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Relationships among marital functioning, childbirth delivery mode, and maternal adjustment :: an exploratory study of the immediate postpartum period.

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RELATIONSHIPS AMONG MARITAL FUNCTIONING, CHILDBIRTH DELIVERY MODE, AND MATERNAL ADJUSTMENT: AN EXPLORATORY STUDY OF THE IMMEDIATE POSTPARTUM PERIOD

A Thesis Presented

by

JILL ANNE PADAWER

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CHAPTER I

INTRODUCTION

Childbearing involves a complex interaction between psychological and physiological factors. It is a personal, interpersonal, and medical experience. As commonly practiced in the United States today, childbirth often involves obstetrical intervention, such as induced labor, fetal monitoring, anaesthesia, and forceps or cesarean delivery. The emotional impact of obstetric technology further complicates the birth experience. Historically, more emphasis has been placed on medical rather than psychological aspects of pregnancy and childbirth. Recently, professionals with expertise in women's health issues have highlighted the importance of integrating the two disciplines (Blum, 1980; Notman & Nadelson, 1978; Oakley, 1983).

The important interface between medicine and psychology is increasingly recognized by researchers, clinicians, and medical personnel (Millon, Green, and Meagher, 1982; Stone, Cohen, Adler, and Associates, 1980). This perspective is particularly relevant to research on stress and coping with major life events, such as childbirth, and the transition to parenthood. Situational factors that may mediate the impact of life events have been explored in the literature (see Averill, 1973; Lefcourt, 1973). Dohrenwend and Dohrenwend (1982) emphasized the need for further research in this area, suggesting that contextual factors, such as social support, must be taken into account to understand reactions to stressful life events. Women's adjustment to childbirth is influenced by a variety

of factors. The present research focuses on how the marital relationship and childbirth delivery mode mediate primiparous women's adjustment to childbearing in the immediate postpartum period.

In this study, childbearing is viewed as a major biopsychosocial event which entails many changes. Childbearing and the transition to parenthood constitute new developmental experiences for couples. The marital relationship is a critical aspect of the childbirth experience for first-time parents.[1] Couples must adapt to the change from a dyadic to triadic family unit, and cope with major self-concept and role changes for each spouse individually and in relation to one another. The transition to parenthood is a complex experience, often starting prior to conception and continuing into the postpartum period. Undoubtedly, different phases of the experience have distinct effects on the marital relationship. Similarly, different aspects of the marital relationship may be associated at various points with more versus less positive adaptation to childbearing. While each spouse must cope with many mutual aspects of the childbearing experience, individual spouse reactions and coping strategies may differ. Furthermore, various aspects of the birth experience and the transition to parenthood are unique to husbands and wives respectively.

In addition, couples in our society increasingly approach the labor and delivery experience as a joint endeavor. This is especially true for the many couples who choose to have the husband present during the delivery, and those who have "prepared childbirths,"[2] with the husband and wife participating actively as partners in the labor

and delivery. Couples who have cesarean deliveries following anticipation and preparation for a joint, active vaginal delivery experience have to adjust to the lost opportunity to cooperate and share the delivery experience as expected.

Regardless of the delivery mode, marital issues and concern with the spouses' roles, perceptions, and support around the actual labor and delivery experience arise for both husbands and wives. The present research is an attempt to explore some of these factors and their relationships to women's adjustment in married couples having their first child, via vaginal or cesarean delivery. The specific research questions are presented following a review of three relevant bodies of literature: (1) family stress theory and research (including the assessment of marital quality); (2) psychological aspects of women's adjustment to pregnancy and childbirth; and (3) women's adjustment to cesarean childbirth.

Family Stress Research and Theory

Until recently, stress theory and research has focused primarily on the individual as the unit of analysis (Hanson and Johnson, 1979). However, with the growth of the fields of health psychology and family theory has come the recognition that the social context, including the role of the family, is integral to health issues such as stress, coping, and illness (Coyne and Holroyd, 1982).

Since 1970, researchers studying stress and coping have worked on synthesizing stress research and theory to explain family behavior in response to stressors and family crisis (Burr, 1973). Others have

worked to identify the kinds of families, conditions, resources, and coping strategies that differentiate families who respond dysfunctionally from those who cope positively with stress (McCubbin, Joy, Cauble, Comeau, Patterson, and Needle, 1980). It has recently been suggested (McCubbin et al., 1980) that continued research on defining family stress, identifying and measuring family resources, and examining family coping processes will contribute to explaining and predicting family behavior at stressful points. This information, in turn, may suggest preventative or therapeutic interventions.

Family response to normative life transitions constitutes a major area of family stress research. For example, the transition to parenthood has received considerable attention (Hobbs, 1965; LeMasters, 1957; Russell, 1974). Most of these studies have focused on (1) whether the transition to parenthood is a crisis; and (2) whether marital satisfaction decreases following the birth of a child. Work concerning parenthood as "crisis" has been based on Hill's (1949) conceptualization of family crises as involving change (due to a stressor event--e.g., birth of a child) at which point old behavior patterns are unsatisfactory, and new ones are called for. Through self-report checklist and interview material concerning various dimensions of pregnancy and parenthood (e.g., ease of pregnancy and delivery, baby's behavior, marital satisfaction), researchers have rated parents in terms of degree of crisis. Initial conclusions stating that the transition to parenthood is a crisis (i.e., perceived crisis or adjustment difficulties) (LeMasters, 1957) have more recently been questioned, and it has been suggested that the birth of the first

child does not produce a crisis (Hobbs and Cole, 1976). Several researchers have suggested that labeling the transition to parenthood as a crisis is inadvisable in that it orients one against the positive aspects of becoming a parent (Russell, 1974).

At the same time, findings consistently support the hypothesis that marital satisfaction decreases following the birth of the first child (Luckey and Bain, 1970; Russell, 1974; Ryder, 1973). However, as stated by Spanier and Lewis (1980), "The situational conditions which determine the degree of impact and the particular area in the marital relationship in which an impact is experienced are less understood" (p. 828).

Assessment of Marital Quality

The quality of marital relationships is the most common focus of family research (Spanier and Lewis, 1980). The use of several similar terms (e.g., happiness, satisfaction, adjustment) in research on marital relationships is indicative of definitional disagreement in the field; however, it is generally acknowledged that marital quality is a multi-dimensional construct (Spanier and Lewis, 1980). Numerous scales have been developed for the assessment of various facets of marital quality (Locke and Wallace, 1959; Roach, Frazier, and Bowden, 1981; Ryder, 1973; Spanier, 1976). Among these measures, the Locke-Wallace Short Marital Adjustment Test (Locke and Wallace, 1959) has been the most widely used scale in the literature. They defined marital adjustment as "accommodation of a husband and wife to each other at a given time" (Locke and Wallace, 1959, p. 251).

Although this scale, in its original form, continues to be used most often in the literature, its utility is limited. That is, the scoring procedure for the original scale produces only one measure, global satisfaction. The scale was factor analyzed and revised so that it could be scored for two separate components (sexual congeniality and compatibility) (Kimmel and Van Der Veen, 1974), yet few studies use the revised scale and subscales.

Spanier (1972) criticized the Locke-Wallace Marital Adjustment Test on methodological grounds, questioning the reliability and internal consistency aspects of the scale. Utilizing many items from the Locke-Wallace scale, Spanier (1976) designed the Dyadic Adjustment Scale. This scale, which has been found to correlate highly with the Locke-Wallace Marital Adjustment Test, appears to be more advantageous than the Locke-Wallace scale for two major reasons. First, Spanier's factor analysis of the scale has allowed for the identification and measurement of four components of dyadic (e.g., marital) quality: dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression. While factor analysis and revision of the Locke-Wallace Marital Adjustment Test has allowed for calculating two subscores, researchers most frequently utilize the original Locke-Wallace scale, and report only the global adjustment scores. Second, Spanier's scale provides greater evidence of validity and high reliability than previous scales. Therefore, although the revised Locke-Wallace scale and subscales are an improvement over the original scale, the Dyadic Adjustment Scale seems preferable as a measure of marital quality.

In a review of marital quality research in the 1970's, Spanier and Lewis (1980) point out that most marriage research has focused on the individual as the unit of analysis. They note indications that researchers are interested in developing methodologies for examining the couple as the unit of analysis. The past shortcoming of only assessing wives' evaluations of their marriages has been remedied (studies have increasingly included husbands in their samples). However, researchers continue to struggle with how to measure marital interaction and process, as opposed to the more common emphasis on measuring individual satisfaction and attitudes.

Psychological Aspects of Women's Adjustment to Pregnancy and Childbirth

Psychoanalytic View

The psychological complexity of the experience of pregnancy, childbirth, and motherhood was first recognized by psychoanalytic theorists. These theorists focused on the intrapsychic aspects of pregnancy and childbirth, and noted the potential for psychological distress as well as fulfillment from the experience (Benedek, 1970; Bibring, 1959; Deutsch, 1945). Helene Deutsch, in The Psychology of Women (1945) proposed a major theory of "motherliness" which emphasized both the significance and potentially problematic aspects of the development of the mothering role. Deutsch viewed pregnancy and mothering as the natural fulfillment of women's wishes, and as necessary for healthy female ego development.

Further contributing to the understanding of pregnancy from a

psychoanalytic viewpoint, Bibring (1959) described pregnancy as one of several psychobiological crises experienced by women. In her view, the psychological crises of puberty, pregnancy, and menopause revive conflicts from earlier developmental periods. Bibring suggested that mastery of the psychobiological crisis of pregnancy leads to further maturation. However, she viewed pregnancy and birth as major psychological tasks with enormous potential for psychological distress and disorder for the woman herself and for the mother-child relationship. According to Bibring, a woman's major task at delivery is to separate herself emotionally and physically from her child and begin to love the child as a person separate from herself. Deutsch (1945) describes the conflict inherent in this task of separation during the postpartum period as follows: "...two tendencies are present in the mother--one progressive, aiming at helping her ego to regain its rights, the other regressive, aiming at reunion with the child and the preservation of the psychic umbilical cord...." (pp. 267-268).

Benedek (1970) used psychoanalytic case material to describe the psychological problems which may interfere with a healthy adjustment to pregnancy and childbirth. She emphasized the role the husband must play to support his wife, such as providing reassurance and reducing her anxiety so she can effectively negotiate pregnancy, birth, and mothering tasks. Psychoanalytic theorists and clinicians have also addressed the phenomena of postpartum psychosis. As noted by Breen (1975), psychodynamic explanations of postpartum emotional illnesses tend to focus on either the intrapersonal problems or interpersonal conflicts evidenced in postpartum emotional illness.

Current Research

Current literature indicates that maternal psychological adjustment significantly affects the mother's health as well as that of her infant (Erickson, 1976; Grimm and Venet, 1966; Grossman, Eichler, and Winickoff, 1980; Offerman-Zuckerberg, 1980; Shea and Tronick, 1982). Since the 1960's, research has focused on the role of specific psychological variables (e.g., anxiety, life stress, social support) in adaptation to pregnancy and obstetrical outcome (e.g., development of toxemia, prematurity, course of labor, delivery complications) (Gorsuch and Key, 1974; Grimm and Venet, 1966; McDonald, 1968). Many studies have documented a relationship between emotional and physical symptomatology (e.g., nausea, dizziness, fatigue) during pregnancy (Erickson, 1967; Grossman et al., 1980; reviewed by McDonald, 1968).[3] In general, the obstetrical outcome studies indicate some psychosomatic influence on pregnancy and labor. Anxiety is the psychological variable most consistently found to predict physiological, obstetrical problems; however, it has not been determined whether anxiety causes the physical problems, vice versa, or whether a third factor (e.g., a medical condition) is responsible for the anxiety and physiological symptoms.

Findings about the role of psychological variables in pregnancy complications have been contradictory. Norbeck and Tilden (1983) suggest this results from methodological inconsistencies and confounds. They examined the effects of life stress, social support, and emotional disequilibrium (as measured by a composite score of anxiety, depression, and self-esteem) on three types of pregnancy complications

(gestation complications; labor, delivery, and postpartum complications; infant-condition complications). In contrast to findings of previous studies, emotional disequilibrium was significantly related only to infant-condition complications.

Anxiety has been found to play a significant role in pregnancy and childbirth. While studies have documented psychophysiological symptoms associated with anxiety during pregnancy, less conclusive evidence exists regarding patterns of anxiety for pregnant women (Grossman et al., 1980). It has been suggested that anxiety may serve an adaptive function during pregnancy. That is, it may be that anxiety is necessary to resolve pregnancy-related issues, and that reduced anxiety may reflect denial of pregnancy and related issues (see Grossman et al., 1980). As reported in Grossman et al. (1980), Uddenberg, Nilsson, and Almgren (1971) found that women who did not experience nausea (often assumed to be associated with anxiety) during pregnancy had more postpartum problems than women who had either severe or moderate nausea.

This view of anxiety as adaptive may also be understood in terms of Janis' (1958; 1969) work on the positive role of anticipatory fear in relation to surgical operations. Janis found that surgical patients who expressed moderate anticipatory fear were much less likely than those who were extremely anxious or extremely nonanxious to evidence any emotional disturbance following the operation. Other studies have found that expression of moderate anxiety during pregnancy results in more positive postpartum adjustment than does expression of extreme anxiety or complete optimism (Breen, 1975). The role of anxiety in

women's adaptation in the immediate postpartum period has not been as well examined.

Research on maternal adaptation has also examined major adaptation problems such as postpartum psychosis and severe postpartum depression (Rapoport, Rapoport, and Strelitz, 1977). The psychological aspects of the birth experience have been examined comprehensively in a few large, empirical studies focusing on "normal", nonpathological aspects of adaptation to pregnancy and motherhood (Grossman et al., 1980; Shereshefsky and Yarrow, 1973).

Shereshefsky and Yarrow (1973) collected data from 60 married, middle-class primiparas. Through the use of projective tests and clinical interviews administered both pre- and postnatally, they found positive correlations between several personality variables and the outcome measure, adaptation to pregnancy. High scores on ego strength, nurturance, and the ability to visualize oneself as a mother were most predictive of positive pregnancy adaptation. An inverse relationship was found between number of medical problems and the outcome variable. That is, the more medical symptoms a woman reported, the less likely she was to adapt well to the pregnancy.

The marital relationship was one of several variables examined by Shereshefsky and Yarrow (1973) as possible predictors of maternal adaptation. The husband's impact on maternal adaptation was assessed prenatally by rating his responsiveness to his wife and to the pregnancy; postnatally, the husband's responsiveness to his wife and infant were assessed. A marital adjustment rating was based on

clinician judgments of the couples' degree of affection, empathy, satisfying sexual adjustment, mutuality of goals, and flexibility in decision-making. While little relationship was found between husband's impact and pregnancy adaptation (prenatal), a strong correspondence was found between marital adaptation and maternal adaptation (in terms of the woman's accommodation to her infant and acceptance of her maternal role) postnatally. The investigators concluded, "In the postnatal period, the husband's impact was unequivocally related to maternal adaptation. The statistical relationships here confirm clinical observation on the vital role of the husband in the transition from a dyadic to a triadic family unit" (Shereshefsky and Yarrow, 1973, p. 64).

Grossman, Eichler, and Winickoff (1980) conducted a thorough, multi-dimensional, longitudinal study focusing on the experience of pregnancy and the first year postpartum. Employing a sample of 82 married couples (including first birth and experienced families), the researchers examined the relative contributions of psychological, physiological, sociocultural, and marital factors to the manner in which couples cope with pregnancy and early parenthood. This study is unique in the literature in its extensive use of reliable and valid measures, including semistructured interviews, projective tests, standardized tests, as well as global maternal (psychological) adaptation measures developed specifically for the study. In addition, Grossman et al. administered several measures repeatedly to mothers and fathers over an 18-month pre- and postnatal period, thereby obtaining data concerning changes in maternal adaptation over time.

Infant health status and temperament were also assessed.

Due to the numerous measures, data gathering points, and analyses presented by Grossman et al. (1980), only those findings most relevant to the present study will be discussed here. Among Grossman et al.'s many findings were the following: early in pregnancy, general psychological health appears to be the most important predictor of adaptation; of their four sets of predictor variables (psychological, physiological, sociocultural, and marital), the psychological and marital (i.e., marital satisfaction) dimensions are most predictive of adaptation in late pregnancy; pregnancy is a far greater crisis period for first-time mothers than experienced ones; maternal adaptation in the early postpartum period was most highly correlated with previously reported marital satisfaction and was also associated with a woman's more positive feelings toward maternity. High anxiety was the most influential predictor of difficulty in postpartum adjustment; life adaptation, anxiety, and depression levels throughout the pregnancy were also found to predict postpartum well-being.

Grossman et al. (1980) assessed marital adjustment utilizing the Locke-Wallace Marital Adjustment Test as well as several ratings designed specifically for their study. Based on interview material at eight months prenatally, marital adaptation was rated on the following subscales: sense of shared and enjoyed experience of pregnancy; sense of comfort versus unresolved struggle; sense of having been brought closer by the pregnancy. Couple preparedness for the delivery and arrival of the baby was also assessed during the interview. Women's marital satisfaction during the first trimester

was associated with her anxiety at eight months (prenatal). The investigators report that, treating the marital dimensions as outcome measures, few important correlations were found with other measures of women's psychological health earlier in the pregnancy.

The investigators report that not many factors from the first trimester or the eighth month of pregnancy predicted maternal adaptation one to two days following delivery. Two of the strongest predictors of women's adaptation to labor and delivery were their husbands' previous anxiety levels (during the first trimester) and women's and husbands' previously reported (during the first trimester) satisfaction with their marriages. In contrast to the findings at eight months, "at last one major variable from each of the four predictor dimensions related significantly to marital adjustment at two months postpartum... pregnancy related symptoms measured in the last trimester, adaptation to labor and delivery, and the two-months postpartum measure of the mother's emotional well-being, anxiety, and depression all were related significantly to her marital satisfaction" (p. 95).

Grossman et al. (1980) state that aspects of the marital dimension proved to be among the strongest predictors of women's psychological adaptation throughout the study; however, their reported statistically significant findings were mostly based on correlations between the global adjustment score from the Locke-Wallace scale and various maternal adaptation measures derived from raters' clinical judgments. Therefore, the study provides little information concerning the specific aspects of marital adjustment that predict maternal adaptation.

In addition, although the investigators used measures of depression, anxiety, marital satisfaction, and physical symptomatology at various assessment periods, this information was not obtained during the labor and delivery contact period. Therefore, while this study provides valuable information about associations between marital satisfaction and adaptation measures during pregnancy and two months postpartum, limited data are available regarding the relationship between marital factors and adaptation in the early postpartum period.

Recently, the Committee on Assessing Alternative Birth Settings (1982) compiled an extensive report outlining the types of research needed to evaluate childbirth settings. In making their recommendations, the committee reviewed the literature on childbirth and noted significant gaps in current research. Among the needs for future research cited, the committee highlighted the need to include the assessment of such psychological variables as anxiety, depression, expectations about motherhood, and the quality of the marital relationship. Furthermore, they recommended the use of standardized instruments to insure greater validity of findings. The present study incorporated the above recommendations.

Psychological Aspects of the Cesarean Birth Experience

One in six women in the United States now delivers by cesarean section (Affonso, 1981). This figure tripled in the decade between 1967 and 1977. Concomitant with the recent increase in the incidence of cesarean deliveries has been a growing controversy among lay and professional people about the emotional consequences of cesarean

childbirth on mothers, fathers, and infants (Cohen and Estner, 1983).

