships (See Table 23).

Table 23

Hierarchical Multiple Regression Predicting Postnatal CHIPS from *H*-Statistic and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value Increment	F-value Model
Stress	.0987			4.93 (1,45)[b]*
H-Stat	.0998	.0011	.06	2.44 (2,44)
Stress x *H*-Stat[a]	.1980	.0982	5.26*	3.54 (3,43)*

Note. Total N = 47 (One outlier removed for CHIPS; missing data for stress).

[a]ß = 1.61. [b]Numbers in parentheses are degrees of freedom.

*$p < .05$. **$p < .01$.

Next, stress, feature groups, and their interaction from the postnatal phase were added sequentially into a hierarchical multiple regression to predict CHIPS.

Stress, as in the previous analysis, had a positive significant relationship with physical symptoms, $F(1, 45) = 4.93$, $p < .05$. When the feature groups variable and the interaction of feature groups and stress were each, in turn, entered into the regression, there was not a significant change in R^2 at either step (See Table 24).

Table 24

Hierarchical Multiple Regression Predicting Postnatal CHIPS from Feature Groups (FG) and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value Increment	F-value Model
Stress	.0987			4.93 (1,45)[b]*
FG	.1141	.0154	.77	2.83 (2,44)
Stress x FG[a]	.1183	.0042	.21	1.92 (3,43)

Note. Total N = 47 (One outlier removed for CHIPS; missing data for stress).

[a]$\beta = .38$. [b]Numbers in parentheses are degrees of freedom.

*$p < .05$. **$p < .01$.

Marital adjustment scale (MAS). Marital adjustment was also an important indicator of how well couples were coping with stress. Stress, self-complexity (as measured by the *H*-statistic or feature groups), and their interaction at the prenatal phase were entered systematically into a hierarchical multiple regression to predict postnatal marital adjustment. Stress significantly correlated with marital

adjustment, F (1, 45) = 14.43, $p < .01$, accounting for about 24% of the variance (See Table 25 and Table 26). The negative relationship between stress and marital adjustment showed that greater levels of stress predicted poorer marital adjustment. At step two and step three, when self-complexity (as measured on the *H*-statistic or feature groups) and its interaction with stress were each entered into the model, there was not a significant change in R^2 (See Table 25 and Table 26).

Table 25

Hierarchical Multiple Regression Predicting Postnatal MAS from *H*-Statistic and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2428			14.43 (1,45)[b]**
H-Stat	.2829	.0401	2.45	8.68 (2,44)**
Stress x *H*-Stat[a]	.2989	.0160	.98	6.11 (3,43)**

Note. Total N = 47 (One outlier removed for stress; one for MAS).

[a]ß = .81. [b]Numbers in parentheses are degrees of freedom.

*$p < .05$. **$p < .01$.

Table 26

Hierarchical Multiple Regression Predicting Postnatal Marital Adjustment (MAS) from Feature Groups (FG) and Stress at the Prenatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2428			14.43 (1,45)[b]**
FG	.2504	.0076	.45	7.35 (2,44)**
Stress x FG[a]	.2576	.0072	.41	4.97 (3,43)**

Note. Total N = 47 (One outlier removed for stress; one for MAS).

[a]ß = -.69. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Postnatal stress, self-complexity (as measured by the *H*-statistic or the number of feature groups), and its interaction with stress were then systematically entered into the regression to predict postnatal marital adjustment. At step one, stress showed a significant negative relationship with marital adjustment, F (1, 45) = 20.26, p < .01, accounting for about 31% of the variance (See Table 27 and Table 28). Thus, greater stress was related to lower levels of marital adjustment. When self-complexity (as measured by the *H*-statistic or feature groups) was entered into the equation, followed by its interaction with stress, there were no significant changes in R^2 (See Table 27 and Table 28).

Table 27

Hierarchical Multiple Regression Predicting Postnatal MAS from *H*-Statistic and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3105			20.26 (1,45)[b]**
H-Stat	.3116	.0011	.07	9.96 (2,44)**
Stress x *H*-Stat[a]	.3127	.0011	.07	6.52 (3,43)**

Note. Total N = 47 (One outlier removed for MAS; missing data for stress).

[a]ß = -.18. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 28

Hierarchical Multiple Regression Predicting Postnatal MAS from Feature Groups (FG) and Stress at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3105			20.26 (1,45)[b]**
FG	.3108	.0003	.02	9.92 (2,44)**
Stress x FG[a]	.3134	.0026	.16	6.54 (3,43)**

Note. Total N = 47 (One outlier removed for MAS; missing data for stress).

[a]ß = -.30. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Parenting stress. The Parenting Stress Index (PSI) is a more specific measure of parental stress than the Perceived Stress Scale (PSS), which measures global stress. The "Feelings about Parenting" measure, which was designed for this study, is also a more specific measure of adjustment to parenthood than the other dependent measures such as depression or self-esteem. A hierarchical multiple regression was performed using the PSI as the measure of stress, self-complexity (as measured by the *H*-statistic or feature groups), and their interaction (postnatal phase) to predict parenting affect. At step one, the PSI was significantly related to parenting affect, F (1, 47) = 25.37, p < .01, accounting for about 35% of the variance (See Table 29 and Table 30). The negative relationship between

parent stress and parent affect indicated that the greater the parental stress, the more negative the affect about parenting. Neither self-complexity (as measured by the *H*-statistic or the number of feature groups), nor its interaction with PSI, significantly added variance to the model (See Table 29 and Table 30).

Table 29

Hierarchical Multiple Regression Predicting Parenting Affect from *H*-Statistic and Parent Stress (PS) at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Parent Stress	.3505			25.37 (1,47)[b]**
H-Stat	.3562	.0057	.41	12.73 (2,46)**
PS x *H*-Stat[a]	.3592	.0030	.21	8.41 (3,45)**

Note. Total N = 49.

[a]ß = .31. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 30

Hierarchical Multiple Regression Predicting Parenting Affect from Feature Groups (FG) and Parent Stress (PS) at the Postnatal Phase for Females

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Parent Stress	.3505			25.37 (1,47)[b]**
FG	.3507	.0002	.01	12.42 (2,46)**
PS x FG[a]	.3514	.0007	.05	8.13 (3,45)**

Note. Total N = 49.

[a]ß = .15. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

In summary, females who perceived a greater number of self-aspects (i.e., had higher levels of self-complexity), experienced lower self-esteem (as assessed by the prenatal feature group measure) and a greater number of physical symptoms (assessed by prenatal feature group measure and the postnatal *H*-statistic measure), when stress levels were high. These findings, in addition to the findings reported earlier on depression, do not support the stress-buffering hypothesis.

Additional Measures of Adjustment: Males.

As mentioned earlier, the variables of self-esteem, marital adjustment (MAS), and number of physical symptoms (CHIPS) were used as additional measures of postnatal adjustment. Also, the Parenting Stress Index (PSI) was used with self-complexity, as measured by the *H*-statistic or feature groups, to predict feelings about parenting. Correlations among these additional measures of adjustment and

the main variables (stress, depression, the *H*-statistic and feature groups) are reported in Table 31 for males. The same hierarchical multiple regressions that were performed using the female responses were also executed using the data from the males. The results of each will be discussed, in turn, below.

Self-esteem. Stress, self-complexity (as assessed by the *H*-statistic or feature groups), and their interaction at the prenatal phase were each entered, in succession, into the regression equation to predict postnatal self-esteem. Stress had a significant negative relationship with self-esteem, $F(1, 46) = 5.39$, $p < .05$, which showed that greater stress predicted lower self-esteem (See Table 32 and Table 33). Self-complexity (as assessed by either the *H*-statistic or the number of feature groups) and its interaction with stress did not significantly change R^2 at either step (See Table 32 and Table 33).

Table 31

Correlations among Additional Postnatal Adjustment Variables and the Main Variables of Stress, Depression, *H*-Statistic, and Feature Groups (FG) for Males

	Self-Esteem	Marital Adjustment	CHIPS	Parent Stress	Parent Affect
Main Variables					
Stress	-.47**	-.53**	.22*	.38*	-.33*
Depression	-.26	-.30*	.41**	.33*	-.24*
H-Stat	-.07	-.04	-.11	.05	-.02
FG	.02	.01	-.10	.03	-.02
Additional Variables					
Esteem	---	.32*	.12	-.48**	.48**
MAS	---	---	-.20	-.32*	.32*
CHIPS	---	---	---	.17	-.08
Parent Stress	---	---	---	---	-.55**
Parent Affect	---	---	---	---	---

Note. Total N = 44 (Two outliers were removed for depression, two for CHIPS, and one outlier was removed for marital adjustment).

*p < .05; **p < .01.

Table 32

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from *H*-Statistic and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1049			5.39 (1,46)[b]*
H-Stat	.1052	.0003	.01	2.64 (2,45)
Stress x *H*-Stat[a]	.1058	.0006	.03	1.74 (3,44)

Note. Total N = 48 (Missing data for *H*-statistic).

