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A Comparative Study of Women's Perceptions of Vaginal and Cesarean Births

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**A COMPARATIVE STUDY OF WOMEN'S PERCEPTIONS
OF VAGINAL AND CESAREAN BIRTHS**

By

Karen Blamer

A THESIS

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Grand Valley State University
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ABSTRACT

A COMPARATIVE STUDY OF WOMEN'S PERCEPTIONS OF VAGINAL AND CESAREAN BIRTHS

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Perception of birth is an important consideration for all health care providers. A positive perception of birth can promote effective adaptation to the maternal role. The Roy Adaptation Model guided this research study comparing the perception of birth among women who delivered vaginally, by planned cesarean birth, and by unplanned cesarean birth.

Perception of birth was measured by the use of a 29 item questionnaire developed by Marut and Mercer and completed by 78 subjects two to four weeks postpartum. The ANOVA and post hoc Scheffe tests were used to measure the differences between groups.

The findings supported the hypothesis that women with cesarean births would have a less positive perception of birth than women who delivered vaginally. The second hypothesis that women with unplanned cesarean births would have a less positive perception of birth than those who delivered vaginally or by planned cesarean birth was not supported.

Dedication

This thesis is dedicated to my husband Jeff for his faithful patience, support and encouragement throughout the long process of completing my educational goals and to my kids, Tim, Kristin, and Matt for their patience with their student mother.

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To Pat Underwood for her expert advice, patience and guidance as my thesis chair and whose insights helped improve my writing and critical thinking.

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CHAPTER 1

INTRODUCTION

Childbirth is a personal and individual journey that is different for every woman. Vivid and detailed memories of the journey often lead to a permanent perception of the birth. Perception of the birth experience is thought to be influenced by many factors, the most significant of which may be the type of delivery.

It is clear that the perception of the birth has a powerful effect on women with a potential for long-term positive or negative impact. Simkin (1991) studied women's long-term perceptions of their birth experience and found that fifteen to twenty years later the women reported that their memories were vivid and deeply felt. Many of the women in this study believed they achieved something highly significant in giving birth and that the experience enhanced their self-confidence and self-esteem. Other women, however, had a negative experience. Some of these women experienced anger or a negative self-image, while others became more assertive. This study was consistent with Green, Coupland, and Kitzinger (1990) who observed that the women's satisfaction with their birth experiences contributed to their subsequent emotional well-being.

Researchers have found that complications of labor and delivery are often associated with negative perceptions of the birth experience (Cranley, Hedahl, & Pegg, 1983; Marut & Mercer, 1979; Mercer, Hackley, & Bostrom, 1983). A more recent study by Fawcett, Pollio, and Tully (1992) supported these findings. Fawcett, Pollio, and Tully found that women who had an unplanned cesarean delivery reported a less positive birth

experience than women who birthed vaginally.

Other studies have reported that the unplanned cesarean delivery was not reported in a negative manner. Culp and Osofsky (1989) studied the levels of depression, marital adjustment, and mother-infant interactions after delivery and found no significant difference between those who delivered by vaginal or cesarean birth. The researchers speculated that because cesarean delivery is more prevalent it may contribute to parents viewing the procedure simply as an alternative method of delivery.

Mercer (1981) postulated that a negative perception of birth could impair the maternal role attainment. Maternal role attainment is a process by which mothers achieve competence in the mothering role, integrating their mothering behaviors into their established roles so that they achieve confidence and harmony with their new identities (Mercer, 1985). Mercer maintained that if a woman feels she does not perform as expected in giving birth, perceptions of her capabilities in other mothering behaviors may be questioned. This was later supported in research (Mercer & Ferketich, 1994) that found that self-esteem and mastery were consistent predictors of maternal competence, ie; that a woman's acceptance of her overall self-image and her perceived control over life events such as birth are central to taking on the maternal role.