In 1980, the National Institute of Health Consensus Development Task Force on Cesarean Childbirth (U. S. Department of Health and Human Services, 1981) labeled the rising cesarean birthrate "a matter of concern" and highlighted the need for further research on cesarean delivery. The panel, comprised primarily of physicians, noted that "there is little research concerning the psychological impact on parents following a birth. Nevertheless, surgery is clearly an increased psychological and physical burden when compared with normal vaginal delivery" (p. 19).

The emotional aspects of cesarean delivery have been examined to some extent in the medical and psychological literatures. This preliminary descriptive work has been based primarily on semi-structured interview and anecdotal data from relatively small groups of women. More recently, better controlled empirical studies of larger samples have appeared in the literature (Bradley, Ross, and Warnyca, 1983; Cranley, Hedahl, and Pegg, 1983; Marut and Mercer, 1979; Mercer, Hackley, and Bostrom, 1983). More systematic data collection utilizing larger samples, and reliable, validated measures would greatly increase the predictive value of factors associated with positive versus negative adaptation to the cesarean childbirth experience.

Research consistently suggests that women having cesarean births may have negative perceptions of their labor and delivery experiences (including increased fear for self and baby's safety, and feelings of disappointment, anger, loss, and guilt) (Affonso, 1981; Affonso and

Stichler, 1978; Bradley, Ross, and Warnyca, 1983; Conklin, 1977; Fawcett, 1981; Lipson and Tilden, 1980; Marut, 1978). Negative perceptions and problems of adaptation to cesarean delivery are even more profound in situations of emergency (as opposed to planned) cesarean procedures (Fawcett, 1981; Cranley, Hedahl, and Pegg, 1983).

In their focus on women's negative reactions to cesarean deliveries, many of these studies tend to imply, but not empirically document, that women having cesareans experience greater disappointment and may have more problematic adjustment than women having vaginal deliveries. Relatively few studies have included a comparative sample of vaginally delivered women to suggest how the experiences and satisfaction level may differ for delivery via cesarean or vaginal modes (Marut and Mercer, 1979; Bradley, Ross, and Warnyca, 1983; Cranley, Hedahl, and Pegg, 1983; Mercer, Hackley, and Bostrom, 1983).

In general, the literature suggests that women having cesareans have more negative perceptions of and are less satisfied with the birth experience than those who deliver vaginally. However, based on a stepwise multiple regression analysis of factors influencing perception of the childbirth experience, it has been suggested that the woman's support system, early infant contact, and fewer medical complications are more important than the delivery mode in influencing women's perceptions of the birth experience (Mercer, Hackley, and Bostrom, 1983). Mercer et al. (1983) found that, although women who delivered by cesarean had more negative perceptions of their childbirth experiences than those who delivered vaginally, type of delivery accounted for only 1% of the variance in women's perceptions of the

birth experience. An additional 38% of the variance was accounted for by the variables of mate emotional support, early mother-infant interaction, total positive self-concept, fewer medical complications, and informative and instrumental support (61% of the variance was not accounted for). Their results highlighted the role of mate's emotional support in women's perception of the birth experience. Further research is needed to determine other variables that affect perceptions of the birth experience.

The literature on women's reactions to cesarean delivery and comparative studies of cesarean versus vaginal birth tend to focus more on women's perceptions and degree of satisfaction with the delivery mode and childbirth experience than on measures of psychological well-being (e.g., anxiety, depression, maternal self-esteem). One study (Bradley, Ross, and Warnyca, 1983) examined women's anxiety, depression, and attitudes to the baby at one month postpartum in primiparous women who delivered vaginally and those who had cesarean deliveries. Results indicated that, although women who had cesarean births were more dissatisfied with the method of delivery, there were no significant group differences in reported levels of anxiety, depressive affect, or attitudes to the baby. Mercer, Hackley, and Bostrom's (1983) results suggested that positive self-concept is predictive of positive perceptions of labor and delivery.

Most of the studies in the literature involve analysis of data collected in the immediate postpartum period. A few studies have involved data collection at later points (Bradley, Ross, and Warnyca, 1983; Lipson and Tilden, 1980; Mercer, Hackley, and Bostrom, 1983).

Lipson and Tilden (1980) conducted a descriptive study to explore psychological integration of the cesarean birth experience over time. Based on participant observation and interviews with women in cesarean support groups, the investigators outlined five phases of assimilation of the cesarean experience, each of which has unique psychological components. In the context of the present study, Lipson and Tilden's description of the initial postpartum days (Phase Two) is relevant. They suggest that in this phase, physical coping rather than psychological processes predominate. More longitudinal research on adjustment to cesarean delivery is needed to fully understand the feelings and psychological mechanisms operating at various points after delivery.

Factors differentiating more versus less positive perceptions of and adaptation to the cesarean birth experience have been explored. It has been suggested that the cesarean birth experience may be positively affected by: presence of the husband at the delivery (Affonso and Stichler, 1980; Cranley, Hedahl, and Pegg, 1983; Fawcett, 1981; Marut and Mercer, 1979; Marut, 1978); positive perceptions of support from and relationship with the husband (Affonso and Stichler, 1980; Lederman, Weingarten, and Lederman, 1981); positive interactions between mothers and doctors, nurses, and anesthesiologists during labor and delivery (Affonso and Stichler, 1980; Lipson and Tilden, 1980); prenatal education and preparation for a cesarean delivery (Fawcett, 1981; Hart, 1980); regional rather than general anaesthesia (Marut and Mercer, 1979; Cranley, Hedahl, and Pegg, 1983);[4] immediate contact with the infant following delivery (Hedahl, 1980; Marut and Mercer, 1979; Mercer, Hackley, and Bostrom, 1983); and

greater participation in decision making (Cranley, Hedahl, and Pegg, 1983). Few studies have systematically taken these factors into account in assessing group differences (i.e., cesarean versus vaginal delivery mode) on psychological variables.

As noted above, the husband's presence in the delivery room and the woman's experience of "support" from her husband are cited as important factors in maternal adaptation to cesarean delivery. However, the specific aspects of the marital relationship that influence maternal adaptation and that are affected by the stress of cesarean delivery have not been examined. In addition, comparative studies of childbirth via various delivery modes have not explored possible group differences in marital satisfaction. Anecdotal data suggests that some women feel that, in having a cesarean, they have disappointed their husbands, fear their husbands' reactions to their scars, and wonder if their marital relationships will be affected by the cesarean (Affonso and Stichler, 1980). However, women's perceptions of their husbands' reactions to the cesarean birth and the possible impact of these perceptions on maternal adjustment have not been systematically studied.

Research Questions

The present study was designed to investigate how childbirth delivery mode and marital factors are related to primiparous women's reactions and adjustment to childbirth in the immediate postpartum period. Utilizing quantitative measures in a systematically controlled design, the following questions were explored:

1) Is delivery mode associated with women's and their husbands' reactions to their childbirth experiences?

    a) Are there differences in husband and/or wife satisfaction with the childbirth experience for couples experiencing cesarean versus vaginal deliveries?

    b) Does delivery mode (cesarean versus vaginal) have an impact on maternal adjustment (as measured by depression, anxiety, and confidence in mothering)?

    c) Do couples in which the wives have cesarean versus vaginal deliveries differ on spouse-related measures (i.e., marital satisfaction, husband anxiety; spouse perceptions of the labor and delivery experience)?

2) How are spouse-related factors related to maternal adjustment (as measured by depression, anxiety, and confidence in mothering) in the immediate postpartum period (i.e., what aspects of the marital relationship are predictive of maternal adjustment)?

    a) Is marital adjustment associated with maternal adjustment?

    b) Is husband anxiety associated with maternal adjustment?

    c) Are self and spouse perceptions of the labor and delivery experience associated with maternal adjustment?

C H A P T E R I I

METHOD

Subjects

Respondents were 44 married couples recruited on the regular maternity ward of Wesson Women's Hospital at Baystate Medical Center in Springfield, Massachusetts. The setting is a large, urban medical center. The couples were studied 24 to 48 hours following the birth of their first child (all of the women were primiparous and at least 79.5% of the husbands had no previous children[5]). The couples had participated in prepared childbirth classes, expected to deliver vaginally, and had the husband present in the delivery room. The study involved two groups (each comprised of 22 couples) that differed on the basis of delivery mode:

(1) vaginal birth (tranquilizer/analgesic use, local anaesthesia, or no medications; excluding forceps deliveries, spinal or epidural anaesthesia);

(2) emergency cesarean birth (spinal or epidural anaesthesia; excluding general anaesthesia).

Deliveries on the regular maternity ward were followed, to locate women who met the criteria for inclusion in the vaginal or cesarean birth groups. Women who met the delivery mode specifications were contacted if they also met the following inclusion criteria: primiparous, 20 to 35 years old, married, English speaking, attendance at prepared childbirth classes, presence of maternal labor, husband present during delivery, five-minute infant Apgar above six, absence

of neonatal intensive care, absence of fetal distress in vaginal deliveries, absence of serious maternal complications other than cesarean delivery (e.g., toxemia), absence of tubal ligation following delivery. The inclusion criteria were chosen both to increase sample homogeneity and to avoid possible confounding from the emotional effects of various health complications and medical/surgical procedures other than cesarean delivery (e.g., tubal ligations; forceps deliveries).

The sample was restricted to couples who had attended prepared childbirth classes, as a means of controlling for expectations regarding the childbirth. It was assumed that couples attending prepared childbirth classes were anticipating active involvement of both spouses in the delivery of their infants, with minimal or no medical intervention. Furthermore, based on the curriculum of the prepared childbirth classes, it can be assumed that the respondents had received basic information about potential delivery complications and the procedures involved in emergency cesarean deliveries.

Due to limitations inherent in conducting field research in a medical setting, it was not possible to obtain a random sample. Every effort was made to systematically review patient records and recruit eligible patients to avoid sampling bias. During each hospital visit, all subjects meeting the inclusion criteria were contacted. This resulted in an initial sample of 58 couples, with proportionately more vaginal than cesarean deliveries. Subjects were subsequently chosen for inclusion in the two groups (cesarean and vaginal) by matching on the basis of delivery date (with a maximum of three weeks

difference in delivery date) to control for potential effects of time/season.

Instruments and Variables

Data were gathered through pencil and paper self-report questionnaire items and information documented in hospital medical records. Copies of the self-report assessment instruments are located in Appendices B and C. The medical information form is located in Appendix D.

Maternal Adjustment Outcome Measures

Maternal adjustment, the primary outcome measure, was assessed using three variables--depression, anxiety, and confidence in mothering:

(1) Depression. The Lubin Depression Adjective Checklist (DACL) Form B (Lubin, 1965) was used to measure depression. This is a 32-item instrument which measures non-clinical, "short duration depressive mood" (Lubin, 1981). Subjects are asked to circle the items that describe how they feel "now-today". The DACL has been used previously to study pregnant women (Blumberg, 1980; Lubin, Gardiner, and Roth, 1975; Norbeck and Tilden, 1983) and is particularly appropriate for this population since it excludes somatic indices of depression which may confound results for medical populations. Concurrent validity has been demonstrated with the Multiple Affect Adjective Checklist Depression Scale (Zuckerman and Lubin, 1965) (r = .87 for

females), the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, and Erbaugh, 1961) (r = .47), and several other measures of depression (see Lubin, 1981). Normative data for the DACL are available from the National Depression Survey (Levitt & Lubin, 1975).

(2) Anxiety. The Spielberger State-Trait Anxiety Index (STAI) was used to assess anxiety (Spielberger, Gorsuch, and Lushene, 1968). This is a 40-item self-report measure of state anxiety (20 items concerning how one feels "at this moment") and trait anxiety (20 items concerning how one feels "generally"). In this study, the 20-item state-anxiety measure was used; it was assumed that anxiety related to the event of childbirth (as experienced one to two days postpartum) would most accurately be reflected by a measure which focusses on one's feelings at the time of the event, allowing for anxiety as a transitory experience. Furthermore, previous research with the STAI has repeatedly demonstrated that the State Anxiety Scale is sensitive to environmental stress such as surgery, whereas trait anxiety scores do not seem to be influenced by the stress of surgery (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The STAI was designed to evaluate feelings of apprehension, tension, nervousness, and worry (Spielberger, et al., 1983). Concurrent validity has been established with several other widely used anxiety measures (Spielberger, et al., 1983). The STAI is used extensively

in research, including in several recent studies of emotional responses to childbirth. It was chosen for the current study in part to allow for comparison of the sample with others in the literature.

(3) Confidence in Mothering. Sixteen items from the Maternal Self-Report Inventory (Shea and Tronick, 1982) were selected as a subscale to measure maternal self-esteem. The Maternal Self-Report Inventory is a 150-item questionnaire designed to assess a mother's confidence in her mothering ability along the following dimensions of maternal self-esteem: maternal caretaking ability, acceptance of the baby, expected relationship with the baby, parental influences, and body image and health after delivery. The Maternal Self-Report Inventory was originally validated on a sample of 10 primiparous and multiparous women from the regular nursery at Baystate Medical Center (the same setting is used in the present study). In Shea and Tronick's (1982) study, type of delivery (cesarean versus vaginal) did not predict maternal self-esteem two to three days postpartum. Therefore, for the purposes of this study, maternal self-esteem was defined in a more limited fashion, to ascertain whether type of delivery is associated with a particular aspect of maternal self-esteem. The 16 items were chosen based on face validity, as relevant to women's current feelings of confidence regarding the ability to perform caretaking or "mothering" functions.

Subjects are asked to rate each item using a 5-point Likert scale. The scale has a theoretical range of 0 to 80, with higher scores indicating greater confidence in mothering.

Internal consistency was determined for the 16-item subscale with Cronbach's Coefficient Alpha (1951). The scale was administered to the initial sample of 58 subjects (including the 44 women in this study), rendering a reliability coefficient of .86.

Marital Adjustment

Marital adjustment was assessed using a self-report instrument (administered to both the husbands and wives). The Dyadic Adjustment Scale (DAS) (Spanier, 1976) was administered to obtain a global marital adjustment score, as well as subscale scores for the four dimensions tapped by the scale: dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression. The items included in each subscale are listed in Appendix F. The DAS is a 32-item measure which utilizes many items from and correlates highly (r = .86) with the widely-used Locke-Wallace Marital Adjustment Test (Locke and Wallace, 1959). The items "attempt to assess respondent's perception of the adjustment of the relationship as a functioning group" (Spanier, 1976, p. 22). The overall scale and the subscales have high internal consistency, as determined by Cronbach's Coefficient Alpha (Spanier, 1976). The scale has a theoretical range of 0 to 151, with higher scores indicating greater dyadic adjustment.

Childbirth Perceptions

The Childbirth Perceptions Questionnaire (CPQ) (Wife Form and Husband Form) was designed specifically for this study, to explore husband and wife perceptions of pregnancy, labor, and delivery. The CPQ addresses women's self-perceptions (Wife Form), women's perceptions of their husbands' attitudes (Wife Form), and their husbands' actual perceptions (Husband Form) regarding the childbirth experience and its impact on the marital relationship. Items were developed based on results of exploratory studies reported in the literature, and from pilot discussions with coordinators of cesarean support groups through the Pioneer Valley Childbirth Association. The questionnaire items focus primarily on the labor and delivery experience. The CPQ consists of three subscales corresponding to each of the following categories of perceptions:

(A) Woman's sexual attractiveness and physical appearance;

(B) Satisfaction with the woman's delivery mode (cesarean versus vaginal) and childbirth experience;

(C) Spouse support and the effects of the pregnancy and childbirth experience on the marital relationship.

In addition, several miscellaneous items were included that were hypothesized to be important aspects of couples' perceptions of their childbirth experiences (e.g., relationship with one's doctor; satisfaction with one's control over decisions made during delivery; husband's helpfulness during the childbirth).

The Wife Form of the CPQ is a 58-item questionnaire consisting of 29 items presented in two versions, corresponding to (1) the wife's

self-perceptions and (2) how the wife "thinks her husband feels" about each item. The Husband Form consists of a third version of the same 29 items, asking the husband how he feels. The specific items included in each subscale are listed in Appendix E. Respondents are instructed to rate each item on a 6-point Likert scale. They are asked to fill out the questionnaire based on their own perceptions, without conferring with their spouses. Higher scores indicate more reported negative perceptions. Information on theoretical scale ranges and mean scores for the current sample are presented in Appendix E.

The Husband and Wife Forms of the CPQ also include three open-ended questions inquiring about the satisfying and disappointing aspects of their childbirth experiences and about their feelings pertaining to the delivery mode experienced.

Internal consistency was determined for each variable on the three CPQ subscales using Cronbach's Coefficient Alpha (1951). Based on administration of the CPQ to the initial sample of 58 couples (including the 44 couples in this study), Cronbach's coefficient alphas were as follows[6]:

(A) Woman's Sexual Attractiveness and Physical Appearance

Wife Self-Perception (.58)

Wife Perception of Husband Attitude (.58)

Husband Perception (.67)

(B) Satisfaction with Delivery Mode and Childbirth Experience

Wife Self-Perception (.82)

Wife Perception of Husband Attitude (.78)

Husband Perception (.63)

(C) Spouse Support and Effects of Pregnancy and Childbirth Experience on the Marriage

Wife Self-Perception (.75)

Wife Perception of Husband Attitude (.69)

Husband Perception (.72)

Infant and Maternal Health and Life Stress Measures

The following measures were used pertaining to mother and infant health and the couples' recent life stress:

(1) Psychophysiological Symptoms. The Physical Symptoms Questionnaire was used to determine the kind and frequency of symptoms experienced by study participants. This is a slightly modified version of Erickson's (1967) scale, a 31-item list of symptoms often reported during pregnancy. The items listed are primarily physical symptomatology, but also include mood-related items (e.g., depression, nervousness, etc.) The questionnaire was modified for the present study to assess symptomatology both during the last month of pregnancy (retrospective report) and since delivery. In addition, Erickson included four categories referring to frequency of symptoms, whereas in this study, the category "rarely" was excluded. For purposes of clarity, item 20, "groin pain" was changed to "vaginal or abdominal pain".

(2) Labor and Delivery Information. Medical charts were reviewed for the following information regarding maternal

health: age; parity; type of delivery; labor medications; delivery medications/anaesthesia; labor complications; delivery complications; if cesarean delivery, reason for cesarean; hours of labor; absence of tubal ligation.

(3) Infant Apgar. The 5-minute infant Apgar (Apgar, 1966) was used to confirm that study participants had infants without serious neonatal complications. The Apgar is a routine assessment of the infant's health and neurological functioning conducted by physicians one- and five-minutes following birth. Infants are rated on a ten-point scale. For this study, only parents with infants having Apgar scores above six were studied.

(4) Infant Data. The following infant health information was recorded from medical records: infant Apgar; neonatal complications or need for neonatal intensive care; evidence of fetal distress. Mothers were asked to report the following infant data: sex of child; birth weight; breast- or bottle-feeding.

(5) Life Stress. The Holmes and Rahe Social Readjustment Rating Scale (1967) was used as a measure of recent life stress. This is a 43-item list of stressful life events. For the present study, the husbands were asked to indicate which of the events occurred for either himself or his wife in the past year. The Holmes and Rahe scoring method (which includes various weighting factors) was not used. Instead, the total number of events selected by each

subject was recorded and these data used for group comparisons. The Social Readjustment Rating Scale has recently been criticized by Lazarus (1977) on the grounds that an individual's perception of the meaning of an event is critical in assessing the degree of stress. However, for the purposes of this study, the number of recent stressful life events was considered to determine whether the two groups (cesarean and vaginal deliveries) represented similar populations.