[a]ß = -.14. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 33

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from Feature Groups (FG) and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1049			5.39 (1,46)[b]*
FG	.1195	.0146	.74	3.05 (2,45)
Stress x FG[a]	.1294	.0099	.50	2.18 (3,44)

Note. Total N = 48 (Missing data for feature groups).

[a]ß = -.48. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Stress, self-complexity, and their interaction from the postnatal phase were then progressively entered into the regression equation to predict postnatal self-esteem. When stress was entered into the regression to predict self-esteem, the model was significant, F (1, 47) = 21.31, p < .01 (See Table 34). There was a significant negative relationship between stress and self-esteem, which indicated that greater stress was related to lower self-esteem. When self-complexity, (as assessed by the *H*-statistic or the number of feature groups) and the interaction of self-complexity and stress were each added to the model, there was not a significant change in R^2 (See Table 34 and Table 35).

Table 34

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from *H*-Statistic and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3120			21.31 (1,47)[b]**
H-Stat	.3136	.0016	.11	10.51 (2,46)**
Stress x *H*-Stat[a]	.3386	.0250	1.70	7.68 (3,45)**

Note. Total N = 49.

[a]ß = .86. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 35

Hierarchical Multiple Regression Predicting Postnatal Self-Esteem from Feature Groups (FG) and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.3120			21.31 (1,47)[b]**
FG	.3126	.0006	.04	10.46 (2,46)**
Stress x FG[a]	.3268	.0142	.95	7.28 (3,45)**

Note. Total N = 49.

[a]ß = .58. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Cohen-Hoberman Inventory of Physical Symptoms (CHIPS). Another dependent measure used to indicate adjustment was the CHIPS (Cohen-Hoberman Inventory of Physical Symptoms) measure. The variables of stress, self-complexity (as assessed by the *H*-statistic and the feature groups measure), and their interaction were each entered into the regression equation to predict CHIPS. At each of the steps, none of the variables of stress, self-complexity, or their interaction significantly predicted the number of reported physical symptoms.

When the postnatal variables of stress, self-complexity (as assessed by the *H*-statistic or the feature groups measure), and their interaction were placed into a hierarchical multiple regression to predict the degree of physical symptoms (CHIPS), stress was found to be significant, F (1, 45) = 6.16, p < .05 (See Table 36 and Table 37). The significant positive relationship between stress and physical symptoms showed that males with higher stress levels experienced more physical symptoms. At step two,

2 of/de 2

when self-complexity (as measured by the *H*-statistic or the number of feature groups) and its interaction with stress were entered into the model, however, there was not a significant change in R^2 (See Table 36 and Table 37).

Table 36

Hierarchical Multiple Regression Predicting Postnatal CHIPS from *H*-Statistic and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value Increment	F-value for Model
Stress	.1203			6.16 (1,45)[b]*
H-Stat	.1392	.0189	.97	3.56 (2,44)*
Stress x *H*-Stat[a]	.1587	.0195	.99	2.70 (3,43)

Note. Total N = 47 (Two outliers were removed for CHIPS).

[a]ß = -.75. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 37

Hierarchical Multiple Regression Predicting Postnatal CHIPS from Feature Groups (FG) and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1203			6.16 (1,45)[b]*
FG	.1215	.0012	.06	3.04 (2,44)
Stress x FG[a]	.1346	.0131	.65	2.23 (3,43)

Note. Total N = 47 (Two outliers were removed for CHIPS).

[a]ß = .58. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Marital adjustment. Marital adjustment was also an important indicator of how well couples were adjusting to stress. Stress, the *H*-statistic, and their interaction at the prenatal phase were entered systematically into a hierarchical multiple regression equation to predict postnatal marital adjustment. Stress was found to be significantly related to marital adjustment, F (1, 45) = 5.94, p < .05, accounting for about 12% of the variance. There was a negative relationship between stress and marital adjustment, which suggested that greater stress predicted poorer martial adjustment. At step 2, the *H*-statistic did not significantly add to the model (See Table 38). At step 3, the interaction significantly added variance to the model, F (3, 43) = 5.60, p < .05. The significant *Beta* for the interaction term was in the positive direction, ß = 1.62. This finding suggested that males who perceived a greater number of distinct roles had better

marital relationships, when stress levels were high, than those who reported fewer self-aspects (See Table 38).

Table 38

Hierarchical Multiple Regression Predicting Postnatal Marital Adjustment (MAS) from *H*-Statistic and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1166			5.94 (1,45)[b]*
H-Stat	.1681	.0515	2.72	4.45 (2,44)*
Stress x *H*-Stat[a]	.2639	.0958	5.60*	5.14 (3,43)**

Note. Total N = 47 (One outlier was removed for MAS; a missing data point for *H*-statistic).

[a]ß = 1.62. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

In the next hierarchical multiple regression, prenatal stress, feature groups, and their interaction were each entered into the equation to predict postnatal marital adjustment. As in the previous analysis, stress had a significant negative relationship with marital adjustment, F (1, 45) = 5.94, p < .05 (See Table 39). At step two, the feature groups variable was marginally significant, adding about 6% of the variance to the model, p = .086. The *Beta* for the feature group term was in the negative direction, ß = -.24, which suggested that the greater the number of self-aspects (feature groups),

the poorer the marital adjustment. When the interaction term of stress and the feature groups variable was entered into the regression, there was a marginally significant change in R^2, F (3, 43) = 3.67, p = .062, with the entire model then accounting for about 24% of the variance in marital adjustment. The *Beta* for the interaction term was in the positive direction, ß = 1.21 (See Table 39). Although marginal, this finding suggested that males who had higher self-complexity had better marital adjustment, when stress levels were high.

Table 39

Hierarchical Multiple Regression Predicting Postnatal MAS from Feature Groups (FG) and Stress at the Prenatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.1166			5.94 (1,45)[b]*
FG	.1744	.0578	3.08	4.65 (2,44)*
Stress x FG[a]	.2392	.0648	3.67	4.51 (3,43)**

Note. Total N = 47 (One outlier was removed for MAS; a missing data point for feature groups).

[a]ß = 1.21. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Stress, self-complexity (as measured by the *H*-statistic or the number of feature groups), and the interaction of stress and self-complexity (postnatal) were then

sequentially added into the regression model to predict postnatal marital adjustment. When stress was placed into the regression, there was a significant relationship between stress and marital adjustment, $\underline{F}$ (1, 46) = 18.68, $\underline{p} < .01$ (See Table 40 and Table 41). Stress, which accounted for about 29% of the variance, showed a negative relationship with marital adjustment. This finding suggested that having a higher stress level was related to poorer marital adjustment. However, self-complexity (the *H*-statistic or the feature groups measure) and its interaction with stress did not significantly add to the model (See Table 40 and Table 41).

Table 40

Hierarchical Multiple Regression Predicting Postnatal MAS from *H*-Statistic and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2888			18.68 (1,46)[b]**
H-Stat	.2889	.0001	.01	9.14 (2,45)**
Stress x *H*-Stat[a]	.3106	.0217	1.38	6.61 (3,44)**

Note. Total $\underline{N}$ = 48 (One outlier was removed for MAS).

[a]ß = -.80. [b]Numbers in parentheses are degrees of freedom.

*$\underline{p} < .05$. **$\underline{p} < .01$.

Table 41

Hierarchical Multiple Regression Predicting Postnatal MAS from Feature Groups (FG) and Stress at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Stress	.2888			18.68 (1,46)[b]**
FG	.2892	.0004	.02	9.15 (2,45)**
Stress x FG[a]	.2896	.0004	.03	5.98 (3,44)**

Note. Total N = 48 (One outlier was removed for MAS).

[a]ß = .10. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Parenting stress. An additional hierarchical multiple regression was performed, using the Parenting Stress Index (PSI) as the measure of stress, self-complexity (as measured by the *H*-statistic or feature groups), and their interaction to predict parenting affect. Results showed that the PSI was significantly related to parenting affect, F (1, 47) = 29.65, p < .01 (See Table 42 and Table 43). There was a negative relationship between parent stress and feelings about parenting, which indicated that greater levels of parental stress resulted in a more negative affect towards parenting. The self-complexity measure (as measured by the *H*-statistic or feature groups) and its interaction with the PSI did not significantly add to the model, however (See Table 42 and Table 43).

Table 42

Hierarchical Multiple Regression Predicting Parenting Affect from *H*-Statistic and Parent Stress (PS) at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Parent Stress	.3868			29.65 (1,47)[b]**
H-Stat	.3876	.0008	.06	14.55 (2,46)**
PS x *H*-Stat[a]	.4023	.0147	1.11	10.09 (3,45)**

Note. Total N = 49.