Therefore, building on past research and using the Roy Adaptation Model as a guiding framework, the purpose of this study is to compare women who experienced differences in the objective nature of the childbirth (unplanned cesarean, planned cesarean, or vaginal birth) with respect to their perception of that experience. Health care providers have a great influence on how each woman will perceive and

remember her birth experience. Knowledge gained from this study provides important insights that may guide nurses working with laboring women to promote a positive memory of birth.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Conceptual Framework

The Adaptation Model developed by Sister Callista Roy was selected for the conceptual framework to guide the study of maternal adjustment experienced during childbirth. The Roy Adaptation Model (Roy & Andrews, 1991) conceptualizes the individual as an adaptive system interacting with constantly changing environmental stimuli. The environmental stimuli are classified as focal, contextual, and residual. Focal stimuli are defined as those immediately confronting the individual that demands attention. Contextual stimuli are all other stimuli present that affect the person's behavior or context of the situation. The residual stimuli are vague, nonspecific stimuli such as beliefs, attitudes, experiences, and expectations that influence the individual's response to the focal stimulus. Once the effects of residual stimuli are validated, they become contextual stimuli.

The birth experience provides a mother with multiple stimuli to which she must adapt. For the purposes of the present study, the focal stimulus includes the physical and emotional demands of the childbirth experience, whether it be a vaginal or cesarean birth. The contextual stimuli may be internal or environmental factors that contribute to the experience, such as length of labor, type of pain relief, nursing interventions, and the presence of support persons. The residual stimuli include beliefs, attitudes, and expectations about the birth experience to the extent that they are only speculated upon rather than measured. All three types of stimuli are important factors in the study of the

birth perception.

The individual uses two types of coping mechanisms to respond to internal and external environmental stimuli: 1) the regulator subsystem as identified as the biological response, 2) the cognator subsystem which involves the cognitive-emotive processes of adaptation. The two combined subsystems, or coping mechanisms, are manifested through coping behavior in the four adaptive or response modes (Roy & Andrews, 1991). The four adaptive modes include the: 1) physiological mode, 2) self-concept mode, 3) role function mode, and 4) interdependence mode. The physiological mode focuses on the maintenance of the physiological integrity of the adaptive system and includes oxygenation, nutrition, elimination, activity and rest, immune processes and the integument, the senses, fluids and electrolytes, neurological function, and endocrine function. The self-concept mode focuses on psychic integrity and deals with perception of the physical self as well as perception of the personal self, including self-consistency, self-ideal, and the moral-ethical-spiritual self. The role function mode deals with social integrity and includes the performance of activities associated with the roles that one acquires throughout a lifetime. The interdependence mode also deals with social integrity and emphasizes the behaviors needed for the development and maintenance of satisfying relationships with significant others (Fawcett & Weiss, 1993).

Pregnancy and the birth experience require major adaptation in each of the four adaptive modes. The woman's body physically adapts to the demands of birth with each body system altering in response to the demands. Her self-concept as a pregnant and maternal person evolves throughout the pregnancy. Through maternal role attainment

the pregnant woman integrates her mothering behaviors into her established roles to achieve harmony with a new identity (Mercer, 1985). Finally, interdependence adaptation requires that a mother adapt to a new relationship with her infant and a new balance of dependence and independence with her partner.

The goal of nursing is to promote adaptation in all four adaptive modes (Roy & Andrews, 1991). Adaptive responses are those that promote the integrity of the person in terms of the goals of the human system: survival, growth, reproduction, mastery, and maternal role attainment. Ineffective responses do not meet the goals of adaptation and may threaten the individual's survival, growth, reproduction, mastery or maternal role attainment. By assessing behavior in the four adaptive modes, the nurse determines whether the individual's responses are adaptive or ineffective. The judgment of adaptive or ineffective behavior takes the individual's perception into account and is an integral consideration (Roy & Andrews, 1991). Judgments that indicate adaptation are based on the individual's goals as well as on a comparison of the person's behavior with norms, established through research and cultural expectation.