Demographic Data

Finally, additional demographic data was obtained from medical records and an information sheet included in the wife's questionnaire packet. The wife packet also included a page thanking the respondents for their participation and asking if participants wanted to receive a summary of the study results. Respondents were also asked to indicate whether they were willing to be contacted in the future for a follow-up study.

Contents of Questionnaire Packets

In summary, the following questionnaires were included in the packet given to the wives: Demographic Information Page; Depression Adjective Checklist, Form B; State-Trait Anxiety Index (State-form); Subscale of the Maternal Self-Report Inventory; Dyadic Adjustment Scale; Childbirth Perceptions Questionnaire (Wife Form); Physical Symptoms Questionnaire; Follow-up Information Form. (The wife packet also included two questionnaires concerning fantasies during the child-

birth experience. These questionnaires were used by the co-investigator and are not discussed in this thesis.) The packet administered to the husbands included the following questionnaires: Social Readjustment Rating Scale; State-Trait Anxiety Index (State-form); Dyadic Adjustment Scale; Childbirth Perceptions Questionnaire (Husband Form). All the questionnaires included self-explanatory instructions.

Procedure

Preliminary Work

Permission to conduct the study was obtained from the University of Massachusetts Human Subjects Committee and from the Committee on Human Research at Baystate Medical Center. The Director of Behavioral Gynecology at Baystate Medical Center contacted obstetricians whose patients met the study inclusion criteria. The study was briefly explained and permission to contact their respective patients was requested. All the obstetricians contacted granted permission for their patients' participation, pending patient consent.

The investigators met with the nursing staff to familiarize themselves with hospital routines and medical charts, and to explain the project goals and procedures. The investigators emphasized their intention to remain as unobtrusive as possible to conform to hospital protocol. The investigators requested that nursing staff refrain from discussing the project with patients, so as to ensure consistent treatment of the respondents. Liaison work with the nursing staff was extremely important, since access to patients, medical records, and relevant hospital protocol information was contingent on a cooperative

relationship with the nursing staff.

Finally, the investigators were participant observers in a seven-week prepared childbirth course through the Parent Education Department at Wesson Women's Hospital, Baystate Medical Center. All the subjects in the study attended a similar course. This experience was particularly important for conducting psychological field research in a medical setting. That is, it familiarized the investigators with the patient population, the medical setting, routine medical decisions and procedures, and complications involved in vaginal and cesarean deliveries. The study sample was restricted to subjects who had attended the prepared childbirth classes.

Questionnaire Administration Procedures

Data was collected between January and June, 1984, by two female graduate student investigators and several extensively trained female undergraduate research assistants. The research assistants were carefully monitored to ensure consistency in subject selection and recruitment procedures, presentation of questionnaire packet instructions, responses to subjects' questions, and thorough documentation of medical chart information.

An investigator or research assistant reviewed medical and nursing records to determine which mothers met the study inclusion criteria. Potential study participants were then contacted in their hospital rooms. Respondents were in rooms with up to three other maternity patients. There was adequate privacy for discussing the project and responding to patient concerns. Women who had delivered vaginally were

contacted 24 to 48 hours postpartum. Women who had cesarean deliveries were contacted 48 hours after delivery, to allow for some recuperation from the stress of surgery. Women were only approached if they were alone or with their spouses. Women were not approached when sleeping, breastfeeding, or otherwise indicating a desire for privacy. The investigator or research assistant introduced herself as a member of a collaborative research team from the University of Massachusetts and Baystate Medical Center. She explained that the research concerned "The Transition to Parenthood" and involved each spouse independently filling out a series of questionnaires related to his/her thoughts and feelings about the childbirth experience. Respondents were told that the wife's packet required about 1 to 1½ hours to complete over the next 24 hours and that the husband's packet required about 15 to 20 minutes during visiting hours. Informed consent forms were given to those couples who agreed to participate (see Appendix A). The investigator then clarified that the woman was primiparous, that her husband was present during the delivery, and that the wife was fairly confident that her husband would also agree to participate (if the husband was not in the room at that time).

The investigator spent about 10 minutes establishing rapport with each mother, casually discussing her new infant, her length of labor, and general topics of interest to the mother. This stage of the procedure was considered very important toward encouraging the respondents to complete the entire packet and to answer the questionnaire items carefully and honestly. The investigator/research assistant then briefly described each questionnaire, reviewed the instructions,

and answered general questions about the research. Respondents were urged to complete their questionnaires without conferring with their spouses. They were also encouraged to respond to every questionnaire item. When possible, the investigators/research assistants arranged with the wife to return when her husband was visiting. The study was then briefly explained to the husband. Husbands were asked to complete their questionnaire packets while at the hospital, without conferring with their wives. In some cases, the husband's packet was left with the wife, if the investigator could not coordinate a time to meet with the husband.

Subjects were told that an investigator would return for the packets within 24 hours. They were also given the option of returning their packets to a drop-off box located prominently near the main nursing station. (This ensured a higher questionnaire return rate in the case of patients discharged prior to the invesigator's second visit. In addition, many of the husbands returned their packets to the drop-off box immediately after completing their questionnaires, thus reducing the likelihood that spouses conferred.)

The investigator/research assistant visited respondents routinely prior to completion of the packets, to see if they had any questions. When completed packets were collected, respondents were again asked if they had any questions. Overall, the respondents indicated that the task was straightforward, and many commented that they enjoyed filling out the questionnaires.

The investigator/research assistant then reviewed medical records and nursing notes (from pregnancy, labor, and delivery) and completed

the medical information form. The nursing staff was available for consultation to clarify medical record information.

Missing Data

The investigator/research assistant reviewed the questionnaires for missing data. Whenever possible, respondents who had left items unanswered were contacted in person on the maternity ward or by phone at home and asked to provide the missing information. Remaining missing values on the State-Trait Anxiety Inventory and the Dyadic Adjustment Scale were estimated based on the subject's mean scores on the questionnaires (for subjects with a maximum of two missing values per questionnaire). Respondents who left blanks on specific items of the Physical Symptoms Questionnaire were assumed to have not experienced those particular symptoms. Remaining missing information on the other questionnaires was coded as such, and excluded from analyses.

CHAPTER III

RESULTS

Description of Respondents

The 44 couples were selected based on the inclusion criteria described previously. Preliminary analyses utilizing chi-square and *t*-tests were conducted to determine whether the two delivery mode groups (vaginal versus emergency cesarean) differed on demographic variables. There were no significant differences between the groups on: age; race; education (proportion of high school graduates, and years of education since high school); number of previous marriages; employment (proportion of employed wives, of employed husbands, and of wives intending to return to work following the childbirth); income level; length of labor; use of analgesics during labor; infant apgar; infant gender; infant birthweight; infant feeding mode (breast versus bottle); number of stressful life events during the past year.

Demographic Data

The women in the study ranged in age from 20 to 34 years ($\bar{X}$ = 26.2; *SD* = 3.4). The men ranged in age from 20 to 37 years ($\bar{X}$ = 28.5; *SD* = 4.6). The couples had been married from 5 months to 11.7 years ($\bar{X}$ = 3.7 years; *SD* = 2.7). For those about whom data are available, among the women, 97.6% had not been married previously (no data for 3 women), and among the men, 85.0% had not been married previously (no data for 4 men). The couples reported relatively few stressful events during the past year ($\bar{X}$ = 9.4; *SD* = 3.6; range = 3 to 19).

The sample was predominantly middle class. All the respondent husbands were employed, and 81.8% of the wives were employed. (An additional 2.3% of the women were students.) Sixty-three percent of the women reported plans to return to work (at some point) following the childbirth (data not available for 1 respondent). Of the 43 couples who reported their annual family income, 4.7% earned less than $10,000, 16.3% earned $10,000 to $20,000, 39.5% earned $20,000 to $30,000, and 39.5% earned above $30,000. Of the 37 couples who provided ethnicity information, 35 couples were Caucasian, one couple was Black, and one couple was interracial (Black and Caucasian). All of the women had graduated from high school and had a mean of 2.6 years of education since high school[7] (range = 0 to 6 years; SD = 1.9). Among the men, one had not graduated from high school,[8] and the mean number of years of education since high school was 2.6 (range = 0 to 9 years; SD = 2.5).[9] This sampling bias regarding income, education, and ethnicity is likely due in part to the exclusion of non-English speaking couples from the study. In addition, the inclusion criteria requiring attendance at prepared childbirth classes likely biases the sample towards middle class, Caucasian parents (see Nelson, 1982).

Labor and Delivery Information

All the women experienced labor ($\bar{X}$ = 12.4; SD = 5.6; range = 4.5 to 24.0 hours). Twenty-seven percent of the women having vaginal deliveries used analgesics or tranquilizers during labor. Thirty-six percent of the women having cesareans used analgesics or tranquilizers during labor. Among the vaginal deliveries, 82% of the women used

local anaesthesia during delivery, and the remaining 18% used no anaesthesia. Ninety-one percent of the women in the emergency cesarean birth group used spinal anaesthesia, and 9% used epidural anaesthesia during delivery. Based on medical record information, 82% of the cesareans were performed due to dystocia (often referred to as cephalopelvic disproportion, or failure to progress), 14% were performed due to fetal distress, and 4% due to breech position. General descriptions of these diagnostic categories (derived from the National Institute of Health Consensus Development Task Force on Cesarean Childbirth) are provided in Appendix G.

Description of Infants

Following delivery, the infants were all sent to the regular nursery. All respondent mothers had the choice of infant "rooming in" during the maternal waking hours (except for minor restrictions during some visiting hours). The infants had a mean five-minute Apgar score of 8.9 (SD = .26), and ranged in birthweight from 5.9 to 10.56 pounds ($\bar{X}$ = 7.7, SD = 0.9). The infants were equally distributed by gender, and 81.8% were breast feeding.

Group Comparisons

On the basis of finding no significant group differences on demographic variables, the groups were considered comparable for further analyses.[10]

Group Differences on Major Variables

Possible group differences on the three major adjustment variables (wife's depression; anxiety; and confidence in mothering), on psychophysiological symptomatology, and on the marital and childbirth satisfaction measures (dyadic adjustment; spouse perceptions of the pregnancy, labor and delivery; husband anxiety) were examined. There were no significant differences between women who had emergency cesareans and those who had vaginal deliveries on the major outcome measures of anxiety, depression, or confidence in mothering. Similarly, there were no group differences on overall dyadic adjustment, husband anxiety, or number of psychophysiological symptoms.

The only significant differences on the major variables between the emergency cesarean and vaginal groups were on (1) the wives' and husbands' satisfaction with their delivery mode/childbirth experience (Childbirth Perception Questionnaire subscales); and (2) the husbands' report of dyadic cohesion (DAS subscale). The wives in the emergency cesarean group reported less satisfaction with their delivery mode/childbirth experience than did wives in the vaginal group ($t(40) = 2.40$, $p < .025$). Similarly, the husbands in the cesarean group reported less satisfaction with their delivery mode/childbirth experience ($t(42) = 2.24$, $p < .05$). The husbands in the emergency cesarean group also reported less dyadic cohesion than did husbands in the vaginal group ($t(42) = -2.36$, $p < .025$). Chi-square analyses were performed to assess possible group differences in the nature of psychophysiological symptoms experienced. The symptom of "vaginal or abdominal pain" was the only symptom on which there were significant

group differences ($\chi^2_1 = 3.82$, $p < .05$).

Procedures Followed to Determine if the Groups Represent a Single Population

As noted above, there were no significant group differences on any of the demographic variables or on the outcome and most other dependent measures. It appears that the groups differed on satisfaction with their childbirth experience, but represented a single population in terms of measures of psychological adjustment to the childbirth experience. It was hypothesized that, while there were no group differences in psychological adjustment (i.e., the three major outcome variables), it could be that positive adjustment is differentially associated with various other factors (e.g., marital adjustment, spouse perceptions of labor and delivery, husband anxiety, physical symptoms) for women having cesarean versus vaginal births. Pearson correlation coefficients among the outcome measures, marital measures (including dyadic adjustment scores, spouse perception subscale scores, husband anxiety), and the physical symptoms measure were computed for each group. In several cases, the correlation coefficients were significant for one group, but not for the other.

Fisher's r to Z transformation was used to determine whether the two values were estimates of the same population. Fisher's test was calculated for 21 different correlations which were significant for only one of the two groups. Only two of these were significantly different, as determined by Fisher's test (a significant difference in the correlations was found in the relationships between confidence in mothering and wife's perception of how the pregnancy/childbirth experi-

ence will affect her marriage, $\underline{z}$ = 2.918; and between confidence in mothering and the wife's perception of how her husband thinks the pregnancy/childbirth experience will affect the marriage, $\underline{z}$ = -2.28). Given that only two of the differential associations among the variables for the two groups were significant (and even these two showed no consistency across outcome variables), and given that relatively few group differences in scale means and variances were found, it was concluded that the two groups in this sample represented a single population. Much larger samples would be needed to further examine whether the outcome measures are correlated with different kinds of variables for each group. For example, the magnitude of difference needed to meet significance utilizing the Fisher calculation for the current sample size was so great as to render it extremely unlikely that significant differences would be found. However, based on the current sample data, analyses indicated that the groups should be combined and treated as a homogeneous sample for further analyses.

Normative Data

The means and standard deviations for the dependent measures (for the combined sample of cesarean and vaginal deliveries) are presented in Tables 1 and 2. In general, the respondents were relatively well-adjusted, as compared to published normative data on the anxiety, depression, and dyadic adjustment scales.

The women in this sample were relatively non-depressed, as compared to both a large national probability sample (Levitt and Lubin, 1975) and a group of normals rated at different levels of depression

TABLE 1

Means and Standard Deviations for Major Dependent Measures
($\underline{N}$ = 44)

	$\bar{X}$	S.D.
Outcome Measures (Women)		
Depression	5.41	3.43
Anxiety (State)	32.41	9.90
Confidence in Mothering	62.20	8.00
Husband Measure		
Anxiety (State)[a]	31.16	7.85

[a] $\underline{N}$ = 43

TABLE 2

Means and Standard Deviations for Dyadic Adjustment Scale and Subscales (N = 44)

	Wife		Husband	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Dyadic Adjustment (Overall)	103.45	10.70	102.89	9.71
Affectional Expression	8.32	1.49	8.32	1.34
Dyadic Cohesion	17.45	3.43	17.77	2.28
Dyadic Consensus	51.73	6.79	51.25	6.67
Dyadic Satisfaction	25.95	2.03	25.55	2.45

by psychiatrists (Christenfeld, Lubin, and Satin, 1978). The mean depression score for the women in this sample was within one standard deviation below the mean score for female adults in the National Depression Survey (Levitt and Lubin, 1975). (This mean score fell within the 50th percentile, based on statistics from the National Depression Survey.) The current sample mean and standard deviation for the Depression Adjective Checklist are equivalent to the statistics reported for the least depressed normals (66% of the normative sample) rated at four different levels of depression by psychiatrists (Christenfeld et al., 1978).

Both women and men in the current sample reported state-anxiety levels within the low-normal range, as compared to normative samples. The mean state-anxiety scores for the women and their husbands in this sample were slightly lower (within one standard deviation) than those reported for a normative sample (non-psychiatric population) of adults (separated by sex and age) (Spielberger, 1983). The adult normative sample consisted of employees of the Federal Aviation Administration, and were heterogeneous with regard to education, age, and job position. The women's state-anxiety scores in the current sample fell within the 44th percentile ranking for normal adult females (ages 19 to 39), and the husbands' state-anxiety scores fell within the 36th percentile ranking for normal adult males (ages 19 to 39).

As noted by Green (1982), the normative data on the STAI may be somewhat limited in this context, in that it is based on non-medical populations. However, recent investigations of pregnancy and child-birth experiences are providing a data base for anxiety level norms

for such populations. The anxiety scores for the women and men in this study were also somewhat below the mean anxiety scores obtained for couples (at eight months pregnant and two months postpartum) in Grossman, Eichler, and Winickoff's (1980) longitudinal study of pregnancy and childbirth.[11] Inter-study comparisons should be interpreted with caution, since the Grossman et al. sample consisted of both primiparous and multiparous women, predominantly having vaginal deliveries. In addition, since anxiety level was not assessed during their labor and delivery contact period, direct comparisons of scores are not possible.

The mean overall dyadic adjustment scores in the current sample for the wives ($\bar{X}$ = 103.45; SD = 10.7) and husbands ($\bar{X}$ = 102.89; SD = 9.7) indicate an average level of marital adjustment, as compared to other studies reporting DAS scores for married couples. The dyadic adjustment scores in the current sample are consistent with (slightly higher than) the scores reported for 70 primiparous and multiparous couples participating in a longitudinal study of the transition to parenthood (Belsky, Spanier, and Rovine, 1983).[12] It is interesting to note that the mean DAS scores reported for the current sample and the above cited parenthood sample were lower than (within one standard deviation) the mean scores reported for the original sample of married persons ($\bar{X}$ = 114.8; SD = 17.8) used to establish criterion-validity for the DAS (Spanier, 1976). The lower mean scores could be due to sampling differences (probability sampling techniques were not used in any of these studies). It is also possible that transition to parenthood populations report lower dyadic adjustment than do

heterogeneous populations of married couples. Such an interpretation would lend support to the frequently cited finding of decreased marital satisfaction following the birth of a child.

Population norms are not available for comparisons on the other dependent measures. The means for the subscales of the Childbirth Perceptions Questionnaire (see Table 3) indicate that, on the average, women had relatively positive self-perceptions and perceptions of husband attitudes on all three dimensions of the Childbirth Perceptions Questionnaire (sexual attractiveness and physical appearance; satisfaction with delivery mode/childbirth experience; spouse support and perceived effects of pregnancy/childbirth on their marriage). The means for the husband responses on the Childbirth Perceptions Questionnaire subscales indicate that, on the average, the men also had relatively positive perceptions on the three dimensions. The greatest range of scores on the CPQ subscales was for the dimension assessing women's satisfaction with delivery mode/childbirth experience. This greater variance is reflective of the earlier reported significant group difference on the delivery mode/childbirth experience satisfaction measure.

Associations Among Maternal Adjustment Measures and Other Measures

Maternal Adjustment

Pearson product-moment correlations computed for pairs of the three outcome measures (anxiety, depression, and confidence in mothering) showed that these three variables were intercorrelated

TABLE 3

Means and Standard Deviations for Childbirth Perceptions Subscales (N = 44)

	Wife's Self-Perception	Wife's Perception of Husband Attitude	Husband's Perception
Woman's Sexual Attractiveness and Physical Appearance	11.16[a] (SD = 4.66)	9.52 (SD = 4.35)	7.45 (SD = 3.04)
Satisfaction with Delivery Mode/Childbirth Experience	29.21[b] (SD = 10.71)	20.12[a] (SD = 7.53)	16.50 (SD = 4.65)
Effects of Pregnancy/Childbirth on Marriage	12.84 (SD = 4.84)	13.14[a] (SD = 3.90)	12.68 (SD = 3.37)

[a] N = 43

[b] N = 42

Note: Higher score indicates more negative perceptions.