[a]ß = .70. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

Table 43

Hierarchical Multiple Regression Predicting Parenting Affect from Feature Groups (FG) and Parent Stress (PS) at the Postnatal Phase for Males

Variable	R^2	R^2 Change	F-value on Increment	F-value for Model
Parent Stress	.3868			29.65 (1,47)[b]**
FG	.3868	.00003	.002	14.51 (2,46)**
PS x FG[a]	.3876	.0008	.060	9.50 (3,45)**

Note. Total N = 49.

[a]ß = .17. [b]Numbers in parentheses are degrees of freedom.

*p < .05. **p < .01.

In summary, males who perceived a greater number of distinct roles at the prenatal phase reported better marital adjustment, when stress levels were high, than those who perceived fewer distinct roles. This finding supports the stress-buffering hypothesis, meaning that greater self-complexity is beneficial in terms of marital adjustment, because it serves to buffer against the adverse effects of stress. Similar to the findings for females, however, males who had higher self-complexity, reported marginally higher depression levels, when stress levels were higher.

Discussion

Gender Differences

Contrary to expectations, self-complexity did not significantly differ between males and females, nor did it change from the prenatal to the postnatal phase. These findings are inconsistent with previous findings that roles significantly change from the prenatal to the postnatal phase for men and women (Cowan & Cowan, 1992). One possible explanation for the present results might be that the measure of self-complexity used in this study emphasized the "number of distinctive roles" reported, rather than the type of roles or the amount of "self" invested in each role. For example, although couples seem to have similar levels of self-complexity, both prenatally and postnatally, the kinds of roles and the time invested in each role may have changed once the baby arrived.

The Cowans (1991), who asked participants to indicate different aspects of their lives and designate "how large" each self-aspect "feels", found that, for women, the identity of mother became twice as large as the worker/student aspect, while the partner role decreased from the prenatal to the postnatal phase. In addition, men indicated a slight increase in their father role, but their worker role remained virtually unchanged and their role of partner decreased somewhat. Thus, a closer look at the kind of roles and the amount of "self" invested in each role might have revealed different results.

Consistent with previous literature on gender differences, results did show that females reported significantly higher depression scores (Hopkins et al., 1984), stress scores (Hopkins et al., 1984; Leifer, 1977; Terry, 1991), and significantly lower levels of self-esteem (Puglisi & Jackson, 1981) than men. These results are not surprising,

especially in the context of the transition to parenthood, where women usually become the primary caregivers (Belsky, 1986), experience greater role upheaval (Cowan et al., 1991), and greater physical and hormonal changes (Leifer, 1977) than men. In addition, couples reported higher levels of stress postnatally. Consistent with past research (Cowan & Cowan, 1992; Cowan et al., 1991), couples also reported significantly lower levels of marital adjustment after the baby arrived.

Main Findings

The key purpose of this study was to examine the stress-buffering properties of self-complexity. For females, it was determined that self-complexity did, in fact, significantly relate to the couples' adjustment to their new role as parents. However, the direction of the relationship between self-complexity and adjustment was the opposite of that predicted from a stress-buffering perspective. Higher self-complexity at higher levels of stress, both prenatally and postnatally, was related to greater postnatal depression. In other words, women who were under stress experienced more depression if they were engaged in a greater number of roles (high self-complexity) than if they were engaged in fewer roles (low self-complexity). These findings lend support to Block's (1961) theory that a simple self-image facilitates adjustment. According to Block (1961), one who has a unified sense of self (and hence, has lower self-complexity) experiences fewer situational demands, has a more positive outlook on life, and is more content, resulting in easier adjustment.

In addition, as indicated in Figure 1, there was a cross-over interaction, whereby higher self-complexity at low stress levels was related to lower levels of depression.

This finding suggested that higher self-complexity may provide beneficial effects (i.e., lower depression), at minimal stress levels. Perhaps self-complexity was related to better adjustment when females did not have many stressors, because when stress levels were low, the various facets of the self may have been more likely to serve as positive buffers (less spillover of negative affect). In other words, it is suggested that when stress levels were low, there was a greater likelihood that there were more "unaffected" aspects of self to serve as buffers against any stressors that did exist, resulting in more positive affect.

For males, the interaction of self-complexity and stress (prenatally) was marginally related to postnatal depression. Similar to females, the direction of the relationship between self-complexity and adjustment was the opposite of that predicted from a stress-buffering perspective. The results indicated that greater self-complexity was related to poorer adjustment, at high levels of stress. In other words, males who reported higher self-complexity and greater stress, experienced higher (rather than lower) levels of depression. Again, these findings provide support for Block's theory (1961) that individuals who vary from situation to situation (hence, have higher self-complexity) have a more difficult time adjusting than those who have a more simple self-representation. Block (1961) showed that individuals who had higher self-complexity (those who changed from situation to situation) had no inner core of identity, and therefore experienced more anxiety, were more pessimistic about life, and were more distressed. As a result, those with higher self-complexity experienced more difficultly in adjusting to stressful situations (Block, 1961). Overall, in contrast to the stress-buffering model, the findings

for both females and males suggest that greater self-complexity does not seem to be beneficial for adjustment, when stress levels are high.

Additional Measures of Adjustment

The relationship between self-complexity and a number of the other measures (self-esteem, physical symptoms, marital adjustment, and parenting measures) of adjustment was also examined. Again, for females, the findings were contrary to what the stress-buffering theory would suggest. The results indicated that females with greater self-complexity, at higher stress levels, experienced lower levels of self-esteem (using the prenatal *H*-statistic and feature groups measure), and a greater number of reported physical symptoms (using the prenatal feature groups and the postnatal *H*-statistic measure) than those with lower levels of self-complexity. Generally, it seems that women who have higher self-complexity have greater difficulty adjusting to parenthood, in terms of depression, self-esteem, and physical symptoms, when stress levels are higher. Thus, these findings, which again support Block's results, suggest that women benefit from a more simple self-representation when they are experiencing high stress levels. That is, women who reported fewer roles, relationships, and commitments experienced less depression, fewer physical symptoms, and reported higher self-esteem, when stress levels were higher.

Consistent with the literature (Campbell et al., 1991), the results also showed a significant positive relationship between self-complexity and self-esteem. This suggested that self-complexity had an overall beneficial effect on self-esteem. Based on the theory of multiple roles (Baruch et al., 1987; Pugliesi, 1989), which suggests that involvement

in a greater number of roles leads to feelings of accomplishment and competence, it is not surprising that higher self-complexity (i.e., the number of distinct roles or relationships) was related to higher self-esteem. However, this finding must be qualified when examining the interaction of stress and self-complexity. As reported previously, self-complexity did not have an overall beneficial effect on self-esteem, when stress levels were high. This suggests that self-complexity has a beneficial effect on self-esteem only up to a certain level of stress. Perhaps when stress levels are higher and the individual has several different role commitments (self-complexity), the person experiences lower self-esteem due to the fact that the situational demands are serving as stressful distractors rather than buffers.

For males, a somewhat different pattern emerged in the relationship between self-complexity and another measure of adjustment. In support of the stress-buffering model, there was a significant relationship between marital adjustment and the interaction term of self-complexity (assessed by the prenatal *H*-statistic measure) and stress. This finding suggested that males who had higher self-complexity and who reported higher levels of stress experienced better marital adjustment. This result was inconsistent with the findings already reported for both females and males. Overall, the trend seemed to be that greater self-complexity levels, at high levels of stress, resulted in poorer adjustment. For women, greater self-complexity predicted greater depression, more reported physical symptoms, and lower self-esteem, at high stress levels. For males, greater self-complexity at high stress levels also predicted greater depression.

The finding that greater self-complexity at higher stress levels was related to better marital adjustment for males, and not females, may be attributed to the fact that males and females have different experiences during the transition to parenthood (Belsky, 1986; Feldman & Aschenbrenner, 1983; Grossman, 1988). That is, for men, parenthood brings on only a slight change in their schedules, whereas for women, parenthood results in a dramatic reorganization of their lives (Cowan et al., 1978). In addition, research has shown that males tend to show greater satisfaction with their marriage than females (Cowan et al., 1991).

Based on the literature which suggests that males experience only a few schedule changes from the prenatal to the postnatal phase (Cowan et al., 1978), it is proposed that the interaction of higher stress and higher self-complexity was related to greater, rather than poorer, marital adjustment due to the fact that it was important for males to maintain their roles during the transition to parenthood in order to facilitate marital relations. For example, perhaps males who reported several roles, such as an employee/student, partner, friend, and athlete, experienced better marital relations than males who perceived fewer roles, because these additional activities may have provided a necessary outlet to relieve their stress. Thus, there seemed to be a relationship between higher self-complexity and better marital relations for males, when stress levels were higher. This finding suggests that the role of self-complexity, as it interacts with stress, has differential effects on males and females. In summary, although self-complexity seemed to have provided a stress-buffering effect for marital adjustment, having a greater number of roles, compounded with the stresses relating to parenting (e.g., lack of sleep, less

freedom) was related to greater levels of depression.