Nursing interventions may be needed to help manage the stimuli in situations where demands of stimuli exceed the person's resources for adaptation or where responses appear to be ineffective (Roy & Andrews, 1991). When the goal of adaptation is obtained, energy is freed from inadequate coping attempts and can then promote healing and wellness. Since Roy's model is based on the concept of humanism, emphasis is placed on the person's own creative power and coping abilities to achieve adaptation.

Conclusion

The Roy Adaptation Model provides a framework for nurses to understand the adaptation process in response to the multiple environmental stimuli involved in the birth experience. Effective adaptation to the stimuli of labor and delivery can be related to a positive perception of birth. Nursing interventions are utilized not only when a person's adaptation to the stimuli is ineffective (Roy & Andrews, 1991) but also to promote and maintain adaptation and should involve the person as an active participant in the process. Ultimately it provides a basis for nursing assessment and interventions leading to maternal adaptation and a positive birth experience.

Literature Review

In the 1970's the cesarean birth rate began a rapid rise along with research from cesarean support and advocacy groups demonstrating some women experienced considerable emotional disequilibrium (Shearer, 1989) and impaired maternal role attainment (Mercer & Ferketich, 1994) following a surgical birth. Researchers began to measure and document the differences in perception of birth and adaptation between women with vaginal and cesarean births. Since then the rate of cesarean births has stabilized. In 1994, the rate of cesarean births in the United States was 22 per 100 deliveries which was the first significant decline since 1988, when it was 24.7 (Clarke & Taffel, 1996).

The review of literature reveals that the study of the effect of cesarean birth on the perception of birth has been ongoing with discrepant results. Marut and Mercer (1979) compared the birth perceptions of 30 primiparas who had delivered vaginally with

20 primiparas who experienced an emergency cesarean delivery. Analysis of race, marital status, oxytocin augmentation during labor, postpartal complications, attendance at childbirth classes, sex of infant, feeding preference, and infants' weights and Apgar scores showed no significant differences between the two groups. Subjects were interviewed within 48 hours after delivery about the pregnancy and birth followed by the completion of the Marut and Mercer Perception of Birth Scale (MMPBS). The MMPBS is a questionnaire that contains 29 items about labor, delivery, and initial contact with the infant, rated on a 5-point scale ranging from "not at all"(1) to "extremely" (5). A mean score was calculated for each subject, with a possible score ranging from one to five. Higher scores reflect more positive feelings about the birth experience.

Women who had an emergency cesarean birth had significantly less positive perceptions of their birth experience than those who delivered vaginally ($t=2.73$; $p<.01$). The two groups differed on the questions that pertained to control of the situation, fear during delivery, worry about the baby's condition during labor, and the time of mother-infant contact following delivery. Women who had experienced cesarean birth and had regional anesthesia also viewed their experience more positively than those who had general anesthesia ($t=2.36$; $p< .05$).

Limitations of the study include lack of control of the presence of a support person during the birth and the timing of the interview. Interview data suggested the presence of a support person contributed greatly to positive attitudes about birth experience but the variable of a support person was not controlled. Also, the interview was completed within the first 48 hours following birth which perhaps may be a time

period during which the perceptions of birth may be viewed as more negative for the women who had cesarean births because they are experiencing more pain and discomfort. It is possible that the perceptions of the birth may become less negative with time.

In a similar study, Cranley, Hedahl, and Pegg (1983) compared the perceptions of birth among women who had vaginal deliveries, planned cesarean births, and emergency cesarean births. This study used a convenience sample of 122 women of mixed parity who completed the MMPBS questionnaire and were interviewed two to four days after giving birth. Of the 122 women, 40 had a vaginal birth, 39 an unexpected or emergency cesarean delivery, and 43 a planned cesarean delivery. There were no significant differences among the women in the three groups with respect to age, race, marital status, education, postpartum complications, hospital of delivery, or birth weight of the infant.