(see Table 4). Pearson product-moment correlations were computed to determine associations among the major study variables and maternal adjustment measures (depression, anxiety, and confidence in mothering). These data are presented in Table 5. As shown in Table 5, similar patterns of associations were found between each of the three maternal adjustment measures and husband anxiety and dyadic adjustment (wife and husband). However, somewhat different patterns emerged in the relationships between the Childbirth Perceptions Questionnaire subscales and each of the maternal adjustment measures.

Husband anxiety. Husband anxiety was significantly positively correlated with wife anxiety ($r(42) = .33$, $p < .05$) and depression ($r(42) = .32$, $p < .05$) and negatively related to women's degree of confidence in mothering ($r(42) = -.28$, $p < .05$). Husband anxiety was associated only with the wife's measure of dyadic consensus on the Dyadic Adjustment Scale ($r(42) = -.37$, $p < .01$). It was not correlated with husband dyadic adjustment scores (overall or subscales) or any of the husband or wife childbirth perceptions.

Dyadic adjustment. Women's overall dyadic adjustment was negatively correlated with their anxiety ($r(43) = -.32$, $p < .05$) and depression ($r(43) = -.46$, $p < .001$), and positively correlated with confidence in mothering ($r(43) = .30$, $p < .05$) (see Table 5). As shown in Table 6, the factors of dyadic consensus and cohesion are the relevant dimensions in the significant relationships between women's dyadic adjustment and the maternal adjustment measures. Women's depression and anxiety were negatively significantly related to their perceptions of dyadic cohesion (depression: $r(43) = -.34$, $p < .01$; anxiety:

TABLE 4

Intercorrelations Among Maternal Adjustment Measures
(N = 44)

	Depression	Anxiety	Confidence in Mothering
Depression	---		
Anxiety (State)	.60***	---	
Confidence in Mothering	-.20(*)	-.34**	---

(*) p < .09
*p < .05
**p < .01
***p < .001

TABLE 5

Associations Between Maternal Adjustment and Childbirth Perceptions and Marital Factors (Pearson Product-Moment Correlations, N = 44)

	Maternal Adjustment Measures		
	Depression	Anxiety	Confidence in Mothering
Husband Anxiety[a]	.32*	.33*	-.28*
Husband Dyadic Adjustment (Overall)	.00	-.09	.07
Wife Dyadic Adjustment (Overall)	-.46***	-.32*	.30*
Childbirth Perceptions			
Physical Appearance and Sexuality			
Wife Perception[a]	-.17	-.25	.32*
Wife Perception of Husband	-.14	-.29*	.35**
Husband Perception	-.02	-.09	.18
Satisfaction (Labor and Delivery)			
Wife Perception[b]	-.25	-.19	.04
Wife Perception of Husband[a]	-.43**	-.30*	.13
Husband Perception	-.43**	-.30*	-.07
Effect of Childbirth on Marriage			
Wife Perception	-.27*	-.24	.40**
Wife Perception of Husband[a]	-.23	-.27*	.39**
Husband Perception	-.02	-.23	.13

Note: Reported correlation coefficients for the CPQ are based on subscale recoding such that higher scores indicate more positive perceptions.

[a] $N = 43$; [b] $N = 42$

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

TABLE 6

Associations Between Maternal Adjustment Measures and Subscales of the Dyadic Adjustment Scale (Pearson Product-Moment Correlations, N = 44)

	Maternal Adjustment Measures		
	Depression	Anxiety	Confidence in Mothering
Wife Dyadic Adjustment (Overall)	-.46***	-.32*	.30*
Affectional Expression	-.08	-.07	.16
Dyadic Cohesion	-.34**	-.31*	.20
Dyadic Consensus	-.50***	-.34*	.34*
Dyadic Satisfaction	-.10	.05	-.02
Husband Dyadic Adjustment (Overall)	.00	-.09	.07
Affectional Expression	-.14	-.14	.07
Dyadic Cohesion	-.07	-.16	.22
Dyadic Consensus	.00	-.11	.01
Dyadic Satisfaction	.16	.15	.00

*p < .05
**p < .01
***p < .001

$r(43) = -.31$, $p < .05$) and dyadic consensus (depression: $r(43) = -.50$, $p < .001$; anxiety: $r(43) = -.34$, $p < .05$). There was a significant positive correlation between women's confidence in mothering and their perceptions of dyadic consensus ($r(43) = .34$, $p < .05$). Husband dyadic adjustment (overall and subscales) was not correlated with any of the maternal adjustment measures.

Childbirth perceptions (pregnancy, labor, and delivery). Correlation coefficients were computed to explore associations between the maternal adjustment measures and childbirth perceptions, particularly, of the women's physical appearance/sexuality, satisfaction with the labor and delivery experience, and the effect of the pregnancy/childbirth experience on their marriage (see Table 5). For purposes of clarity and interpretation of the results, reported correlation coefficients on the CPQ are based on recoding of the subscales such that higher scores indicate more positive perceptions.

Maternal depression was significantly negatively correlated with women's perceptions about the effect of the pregnancy and childbirth on their marriage ($r(42) = -.27$, $p < .05$). Depression was also significantly negatively correlated with women's perceptions of their husbands' satisfaction with the labor and delivery experience ($r(42) = -.43$, $p < .01$) and with husband's reported feelings about the labor and delivery experience ($r(43) = -43$, $p < .01$). That is, depression was greater in wives who perceived their husbands as less satisfied with the labor and delivery experience and wives whose husbands were less satisfied with the experience.

Wife anxiety was negatively correlated with their perceptions of

husbands' attitudes on: physical appearance/sexuality ($r(43) = -.29$, $p < .05$), satisfaction with the labor and delivery experience ($r(42) = -.30$, $p < .05$), and effect of the pregnancy/childbirth experience on the marriage ($r(42) = -.27$, $p < .05$). That is, the more positive the wife's perception of her husband's attitude on these factors, the less anxiety she reported. In addition, women's anxiety was negatively associated with husbands' reported satisfaction with the labor and delivery experience ($r(43) = -.30$, $p < .05$).

Confidence in mothering was positively related to women's physical appearance/sexuality perceptions ($r(42) = .32$, $p < .05$), and their perceptions of the effect of the pregnancy/childbirth experience on the marriage ($r(43) = .40$, $p < .01$). Confidence in mothering was also positively associated with women's perceptions of their husbands' attitudes on these same dimensions ($r(43) = .35$, $p < .01$; $r(42) = .39$, $p < .01$). Of the three maternal adjustment measures, confidence in mothering was the only measure not related to women's perception of husbands' satisfaction and husbands' reported satisfaction with the labor and delivery experience.

Physiological symptoms. A positive correlation was found between the number of reported psychophysiological symptoms since delivery and women's anxiety ($r(43) = .44$, $p < .001$) and depression ($r(43) = .26$, $p < .05$). Women's confidence in mothering was negatively related to the reported number of psychophysiological symptoms since delivery ($r(43) = -.29$, $p < .05$). Women's satisfaction with the childbirth experience was not significantly related to number of symptoms.

Dyadic Adjustment and Childbirth Perceptions

Correlations were computed between the Dyadic Adjustment Scale scores (overall and subscales for husbands and wives) and the Childbirth Perceptions Questionnaire subscales (for husbands and wives). As stated earlier, CPQ subscale scores were recoded for the correlation analyses, such that higher scores indicate more positive perceptions. These data are presented in Tables 7 and 8.

As shown in Table 7, for wives, perception of their physical appearance/sexuality and the effect of the childbirth on their marriage were significantly correlated with their overall dyadic adjustment ($r(42) = .45$, $p < .001$; $r(43) = .48$, $p < .001$). While the women's satisfaction with the labor and delivery was not correlated with overall wife dyadic adjustment ($r(41) = .22$, n.s.), it was significantly correlated with the dyadic adjustment cohesion subscale ($r(41) = .30$, $p < .05$). Interestingly, for wives, the Childbirth Perceptions Questionnaire subscales were correlated most strongly with the consensus and cohesion subscales of the Dyadic Adjustment Scale. Husband satisfaction with the labor and delivery was significantly related to women's overall dyadic adjustment ($r(43) = .32$, $p < .05$), primarily due to dyadic consensus ($r(43) = .31$, $p < .05$) and cohesion ($r(43) = .31$, $p < .05$). In addition, husband perception of the wife's physical appearance/sexuality and of the effect of childbirth on the marriage were significantly associated with the wife's sense of affectional expression in the marriage ($r(43) = .37$, $p < .01$; $r(43) = .27$, $p < .05$). These results are consistent with the previously noted finding that, for women, cohesion and consensus

TABLE 7

Associations Between CPQ Subscale Scores and Wife DAS Scores
(Pearson Product-Moment Correlations, N = 44)

	Wife Overall DAS	Wife Dyadic Cohesion	Wife Dyadic Consensus	Wife Affectional Expression	Wife Dyadic Satisfaction
CPQ					
Physical Appearance and Sexuality					
Wife perception[a]	.45***	.40**	.48***	.00	.06
Wife perception of husband	.29*	.21	.36**	.03	.01
Husband perception	.18	.00	.22	.37**	.05
Satisfaction (Labor and Delivery)					
Wife perception[b]	.22	.30*	.16	.04	.13
Wife perception of husband[a]	.44**	.43**	.41**	.02	.19
Husband perception	.32*	.31*	.31*	.00	.14
Effect of Childbirth on Marriage					
Wife perception	.48***	.36**	.46***	.25*	.22
Wife perception of husband[a]	.39**	.26*	.38**	.22	.17
Husband perception	.20	.13	.22	.27*	.10

[a] $N = 43$; [b] $N = 42$

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

TABLE 8

Associations Between CPQ Subscale Scores and Husband DAS Scores
(Pearson Product-Moment Correlations, N = 44)

	Husband Overall DAS	Husband Dyadic Cohesion	Husband Dyadic Consensus	Husband Affectional Expression	Husband Dyadic Satisfaction
CPQ					
Body Image and Sexuality					
Wife perception[a]	.18	.36**	.20	.22	-.27*
Wife perception of husband	.13	.28*	.16	.07	.23
Husband perception	.26*	.24	.10	.13	.20
Satisfaction (Labor and Delivery)					
Wife perception[b]	.10	.36*	.06	.20	.18
Wife perception of husband[a]	.15	.30*	.13	.32*	.22
Husband perception	.37**	.40**	.35**	.41**	.11
Effect of Childbirth on Marriage					
Wife perception	.21	.13	.26*	.33*	.17
Wife perception of husband[a]	.21	.10	.28*	.25	.15
Husband perception	.44***	.37**	.38**	.43**	.12

[a] N = 43; [b] N = 42

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

seem to be the marital dimensions most relevant to the birth experience.

As shown in Table 8, for husbands, overall dyadic adjustment was significantly related to their perceptions of the wives' physical appearance/sexuality ($r(43) = .26$, $p < .05$) as well as their perceptions of satisfaction ($r(43) = .37$, $p < .01$) and the effect of the childbirth on the marriage ($r(43) = .44$, $p < .001$). Dyadic cohesion, consensus, and affectional expression were the dimensions of husband dyadic adjustment most related to their childbirth perceptions.

Correlations between wife and husband perceptions. Wife and husband dyadic adjustment were significantly correlated ($r(43) = .25$, $p < .05$). Again, as can be seen in Table 9, dyadic cohesion and consensus were the dimensions accounting for the associations between spouse scores (cohesion: $r(43) = .51$, $p < .001$; consensus: $r(43) = .20$, $p < .09$). While the husband and wife dyads perceived the adjustment of their marriages similarly, wife perceptions of their husbands' attitudes on the Childbirth Perceptions Questionnaire were not correlated with the husband's actual perceptions on two of the three dimensions (see Table 10). That is, women were more or less "accurate" in their perceptions of husbands' satisfaction with the labor and delivery experience ($r(42) = .57$, $p < .001$) but "inaccurate" in their perceptions of husband attitudes regarding the womens' physical appearance/sexuality ($r(43) = .13$, n.s.) and effect of the pregnancy/childbirth on their marriage ($r(42) = .13$, n.s.). In addition, wife and husband responses were significantly correlated regarding satisfaction with the labor and delivery experience ($r(41) = .58$, $p < .001$),

TABLE 9

Associations Between Wife and Husband
Dyadic Adjustment Scores
(Pearson Product-Moment Correlations, N = 44)

	r
Dyadic Adjustment (Overall)	.25*
Affectional Expression	.05
Dyadic Cohesion	.51***
Dyadic Consensus	.20(*)
Dyadic Satisfaction	.05

(*) $p < .09$
*$p < .05$
**$p < .01$
***$p < .001$

TABLE 10

Associations Between Wife Perception of Husband Attitude and Husband Reported Attitude on Childbirth Perceptions Questionnaire (Pearson Product-Moment Correlations)

	r	df
Physical Appearance/Sexuality	.13	43
Satisfaction (Labor and Delivery)	.57***	42
Effect of Pregnancy/Childbirth on Marriage	.13	42

***$p < .001$

but not significantly correlated on perception of physical appearance and sexuality issues ($r(42) = -.03$, n.s.) or the effect of the pregnancy/childbirth on the marriage ($r(43) = .13$, n.s.) (see Table 11).

Satisfaction/Disappointment with Childbirth Experience and Delivery Mode

As discussed previously, the cesarean and vaginal groups differed on reported satisfaction with the delivery mode (CPQ subscales, for wives and husbands). Responses to the three open-ended questions on the Childbirth Perceptions Questionnaire (husband and wife forms) provide further descriptive information on the nature of wife and husband satisfaction/disappointment regarding their childbirth experiences and delivery mode. The responses to each question were content analyzed by the investigator, based on face validity. The response content categories (with specific examples) and frequency data are presented in Tables 12 to 17 (see Appendix H). The frequency data are presented for the two delivery mode groups separately as well as combined. While combining groups was indicated for previously discussed analyses, given the group difference on the satisfaction measure, it is interesting to examine the open-ended responses separately by group to account for that difference. Furthermore, the information discussed in this section is based on qualitative, descriptive analysis, and should be viewed as strictly exploratory.

TABLE 11

Associations Between Wife and Husband Perceptions on the Childbirth Perceptions Questionnaire (Pearson Product-Moment Correlations)

	r	df
Physical Appearance/sexuality	-.03	42
Satisfaction (Labor and Delivery)	.58***	41
Effect of Pregnancy/Childbirth on Marriage	.13	43

***$p < .001$

Satisfaction With Labor and Delivery Experience

Wife responses. As shown in Table 12, positive spouse interactions (support, closeness, sharing the experience) was the predominant factor cited by women in accounting for their satisfaction with the labor and delivery experience (reported by 63.2% of cesareans and 59.1% of vaginals). The other factors contributing to satisfaction most frequently cited by women in the vaginal delivery mode group were: "natural" childbirth; experience was easier than anticipated; endured/controlled pain. The other factors most frequently cited by women in the cesarean group were: view of birth as spectacular, regardless of delivery mode; endured/controlled pain; maintained control (made it through).

Husband responses. For husbands in both delivery groups, the most frequently cited factors accounting for their satisfaction were their presence at the delivery, and satisfaction regarding provision of support, the shared experience, or teamwork with their wives. Other factors cited included: respect for wife; the miracle of birth; positive aspects of cesarean (cesarean group only); having a healthy baby (see Table 13, Appendix H).

Disappointment With Labor and Delivery Experience

Wife responses. Women who had cesareans reported disappointments in four basic categories: disappointment about fact of having a cesarean; disappointment with self; dissatisfaction with hospital/medical procedures; and having a long/hard labor. Disappointments cited most frequently by women who had vaginal deliveries were:

long, hard labor; disappointment with self; and dissatisfaction with hospital/medical procedures. Fifty percent of the women who had vaginal births and 15.8% who had cesareans reported that their labor and delivery experiences were not in any way disappointing (see Table 14, Appendix H for complete listing and description of response categories).

Husband responses. Husbands of women who had cesareans most frequently reported disappointment in the following areas: disappointment about having a cesarean, and frustration about the long labor. Husbands of women who had vaginal deliveries most frequently cited disappointment with hospital procedures (e.g., unable to use birthing room) and feelings of inadequacy regarding helpfulness. Sixty percent of the husbands in the vaginal group and 17.6% of the husbands in the cesarean group reported that the labor and delivery experiences were not disappointing (see Table 15, Appendix H for complete listing and descriptions of response categories).

Feelings About Delivery Mode Experienced (Cesarean Versus Vaginal)

Wife responses. All of the women who experienced vaginal deliveries responded to this question with positive feelings about having a vaginal or "natural" childbirth. The responses of women in the cesarean group were related to three general categories: positive aspects of cesarean (47.4%); cesarean viewed as disappointment (36.8%); cesarean viewed as necessary (63.2%) (see Table 16, Appendix H for complete listing and descriptions of response categories).

Husband responses. Ninety-five percent of the husbands in the

vaginal group reported positive feelings about their wives' delivery mode (e.g., pleased about having a vaginal/"natural" delivery; pleased about avoiding cesarean delivery; general excitement about the birth experience). Husbands in the cesarean group most frequently reported feelings about the cesarean having been necessary, although they (or their wives) had hoped for a vaginal delivery (40%) (see Table 17, Appendix H for complete listing and description of response categories).

C H A P T E R I V

DISCUSSION

Psychological Impact of Cesarean versus Vaginal Childbirth

The results of this study provide evidence that primiparous women having emergency cesarean deliveries are less satisfied with their childbirth experiences than women who deliver vaginally. While numerous previous investigations have reported dissatisfaction on the part of women experiencing cesarean deliveries, only a few other studies have empirically documented differences in satisfaction due to delivery mode (Bradley, Ross, Warnyca, 1983; Cranley, Hedahl, and Pegg, 1983; Marut and Mercer, 1979; Mercer, Hackley, and Bostrom, 1983).

Although level of satisfaction differed for women who had cesareans and those who had vaginal births, psychological adjustment, as measured by depression, anxiety, and confidence in mothering was unrelated to delivery mode for the women in this study. These results corroborate Bradley, Ross, and Warnyca's (1983) findings.

The lack of group differences in psychological adjustment, for this sample, immediately following cesarean or vaginal delivery is particularly important for several reasons. First, public concern and outcry about possible negative effects of cesarean birth has risen greatly in recent years. However, relatively little research with adequate controls is available to assess the legitimacy of various claims. Second, much of the existing research suggests the possibility of psychological distress due to cesarean childbirth, but has not

systematically assessed psychological adjustment in women having cesarean as compared with those having vaginal deliveries.

Having a cesarean (as opposed to vaginal) delivery may result in less satisfying birth experiences and unique difficulties for these women. While women having cesareans were generally less satisfied, preliminary exploration suggests that positive spouse interactions are of paramount importance in mitigating women's disappointment with their birth experiences. It is extremely important to note that having a cesarean is not predictive of postpartum psychological distress such as depression, anxiety, or low maternal confidence. Similarly, women's satisfaction with their childbirth experience is not associated with their level of depression, anxiety, or confidence in mothering. Furthermore, delivery mode is not related to one's general psychological health following childbirth.

Caution is indicated in the interpretation of the current findings. The particular nature of the study sample may account for the lack of group differences on measures of psychological distress. That is, the sample selection criteria and the maternity patient policies at Baystate Medical Center resulted in the cesarean group being characterized by many of the factors cited by previous researchers as predictive of more positive cesarean birth experiences. For example, husbands were present during the deliveries, the prenatal childbirth preparation classes included sessions on cesarean delivery, most mothers had immediate contact with their infants, and all respondents in the cesarean group had regional anaesthesia. In addition, the study included only relatively healthy mothers and infants, and

therefore did not account for the psychological impact of cesarean births which involve more serious medical complications.