The Feature Groups Measure

Overall, it seemed that those individuals with higher levels of self-complexity and high stress levels experienced poorer adjustment. Interestingly, the feature groups measure was consistently as good a predictor of adjustment as the *H*-statistic measure of self-complexity. This finding emphasized the importance of examining the number of self-aspects that a person has, in addition to examining the distinctiveness between these self-aspects. Although Block (1961) and Linville (1985, 1987) hold opposing views regarding the role of self-complexity, both have asserted the importance of the distinction between the different aspects of the individual as a measure of self-complexity. It should be noted that Linville did use the feature groups measure as an additional measure of self-complexity, but she concluded that this measure was "inferior" to the *H*-statistic measure of self-complexity because it failed to account for the distinction between each self-aspect. Based on the present findings, however, it seems that counting the number of roles, relationships, and/or activities is as adequate a predictor of adjustment as the *H*-statistic. In addition, the feature groups measure is not only easier to calculate, but is also easier to interpret.

The finding that, for couples, perceiving a greater number of roles and relationships (regardless of the distinction between these roles) was related to greater depression, when stress levels were higher, supports the multiple roles theory (Baruch et al., 1987; Marks, 1977). Baruch et al. (1987) have suggested that having multiple roles may lead to poorer adjustment because human energy is viewed as limited, and if individuals are pulled in

many different directions or have many situational demands placed upon them, they experience overload and psychological distress. Similarly, Marks (1977) suggested that having multiple roles may lead to role strain, especially when the person is overcommitted and has limited time and energy. Overall, it seemed that couples who were experiencing higher stress levels during the transition to parenthood had greater difficulty adjusting when they perceived involvement in a number of different commitments, such as employment, relationships, or other activities, than those who perceived involvement in fewer role commitments. Being a first-time parent takes up a lot of time and focus, especially for women (Cowan et al., 1978; Feldman & Aschenbrenner, 1983). Therefore, perceiving a greater number of role demands, in addition to the parental role, when stress levels are higher, may be related to elevated levels of depression.

Comparison to Linville's Study

It is interesting that the present study on self-complexity found very different results from Linville's study with a college sample (1987). It should be noted that for the present study there was a slight change in the list of characteristics used in the trait sort task (Linville's measure of self-complexity, 1987) because some of the words, which were originally created for a college population, were not appropriate for the present sample (e.g., "hard-working" was substituted for "studious"). Although the slight modification in the trait sort methodology may account for some differences in the results of the two samples, it is not likely that this change accounts entirely for the present findings.

It is possible that the difference between the findings for the two studies could be due to the nature of the samples. One way that the two samples differed was in the type of roles and activities that were listed in the self-complexity task. Linville, who used a sample of 106 college students, provided examples of actual groups (roles, relationships, and activities) that they indicated in their self-complexity task. The different groups for the college population consisted of relationships, family, school, residence or home life, parties, social life, and activities. The typical groups that were indicated by the 49 couples in the present sample primarily consisted of parent, spouse/partner, friend, family, employment, at home, and sports. For example, some actual trait sort groups formed at the prenatal phase were - "housework, with spouse, about baby", "at work, at home", "work, home, friends, family", "being pregnant, with partner, with family, at home, daily life", and "family, work, play". Some actual postnatal trait sorts were "family, sports", "spouse, work, home, baby", "as a daughter, as a wife, as a parent", and "family, work, alone, with baby, with friends".

It is suggested that in addition to involvement in different types of roles, the two samples also differed in the nature of their experienced stress. Although Linville's sample (1987) had a similar mean score on the perceived stress scale ($\underline{M}$= 22.75, ranging from 8 to 45) as the present couple sample ($\underline{M}$= 20.93, ranging from 7 to 41) these means should not be compared because Linville used the PSS as a dependent measure, whereas the PSS was used as an independent measure in the present sample. Linville used the College Life Events questionnaire, which assessed the number of different stresses related to academics, social life, relationships, finances, or employment,

as the independent measure of stress. Although neither sample indicated extremely high stress levels based on the normative means specific to each stress measure, it is proposed that the couples in the present study were experiencing greater stress than the college population.

The literature indicates that during the transition to parenthood, couples experience a decrease in marital satisfaction (Cowan & Cowan, 1992), a shift in roles (Cowan et al. 1991), lack of sleep (Belsky, 1986; Russell, 1974), emotional strain (Belsky, 1986; Hopkins et al., 1984), increased responsibility and restrictions of freedom (Burman & de Anda, 1987; Leifer, 1977). In essence, all aspects of a couple's life are affected by this transition. Perhaps the PSS, which is a global measure of stress, was not a sensitive measure to the specific stresses associated with each self-aspect. Thus, although students also experience many stresses in university (Linville, 1987), it is suggested that the stress experienced is less intense for college students as compared to that of the couples in the present sample.

More specifically, it is suggested that couples in the present study differed from the college students in the degree of stress associated with each facet of the self (e.g., role or relationship) listed during the Self-Complexity Trait Sort (Linville, 1987). For example, an employed mother who is also responsible for the household and child care chores, and who has a partner who is not very supportive, would probably have a much greater stress level than a college student who is worried about exams or is unhappy with his or her current living arrangements. Thus, a more specific measure which assessed the degree of stress associated with each role or relationship listed in the self-complexity

task, may indicate that couples in the present sample experienced greater stress than Linville's college sample.

Furthermore, it is proposed that self-complexity did not serve as a buffer for the couples in the present study because all aspects of the couple's lives (despite any distinction between these aspects) were affected by the transition to parenthood. In other words, although the parents may have been quite different in each of the roles that they listed (e.g., serious at work, playful with spouse, humorous with friends), the stresses of parenting affected all aspects of the self. Couples indicated in their interviews that parenthood had affected their work, their social life, their sense of self, their marriage, and their leisure time. Due to this spillover process, in which all self-aspects were affected by the stressors, there may not have been any unaffected facets of self to buffer the adverse effects of stress.

For the college students, however, perhaps they are able to leave their academic worries at school, and thus, other aspects of their "selves", such as their extracurricular activities, or their social life, are able to serve as buffers against the stresses related to academics. For parents, it may not be as easy to "turn off" the stressful aspects of parenting. Therefore, if there were a measure of stress for each role listed in the trait sort, it might be easier to decide whether or not each role would serve as a buffer against stress. Perhaps a role that is considered to be extremely stressful may not be able to serve as a buffer, even though it may be considered "distinct" from the other self-aspects. Overall, it is suggested that the distinction between the roles may not be as important as the stress associated with each role for couples who are experiencing the

transition to parenthood.

In her study, Linville (1987) suggested that levels of self-complexity vary across individuals due to the influence of such variables as age and education. The present study correlated self-complexity (as assessed by the feature groups measure and the *H*-statistic measure) with these demographic variables for both females and males. The results showed that there was a positive correlation between age and self-complexity at the prenatal phase for females. This finding suggested that females perceived a greater number of distinct self-aspects, with increasing age. Perhaps, as Linville suggests, cognitive differentiation increases with experience, and so, increasing age is accompanied by an increase in the range of experiences relevant to the self. At the postnatal phase, however, this relationship dissipated. In addition, neither of these demographic variables were significantly related to self-complexity for males at either phase. This suggests that individual differences in self-complexity are not entirely accounted for by age and level of education. It is suggested that perhaps involvement in the actual number of roles and relationships in one's life may have the strongest relationship with the complexity of one's self-representation.

Limitations

Before forming conclusions with regard to these findings, it is important to address the limitations of the present study. During the transition to parenthood, couples experience a number of different changes such as marital strain, employment status, fatigue, and lack of freedom. In addition, several factors such as social support, the child's temperament, and attitudes towards having a baby have been found to influence

how well couples adjust during this transition. Based on these findings, one must use caution when interpreting the present results because there are several other variables which may be contributing to the present findings relating to adjustment. Furthermore, the present study did not involve experimental manipulations of the independent variables, which again points to the fact that several variables, in addition to stress and self-complexity, could have been interacting to contribute to the present results.

Also, the finding that high self-complexity, at high levels of stress, was related to poorer adjustment, can be generalized only to couples experiencing the transition to parenthood. Linville (1987) found different results based on her college population, so the present findings may be attributed to the nature of the sample used.

Future Research

In the future, researchers who are interested in the area of self-complexity, in the context of the transition to parenthood, may find it beneficial to examine self-complexity in a different manner. In addition to exploring how individuals describe themselves using Linville's trait sort (1985, 1987), researchers could also ask individuals to denote the importance that they place on each self-aspect that they have listed. For example, in the present study, self-complexity scores did not change over time, nor did males and females differ, but maybe if the emphasis that was placed on each role before and after becoming a parent were examined, the percentage of involvement in each role might have drastically changed once the baby was born.