Women who had an emergency cesarean birth had significantly less positive perceptions of the experience than either those who delivered vaginally or those who planned to deliver by cesarean birth ($F=12.68$; $p=.000$). There was no significant difference of perception between women who had vaginal and planned cesarean births. The findings of this study would seem to suggest that it is the unexpected factor and changed course of events that was more difficult to accept rather than the actual surgery. Again, the presence of a supportive person increased satisfaction with the birth experience ($F=6.916$, $p=.01$) and regional anesthesia appeared to increase positive perceptions among the cesarean birth mothers ($t=3.37$; $df=75.98$; $p=.001$). A limitation

may again be in the timing of the questionnaire so soon after the birth.

Mercer, Hackley, and Bostrom's research (1983) evaluated perception of birth and obtained data on factors which may contribute to the perception. The study included 294 primiparas who completed the MMPBS questionnaire during the postpartum period. Of the 294 primiparas, fifty-six of the women (19.04%) had a cesarean birth. Similar to the aforementioned study (Cranley, Hedahl, & Pegg, 1983), the women who had a cesarean birth also had a less positive perception of her birth ($t(289)=-3.33, p=.001$) although there was no significant difference between those who had general and regional anesthesia ($t(54)=.63, p=.53$). Women who had a mate present also had a more positive birth perception ($t(290)=4.90, p=.0001$).

A stepwise multiple regression procedure completed for the total sample revealed that mate emotional support entered the model first and accounted for the largest proportion of variance (20.3%). Other variables which contributed significantly to the perception of birth included: infant separation (9.6%), total positive self-concept (3.2%), and maternal illness (2.65%). The type of delivery explained less than 1% of the variance.

Culp and Osofsky (1989) conducted a prospective study of the effects of cesarean delivery on maternal and paternal psychologic health, marital adjustment, and mother-infant interaction during the newborn period and at three months postpartum. The sample composed of 80 primiparous married women and their husbands. There were 56 vaginal deliveries and 24 cesarean births. Data was collected by interview at the latter part of the second trimester and three months postpartum by examination of the medical

records, and by observation of mother-infant feedings at two days and three months postpartum. The infants' birthweight, weeks of gestation, Apgar scores at five minutes, maternal age, and maternal and child health index risk scores were not significantly different between the two groups.

Results revealed no significant differences in the mother-infant interaction behaviors during the feeding observation for the two groups. The levels of maternal and paternal depression as measured by a self-report depression scale were not significantly different between the two modes of delivery either prenatally or at three months postpartum. Maternal and paternal marital adjustment scores were measured by a 14 item inventory and scored on a seven point scale. The data were analyzed in two ANOVAs and revealed no significant differences at either time. The couples in both groups were generally satisfied with their marital relationship.

The findings of this study seem surprising, given the results of previous research suggesting the potential for negative effects of a cesarean delivery. One might expect more negative patterns of interaction, more parental depression, and less marital satisfaction after a cesarean birth. A couple factors are suggested by the researchers. First, the couples were relatively well educated and middle class. It has been suggested that for such a group, cesarean delivery may represent a degree of stress that is challenging, but not debilitating. Second, the fact that the couples were generally satisfied with their marital situation prenatally may indicate that each spouse was able to provide adequate social support to the other, which may have helped them adjust both as individuals and as a couple to the stress of cesarean birth.

In a similar study Padawer, Fagan, Janoff-Bulman, Strickland, and Chorowski (1988) investigated possible differences in psychological adjustment and satisfaction between women delivering vaginally and those delivering by unplanned cesarean birth. The sample consisted of 44 primiparous women, 22 in the unplanned cesarean group and 22 in the vaginal delivery group. Inclusion criteria consisted of: husband present at delivery; couple attended childbirth classes; labor was experienced; absence of postpartum tubal ligation; absence of maternal complications; healthy infant as determined by absence of neonatal intensive care; and five minute Apgar score of seven or higher. Women who received general anesthesia were excluded. The vaginal delivery group received either local or no anesthesia while the cesarean birth group received either spinal or epidural anesthesia.