The current evidence suggesting that cesarean and vaginal deliveries do not differentially predict psychological adjustment must be interpreted in the context of the assessment period. The results represent respondents' self-report in the early postpartum period. It is possible that psychological distress due to delivery mode might not be evident so early after the birth. It may be that, as a woman integrates her feelings about the birth experience over time, different emotional responses emerge. In addition, it is possible that following the combined stress from childbirth and major surgery, women adaptively deny emotional difficulties. Furthermore, this study did not assess anticipatory fear prior to the cesarean surgery. Based on Janis' (1969) work, it could be hypothesized that the women had been appropriately anxious prior to the surgery, and therefore reduced the likelihood of emotional disturbance after the cesarean procedure. The descriptive data suggest that what is foremost on women's minds at this point is relief over having healthy babies and an understanding of the cesarean in terms of medical necessity. Longitudinal studies, including pre-delivery assessment, are needed to examine group differences in adjustment over time. The inclusion of interviews as well as questionnaire components in future studies may result in increased self-disclosure about problematic reactions to the childbirth experience.

Maternal Adjustment

Although delivery mode was not associated with maternal adjustment in this sample, several other factors were predictive of women's anxiety, depression, and confidence in mothering in the early postpartum period. Global marital factors as well as husband anxiety and various perceptions of the childbirth experience were related to women's psychological adjustment.

Husband Anxiety

Husband anxiety during the early postpartum period was found to be an important predictor of maternal adjustment. This finding, together with Grossman et al.'s (1980) related findings about the role of husband anxiety prior to labor and delivery and women's psychological health at two months postpartum, suggests that husband anxiety is a particularly important factor in maternal adjustment throughout the transition to parenthood. In the current study, higher husband anxiety was associated with women's reporting more anxiety, more depression, and lower confidence in mothering. Due to the nature of correlational analyses, it cannot be determined from this study whether the husband's anxiety influences maternal adjustment, whether the woman's more troubled emotional state triggers spouse anxiety, or whether a third factor accounts for both spouses' emotional states.

Nevertheless, regardless of the direction of causality, the greater husband anxiety evidenced in couples with wives reporting more psychological distress following childbirth has important ramifications. As noted previously, husbands play a critical role during

childbirth. Their task, in part, is to assist the wife in coping with the birth experience, and to reduce her anxiety so she can effectively manage during childbirth and subsequent mothering duties. If the husband himself is anxious, it is unlikely that he will be able to successfully fulfill this role. The wife, in turn, may be less able to cope comfortably during the birth and early postpartum period.

The association between husband anxiety and maternal adjustment has at least two implications for hospital procedure. First, it is generally accepted that husband presence in the delivery room is beneficial to women's experience of and coping with labor and delivery. The current results suggest this may not be true in those cases where the husband himself is highly anxious. At the very least, his anxiety may restrict him from offering his wife needed support. Moreover, when a woman perceives her husband's anxiety, her own anxiety level (which may be already elevated) may increase. Second, childbirth preparation classes and nursing staff tend to focus more on women's needs following childbirth. However, childbirth is stressful for husbands as well as wives. The early postpartum period may be particularly difficult for husbands, who usually spend much of this period alone while their wives remain in the hospital. The importance of husband anxiety in maternal adjustment highlights the need to attend to the husband's experiences during childbirth. Interventions should be aimed both at addressing husband's fears, and enabling him to cope with his anxiety and thereby more effectively support his wife.

Further research is needed to determine the nature of husbands' anxiety around the childbirth experience. In this study, husband

anxiety was not found to be related to his perceptions about the pregnancy, labor and delivery experience or about his marital relationship. While women's anxiety was associated with their feelings about the childbirth experience and their perceived marital adjustment, the results indicate that husband anxiety may be related to factors not assessed in this study. It would be interesting to explore whether husband anxiety is related to wife's mood, or to concerns regarding his role as father and family provider.

Marital Adjustment

All three measures of maternal adjustment were associated with women's perceptions of the adjustment of their marital relationships. Following childbirth, women who perceived their marriages more positively were less anxious and depressed and more confident about their maternal caretaking abilities. In contrast, maternal adjustment was unrelated to the husbands' perceptions of their marital adjustment. The results suggest that cohesion and consensus are among the marital factors which are particularly relevant to childbirth.

The relationship between women's dyadic adjustment and maternal adjustment was due primarily to the women's sense of marital consensus and cohesion. This may be understood in the context of hypotheses regarding the kinds of marital interactions which successfully accomplished childbirth requires. In the context of the current sample, prepared chidbirth and cooperative functioning during labor and delivery necessitates qualities associated with dyadic consensus and cohesion, such as feelings of partnership, being supportive, communi-

cation, and making joint decisions. In addition, the respondents' reports of joy about closeness and sharing the experience with their spouses is related to dyadic cohesion. Furthermore, shared role preparations for parenthood require both consensus and cohesion to discuss and reach decisions about childrearing and other issues pertaining to parenthood. Therefore, it would be expected that women who experience more cohesion and consensus with their husbands during the childbirth experience would be less anxious, less depressed, and more confident in mothering.

The study findings raise questions as to whether perceptions of cohesion in the early postpartum period reflect the recent spouse feelings about the childbirth event, or represent a more on-going, global aspect of the marital relationship. The significant difference in dyadic cohesion for husbands of women having cesareans as compared with those who had vaginal deliveries provides possible support for the former possibility. That is, it may be that the lower dyadic cohesion scores for husbands of women having cesareans reflected feelings of being less united with their wives during labor and delivery than was the case for husbands who had the opportunity to participate more actively in vaginal deliveries. A more complete understanding of how marital consensus and cohesion relate to early postpartum maternal adjustment would require exploration of whether dyadic cohesion and consensus prior to the labor and delivery experience is similarly associated with postpartum maternal adjustment.

Childbirth Perceptions

The results suggest that women's anxiety and depression following childbirth are related more to their perceptions of their husbands' attitudes regarding various aspects of the childbirth experience than to their own perceptions of these issues. For example, women who reported more positive perceptions of husband attitudes regarding the woman's physical appearance/sexuality, satisfaction with the labor and delivery experience, and the effect of the childbirth on the marriage were less anxious. In contrast, wife anxiety was not associated with her perceptions on these factors.

Similarly, women's depression was related to their perception of husband satisfaction regarding the childbirth, but unrelated to their own sense of satisfaction. The only childbirth-related variable on which the woman's own perception predicted her depression was her perceived spouse support and the effect of the childbirth on the marriage. It is interesting to note that this childbirth perception variable encompasses spouse-related issues moreso than the other two childbirth perception factors.

Based on these findings and the association between husband anxiety and both wife anxiety and depression, it appears that women's anxiety and depression in the early postpartum period is particularly interpersonal and spouse-related. Especially striking in this regard is the finding that women's anxiety and depression is associated with their perceptions of husband satisfaction and husbands' actual satisfaction with the birth experience, and not related to their own satisfaction level. Even more puzzling is the finding that, although women

were generally inaccurate in their perceptions of husband attitudes regarding the woman's physical appearance/sexuality and effect of the childbirth on the marriage, their anxiety levels were nevertheless associated with these erroneous perceptions. These results lend further support to the critical roles of marital factors and women's perceptions of their husbands in their adjustment following childbirth.

While women's childbirth-related self-perceptions were generally not related to their anxiety or depression, their confidence in mothering was associated with self-perceptions. Women who felt more positively about their physical appearance/sexuality and about spouse support and the effect of the childbirth on their marriage were more confident about their caretaking abilities. Confidence in mothering was the only maternal adjustment measure that was not associated with the women's perception of husband satisfaction and with the husband's actual satisfaction with the childbirth experience.

This finding suggests that while one's mood state (e.g., anxiety or depression) may be related to perceived husband disappointment in the childbirth experience, confidence in mothering is independent of feelings specific to satisfaction with the birth experience. Based on this finding and comparison of intercorrelations between anxiety, depression, and confidence in mothering, it appears that confidence in mothering may represent a different construct than does anxiety and depression in primiparous women following delivery.

Psychophysiological Symptoms

The study findings of associations between number of psychophys-

iological symptoms since delivery and women's anxiety, depression, and confidence in mothering are consistent with findings previously reported in the literature. The measure of physical distress utilized in the study was of limited utility in that it did not assess severity of symptomatology. The lack of differences in amount of symptomatology found between women having cesareans and those having vaginal deliveries is likely due to this shortcoming. The only physical symptom which distinguished women having cesareans and those having vaginal deliveries was the frequency of reported vaginal or abdominal pain. Women who had cesareans more frequently reported vaginal or abdominal pain. This is to be expected, given their experience of major abdominal surgery. In future research, frequency of vaginal or of abdominal pain should be independently assessed to determine more specifically the nature of the obtained group difference. Possible associations between women's satisfaction with the childbirth and their experience of pain should be further explored. In these studies, the severity (frequency, duration, and intensity) of symptomatology should be examined.

Childbirth Perceptions and Marital Adjustment

The results suggest that women's childbirth perceptions of physical appearance/sexuality and the effect of the pregnancy/childbirth on their marriage are not associated with maternal depression or anxiety, but are related to women's dyadic adjustment. These findings indicate that marital adjustment is a critical predictive factor in women's perceptions of their childbirth experiences.

As discussed previously, women's perceptions of husband childbirth attitudes are generally more predictive of maternal depression and anxiety than are women's self-perceptions. In the case of anxiety, where women's perceptions of husband attitudes were in part inaccurate, it is important to examine possible factors that may account for women's erroneous beliefs. First, social desirability factors may have influenced responding. One might also speculate that the discrepancy between women's perceptions of husband attitudes and husbands' reported attitudes could be due to projection on the part of women, or denial on the part of their husbands. These possibilities might best be explored through intensive interviews in which more self-disclosure could be encouraged.

One alternative explanation is indicated by the associations found between women's childbirth perceptions and their marital adjustment scores. More positive overall dyadic adjustment in women was associated with more positive perceptions about their husbands' attitudes on all of the childbirth-related subscales. This suggests that a woman's belief in what her husband feels about the childbirth experience may be related to her general perception of their marital relationship.

That is, a woman's overall dyadic satisfaction may serve as a guiding context from which she assesses or interprets her husband's behavior in specific situations (e.g., the labor and delivery). From this perspective, women having more positive perceptions of their marital adjustment tend to perceive their husbands' childbirth-related perceptions as more positive, and exhibit less anxiety and depression

and more confidence in mothering. It appears possible that dyadic adjustment may mediate women's psychological adjustment to childbirth via its effect on her perceptions of her husband's attitudes.

However, there is a second alternative interpretation of the relationship between dyadic adjustment and women's perceptions of the husbands' reactions to childbirth. The women's perception of husband satisfaction with labor and delivery is more or less accurate. It is possible that women recognize their husbands' dissatisfaction and that this negatively colors wife perceptions of husband attitudes regarding physical appearance/sexuality, satisfaction with the childbirth, and the effect of the pregnancy and childbirth on the marriage. Further, her recognition of this dissatisfaction may lead her to be more negative on her assessment of their overall marital adjustment.

The limitations of the current correlational data preclude conclusive verification of these alternatives. Dyadic adjustment may mediate childbirth perceptions, or alternatively, childbirth perceptions may influence perceptions of the marital relationship. It may be worth noting that husband's actual perceptions of the woman's physical appearance/attractiveness, as well as his satisfaction with the childbirth experience and perceptions regarding the effect of the pregnancy and childbirth on the marriage are related to his overall dyadic adjustment. Once again, questions about the direction of the relationship must be raised.

Summary and Conclusions

The major contribution of this research is the empirical documentation that, while primiparous women who have cesareans may be less satisfied with their childbirth experiences than women having vaginal deliveries, delivery mode is not related to psychological adjustment such as anxiety, depression, and confidence in mothering in the early postpartum period. The marital relationship is a significant aspect of women's adjustment to childbirth. In general, women's perceptions of their husbands' childbirth-related attitudes are seemingly more important than women's own perceptions of the childbirth. In addition, women's dyadic adjustment is highly related to their own perceptions and husband perceptions of the childbirth experience. Furthermore, women's adjustment is associated with their husbands' anxiety.

Further research, including assessment of maternal and marital adjustment prior to labor and delivery, as well as long-term follow-up to note changes in these factors over time will hopefully contribute to a better understanding of the precise role of marital factors in primiparas' adjustment to childbirth. Research utilizing larger samples is necessary to enable exploration of factors which may significantly discriminate correlative relationships between maternal adjustment and various marital factors in women experiencing cesarean as compared to vaginal deliveries.

A final word of caution regarding interpretation of reported results is merited. The findings reported herein must be interpreted in the context of the current sample characteristics and are limited

to women's experiences during the early postpartum period. Conclusive evidence and generalizations about the psychological impact of cesarean and vaginal childbirth must await future investigations which provide corroborative evidence and, by incorporating the suggestions mentioned above, extend the current findings.

F O O T N O T E S

[1]It should be recognized that the majority of births in the United States today are not to traditional married couples (Keniston and Carnegie Council on Children, 1977) and that this study examines only those parents adhering to the cultural ideal of the intact, nuclear family.

[2]Prepared childbirth is considered a less restrictive and therefore preferable concept to the common term "natural childbirth", in that it encompasses a broader view of active, coached labor and delivery. In contrast to the implication of "natural childbirth" as medication- and intervention-free, prepared childbirth may involve minimal medication or medical intervention.

[3]It is interesting to note Margaret Mead's (1950) research suggesting that symptomatology present during pregnancy is in part culturally determined.

[4]This finding was not supported in Mercer, Hackley, and Bostrom's (1983) study.

[5]Nine percent of the husbands had other children, and data was not available for 11.4%.

[6]Subscale items were chosen on an a priori basis. Cronbach's coefficient alpha reliabilities were then computed. Items which reduced subscale reliability were deleted.

[7]Data based on $\underline{N} = 43$.

[8]Data based on $\underline{N} = 43$.

[9]Data based on $\underline{N} = 39$.

[10]Unless otherwise noted, all results reported are based on the entire sample of 44 couples.

[11]In the Grossman et al. study, women's mean state-anxiety scores on the STAI were 34 (eighth month of pregnancy) and 34.34 (two-months postpartum). The husbands' mean state-anxiety scores were 33.68 (eighth-month contract) and 34.68 (two-months postpartum).

[12]Belsky, Spanier, and Rovine (1983) reported overall dyadic adjustment scores during the last trimester of pregnancy ($\bar{X} = 101.4$) and three months postpartum ($\bar{X} = 99.6$).

REFERENCES

Affonso, D. D., & Stichler, J. F. (1980). Cesarean birth: Women's reactions. American Journal of Nursing, 80, 468-470.

Affonso, D. D. (1981). Impact of cesarean childbirth. Philadelphia: F. A. Davis Company.

Apgar, V. A. (1966). The newborn (Apgar) scoring system. Pediatric Clinics of North America, 13, 645-650.

Averill, J. R. (1973). Personal control over aversive stimuli and its relationship to stress. Psychological Bulletin, 80 (4), 286-303.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). Inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Belsky, J., Spanier, G. B., & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. Journal of Marriage and the Family, 45 (3), 567-577.

Benedek, T. (1970). The psychobiology of pregnancy. In E. J. Anthony & T. Benedek (Eds.), Parenthood: Its psychology and psychopathology. Boston: Little, Brown.

Bibring, G. L. (1959). Some considerations of the psychological processes in pregnancy. Psychoanalytic Study of the Child, 14, 113-121.

Blum, L. (Ed.). (1980). Psychological aspects of pregnancy, birthing, and bonding (Vol. IV). New York: Human Sciences Press.

Blumberg, N. L. (1980). Effects of neonatal risk, maternal attitude, and cognitive style in early postpartum adjustment. Journal of Abnormal Psychology, 89, 139-150.

Bradley, C. F., Ross, S. E., & Warnyca, J. (1983). A prospective study of mothers' attitudes and feelings following cesarean and vaginal births. Birth, 10 (2), 79-83.

Breen, D. (1975). The birth of a first child. London: Tavistock.

Burr, W. R. (1973). Theory construction and the sociology of the family. New York: John Wiley and Sons.

Christenfeld, R., Lubin, B., & Satin, M. (1978). Concurrent validity of the Depression Adjective Check List. American Journal of Psychiatry, 135, 582.

Cohen, W., & Estner, L. J. (1983). The silent knife: Cesarean prevention and vaginal birth after cesarean. South Hadley, MA: J. F. Bergin.

Committee on Assessing Alternative Birth Settings. (1982). Research issues in the assessment of birth settings. Washington, DC: National Academy Press.

Conklin, M. M. (1977). Discussion groups as preparation for cesarean section. Journal of Gynecological Nursing, 6, 52-54.

Coyne, J. C., & Holroyd, K. (1982). Stress, coping, and illness. In T. Millon, C. Green, & R. Meagher (Eds.), Handbook of clinical health psychology (pp. 103-127). New York: Plenum Press.

Cranley, M. C., Hedahl, K. J., & Pegg, S. H. (1983). Women's perceptions of vaginal and cesarean deliveries. Nursing Research, 32 (1), 10-15.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Deutsch, H. (1945). The psychology of women: A psychoanalytic interpretation, Volume II: Motherhood. New York: Grune and Stratton, Inc.

Dohrenwend, B. S., & Dohrenwend, B. P. (1982). Some issues in research on stressful life events. In T. Millon, C. Green, & R. Meagher (Eds.), Handbook of clinical health psychology (pp. 91-102). New York: Plenum Press.

Erickson, M. T. (1967). Method of frequent assessment of symptomology during pregnancy. Psychological Reports, 20, 447-450.

Erickson, M. T. (1976). The relationship between psychological variables and specific complications of pregnancy, labor, and delivery. Journal of Psychosomatic Research, 20, 207-210.

Fawcett, J. (1981). Needs of cesarean birth parents. Journal of Gynecological Nursing, 10, 372-376.

Gorsuch, R., & Key, M. (1974). Abnormalities of pregnancy as a function of anxiety and life stress. Psychosomatic Medicine, 36, 352-362.

Green, C. J. (1982). Psychological assessment in medical settings. In T. Millon, C. Green, & R. Meagher (Eds.), Handbook of clinical health psychology (pp. 339-376). New York: Plenum Press.

Grimm, E., & Venet, W. (1966). The relationship of emotional adjustment and attitudes to course and outcome of pregnancy. Psychosomatic Medicine, 28, 34-49.

Grossman, F. K., Eichler, L. S., & Winickoff, S. A. (1980). Pregnancy, birth and parenthood. San Francisco: Jossey-Bass Publishers.

Hanson, D. A., & Johnson, V. A. (1979). Rethinking family stress theory: Definitional aspects. In W. R. Burr, R. Hill, F. I. Nye, & I. L. Reiss (Eds.), Contemporary theories about the family. New York: Free Press.

Hart, G. (1980). Maternal attitudes in prepared and unprepared cesarean deliveries. Journal of Gynecological Nursing, 3, 243-245.

Hedahl, K. J. (1980). Working with families experiencing a cesarean birth. Pediatric Nursing, 5, 21-25.

Hill, R. (1949). Families under stress. New York: Harper & Row.

Hobbs, D. F., Jr. (1965). Parenthood as crisis: A third study. Journal of Marriage and the Family, 27, 367-372.

Hobbs, D. F., Jr., & Cole, S. P. (1976). Transition to parenthood: A decade replication. Journal of Marriage and the Family, 38, 723-731.