As described earlier, the Cowans (1992) had asked couples in their transition to parenthood study to describe the different aspects of their life by drawing a pie chart and

designating how large each self-aspect "feels", not how much time they spend "being it". This was a measure reflecting their psychological investment in each aspect of themselves. Based on this measure, the Cowans (1992) found that for both men and women, their identities changed from the prenatal to the postnatal phase. Perhaps the percentage of oneself that is "psychologically" given to a number of different roles, using this pie chart methodology, could be a supplementary measure of self-complexity.

Also, it would be helpful for individuals to indicate on a Likert type measure how stressful they perceive each self-aspect to be. For example, one person who has a high self-complexity score may consider many of his or her self-aspects (e.g., roles or relationships) to be very stressful, in which case the self-aspects may not be able to serve as buffers against the adverse effects of stress. Another person who has high self-complexity may not consider any of his or her aspects of self to be particularly stressful. For this person, the various facets of the self would more likely serve as a buffer against the adverse effects of stress. Similar to the parenting stress index (Abidin, 1991) scoring procedure, two subscores could be calculated (for positive stress and negative stress), in addition to a total stress score, to assess the overall stress associated with a person's self-representation.

Additionally, the present data could be analyzed using qualitative techniques. A content analysis on the feature groups that were formed during the Self-Complexity Trait Sort (Linville, 1987) would reveal the types of groups (e.g., parent or spouse) that were formed for females and for males both prenatally and postnatally. Based on this analysis, possible gender differences in the kinds of roles or activities that were listed could be

determined. Also, possible changes in roles once the baby arrived could be examined. In addition, it would be interesting to examine the specific characteristics that were listed for males and females to see if different personality traits emerged once the baby arrived (e.g., Did parents become more patient or more responsible after the baby arrived?).

In future studies, a control group of couples who are not planning on having children in the near future would provide an important basis for a comparison of the present findings. For example, it would be interesting to compare the present finding that stress increases and that marital adjustment decreases once a child arrives with the control group to see if they would experience similar or different changes.

In addition, providing a support group for some of the couples (randomly assigned) experiencing the transition to parenthood could help control, to some extent, the stress levels experienced during this change. The Cowans (1992) randomly selected one-third of the expectant couples in their study to take part in a couples group with trained leaders during the transition to parenthood. The purpose of this group was to ease the transition from couple to family by strengthening the parents' relationship. Thus, such a support group would also provide an important basis for the comparison of results. For example, one would expect that the support group sample would report lower levels of stress, and perhaps, would show different results than the couples who were not in the support group.

Another suggestion for future research might be to examine the role of self-complexity in the context of other life transitions. For example, it would be interesting to see whether or not students who were experiencing higher stress levels during the

transition to university would benefit from higher self-complexity levels. Although Linville (1987) found that self-complexity did serve as a buffer against stress for her college sample, these findings were not based on "transitional" data, whereby students were assessed on self-complexity and adjustment measures before and after the commencement of university. Additionally, it would be interesting to determine the role of self-complexity in the transition to retirement. By examining the role of self-complexity in the context of other transitions, the results may facilitate a clearer understanding of the present findings. That is, the conclusions may lend support to the idea that self-complexity plays a different role during life transitions, perhaps due to the nature of the stresses during these changes. On the other hand, if other life transitions seem to benefit from the role of self-complexity, this may indicate that self-complexity plays a unique role in the transition from couple to parent.

Summary

In summary, males and females did not significantly differ in self-complexity, as assessed by the *H*-statistic and the feature groups measure, and showed no change from the prenatal to the postnatal phase. However, the data indicated that self-complexity did influence a couple's adjustment to parenthood. Contrary to the stress-buffering hypothesis, both males and females who had higher self-complexity and high stress levels experienced higher levels of depression than those with lower self-complexity. Similar to Block's theory, a simple self-representation was related to easier adjustment. In addition, based on additional measures of adjustment, females who had higher self-complexity, at high stress levels, experienced a greater number of physical symptoms,

and lower self-esteem. For males, however, higher self-complexity was related to better marital adjustment, when stress levels were high. It was suggested that males needed to be involved in activities and roles outside of the spousal relationship to facilitate marital adjustment during the transition to parenthood.

Interestingly, the variable feature groups proved to be as good a measure of self-complexity as the *H*-statistic measure. This finding suggested that the number of roles, relationships, and activities that an individual was involved in (feature groups measure) was as important a determinant of adjustment as the distinction between these aspects (as measured by the *H*-statistic). Thus, consistent with the multiple roles theory (Baruch et al., 1987; Marks, 1977), couples who were experiencing the transition to parenthood adjusted more easily (lower depression levels) when they had fewer demands placed upon them from other roles, relationships, or activities.

Implications

What are the implications of these findings? The present study makes contributions to the literature, both in the areas of self-complexity and parental adjustment. Although Linville found that greater self-complexity was related to better adjustment at high stress levels, her findings may have been specific to a student population. The present study indicated that self-complexity may not always be beneficial, especially during the transition to parenthood. In addition, the feature groups variable was shown to be an acceptable measure of self-complexity, which suggested that the number of self-aspects a person listed was as good an indicator of adjustment as the distinction between these aspects. This finding that the number of roles which an individual is involved in relates

to adjustment (at high stress levels), lends support to the multiple roles theory (Baruch et al., 1987; Marks, 1977), which suggests that human energy is limited and that "overcommitment" leads to poorer adjustment. Although Linville (1987) and Block (1961) disagreed about the role of self-complexity, they both asserted the importance of the distinction between the facets of self when measuring self-complexity. Perhaps these results will encourage researchers who are interested in the concept of self-complexity to focus on the number of roles or activities in which an individual is involved, in addition to the distinction between these facets.

The results of this study also make contributions to the transition to parenthood literature. Several factors, such as the amount of social support, the quality of the marital relationship, and the child's temperament have been identified in the literature as important variables that influence a couple's adjustment as they prepare for parenthood. Researchers have not examined the role that cognition plays in a couple's transition to parenthood, however. Based on the present study, it was found that cognitions about the self, more specifically, self-complexity, may also affect the couple's adjustment to their new parental role. These findings may have meaningful implications for new couples preparing for parenthood. Couples who are made aware of the finding that higher self-complexity (assessed by the number of distinct roles, relationships, and activities) during the transition to parenthood may be related to more difficult adjustment (i.e., elevated levels of depression), when stress levels are higher, have the opportunity to decide, based on this information, how they wish to prepare for parenthood.

Appendix A

Center for Epidemiologic Studies Depression Scale (CES-D)

Instructions for Questions: Below is a list of ways you might have felt or behaved recently. Please tell me how often you have felt this way during the past week.

1	2	3	4
rarely or none of the time (less than 1 day)	some or a little of the time (1-2 days)	occasionally or a moderate amount of time (3-4 days)	most or all of the time (5-7 days)

During the past week:	How often did you feel this way?
A. I was bothered by things that usually don't bother me.	
B. I did not feel like eating; my appetite was poor.	
C. I felt that I could not shake off the blues even with help from my family or friends.	
D. I felt that I was just as good as other people.	
E. I had trouble keeping my mind on what I was doing.	
F. I felt depressed.	
G. I felt that everything I did was an effort.	
H. I felt hopeful about the future.	
I. I thought my life had been a failure.	
J. I felt fearful.	
K. My sleep was restless.	
L. I was happy.	
M. I talked less than usual.	
N. I felt lonely.	
O. People were unfriendly.	
P. I enjoyed life.	
Q. I had crying spells.	
R. I felt sad.	
S. I felt that people dislike me.	
T. I could not get "going".	

Note. When scoring, "rarely" = 0, "most of the time" = 3.

Appendix B

Perceived Stress Scale (PSS)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question, use the following scale:

1	2	3	4	5
never	almost never	sometimes	fairly often	very often

During the last month how often have you:	Frequency rating
A. Been upset because of something that happened unexpectedly?	
B. Felt that you were unable to control the important things in your life?	
C. Felt nervous and "stressed"?	
D. Dealt successfully with irritating life hassles?	
E. Felt that you were effectively coping with important changes that were occurring in your life?	
F. Felt confident about your ability to handle your personal problems?	
G. Felt that things were going your way?	
H. Found that you could not cope with all the things that you had to do?	
I. Been able to control irritations in your life?	
J. Felt that you were on top of things?	
K. Been angered because of things that happened that were outside of your control?	
L. Found yourself thinking about things that you have to accomplish?	
M. Been able to control the way you spend your time?	
N. Felt difficulties were piling up so high that you could not overcome them?	

Note. When scoring, "never" = 0, "very often" = 4.