Holmes, T. H., & Rahe, R. (1967). The social readjustment rating scale. Journal of Psychosomatic Research, 11, 213-218.

Janis, I. L. (Ed.). (1958). Psychological stress. New York: John Wiley & Sons.

Janis, I. L. (1969). Personality: Dynamics, development and assessment. New York: Harcourt Brace.

Keniston, K., & Carnegie Council on Children. (1977). All our children: The American family under pressure. New York: Harcourt, Brace, Jovanovich.

Kimmel, D., & Van Der Veen, F. (1974). Factors of marital adjustment in Locke's marital adjustment test. Journal of Marriage and the Family, 36, 57-63.

Lazarus, R. (1977). Cognitive and coping processes in emotion. In A. Monar & R. Lazarus (Eds.), Stress and coping. New York: Columbia University Press.

Lederman, R., Weingarten, C., & Lederman, E. (1981). The postpartum self-evaluation questionnaire: Measurement of maternal post-partum adaptation. Unpublished manuscript, University of Michigan, Ann Arbor.

Lefcourt, H. M. (1973). The function of the illusions of control and freedom. American Psychologist, 28, 417-425.

LeMasters, E. E. (1957). Parenthood as crisis. Marriage and Family Living, 19, 352-355.

Levitt, E. E., & Lubin, B. (1975). Depression: Concepts, controversies and some new facts. New York: Springer.

Lipson, J. G., & Tilden, P. (1980). Psychological integration of the cesarean birth experience. American Journal of Orthopsychiatry, 50 (4), 598-609.

Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. Marriage and Family Living, 21, 251-255.

Lubin, B. (1965). Adjective check lists for the measurement of depression. Archives of General Psychology, 12, 57-62.

Lubin, B. (1981). Depression Adjective Check Lists: Manual. San Diego: Educational and Industrial Testing Service.

Lubin, B., Gardiner, S. H., & Roth, A. (1975). Mood and somatic symptoms during pregnancy. Psychosomatic Medicine, 37, 136-146.

Luckey, E. B., & Bain, J. K. (1970). Children: A factor in marital satisfaction. Journal of Marriage and the Family, 32, 43-44.

Marut, J. S. (1978). The special needs of the cesarean mother. The American Journal of Maternal Child Nursing, 3 (4), 202-206.

Marut, J. S., & Mercer, R. T. (1979). Comparison of primiparas' perceptions of vaginal and cesarean births. Nursing Research, 28 (5), 260-266.

McCubbin, H. I., Joy, C. B., Cauble, A. E., Comeau, J. K., Patterson, J. M., & Needle, R. H. (1980). Family stress and coping: A decade review. Journal of Marriage and the Family, 42, 855-871.

McDonald, R. L. (1968). The role of emotional factors in obstetric complications: A review. Psychosomatic Medicine, 30, 222-237.

Mead, M. (1950). Male and female. London: Victor Gollancz.

Mercer, R. T., Hackley, K. C., & Bostrom, A. G. (1983). Relationship of psychosocial and perinatal variables to perception of childbirth. Nursing Research, 32 (4), 202-207.

Millon, T., Green, C., & Meagher, R. (Eds.). (1982). Handbook of clinical health psychology. New York: Plenum Press.

Nelson, M. K. (1982). The effect of childbirth preparation on women of different social classes. Journal of Health and Social Behavior, 23, 339-352.

Norbeck, J. S., & Tilden, V. P. (1983). Life stress, social support, and emotional disequilibrium in complications of pregnancy: A prospective, multivariate study. Journal of Health and Social Behavior, 24 (3), 30-46.

Notman, M. T., & Nadelson, C. C. (Eds.). (1978). The woman patient: Medical and psychological interfaces (Vol. 1). New York: Plenum Press.

Oakley, A. (1983). Social consequences of obstetric technology: The importance of measuring "soft" outcomes. Birth, 10 (2), summer, 99-108.

Offerman-Zuckerberg, J. (1980). Psychological and physical warning signals regarding pregnancy. In B. L. Blum (Ed.), Psychological aspects of pregnancy, birthing, and bonding (Vol. IV). New York: Human Sciences Press.

Rapoport, R., Rapoport, R. N., & Strelitz, Z. (1977). Fathers, mothers and society. New York: Basic Books.

Roach, A. J., Frazier, L. P., & Bowden, S. R. (1981). The marital satisfaction scale: Development of a measure for intervention research. Journal of Marriage and the Family, 43, 537-546.

Russell, R. G. (1974). Transition to parenthood: Problems and gratifications. Journal of Marriage and the Family, 36, 294-302.

Ryder, R. G. (1973). Longitudinal data relating marriage satisfaction and having a child. Journal of Marriage and the Family, 35, 604-606.

Shea, E. M., & Tronick, E. Z. (1982, April). Maternal self-esteem as affected by infant health and family support. Paper presented at the meeting of the Society for Pediatric Research, Washington, DC.

Shereshefsky, P. M., & Yarrow, L. J. (Eds.). (1973). Psychological aspects of a first pregnancy and early postnatal adaptation. New York: Raven Press.

Spanier, G. B. (1972). Further evidence on methodological weakness in the Locke-Wallace marital adjustment scale and other measures of adjustment. Journal of Marriage and the Family, 34, 403-404.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. Journal of Marriage and the Family, 38, 15-28.

Spanier, G. B., & Lewis, R. A. (1978). Marital quality: A review of the seventies. Journal of Marriage and the Family, 42, 825-839.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. (1968). The state-trait anxiety inventory. Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). State-Trait Anxiety Inventory: Manual. Palo Alto, CA: Consulting Psychologists Press.

Stone, G. C., Cohen, F., & Adler, N., & Associates. (1980). Health psychology. San Francisco: Jossey-Bass.

Uddenberg, N., Nilsson, A., & Almgren, P. E. (1971). Nausea in pregnancy. Journal of Psychosomatic Research, 15, 269.

U. S. Department of Health and Human Services. (1981, October). Cesarean childbirth. Report of a Consensus Development Conference. Public Health Service, National Institute of Health, Bethesda, MD.

Zuckerman, M., & Lubin, B. (1965). Multiple Affect Adjective Check List: Manual. San Diego: Educational and Industrial Testing Service.

APPENDICES

APPENDIX A

Consent Form

Consent Form

The purpose of this research project is to better understand the childbirth experience and the transition to parenthood. Approximately 90 couples will be studied.

Participation in the study is entirely voluntary. If you agree to participate, you will be asked to fill out a questionnaire packet given to you by doctoral students in clinical psychology. The cooperation of your spouse will also be requested. No risks or problems are anticipated in conducting this research. However, we recognize that childbirth and the transition to parenthood represent very emotional experiences. If you agree to participate, you should feel free to terminate your participation at any time, for any reason. The refusal to participate of either the mother or father will not in any way affect the medical care the new mother or infant receives.

Permission is also requested to view the mother/infant hospital record. All information obtained in this study will remain completely confidential; your responses and your medical information will not be available to any individual involved in your care, although we suggest that you mention your participation to your obstetrician. In addition, your responses will <u>not</u> be shared with your spouse, or with anyone other than the project researchers. No name or other identifying information will be used in presenting or discussing the data at any time.

The principal investigators (see below) can be contacted to provide answers to any questions you may have about the research, or to provide referrals should you wish to further discuss any issues concerning your experience.

Participant Statement

I have read the above statement. I consent to participate in the project and for mother/infant hospital records to be reviewed. I understand that participation in this study is voluntary and that I may withdraw from the study at any time.

_____ Date

_____ Participant Signature

Dr. Ronnie Janoff-Bulman Dr. Bonnie Strickland
Department of Psychology
University of Massachusetts
Amherst, MA 01003
545-0662

Or Contact

Max Chorowski, M.D.
Dept. of OB/GYN
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787-5595

APPENDIX B

Scales and Questionnaires
(Wife Packet)

CONGRATULATIONS ON YOUR NEW BABY!

We are interested in your experience as new parents. This packet contains questionnaires about your thoughts and feelings during pregnancy, labor (if you went through labor) and delivery, and after delivery. Please complete the questionnaire within the next 24 hours. A researcher will be by to pick up the completed packet and to see if you have any questions.

TODAY'S DATE _____
DELIVERY DATE _____

INFORMATION ABOUT YOU:
AGE ___
ETHNIC BACKGROUND _____
EMPLOYMENT _____
DO YOU PLAN TO RETURN TO WORK? ___ IF YES, WHEN? _____
HIGH SCHOOL GRADUATE? _____
YEARS OF EDUCATION SINCE HIGH SCHOOL ___

INFORMATION ABOUT YOUR HUSBAND:
AGE ___
ETHNIC BACKGROUND _____
EMPLOYMENT _____
HIGH SCHOOL GRADUATE? _____
YEARS OF EDUCATION SINCE HIGH SCHOOL ___

OTHER INFORMATION:
NUMBER OF YEARS MARRIED _____
ANNUAL FAMILY INCOME:
___ $0 - $10,000
___ $10,000 - $20,000
___ $20,000 - $30,000
___ above $30,000

NUMBER OF PREVIOUS MARRIAGES: WIFE ___ HUSBAND ___
NUMBER OF PREVIOUS CHILDREN: WIFE ___ HUSBAND ___

PREGNANCY & DELIVERY HISTORY:
NUMBER OF PREVIOUS PREGNANCIES: ___
DID YOU ATTEND PREPARED CHILDBIRTH CLASSES? YES ___
NO ___
IF YES, WHERE? _____
NAME OF OBSTETRICIAN _____
DID YOU EXPERIENCE LABOR? YES ___ NO ___
IF YES, FOR HOW LONG? _____
TYPE OF DELIVERY: VAGINAL ___ CESAREAN ___
WHO ATTENDED THE DELIVERY? _____
DID YOU PLAN TO USE THE BIRTHING ROOM? _____
IF YES, DID YOU USE IT? _____
DID YOU HAVE A: BOY ___ GIRL ___
HOW MUCH DID (S)HE WEIGH? _____
TYPE OF FEEDING: BREAST ___ BOTTLE ___
HOW CLOSE WAS YOUR DELIVERY TO YOUR DUE DATE? (Please indicate if the delivery was earlier, later, or right on the due date)

_____

PHYSICAL SYMPTOMS QUESTIONNAIRE

Please report how often you have had the following symptoms or feelings:
(A) In the Month Prior to Delivery and (B) Since Delivery.

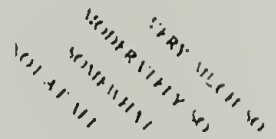
	(A) IN THE MONTH PRIOR TO DELIVERY			(B) SINCE DELIVERY		
	NEVER	SOMETIMES	OFTEN	NEVER	SOMETIMES	OFTEN
1. HEADACHE						
2. FATIGUE						
3. NAUSEA						
4. VOMITING						
5. DEPRESSION						
6. BACKACHE						
7. IRRITABILITY						
8. SPOTTING OR BLEEDING						
9. CONSTIPATION						
10. DIARRHEA						
11. ANXIETY						
12. LOSS OF SOCIAL INTEREST						
13. INCREASED APPETITE						
14. LOSS OF APPETITE						
15. DIZZY SPELLS						
16. NERVOUSNESS						
17. INSOMNIA						
18. SWOLLEN LIMBS						
19. SHORTNESS OF BREATH						
20. ABDOMINAL OR VAGINAL PAIN						
21. COLD HANDS OR FEET						
22. INCREASED SEXUAL DESIRE						
23. DECREASED SEXUAL DESIRE						
24. TENSION						
25. EUPHORIA						
26. FREQUENT URINATION						
27. CHILLS						
28. VAGINAL ITCHING OR IRRITATION						
29. HEARTBURN						
30. FLUSHED FEELING						
31. HEARTPOUNDING						

SELF-EVALUATION QUESTIONNAIRE

Developed by Charles D. Spielberger
in collaboration with
R. L. Gorsuch, R. Lushene, P. R. Vagg, and G. A. Jacobs

STAI Form Y-1

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



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

Consulting Psychologists Press
577 College Avenue, Palo Alto, California 94306

Fantasies during Pregnancy

During pregnancy many women, but not all, fantasize about their future child and themselves as new mothers. Women who do fantasize often have some pleasant fantasies and some unpleasant ones. In this questionnaire, you will be asked whether (and how often) you experienced positive, neutral, and negative fantasies of yourself and your baby. For the purposes of this study, positive fantasy-images are those that you experienced as pleasant (such as the image of a healthy, smiling infant, or images that helped you relax or reduce pain). Negative fantasy-images are those that you experienced as unpleasant (such as an image of an unhealthy infant, or a painful delivery). Neutral images are those that you experienced as neither pleasant nor unpleasant.

It is important to remember your fantasy images (which involve sensations like seeing, hearing, or feeling), not your thoughts. For example, you may have thought, "I'd like to have a girl." What we are interested in whether you fantasized (pictured or felt yourself) having a baby girl. Another example of a thought would be, "I didn't want to have a Cesarean." A fantasy-image would be, "I had a picture of myself as a real Earth Mother, I could only imagine a vaginal delivery."

I. In the month prior to delivery, did you experience any

A. positive fantasy-images

1. of yourself? never ___ once or twice ___ several times ___
2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more positive images, please describe them below:

B. neutral fantasy-images

1. of yourself? never ___ once or twice ___ several times ___
2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more neutral images, please describe them below:

C. negative fantasy-images

1. of yourself? never ___ once or twice ___ several times ___
2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more negative images, please describe them below:

II. <u>During labor and/or delivery</u>, did you experience any

A. <u>positive</u> fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more positive images, please describe them below:

B. <u>neutral</u> fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more neutral images, please describe them below:

C. <u>negative</u> fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more negative images, please describe them below:

III. <u>Since delivery</u>, have you experienced any

A. <u>positive</u> fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more positive images, please describe them below:

B. <u>neutral</u> fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more negative images, please describe them below:

C. negative fantasy-images

1. of yourself? never ___ once or twice ___ several times ___

2. of your baby? never ___ once or twice ___ several times ___

If you experienced one or more negative images, please describe them below:

IV. Did your fantasies before labor and/or delivery match your actual experience? (For example, if you imagined a baby girl, did you have a girl? Or, if you imagined yourself having a Cesarean, did you? etc.)

A. Please describe the fantasies that matched the actual experience

1. of yourself:

2. of your baby:

B. Please describe the fantasies that did not match the actual experience

1. of yourself:

2. of your baby:

V. Please feel free to add any comments that you think would be of interest:

____A

CHILDBIRTH PERCEPTIONS QUESTIONNAIRE

The following questions ask you about your own feelings and about how you think your husband feels. It is important that you base your answers on your own opinions, without asking your husband about his perceptions.

Use the scale which follows in responding to the questions below. For each statement below, choose the answer which best describes how you feel. Place the number you choose in the space preceding each statement. Please be sure to answer every question.

1 = agree completely

2 = agree on the whole

3 = agree slightly

4 = disagree slightly

5 = disagree on the whole

6 = disagree completely

____ 1. I feel satisfied about my conduct during labor and delivery.

____ 2. I lost control of myself emotionally during labor.

____ 3. I feel that I did not deal with the physical pain during labor as well as other women do.

____ 4. I think my husband feels satisfied about my conduct during labor and delivery.

____ 5. I felt embarrassed about my physical appearance during pregnancy.

____ 6. I am satisfied with the way I delivered (vaginal or cesarean).

____ 7. I am concerned that I will not be as physically attractive as I was before I had a baby.

____ 8. As a result of my childbirth experience, my self-respect has gone up.

____ 9. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect the next few months.

____ 10. I think my husband felt emotionally close to me during labor.

____ 11. I think my husband is satisfied with the amount of drugs/medication I used during labor and delivery.

____ 12. I think my husband feels the experience of pregnancy has strengthened our relationship.

1 = agree completely
2 = agree on the whole
3 = agree slightly
4 = disagree slightly
5 = disagree on the whole
6 = disagree completely

____ 13. I felt my husband was aware of my needs during the childbirth experience.

____ 14. I feel disappointed about my conduct during labor and delivery.

____ 15. I felt emotionally close to my husband during labor.

____ 16. I think the experience of pregnancy has strengthened my relationship with my husband.

____ 17. I think my husband is worried that the baby will in some ways have a bad effect on our relationship.

____ 18. I think my husband has less confidence in me, as a result of our childbirth experience.

____ 19. I think my husband is concerned that I will not be as physically attractive as I was before I had a baby.

____ 20. I was satisfied with how much control I had over decisions made during my childbirth.

____ 21. I think my husband thought that the labor and delivery would be easier for me than they were.

____ 22. I think my husband felt he was aware of my needs during the childbirth experience.

____ 23. I think my husband is satisfied with how we communicated during labor.

____ 24. I think my husband was satisfied with the relationship he had with my doctor during the childbirth experience.

____ 25. I could not have done as well during the childbirth without my husband's assistance.

____ 26. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I think my husband worries about how this will affect the next few months.

____ 27. I am satisfied with the amount of drugs/medication I used during labor and delivery.

____ 28. I am worried that the baby will in some ways have a bad effect on my relationship with my husband.

____ 29. I think that, as a result of our childbirth experience, my husband's respect for me has gone up.

____ 30. I did things during labor and delivery that I think my husband is now embarrassed by.

1 = agree completely
2 = agree on the whole
3 = agree slightly
4 = disagree slightly
5 = disagree on the whole
6 = disagree completely

_____ 31. I am disappointed by my childbirth experience.

_____ 32. I think my husband feels he is spending as much time as he possibly can visiting me in the hospital.

_____ 33. As a result of the labor and delivery experience, I feel I do not cope very well with pain.

_____ 34. I think my husband is satisfied with the way I delivered (vaginal or cesarean).

_____ 35. I think the experience of pregnancy has hurt my relationship with my husband.

_____ 36. I feel that my husband was as helpful as he could have been during the childbirth experience.

_____ 37. I think my husband felt embarrassed about my physical appearance during pregnancy.

_____ 38. I think my husband is disappointed by my childbirth experience.

_____ 39. I am satisfied with how my husband and I communicated during labor.

_____ 40. I felt embarrassed about my physical appearance during labor and delivery.

_____ 41. I think my husband feels the experience of pregnancy has hurt our relationship.

_____ 42. I think my husband was satisfied with how much control he had over decisions made during my childbirth.

_____ 43. I thought that the labor and delivery would be easier for me than they were.

_____ 44. I think my husband felt embarrassed about my physical appearance during labor and delivery.

_____ 45. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect our marriage in the long run.

_____ 46. I think my husband feels that I could not have done as well during the childbirth without his assistance.

_____ 47. I think my husband thought I lost control of myself emotionally during labor.

_____ 48. I think the baby will have a good effect on our marriage.

_____ 49. I think my husband thought that I did not deal with the physical pain during labor as well as other women do.

1 = agree completely
2 = agree on the whole
3 = agree slightly
4 = disagree slightly
5 = disagree on the whole
6 = disagree completely

____ 50. As a result of the labor and delivery experience, I think my husband felt that I don't cope very well with pain.

____ 51. I think my husband feels that he was as helpful as he could have been during the childbirth experience.

____ 52. I did things during labor and delivery that I am now embarrassed by.

____ 53. I think my husband thinks the baby will have a good effect on our marriage.

____ 54. I was satisfied with the relationship I had with my doctor during the childbirth experience.

____ 55. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I think my husband worries about how this will affect our relationship in the long run.

____ 56. I think my husband feels disappointed about my conduct during labor and delivery.

____ 57. As a result of my childbirth experience I feel less self-confident.

____ 58. My husband is spending as much time as he possibly can visiting me in the hospital.

There are probably important aspects of your childbirth experience that have not been covered by the questionnaire items. For the following questions, please describe your experiences as completely as you can. Most women feel satisfied about some aspects of their experience and disappointed about other aspects. Please answer as honestly as you can about your satisfactions and disappointments.

1. In what ways was the labor and delivery a satisfying experience for you? for your husband?

2. In what ways was the labor and delivery a disappointing experience for you? for your husband?

3. Describe how you and your husband feel about the kind of delivery you had (vaginal vs. cesarean).

THE BETTS QMI VIVIDNESS OF IMAGERY SCALE*

Instructions for Long Test

The aim of this test is to determine the vividness of your imagery. The items of the test will bring certain images to your mind. You are to rate the vividness of each image by reference to the accompanying rating scale, which is shown at the bottom of the page. For example, if your image is 'vague and dim' you give it a rating of 5. Record your answer in the brackets provided after each item. Just write the appropriate number after each item. Before you turn to the items on the next page, familiarize yourself with the different categories on the rating scale. Throughout the test, refer to the rating scale when judging the vividness of each image. A copy of the rating scale will be printed on each page. Please do not turn to the next page until you have completed the items on the page you are doing, and do not turn back to check on other items you have done. Complete each page before moving on to the next page. Try to do each item separately independent of how you may have done other items

Rating Scale

The image aroused by an item of the test may be:

Perfectly clear and as vivid as the actual experience	*Rating* 1
Very clear and comparable in vividness to the actual experience	*Rating* 2
Moderately clear and vivid	*Rating* 3
Not clear or vivid, but recognizable	*Rating* 4
Vague and dim	*Rating* 5
So vague and dim as to be hardly discernible	*Rating* 6
No image present at all, you only 'knowing' that you are thinking of the object	*Rating* 7

An example of an item on the test would be one which asked you to consider an image which comes to your mind's eye of a red apple. If your visual image was moderately clear and vivid you would check the rating scale and mark '3' in the brackets as follows:

Item	*Rating*
5. A red apple	(3)

Now turn to the next page when you have understood these instructions and begin the test.

Think of some relative or friend whom you frequently see, considering carefully the picture that rises before your mind's eye. Classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
1. The exact contour of face, head, shoulders and body	( )
2. Characteristic poses of head, attitudes of body, etc.	( )
3. The precise carriage, length of step, etc. in walking	( )
4. The different colours worn in some familiar costume	( )

Think of seeing the following, considering carefully the picture which comes before your mind's eye; and classify the image suggested by the following question as indicated by the degree of clearness and vividness specified on the Rating Scale.

5. The sun as it is sinking below the horizon	( )

Think of each of the following sounds, considering carefully the image which comes to your mind's ear, and classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
6. The whistle of a locomotive	( )
7. The honk of an automobile	( )
8. The mewing of a cat	( )
9. The sound of escaping steam	( )
10. The clapping of hands in applause	( )

Think of 'feeling' or touching each of the following, considering carefully the image which comes to your mind's touch, and classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
11. Sand	( )
12. Linen	( )
13. Fur	( )
14. The prick of a pin	( )
15. The warmth of a tepid bath	( )

Perfectly clear and as vivid as the actual experience *Rating* 1

Very clear and comparable in vividness to the actual experience *Rating* 2

Moderately clear and vivid *Rating* 3

Not clear or vivid, but recognizable *Rating* 4

Vague and dim *Rating* 5

So vague and dim as to be hardly discernible *Rating* 6

No image present at all, you only 'knowing' that you are thinking of the object *Rating* 7

Think of tasting each of the following considering carefully the image which comes to your mind's mouth, and classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
21. Salt	( )
22. Granulated (white) sugar	( )
23. Oranges	( )
24. Jelly	( )
25. Your favourite soup	( )

Think of smelling each of the following, considering carefully the image which comes to your mind's nose and classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
26. An ill-ventilated room	( )
27. Cooking cabbage	( )
28. Roast beef	( )
29. Fresh paint	( )
30. New leather	( )

Think of each of the following sensations, considering carefully the image which comes before your mind, and classify the images suggested as indicated by the degrees of clearness and vividness specified on the Rating Scale.

Item	*Rating*
31. Fatigue	( )
32. Hunger	( )
33. A sore throat	( )
34. Drowsiness	( )
35. Repletion as from a very full meal	( )

Dyadic Adjustment Scale

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

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances	___	___	___	___	___	___
2. Matters of recreation	___	___	___	___	___	___
3. Religious matters	___	___	___	___	___	___
4. Demonstrations of affection	___	___	___	___	___	___
5. Friends	___	___	___	___	___	___
6. Sex relations	___	___	___	___	___	___
7. Conventionality (correct or proper behavior)	___	___	___	___	___	___
8. Philosophy of life	___	___	___	___	___	___
9. Ways of dealing with parents or inlaws	___	___	___	___	___	___
10. Aims, goals, and things believed important	___	___	___	___	___	___
11. Amount of time spent together	___	___	___	___	___	___
12. Making major decisions	___	___	___	___	___	___
13. Household tasks	___	___	___	___	___	___
14. Leisure time interests and activities	___	___	___	___	___	___
15. Career decisions	___	___	___	___	___	___

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?	___	___	___	___	___	___
17. How often do you or your mate leave the house after a fight?	___	___	___	___	___	___
18. In general, how often do you think that things between you and your partner are going well?	___	___	___	___	___	___

	Every Day	Almost Every Day	Occasionally	Rarely	Never
19. Do you confide in your mate?	___	___	___	___	___
20. Do you ever regret that you married?	___	___	___	___	___
21. How often do you and your partner quarrel?	___	___	___	___	___
22. How often do you and your mate get on each other's nerves?	___	___	___	___	___
23. Do you kiss your mate?	___	___	___	___	___
24. Do you and your mate engage in outside interests together?	___	___	___	___	___

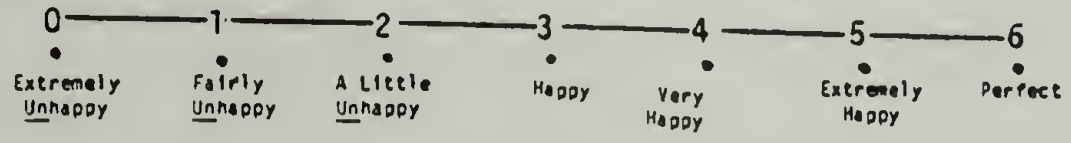
How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	___	___	___	___	___	___
26. Laugh together	___	___	___	___	___	___
27. Calmly discuss something	___	___	___	___	___	___
28. Work together on a project	___	___	___	___	___	___

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)

	YES	NO
29. Being too tired for sex	___	___
30. Not showing love	___	___

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy" represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.



32. Which of the following statements best describes how you feel about the future of your relationship?

_____ I want desperately for my relationship to succeed, and would go to almost any length to see that it does.

_____ I want very much for my relationship to succeed, and will do all that I can to see that it does.

_____ I want very much for my relationship to succeed, and will do my fair share to see that it does.

_____ It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.

_____ It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.

_____ My relationship can never succeed, and there is no more that I can do to keep the relationship going.

CHECK LIST

DACL FORM B

By Bernard Lubin

Name_____ Age_____ Sex_____

Date_____ Highest grade completed in school_____

DIRECTIONS: Below you will find words which describe different kinds of moods and feelings. Check the words which describe How You Feel Now - - Today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly and check all of the words which describe how you feel today.

1. ☐	Downhearted	17. ☐	Clean
2. ☐	Lively	18. ☐	Dispirited
3. ☐	Unfeeling	19. ☐	Moody
4. ☐	Alone	20. ☐	Pleased
5. ☐	Unhappy	21. ☐	Dead
6. ☐	Alive	22. ☐	Sorrowful
7. ☐	Terrible	23. ☐	Bleak
8. ☐	Poor	24. ☐	Light
9. ☐	Forlorn	25. ☐	Morbid
10. ☐	Alert	26. ☐	Heavy-hearted
11. ☐	Exhausted	27. ☐	Easy-going
12. ☐	Heartsick	28. ☐	Gray
13. ☐	Bright	29. ☐	Melancholy
14. ☐	Glum	30. ☐	Hopeful
15. ☐	Desolate	31. ☐	Washed
16. ☐	Composed	32. ☐	Unlucky

MATERNAL SELF-REPORT INVENTORY

Please note how accurately the following statements describe how you feel. Read each item carefully and when you are sure you understand it, indicate your answer by drawing a circle around the answer which best expresses the degree to which the statement is true for you.

Rate each statement as follows:

CF	MF	UN	MT	CT
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True

For example, circle CF if you feel that statement is completely false, circle MF if the statement is mainly false, circle MT if the statement is mainly true, and circle CT if the statement is completely true. If you are uncertain or feel that the statement is neither true nor false, then circle UN.

Please answer each item as honestly as you can, and work rapidly as first impressions are as good as any. Try to answer every question, and if in doubt, circle the answer which comes closest to expressing your feelings. Although some of the statements seem to be similar, they are not identical, and should be rated separately. All of your answers will be treated with complete confidentiality. There are no right or wrong answers, so please answer according to your own feelings. If you have any questions or comments to make, please feel free to note them at the end of the questionnaire. Your comments are very much appreciated.

Thank you very much

CF Completely False	MF Mainly False	UN Uncertain or Neither True or False	MT Mainly True	CT Completely True

1.	I feel confident about being able to know what my baby wants.	CF	MF	UN	MT	CT
2.	I think that I will be a good mother.	CF	MF	UN	MT	CT
3.	I am confident that I will have a close and warm relationship with my baby.	CF	MF	UN	MT	CT
4.	I feel reasonably competent in taking care of my new baby.	CF	MF	UN	MT	CT
5.	In general, I don't worry about my own health interfering with my ability to care for my baby.	CF	MF	UN	MT	CT
6.	I doubt that I will be able to satisfy my baby's emotional needs.	CF	MF	UN	MT	CT
7.	I often worry that I may be forgetful and cause something bad to happen to my baby.	CF	MF	UN	MT	CT
8.	I have mixed feelings about being a mother.	CF	MF	UN	MT	CT
9.	I feel emotionally prepared to take good care of my baby.	CF	MF	UN	MT	CT
10.	I am enthusiastic about taking responsibility for caring for my baby.	CF	MF	UN	MT	CT
11.	I worry that I will not know what to do if my baby gets sick.	CF	MF	UN	MT	CT
12.	I feel that I have lots of love to give to my baby.	CF	MF	UN	MT	CT
13.	I am frightened about all the day-to-day responsibilities of having to care for my baby.	CF	MF	UN	MT	CT
14.	I feel somewhat anxious about all the things a mother must do.	CF	MF	UN	MT	CT
15.	I worry about being able to fulfill my baby's emotional needs.	CF	MF	UN	MT	CT
16.	I have no anxieties about all the things mothers have to do.	CF	MF	UN	MT	CT

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY. YOUR RESPONSES SHOULD HELP US BETTER UNDERSTAND THE CHILDBIRTH EXPERIENCE AND THE TRANSITION TO PARENTHOOD. IF YOU WOULD LIKE A SUMMARY OF THE STUDY FINDINGS MAILED TO YOU AFTER THE STUDY IS COMPLETED, CHECK HERE ____.

PLEASE CHECK HERE ____ IF YOU ARE WILLING TO BE CONTACTED WITHIN THE NEXT YEAR FOR SOME FOLLOW-UP INFORMATION.

NAME _____
ADDRESS _____
_____
_____
PHONE _____
_____

APPENDIX C

Scales and Questionnaires
(Husband Packet)

LIFE EVENTS QUESTIONNAIRE

Following is a list of life events. Place an "X" next to the events which you and/or your wife have experienced during the past year.

Do not mark here	
___	___ 1. Marriage
___	___ 2. Troubles with the boss
___	___ 3. Detention in jail or other institution
___	___ 4. Death of spouse
___	___ 5. Major change in sleeping habits (a lot more or a lot less sleep, or change in part of day when asleep)
___	___ 6. Death of a close family member
___	___ 7. Major change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings
___	___ 8. Foreclosure on a mortgage or loan
___	___ 9. Revision of personal habits (dress, manners, associations, etc.)
___	___ 10. Death of a close friend
___	___ 11. Minor violations of the law (e.g. traffic tickets, jay walking, disturbing the peace, etc.)
___	___ 12. Outstanding personal achievement
___	___ 13. Pregnancy
___	___ 14. Major change in the health or behavior of a family member
___	___ 15. Sexual difficulties
___	___ 16. In-law troubles
___	___ 17. Major change in number of family get-togethers (e.g. a lot more or a lot less than usual)
___	___ 18. Major change in financial state (e.g. a lot worse off or a lot better off than usual)
___	___ 19. Gaining a new family member (e.g. through birth, adoption, oldster moving in etc.)
___	___ 20. Change in residence
___	___ 21. Son or daughter leaving home (e.g. marriage, attending college, etc.)
___	___ 22. Marital separation from mate
___	___ 23. Major change in church activities (e.g. a lot more or a lot less than usual)
___	___ 24. Marital reconciliation with mate
___	___ 25. Being fired from work
___	___ 26. Divorce
___	___ 27. Changing to a different line of work
___	___ 28. Major change in the number of arguments with spouse (e.g. either a lot more or a lot less than usual regarding childrearing, personal habits, etc.)
___	___ 29. Major change in responsibilities at work (e.g. promotion, demotion, lateral transfer)
___	___ 30. Wife beginning or ceasing work outside the home

___ ___31. Major change in working hours or conditions
___ ___32. Major change in type and/or amount of recreation
___ ___33. Taking on a mortgage greater than $10,000 (e.g. purchasing a home, business, etc.)
___ ___34. Taking on a mortgage or loan less than $10,000 (e.g. purchasing a car, TV, freezer, etc.)
___ ___35. Major personal injury or illness
___ ___36. Major business readjustment (e.g. merger, reorganization, bankruptcy, etc.)
___ ___37. Major change in social activities (e.g. clubs, dancing, movies, visiting, etc.)
___ ___38. Major change in living conditions (e.g. building a new home, remodeling, deterioraton of home or neighborhood)
___ ___39. Retirement from work
___ ___40. Vacation
___ ___41. Christmas
___ ___42. Changing to a new school
___ ___43. Beginning or ceasing formal schooling

____B

CHILDBIRTH PERCEPTIONS QUESTIONNAIRE

Please respond to the following questions using the scale below. For each statement, choose the answer which best describes how you feel. Place the number you choose in the space preceding each statement. Please be sure to answer every question. It is important that you answer this without asking your wife about her perceptions.

1 = agree completely

2 = agree on the whole

3 = agree slightly

4 = disagree slightly

5 = disagree on the whole

6 = disagree completely

____ 1. I feel satisfied with my wife's conduct during labor and delivery.

____ 2. I think my wife lost control of herself emotionally during labor.

____ 3. I think my wife did not deal with the physical pain during labor as well as other women do.

____ 4. I felt embarrassed about my wife's physical appearance during pregnancy.

____ 5. I am satisfied with the way my wife delivered (vaginal or cesarean).

____ 6. I am concerned that my wife will not be as physically attractive as she was before she had a baby.

____ 7. As a result of the childbirth experience, my respect for my wife has gone up.

____ 8. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect the next few months.

____ 9. I think that I was aware of my wife's needs during the childbirth experience.

____10. I feel disappointed about my wife's conduct during labor and delivery.

____11. I felt emotionally close to my wife during labor.

____12. I think the experience of pregnancy has strengthened my relationship with my wife.

1 = agree completely
2 = agree on the whole
3 = agree slightly
4 = disagree slightly
5 = disagree on the whole
6 = disagree completely

_____13. I was satisfied with how much control I had over decisions made during my wife's childbirth.

_____14. My wife could not have done as well during the childbirth without my assistance.

_____15. I am satisfied with the amount of drugs/medication my wife used during labor and delivery.

_____16. I am worried that the baby will in some ways have a bad effect on my relationship with my wife.

_____17. I am disappointed by my wife's childbirth experience.

_____18. As a result of the labor and delivery experience, I feel my wife does not cope very well with pain.

_____19. I feel that I was as helpful as I could have been during the childbirth experience.

_____20. I am satisfied with how my wife and I communicated during labor.

_____21. I felt embarrassed about my wife's physical appearance during labor and delivery.

_____22. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect our marriage in the long run.

_____23. I think the baby will have a good effect on our marriage.

_____24. My wife did things during labor and delivery that I am now embarrassed by.

_____25. I was satisfied with the relationship I had with the doctor during labor and delivery.

_____26. As a result of the childbirth experience I have less confidence in my wife.

_____27. I think the experience of pregnancy has hurt my relationship with my wife.

_____28. I thought the labor and delivery would be easier for my wife than they were.

_____29. I am spending as much time as I possibly can visiting my wife in the hospital.

Dyadic Adjustment Scale

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

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances						
2. Matters of recreation						
3. Religious matters						
4. Demonstrations of affection						
5. Friends						
6. Sex relations						
7. Conventionality (correct or proper behavior)						
8. Philosophy of life						
9. Ways of dealing with parents or inlaws						
10. Aims, goals, and things believed important						
11. Amount of time spent together						
12. Making major decisions						
13. Household tasks						
14. Leisure time interests and activities						
15. Career decisions						

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?						
17. How often do you or your mate leave the house after a fight?						
18. In general, how often do you think that things between you and your partner are going well?						
19. Do you confide in your mate?						
20. Do you ever regret that you married?						
21. How often do you and your partner quarrel?						
22. How often do you and your mate get on each other's nerves?						

	Every Day	Almost Every Day	Occasionally	Rarely	Never
23. Do you kiss your mate?					
24. Do you and your mate engage in outside interests together?					

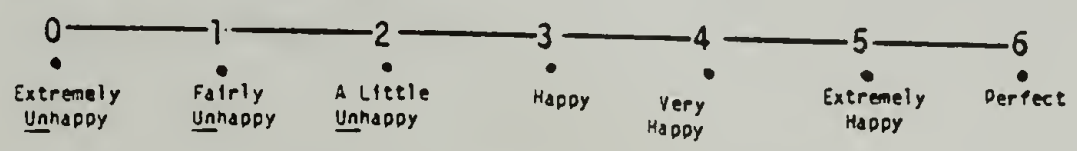
How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	___	___	___	___	___	___
26. Laugh together	___	___	___	___	___	___
27. Calmly discuss something	___	___	___	___	___	___
28. Work together on a project	___	___	___	___	___	___

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)

	YES	NO
29. Being too tired for sex	___	___
30. Not showing love	___	___

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy" represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.