Appendix C

Self-Complexity Trait Sort

1) Impulsive
2) * Cooperative
3) Organized
4) * Hard-Working
5) * Responsible
6) * Patient
7) Affectionate
8) * Caring
9) Rebellious
10) Competitive
11) Quiet
12) Outgoing
13) * Nervous
14) * Impatient
15) Mature
16) * Non-Traditional
17.) Playful
18) * Stubborn
19) * Selfish
20) Insecure
21) Relaxed
22) * Traditional
23) * Easy-going
24) Assertive
25) Humorous
26) Lazy
27) Emotional
28) Reserved
29) * Creative
30) * Ambitious
31) * Disorganized
32) * Strict
33) Irresponsible

Note. * Used in place of Linville's (1987) characteristics listed here: Studious, Not Studious, Imaginative, Unconventional, Industrious, Soft-Hearted, Conformist, Reflective, Individualistic, Unorganized, Sophisticated.

Appendix D

Instructions for Self-Complexity Task

O.K., the final thing I'm going to ask you to do also has to do with describing different kinds of persons you can be. On these index cards are 33 words. Each word describes a characteristic a person can have. What I'd like you to do is to form groups of characteristics that go together, where each group describes an aspect of you or your life. You may sort the characteristics into groups on <u>any</u> meaningful basis - but **REMEMBER TO THINK ABOUT <u>YOURSELF</u> WHILE YOU ARE DOING IT** (for example, one group of words may describe the kind of person you are with your friends, and another may describe the kind of person you are with family members). Form as many or as few groups as you want. Continue forming groups until you feel that you have formed the ones that are important in describing you. When you feel that you can't form any more groups, then feel free to stop.

Now you do not have to use every characteristic, only those that you feel are descriptive of you. You may use each characteristic in more than one group. For example, you may wish to use the word "relaxed" more than once.

Once you have formed a group with the cards, write down the numbers (which appear in the top right hand corner) for each characteristic that you placed in a particular group. Please list the numbers on this sheet here, indicating which traits you have put together in a group: <u>Each column you make will correspond</u>

to one of your groups. You can label each of the groups, if you like, but it isn't necessary to label the groups, if you don't wish to. Remember, describe yourself, not people in general. You do not have to use all of the traits, and you may reuse traits. Any questions?

Appendix E

Self-Esteem Scale

Please indicate how strongly you agree with each of the statements below by placing the appropriate number in the box beside each item. Use the scale below in making your ratings.

1	2	3	4
strongly agree	agree	disagree	strongly disagree

	Rating
A. I feel that I am a person of worth, at least on an equal basis with others.	
B. I feel that I have a number of good qualities.	
C. All in all, I am inclined to feel that I am a failure.	
D. I am able to do things as well as most other people.	
E. I feel I do not have much to be proud of.	
F. I take a positive attitude towards myself.	
G. On the whole, I am satisfied with myself.	
H. I wish I could have more respect for myself.	
I. I certainly feel useless at times.	
J. At times I think I am no good at all.	

Appendix F

Cohen - Hoberman's Inventory of Physical Symptoms (CHIPS)

The following is a list of some physical symptoms that people often experience. Please indicate how much that problem has bothered or distressed you during the past two weeks including today by using the following scale and placing the appropriate number in the box beside each symptom.

1	2	3	4	5
not at all	a little bit	moderately	quite a bit	extremely

Physical Symptom	Response
1. sleep problems	
2. weight change	
3. back pain	
4. constipation	
5. dizziness	
6. diarrhea	
7. faintness	
8. constant fatigue	
9. headache	
10. migraine headache	
11. nausea and/or vomiting	
12. acid stomach or indigestion	
13. stomach pain (e.g., cramps)	
14. hot or cold spells	
15. hands trembling	
16. heart pounding or racing	
17. poor appetite	
18. shortness of breath when not exercising or working hard	
19. numbness or tingling in parts of your body	
20. felt weak all over	

Note. For scoring, "not at all" = 0, "extremely" = 4.

Physical Symptom	Response
21. pains in heart or chest	
22. feeling low in energy	
23. stuffy in head or nose	
24. blurred vision	
25. muscle tension or soreness	
26. muscle cramps	
27. severe aches and pains	
28. acne	
29. bruises	
30. nosebleed	
31. pulled (strained) muscles	
32. pulled (strained) ligaments	
33. cold or cough	

Appendix G

Marital Adjustment Scale

The following questions have to do with your relationship with your partner, and the extent of any disagreement you might have with your partner. Place a checkmark in the box that indicates the approximate extent of agreement or disagreement between you and your partner on each of the following items.

	Always Agree	Almost Always Agree	Occa-sionally Agree	Fre-quently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances						
2. Matters of recreation						
3. Demonstrations of affection						
4. Friends						
5. Sex relations						
6. Conventionality (right, good, or proper conduct)						
7. Philosophy						
8. Ways of dealing with in-laws						

9. *Please place an "X" on the line below (e.g., ---X---) to indicate* which best describes the degree of happiness, everything considered, of your relationship. The middle point, "happy", represents the degree of happiness of most relationships, and the scale gradually ranges on one side to those few who are very unhappy in their relationship, and on the other, to those few couples who experience extreme joy.

0 2 7 15 20 25 35

Very Unhappy — Happy — Perfectly Happy

Please record the appropriate answer (a, b, c, or d) to each question in the space provided to the right of each question.

	Response
10. When disagreements arise, they usually result in: a) man gives in b) woman gives in c) agreement by mutual give and take	
11. Do you and your partner engage in outside interests together: a) all of them b) some of them c) very few of them d) none of them	
12. In leisure time do you generally prefer: a) to be on the go b) to stay home	
13. In leisure time does your mate generally prefer: a) to be on the go b) to stay home	
14. Do you ever wish that you had not gotten together with your partner? a) frequently b) occasionally c) rarely d) never	
15. If you had your life to live over, do you think you would: a) choose the same partner b) choose a different person c) not be involved in a long term relationship at all	
16. Do you confide in your partner: a) almost never b) rarely c) in most things d) in everything	

Appendix H

Feelings About Parenting

People often experience many different feelings and emotions concerning their babies and all the things that have to be done to take care of their babies. Listed below are a variety of things that people can feel after their babies are born. Please indicate how often you have felt each of the following within the last month, using the scale below:

1	2	3	4	5
never	rarely	sometimes	fairly often	very often

How often have you felt:	
pride in how your baby has grown and developed?	
irritated with your baby?	
pleasure from playing with your baby?	
bored with what you are doing?	
closer to your spouse?	
closer to your family?	
more purpose for living?	
fed up with childcare and household chores?	
more fulfilled?	
doubts about whether you were doing the right thing for your baby?	
regret that you had a child?	
greater appreciation of your parents?	
enjoyment from your baby's company?	

Appendix I

Parenting Stress Index - Short Form

This scale was developed by Richard Abidin to ask about the stressful aspects of being a parent. While we know that there are also many joyful parts of caring for young children, these questions ask about the more unexpected and difficult aspects of parenthood.

The statements on this and the following pages ask you to record an answer that best describes your feelings. While you may not find an answer that exactly states your feelings, please mark the answer that comes closest to describing *how you feel about being a parent to your FIRST CHILD.*

YOUR FIRST REACTION SHOULD BE YOUR ANSWER

Please mark the degree to which you agree or disagree with the following statements by recording the number that best matches how you feel. If you are not sure, please record #3.

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

	Response
1. I often have the feeling that I cannot handle things very well.	
2. I find myself giving up more of my life to meet my children's needs than I ever expected.	
3. I feel trapped by my responsibilities as a parent.	
4. Since having this child I have been unable to do new and different things.	
5. Since having a child I feel that I am almost never able to do things that I like to do.	
6. I am unhappy with the last purchase of clothing I made for myself.	
7. There are quite a few things that bother me about my life.	
8. Having a child has caused more problems than I expected in my relationship with my spouse (male/female friend).	
9. I feel alone and without friends.	
10. When I go to a party I usually expect not to enjoy myself.	
11. I am not as interested in people as I used to be.	

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

12. I don't enjoy things as I used to.	
13. My child rarely does things for me that make me feel good.	
14. Most times I feel that my child does not like me and does not want to be close to me.	
15. My child smiles at me much less than I expected.	
16. When I do things for my child I get the feeling that my efforts are not appreciated very much.	
17. When playing, my child doesn't often giggle or laugh.	
18. My child doesn't seem to learn as quickly as most children.	
19. My child doesn't seem to smile as much as most children.	
20. My child is not able to do as much as I expected.	
21. It takes a long time and it is very hard for my child to get used to new things.	
22. I feel that I am: 1. not very good at being a parent, 2. a person who has some trouble being a parent, 3. an average parent, 4. a better than average parent, 5. a very good parent.	
23. I expected to have closer and warmer feelings for my child than I do and this bothers me.	
24. Sometimes my child does things that bother me just to be mean.	
25. My child seems to cry or fuss more often than most children.	
26. My child generally wakes up in a bad mood.	
27. I feel that my child is very moody and easily upset.	
28. My child does a few things which bother me a great deal.	
29. My child reacts very strongly when something happens that my child doesn't like.	
30. My child gets easily upset over the smallest thing.	
31. My child's sleeping or eating schedule was much harder to establish than I expected.	