32. Which of the following statements best describes how you feel about the future of your relationship?

___ I want desperately for my relationship to succeed, and would go to almost any length to see that it does.

___ I want very much for my relationship to succeed, and will do all that I can to see that it does.

___ I want very much for my relationship to succeed, and will do my fair share to see that it does.

___ It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.

___ It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.

___ My relationship can never succeed, and there is no more that I can do to keep the relationship going.

SELF-EVALUATION QUESTIONNAIRE

Developed by Charles D. Spielberger
in collaboration with
R. L. Gorsuch, R. Lushene, P. R. Vagg, and G. A. Jacobs

STAI Form Y-1

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

	Not at all	Somewhat	Moderately so	Very much so
1. I feel calm	①	②	③	④
2. I feel secure	①	②	③	④
3. I am tense	①	②	③	④
4. I feel strained	①	②	③	④
5. I feel at ease	①	②	③	④
6. I feel upset	①	②	③	④
7. I am presently worrying over possible misfortunes	①	②	③	④
8. I feel satisfied	①	②	③	④
9. I feel frightened	①	②	③	④
10. I feel comfortable	①	②	③	④
11. I feel self-confident	①	②	③	④
12. I feel nervous	①	②	③	④
13. I am jittery	①	②	③	④
14. I feel indecisive	①	②	③	④
15. I am relaxed	①	②	③	④
16. I feel content	①	②	③	④
17. I am worried	①	②	③	④
18. I feel confused	①	②	③	④
19. I feel steady	①	②	③	④
20. I feel pleasant	①	②	③	④

Consulting Psychologists Press
577 College Avenue, Palo Alto, California 94306

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY. YOUR RESPONSES SHOULD HELP US BETTER UNDERSTAND THE CHILDBIRTH EXPERIENCE AND THE TRANSITION TO PARENTHOOD. IF YOU WOULD LIKE A SUMMARY OF THE STUDY FINDINGS MAILED TO YOU AFTER THE STUDY IS COMPLETED, CHECK HERE ____.

PLEASE CHECK HERE ____ IF YOU ARE WILLING TO BE CONTACTED WITHIN THE NEXT YEAR FOR SOME FOLLOW-UP INFORMATION.

NAME _____
ADDRESS _____
_____
_____
PHONE _____
_____

APPENDIX D

Medical Information Form

MEDICAL CHART SHEET

1. Prepared childbirth classes _____
2. Labor medications _____
3. Labor complications _____
4. Delivery medications _____
5. Delivery complications _____
6. APGAR _____
7. Fetal Distress: YES ___ NO ___
8. Condition of mother after delivery _____
9. Condition of infant _____
10. Baby received by (nursery) _____
11. Cesarean or Vaginal? _____
    if Cesarean, reason _____
    if Cesarean, planned or unplanned? _____
12. Hours of Labor _____
13. Address: _____
14. Phone: _____
15. Other: _____

OBSTETRICIAN: permission has been obtained from the following:

___ Baez
___ Barton & Hill (B & H)
___ Brownstein
___ Burke
___ Cahill
___ Carpenter
___ Clark (of VOGA)
___ Charles
___ FOE (Egan, Fitzpatrick, Oneill)
___ Doney
___ HCGO
___ Hollander
___ Kenler
___ Giraud
___ MED WEST
___ Olney
___ Shifrin
___ Sorrentino
___ Zadvorny
___ Van Oeyen
___ Epstein
___ Haddad
___
___

APPENDIX E

Childbirth Perceptions Questionnaire Subscales

Wife's Physical Appearance and Sexual Attractiveness

Wife Perception

Theoretical Range: 5 to 30
Sample $\bar{X}$: 11.16, SD = 4.7, Range: 5 to 28

5. I felt embarrassed about my physical appearance during pregnancy.

40. I felt embarrassed about my physical appearance during labor and delivery.

7. I am concerned that I will not be as physically attractive as I was before I had a baby.

9. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect the next few months.

45. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect our marriage in the long run.

Wife Perception of Husband Attitude

Theoretical Range: 5 to 30
Sample $\bar{X}$: 9.52, SD = 4.35, Range: 5 to 22

37. I think my husband felt embarrassed about my physical appearance during pregnancy.

44. I think my husband felt embarrassed about my physical appearance during labor and delivery.

19. I think my husband is concerned that I will not be as physically attractive as I was before I had a baby.

26. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I think my husband worries about how this will affect the next few months.

55. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I think my husband worries about how this will affect our relationship in the long run.

Husband Attitude

Theoretical Range: 5 to 30
Sample $\bar{X}$: 7.45, SD = 3.0, Range: 5 to 15

4. I felt embarrassed about my wife's physical appearance during pregnancy.

6. I am concerned that my wife will not be as physically attractive as she was before she had a baby.

8. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect the next few months.

21. I felt embarrassed about my wife's physical appearance during labor and delivery.

22. Sexual activity or desire frequently decreases for the first 6-8 weeks after delivery. I worry about how this will affect our marriage in the long run.

Satisfaction With Labor and Delivery Experience

Wife Perception

Theoretical Range: 13 to 78
Sample $\bar{X}$: 29.21, SD = 10.7, Range: 13 to 59

1. I feel satisfied about my conduct during labor and delivery.

2. I lost control of myself emotionally during labor.

3. I feel that I did not deal with the physical pain during labor as well as other women do.

6. I am satisfied with the way I delivered (vaginal or cesarean).

8. As a result of my childbirth experience, my self-respect has gone up.

14. I feel disappointed about my conduct during labor and delivery.

20. I was satisfied with how much control I had over decisions made during my childbirth.

27. I am satisfied with the amount of drugs/medication I used during labor and delivery.

31. I am disappointed by my childbirth experience.

33. As a result of the labor and delivery experience, I feel I do not cope very well with pain.

43. I thought that the labor and delivery would be easier for me than they were.

52. I did things during labor and delivery that I am now embarrassed by.

57. As a result of my childbirth experience I feel less self-confident.

Wife Perception of Husband Attitude

Theoretical Range: 12 to 72
Sample $\bar{X}$: 20.12, SD 7.5, Range: 12 to 55

4. I think my husband feels satisfied about my conduct during labor and delivery.

47. I think my husband thought I lost control of myself emotionally during labor.

49. I think my husband thought that I did not deal with the physical pain during labor as well as other women do.

34. I think my husband is satisifed with the way I delivered (vaginal or cesarean).

29. I think that, as a result of our childbirth experience, my husband's respect for me has gone up.

56. I think my husband feels disappointed about my conduct during labor and delivery.

11. I think my husband is satisfied with the amount of drugs/ medication I used during labor and delivery.

38. I think my husband is disappointed with my childbirth experience.

50. As a result of the labor and delivery experience, I think my husband felt that I don't cope very well with pain.

21. I think my husband thought that the labor and delivery would be easier for me than they were.

30. I did things during labor and delivery that I think my husband is now embarrassed by.

18. I think my husband has less confidence in me, as a result of our childbirth experience.

Husband Perception

Theoretical Range: 11 to 66
Sample $\bar{X}$: 16.5, SD = 4.6, Range: 11 to 28

1. I feel satisfied with my wife's conduct during labor and delivery.
2. I think my wife lost control of herself emotionally during labor.
3. I think my wife did not deal with the physical pain during labor as well as other women do.
5. I am satisfied with the way my wife delivered (vaginal or cesarean).
10. I feel disappointed about my wife's conduct during labor and delivery.
15. I am satisfied with the amount of drugs/medication my wife used during labor and delivery.
17. I am disappointed by my wife's childbirth experience.
18. As a result of the labor and delivery experience, I feel my wife does not cope very well with pain.
28. I thought the labor and delivery would be easier for my wife than they were.
24. My wife did things during labor and delivery that I am now embarrassed by.
26. As a result of the childbirth experience I have less confidence in my wife.

Effect of Pregnancy and Childbirth on Marriage

Wife Perception

Theoretical Range: 9 to 54
Sample $\bar{X}$: 12.84, SD = 4.8, Range: 9 to 32

13. I felt my husband was aware of my needs during the childbirth experience.
15. I felt emotionally close to my husband during labor.

16. I think the experience of pregnancy has strengthened my relationship with my husband.

28. I am worried that the baby will in some ways have a bad effect on my relationship with my husband.

35. I think the experience of pregnancy has hurt my relationship with my husband.

36. I feel that my husband was as helpful as he could have been during the childbirth experience.

39. I am satisfied with how my husband and I communicated during labor.

48. I think the baby will have a good effect on our marriage.

58. My husband is spending as much time as he possibly can visiting me in the hospital.

Wife Perception of Husband Attitude

Theoretical Range: 9 to 54
Sample $\bar{X}$: 13.14, SD = 3.9, Range: 9 to 24

10. I think my husband felt emotionally close to me during labor.

12. I think my husband feels the experience of pregnancy has strengthened our relationship.

17. I think my husband is worried that the baby will in some ways have a bad effect on our relationship.

22. I think my husband felt he was aware of my needs during the childbirth experience.

23. I think my husband is satisfied with how we communicated during labor.

32. I think my husband feels he is spending as much time as he possibly can visiting me in the hospital.

41. I think my husband feels the experience of pregnancy has hurt our relationship.

51. I think my husband feels that he was as helpful as he could have been during the childbirth experience.

53. I think my husband thinks the baby will have a good effect on our marriage.

Husband Attitude

Theoretical Range: 9 to 54
Sample $\bar{X}$: 12.68, SD = 3.4, Range: 9 to 23

9. I think that I was aware of my wife's needs during the childbirth experience.

11. I felt emotionally close to my wife during labor.

12. I think the experience of pregnancy has strengthened my relationship with my wife.

16. I am worried that the baby will in some ways have a bad effect on my relationship with my wife.

27. I think the experience of pregnancy has hurt my relationship with my wife.

19. I feel that I was as helpful as I could have been during the childbirth experience.

20. I am satisfied with how my wife and I communicated during labor.

23. I think the baby will have a good effect on our marriage.

29. I am spending as much time as I possibly can visiting my wife in the hospital.

APPENDIX F

Dyadic Adjustment Scale: Subscale Items

Dyadic Adjustment Scale Subscale Items*

Dyadic Consensus: 1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15

Dyadic Cohesion: 24, 25, 26, 27, 28

Affectional Expression: 4, 6, 29, 30

Dyadic Satisfaction: 16, 17, 18, 19, 20, 21, 22, 23, 31, 32

APPENDIX G

Diagnostic Categories of Cesarean Birth in the Study Sample

The descriptions below were derived from the National Institute of Health Consensus Development Task Force on Cesarean Childbirth (U. S. Department of Health and Human Services, 1981).

Dystocia

"...abnormal labor, or dystocia, is characterized by abnormal progress in labor. Three distinct types of abnormalities occur either as isolated events or in combination. These include:

1. abnormalities of the maternal birth canal which may form an obstacle to descent of the fetal presenting part;

2. abnormalities in presentation or position of the fetus, or related to congenital anomalies of fetal development; and

3. abnormalities of the forces of labor, including uterine contractions that occur either infrequently or with insufficient strength to overcome the normal resistance of the maternal birth canal" (p. 331).

Breech Presentation

"The large fetus presenting as breech, the fetus presenting as complete or footling breech, and the fetus with marked hyperextension of the head presenting as breech, have a better outcome if delivered by cesarean birth" (p. 13).

Fetal Distress

"Fetal distress during labor is a condition resulting from inadequate fetal oxygen supply and carbon dioxide removal, which produce fetal acidosis. Operationally, fetal distress is defined by clinical signs found during labor. These may include:

(1) passage of or the presence of meconium;

(2) bradycardia (fetal heart rate less than 100 beats per minute);

(3) absence of or diminished beat-to-beat variability, as measured by electronic fetal heart rate monitoring (internal);

(4) late decelerations of fetal heart rate;

(5) severe variable fetal heart rate decelerations; and

(6) two consecutive fetal scalp blood pH determinations less than 7.25 (in the presence of a normal maternal acid-base status)" (p. 387)

APPENDIX H

Responses to Open-Ended Questions Regarding the Childbirth Experience

TABLE 12

Wife Responses to Open-Ended Question #1: In What Ways Was the Labor and Delivery a Satisfying Experience for You? For Your Husband?

Response Content	Response Frequency		
	Cesarean (N = 19)	Vaginal (N = 22)	Combined (N = 41)
1) Positive spouse interactions (support, closeness, shared experience)	12 (63.2%)	13 (59.1%)	25 (61.0%)
2) Endured/controlled pain	3 (15.8%)	4 (18.2%)	7 (17.1%)
3) View of birth as spectacular, regardless of delivery mode	5 (26.3%)	2 (9.1%)	7 (17.1%)
4) Maintained control; made it through; felt proud	2 (10.5%)	2 (9.1%)	4 (9.8%)
5) Assistance from doctors/nurses	1 (5.3%)	1 (4.5%)	2 (4.9%)
6) Healthy baby	1 (5.3%)	3 (13.6%)	4 (9.8%)
7) Easier than anticipated (e.g., as compared to others; took away fears about childbirth)	1 (5.3%)	4 (18.2%)	5 (12.2%)
8) "Natural" childbirth (minimal medication)	N/A	5 (22.7%)	5 (12.2%)
9) Happy to be "with it" at birth	1 (5.3%)	---	1 (2.4%)
10) Nine hard months were over	1 (5.3%)	---	1 (2.4%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.

TABLE 13

Husband Responses to Open-Ended Question #1: In What Ways was the Labor and Delivery a Satisfying Experience for You? For Your Wife?

Response Content	Response Frequency		
	Cesarean (N = 18)	Vaginal (N = 20)	Combined (N = 38)
1) Presence at delivery (witnessing birth); Satisfaction about providing support, shared experience, teamwork with wife	10 (55.6%)	14 (70.0%)	24 (63.2%)
2) Respect for wife (courage, endurance of pain, being in control, hard work)	2 (11.1%)	3 (15.0%)	5 (13.2%)
3) Miracle of birth/Bringing life into world	4 (22.2%)	2 (10.0%)	6 (15.8%)
4) Healthy baby; positive "results"	2 (11.1%)	2 (10.0%)	4 (10.5%)
5) Satisfaction with nurses	1 (5.6%)	2 (10.0%)	3 (7.9%)
6) Emotionally exciting	---	2 (10.0%)	2 (5.3%)
7) "Natural" childbirth	N/A	1 (5.0%)	1 (2.6%)
8) Positive aspects of cesarean (e.g., interesting; utilized knowledge from childbirth classes; first to hold baby; satisfaction/relief about ability to have baby)	5 (27.8%)	N/A	5 (13.2%)
9) Getting it over with	---	1 (5.0%)	1 (2.6%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.

TABLE 14

Wife Responses to Open-Ended Question #2: In What Ways Was the Labor and Delivery a Disappointing Experience for You? For Your Husband?

Response Content	Response Frequency		
	Cesarean (N = 19)	Vaginal (N = 20)	Combined (N = 39)
1) Disappointment of having cesarean (e.g., not natural, unable to be active during delivery; could not push once; felt loss of control; frightening)	15 (78.9%)	N/A	15 (38.5%)
2) Disappointed with self (cesarean: my body failed me; not as strong as I thought I'd be; vaginal: behaved like a brat; almost gave up; cannot remember certain things)	2 (10.5%)	3 (15.0%)	5 (12.8%)
3) Dissatisfaction with hospital/medical procedures (cesarean: wish doctors had done it earlier; could not get initial good look at baby; vaginal: used pitocin; episiotomy; could not use birthing room)	2 (10.5%)	3 (15.0%)	5 (12.8%)
4) Long/hard labor	5 (26.3%)	4 (20.0%)	9 (23.1%)
5) Husband got sick	---	1 (5.0%)	1 (2.6%)
6) Baby was overdue	---	1 (5.0%)	1 (2.6%)
7) It was not disappointing	3 (15.8%)	10 (50.0%)	13 (33.3%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.

TABLE 15

Husband Responses to Open-Ended Question #2: In What Ways Was the Labor and Delivery a Disappointing Experience for You? For Your Wife?

Response Content	Response Frequency		
	Cesarean (N = 17)	Vaginal (N = 20)	Combined (N = 37)
1) Disappointment with having cesarean	8 (47.1%)	N/A	8 (21.6%)
2) Disappointment in wife's conduct (e.g., didn't react to humor; self-conscious)	2 (11.8%)	---	2 (5.4%)
3) Disappointment with hospital (nurses/ doctor; could not use birthing room)	2 (11.8%)	3 (15.0%)	5 (13.5%)
4) Long labor	6* (35.3%)	1 (5.0%)	7 (18.9%)
5) Feeling unable to help adequately (not totally prepared; inability to relieve wife's pain)	1 (5.9%)	3 (15.0%)	4 (10.8%)
6) Felt bad because wife could not hold baby**	1 (5.9%)	---	1 (2.7%)
7) Could not hold baby	1 (5.9%)	---	1 (2.7%)
8) Was not disappointing	3 (17.6%)	13 (65.0%)	15 (40.5%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.

*For one subject, complaint was regarding long period of attempted labor induction.

**Due to nausea.

TABLE 16

Wife Responses to Open-Ended Question #3: Describe How You and Your Husband Feel About the Kind of Delivery You Had (Vaginal vs. Cesarean)

	Response Content	Response Frequency		
		Cesarean (N = 19)	Vaginal (N = 22)	Combined (N = 41)
1)	Positive aspects of cesarean (relieved pain; worked out fine; pleased because faster/less pain; healthy baby; general positive feeling; satisfied that father could hold baby; positive delivery room experience)	9 (47.4%)	N/A	9 (22.0%)
2)	Cesarean viewed as necessary (for safety of baby; safety of wife; doctor's opinion; best, or only, choice under the circumstances)	12 (63.2%)	N/A	12 (29.3%)
3)	Disappointment with cesarean (scared; could not bond with baby; could not use birthing room; disappointing after long labor; quick, but not what expected)	7 (36.8%)	N/A	7 (17.1%)
4)	Positive aspects of vaginal or "natural" childbirth (able to be active; accomplished something; vaginal/natural, as hoped for; able to feel everything; emotionally exciting/satisfying/"miracle"; in control; able to deal with pain)	N/A	22 (100%)	22 (53.7%)

TABLE 16 (continued)

Response Content	Response Frequency		
	Cesarean (N = 19)	Vaginal (N = 22)	Combined (N = 41)
5) Happy with health of mother/baby	*	3 (13.6%)	3 (7.3%)
6) Experience would have been similar, regardless of delivery mode	---	2 (9.1%)	2 (4.9%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.

*Six respondents referred to health issues, but responses were more appropriately categorized in (1) and (2) above.

TABLE 17

Husband Responses to Open-Ended Question #3: Describe How You and Your Wife Feel About the Kind of Delivery You Had (Vaginal vs. Cesarean)

	Response Content	Response Frequency		
		Cesarean (N = 15)	Vaginal (N = 21)	Combined (N = 36)
1)	Cesarean viewed as positive (prefer cesarean because it is less painful and better for baby; satisfaction about birth)	2 (13.3%)	N/A	2 (5.6%)
2)	Cesarean viewed as necessary, although vaginal birth would have been preferable (for health/safety of baby; best way to go under the circumstances)	7 (46.7%)	N/A	6 (16.7%)
3)	Disappointment with cesarean (limited mothers' access to baby; resulted in later homecoming for mother; pain after delivery; limited father access to baby; could not use birthing room)	4 (26.7%)	N/A	3 (8.3%)
4)	Satisfaction with doctor/medical staff	4 (26.7%)	---	3 (8.3%)
5)	Confidence in God	2 (13.3%)	---	2 (5.6%)

TABLE 17 (continued)

Response Content	Response Frequency		
	Cesarean (N = 15)	Vaginal (N = 21)	Combined (N = 36)
6) Delivery mode does not matter to husband, but wife would have preferred vaginal	2 (13.3%)	N/A	2 (5.6%)
7) Commented that is was not disappointing	3 (20.0%)	---	3 (8.3%)
8) Positive aspects of vaginal or "natural" childbirth (wanted vaginal/natural and did it; glad because did not want cesarean; better than expected/shorter; general excitement/satisfaction)	N/A	21 (100%)	21 (58.3%)

Note: Frequency refers to number of subjects providing a particular response. Some respondents provided information in more than one response category.