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

32. I have found that getting my child to do something is: 1. much harder than I expected, 2. somewhat harder than I expected, 3. about as hard as I expected, 4. somewhat easier than I expected, 5. much easier than I expected.	
33. Think carefully and count the number of things which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please record the number of things that you counted. 1. 10+ 2. 8-9 3. 6-7 4. 4-5 5. 1-3	
34. There are some things my child does that really bother me a lot.	
35. My child turned out to be more of a problem than I had expected.	
36. My child makes more demands on me than most children.	
37. Overall, who would you rate your child's health? Excellent Good Fair Poor	
38. Overall, how would you rate your own health? Excellent Good Fair Poor	

Appendix J

Verbal Information for Recruitment

"Hi, my name is Margo Gallant. I am a student at Wilfrid Laurier University, taking my Masters in Psychology. I am presently working on a project at WLU with Dr. Mark Pancer, Dr. Michael Pratt, and Dr. Bruce Hunsberger, called the 'New Families Project'. Basically, what we are interested in is looking at the changes that couples go through when they have their first baby. Becoming a parent is one of the most important transitions in a person's life and it can mean a great deal of change, not only in the kinds of activities people are involved in, but in the way they look at things. The New Families Research Project will be examining some of the ways in which individuals change when they become parents, and how they adjust to parenthood. The major focus of the research will be on how people's thinking about things such as family life, relationships, and work changes through this transition.

If you agree to participate in the New Families project, we will be asking you to take part in three interviews, each lasting about one hour. The first interview will take place when you are about 6 months pregnant, the second interview will be when your child is 6 months old, and the third interview will be when your child is 18 months old. The interview will consist of questions concerning the effect that the prospect and actual experience of parenthood has had on your sense of self, your relationship as a couple, your ideas about parenting, your concept of

family life, and your ideas about work and career. In addition, at each interview, we will give you a questionnaire to complete. This questionnaire will include questions concerning your feelings about yourself, the amount of support you have from family and friends, your relationship with your partner, in addition to some basic background information. For the final part of the study, you and your partner will be asked to discuss a parenting issue of your choosing that we will be videotaping. As a token of our appreciation for your participation, we will be paying you $20 once we receive your completed questionnaire after each interview.

Everything you say will be held in the strictest confidence, and your identity will remain anonymous. The transcript of your interviews and your questionnaire responses will be identified only by a code number, and all the information that you provide will be kept in a locked cabinet. Only authorized members of our research team will have access to these records. Also, if there are any aspects of the interview (or questionnaire) that you are not comfortable with, then you have the right to refuse to answer or participate in that part of the interview.

We feel that you will find this to be an interesting and rewarding experience. You will get a chance to express your feelings about parenting and family life. Also, you will receive feedback and results of the study after the final interview. Any questions? I will leave the sign-up sheet with your instructor to pass around after I leave the room. Thank you for your attention.

Appendix K

Prenatal Consent Form

Becoming a parent is one of the most important events in a person's life. It can mean a great deal of change, not only in the kinds of activities people are involved in, but in the way they look at things. The New Families Research Project will be examining some of the ways in which individuals change when they become parents, and how they adjust to parenthood. The major focus of the research will be on how people's thinking about things such as family life, relationships, and work changes through this transition.

If you agree to participate in the New Families project, we will be asking you to take part in three interviews, each lasting approximately one hour. The first interview will take place when you are about six months pregnant; the second will take place when your baby is about six months of age; and the final interview will take place when your child is about a year and a half. The interview will consist of questions concerning the effect that the prospect and actual experience of parenthood has had on your sense of self, your relationship as a couple, your ideas about parenting, your concept of family life, and your ideas about work and career. In addition, at each interview we will give you a questionnaire to complete. This questionnaire will include questions concerning your feelings about yourself, the amount of support you have from family and friends, your relationship with your partner, in addition to some basic background information. For the final part of the study, you and your partner will be asked to discuss a parenting issue of your choosing that we will be videotaping. As a token of our appreciation for your participation, we will be paying you $20 once each interview is completed, and we receive your completed questionnaire.

Everything you say will be held in the strictest confidence, and your identity as a provider of information will remain anonymous. The transcript of your interviews and your questionnaire responses will be identified only by a code number, and all the information that you provide will be kept in a locked cabinet. Only specifically authorized members of our research staff will have access to these records.

If there are any questions in the interviews that you would rather not answer, or feel that you cannot answer, please feel free to decline to answer and we will move on to the next question. If at any point you wish to end your participation in the interview, please tell us and we will conclude the interview. Also, if there are any questions on the questionnaire that you would rather not answer, just leave them blank. Your decision to participate or not participate in the research (or any part of the research) will not in any way affect your access to prenatal or postnatal services.

We hope that the information about the purposes of this research and the guarantees of confidentiality will enable you to feel free to share your opinions and experiences with us. We ask you to sign the next page to indicate that you understand the purposes and conditions of participation in the research, and agree to participate.

For further information please phone Margo Gallant at 743-5445.

I understand the purpose of this research, as outlined in the document entitled "New Families Research Project: Consent Form". I also understand that my records will be kept confidential and that I will not be personally identified on the interview transcripts or questionnaires. I also understand that I may refuse to participate in this study without penalty, and that I may choose not to answer any part of the interviews or questionnaires.

I understand that I am free to participate in prenatal classes and any other program sponsored by the Waterloo Regional Health unit regardless of whether I decide to participate in this study or not.

I acknowledge receiving a copy of this consent form.

I give permission to have the interviews tape recorded.

Date: _____

Signed: _____
participant

_____
interviewer

The New Families Research Project
Department of Psychology
Wilfrid Laurier University

Principal Investigators:

Mark Pancer, Ph.D.
Michael Pratt, Ph.D.
Bruce Hunsberger, Ph.D.

Appendix L

Prenatal Interview

Hi. Thanks again for agreeing to participate in this research. Before we start, let me just tell you a bit more about what we'll be asking you to do in this research. (Read consent form). O.K.? Now, could you just sign this form indicating that you understand everything and are willing to participate ? Thanks. Now we can get started.

1) How long have you (has your wife) been pregnant?

2) Deciding to have a child is a complicated decision these days. How is it that you came to be having a family at this time?

3) How did you feel when you found out that you were going to become a parent?

4) What do you think it will be like to be a parent?

Having a baby, or even the prospect of having a baby, can have a significant impact on a person's life. I'm going to ask you a number of questions about how the prospect of becoming a parent has affected various aspects of your life and your way of thinking.

5) Do you think your life has changed at all since discovering that you were going to become a parent? In what way?

6) How do you think your life will change after the baby has arrived?

7) Has your sense of who you are, or what kind of person you are (how you feel about yourself) changed since discovering that you were going to have a child? In what way?

8) How do you think your sense of who you are, or what kind of person you are will change after the baby has arrived?

9) Now I'd like you to think about you and your partner, and your relationship as a couple. Has your relationship as a couple changed since discovering that you were going to have a child? In what way?

10) How do you think your relationship as a couple will change after the baby has arrived?

11) Now I'd like you to think about your concept of family. People have many different ideas about what a family is. Have your ideas about the family changed since discovering that you were going to have a child? In what way?

12) How do you think you ideas about the family will change after the baby has arrived?

13) Have your ideas about work and career changed since discovering that you were going to have a child? In what way?

14) How do you think your ideas about work and career will change after the baby has arrived?

15) O.K. Now I've got a number of different questions I'm going to ask you about different things that becoming a parent might affect. How do you think becoming a parent will affect?

a) your social and recreational activities?
b) your daily work/study activities (daily schedule)?
c) your financial situation?
d) your emotional state?
e) your physical state?

16) What are you looking forward to about having this baby?

17) What concerns do you have about having this baby?

18) Being a parent can, on occasion, involve dealing with a number of stressful situations. Have you given any thought to some of the problems you might encounter as a result of becoming a parent? What kinds of things have you thought about? (cue to be used only if respondent can't think of any stressful situations: e.g., crying, bedtimes, lack of sleep).

19) One of the issues that comes up in many households once a baby arrives is how to share housework and child care. Have you and your spouse considered how you will deal with this issue?

20) What kinds of things do you take into consideration when deciding who will do what in terms of housework and child care?

21) One of the things we're interested in is how people think of themselves, and how their thoughts about the kind of people they are change when they have a baby.

a) How would you describe yourself or the kind of person that you are right now?

b) People don't necessarily behave the same way all the time. We can seem like different people, depending on the situation we're in, or who we're with. Would you say this is true of you? How would you describe the different kinds of persons you can be? (for example, you may be a different kind of person with your friends than you are with your family)

22) Next is Linville Card-Sorting Task

23) Well, that's the end of the interview. How did you find it? Did you have any questions that you wanted to ask me about the study or things that we've talked about in the interview? Great. Before I go, let me give you the questionnaire that I mentioned before the interview began. I'd appreciate it if you would complete it within the next day or two, on your own, and put it in the mail. When we receive you and your partner's completed questionnaires, we'll send you your $20. Also, we'll be in touch with you once your baby is born. Good luck! I'll look forward to seeing you and your baby in about nine months.

Appendix M

Postnatal Consent Form

As you know, the New Families Research Project is examining some of the ways in which individuals change when they become parents, and how they adjust to parenthood. The major focus of the research is on how people's thinking about things such as family life, relationships, and work changes through this transition.

If you agree to participate in this phase of the New Families project, we will be asking you to take part in a postnatal interview lasting approximately one hour and a half. The interview will consist of questions concerning the effect that the actual experience of parenthood has had on your sense of self, your relationship as a couple, your ideas about parenting, your concept of family life, and your ideas about work and career. In addition, we will give you a questionnaire to complete. This questionnaire will include questions concerning your feelings about yourself, the amount of support you have from family and friends, your relationship with your partner, in addition to some basic background information. We are also asking you to take part in a 5-minute videotaping of you playing with your child.

For the final part of the study, when your baby is approximately one and a half years of age, we will again be asking you to participate in an interview and to complete another questionnaire. In addition, you and your partner will be asked to discuss a parenting issue of your choosing that we will be videotaping.

As a token of our appreciation for your participation, we will be paying you $20 once each interview is completed, and we receive your completed questionnaire.

Everything you say will be held in the strictest confidence, and your identity as a provider of information will remain anonymous. The transcript of your interviews and your questionnaire responses will be identified only by a code number, and all the information that you provide will be kept in a locked cabinet. Only specifically authorized members of our research staff will have access to these records.

If there are any questions in the interviews that you would rather not answer, or feel that you cannot answer, please feel free to decline to answer and we will move on to the next question. If at any point you wish to end your participation in the interview, please tell us and we will conclude the interview. Also, if there are any questions on the questionnaire that you would rather not answer, just leave them blank. Your decision to participate or not participate in the research (or any part of the research) will not in any way affect your access to prenatal or postnatal services.

We hope that the information about the purposes of this research and the guarantees of confidentiality will enable you to feel free to share your opinions and experiences with us. We ask you to sign the next page to indicate that you understand the purposes and conditions of participation in the research, and agree to participate.

For further information please phone Margo Gallant at 743-5445.

I understand the purpose of this research, as outlined in the document entitled "New Families Research Project: Consent Form". I also understand that my records will be kept confidential and that I will not be personally identified on the interview transcripts or questionnaires. I also understand that I may refuse to participate in this study without penalty, and that I may choose not to answer any part of the interviews or questionnaires.

I understand that I am free to participate in prenatal classes and any other program sponsored by the Waterloo Regional Health unit regardless of whether I decide to participate in this study or not.

I acknowledge receiving a copy of this consent form.

I give permission to have the interviews tape recorded.

I give permission to have the play session video-taped.

Date: _____

Signed: _____
participant

_____
interviewer

The New Families Research Project
Department of Psychology
Wilfrid Laurier University

Principal Investigators:

Mark Pancer, Ph.D.
Michael Pratt, Ph.D.
Bruce Hunsberger, Ph.D.

Appendix N

Referral Names

If you have any further questions or concerns with respect to the New Families Project, please feel free to call Margo Gallant (743-5445). In addition, I have provided a few numbers that anyone may call if they feel that they need someone to talk to about some of the stresses related to parenting. Family and Children's Services have provided us with some organizations that can help couples adjust to the new parenting role. As part of any psychology study, it is our obligation as researchers to provide referral numbers for everyone in the study in the event that anyone has difficulty adjusting to parenthood.

Family and Children's Services	576-0540
Planned Parenthood	743-6461
Public Health	744-7357
St. Monica House	743-0291
(Cambridge area)	624-0481

Appendix O

Postnatal Interview

When we last talked, I asked you a number of questions about your thoughts concerning parenthood, I'd like to hear what you think about being a parent, now that you have had a chance to experience it first hand.

1) It's been a while since we saw you last. How did the rest of the pregnancy go? What were some of the positive aspects of the last part of the pregnancy? What were some of the negatives?

2) What was the birth like?

3) What is it like being a parent?

4) What are the things you like most about being a parent?

5) What are the things you dislike most about being a parent?

6) Has your idea of what it would be like being a parent changed in any way since your baby was born? In what way?

7) What do you think your idea of what it is like being a parent will be like a year from now?

8) Has your sense of who you are, or what kind of person you are (how you feel about yourself) changed in any way since you had your child? In what way?

9) What do you think your sense of who you are, or what kind of person you are will be like a year from now?

10) Now I'd like you to think about you and your partner, and your relationship as a couple. Has your relationship as a couple changed since your baby was born? In what way?

11) What do you think your relationship as a couple will be like a year from now?

12) Now I'd like you to think about your concept of family. People have many different ideas about what a family is. Have your ideas about the family changed in any way since the arrival of your child? In what way?

13) What do you think you ideas about the family will be like a year from now?

14) Have your ideas about work and career changed in any way since the birth of your baby? In what way?

15) What do you think your ideas about work and career will be like a year from now?

16) O.K. Now I've got a number of different questions I'm going to ask you about different things that becoming a parent might affect. How do you think becoming a parent will affect?

a) your social and recreational activities?
b) your daily schedule?
c) your financial situation?
d) your emotional state?
e) your physical state?
f) your religious beliefs and activities?

17) Being a parent can, on occasion, involve dealing with a number of stressful situations. What are some of the problems you have encountered as a result of becoming a parent? (cue to be used only if respondent can't think of any stressful situations: e.g., crying, bedtimes, lack of sleep).

18) Is there anyone you can talk with about these problems? Who do you talk with? How helpful is their advice?

19) One of the issues that comes up in many households once a baby arrives is how to share housework and child care. How have you and your spouse dealt with this issue?

20) What kinds of things do you take into consideration when deciding who will do what in terms of housework and child care?

21) One of the things we're interested in is how people think of themselves, and how their thoughts about the kind of people they are change when they have a baby.

a) How would you describe yourself or the kind of person that you are right now?

b) People don't necessarily behave the same way all the time. We can seem like different people, depending on the situation we're in, or who we're with. Would you say this is true of you? How would you describe the different kinds of persons you can be? (for example, you may be a different kind of person with your friends than you are with your family)

23) O.K. The next thing I'm going to do is to read a couple of brief stories concerning child-rearing to you. After each story, I'll be asking some questions about what you think about it.

The Raymonds. Mr. and Mrs. Raymond have two children, Billy who is five and Mary who is three. Billy was a very demanding baby and still asks for a lot of attention from his parents. Billy would get very angry if he didn't get what he wanted from his parents. Lately, Mr. and Mrs. Raymond have had a lot of money problems because Mr. Raymond was laid-off from his job. One evening at bedtime Mrs. Raymond heard Billy and Mary fighting over a toy. She stormed into the bedroom and began spanking Billy very hard and she wouldn't stop. Mr. Raymond had to pull her away from the boy and had a hard time calming her down.

a. How would you explain Mrs. Raymond's behaviour? (What has produced or caused Mrs. Raymond's behaviour?) Why do you think that is a cause?

b. Any other reasons for this? Why do you think that is a cause?

Baby Robert. Mr. and Mrs. Brown had a baby boy named Robert. Soon after they brought him home from the hospital they became very unhappy because little Robert cried all night long and they could never get any rest. In order to get him to sleep, they had to carry him around for hours. After a month of sleepless nights, the Browns took Robert to their doctor. The doctor examined the baby and said that he was normal and would grow out of the crying problem. When Robert was six months old he no longer cried very much, but he still demanded his parents' attention and fussed when they left him alone. Mr. and Mrs. Brown were very puzzled by Robert's behaviour because their older son, Peter, had been quiet and contented when he was a baby.

a. How would you explain baby Robert's behaviour? (What has produced or caused baby Robert's behaviour?) Why do you think that is a cause?

b. Any other reasons for this? Why do you think that is a cause?

24) Next is the self-complexity trait sort task.

25) Well, that's the end of the interview. How did you find it? Did you have any questions that you wanted to ask me about the study or things that we talked about in the interview? Great. Before I go, let me give you the questionnaire that I mentioned before the interview began. I'd appreciate it if you could complete it within the next day or two, on your own, and put it in the mail. When we receive you and your partner's completed questionnaires, we'll send you your $20. Also, we'll be in touch with you a year from now, when your baby is a year and a half, to arrange for the next interview. Good luck! I'll look forward to seeing you and your baby next year. Thank you for your time.

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