Data was collected 24 - 48 hours after delivery. Postpartum psychological adjustment was determined by assessing levels of anxiety, depression, and confidence in mothering ability. The perception of birth was measured by a Childbirth Perceptions Questionnaire, a multiple-item scale constructed for the study. Depression was measured by the Depression Adjective Checklist, Form B, (Lubin, 1965), which is considered a reliable, valid measure of nonclinical "short duration depressive moods". Anxiety was assessed by the state component of Spielberger's State-Trait Anxiety Index, Form Y (Spielberger, Gorsuch, & Lushene, 1968). Confidence in mothering ability was measured through the use of a modified version of Shea and Tronick's Maternal Self-Report Inventory (Shea & Tronick, 1982 as cited in Padawer et al., 1988).

Results revealed a significant difference in degree of satisfaction with delivery (mean score= 25.64 vs 33.15 respectively, $t=2.4$, $p<.025$) between the women who had emergency cesarean births and those who had vaginal births. Although the women differed in degree of satisfaction with their delivery, there were no significant group differences in the three measures of psychological adjustment. Overall, the women's scores on the anxiety and depression scales indicated that they were well-adjusted relative to established norms. Similarly, the women's scores indicated high confidence in mothering ability and generally positive perceptions of their delivery, physical appearance/sexuality, and spouse interactions related to the childbirth.

Fawcett, Polloi, and Tully (1992) replicated the Cranley, Hedahl, and Pegg (1983) study by again comparing women's perceptions of unplanned cesarean, planned cesarean, and vaginal birth experiences. The national cesarean birth rate was 16.5% at the time of the Cranley, Hedahl, and Pegg study and 24.4% during the Fawcett, Polloi, and Tully time of data collection. The convenience sample included 473 women who completed the MMPBS questionnaire along with Pain Intensity and Distress Scales within two days of delivery. Of the 473 women, 106 had unplanned cesarean deliveries, 113 had planned cesarean deliveries, and 254 had vaginal deliveries. The sample was predominately Caucasian, had no major prenatal complications or underlying medical problems, and delivered healthy full-term infants.

Similar to the Fawcett, Polloi, and Tully study (1983), a one-way analysis of variance (ANOVA) revealed that women who had an unplanned cesarean delivery had significantly less positive perceptions of the experience than either those who delivered

vaginally or those who planned to deliver by cesarean birth ($F=8.74$, $p<.001$). The Scheffe multiple comparison procedure revealed that vaginally delivered women had a higher mean score than their unplanned cesarean delivery counterparts ($p<.02$). There were, however, no statistically significant differences between the vaginal and planned cesarean delivery groups or the planned and unplanned cesarean delivery groups. Cesarean delivered women who had regional anesthesia had a more positive perception of the birth experience than those who had general anesthesia ($t=2.41$, $p=.02$). No evidence was found of a difference in perception between the father present and absent groups. Limitations could include the inclusion of predominately well educated, Caucasian women and the timing of the questionnaire so soon after the birth.

Fawcett and Weiss (1993) expanded the study of cultural influences on adaptation to cesarean birth by comparing perceptions of and responses to cesarean birth of women from three cultural backgrounds: Caucasian, Hispanic, and Asian. The study included 45 women, 15 from each cultural group, who completed the Perception of Birth Scale within one to three days postpartum, while the women were still in the hospital.

Results, analyzed by ANOVA, revealed no difference in mean perception of birth score for the three cultural groups ($F=.91$, $p=.41$). The vast majority of the women received regional anesthesia for delivery. Only three, all of whom were Asian, received general anesthesia, which precluded statistical analysis of the association between type of anesthesia and adaptation. A support person was present at the delivery for all of the Caucasian and Asian women but was not present for six of the Hispanic women. No difference in perception of birth was found when those six women's mean scores were

compared with the mean for the Hispanic women who had a support person at delivery ($t=-.95$, $p=.36$).

Limitations of the study include the timing of the questionnaire and the small sample size. Additionally, the authors speculate on the need for instruments that are not biased toward elements of the birth experience that are considered important only to Caucasian women, such as the presence of a support person and childbirth preparation.

Summary of Literature Review

The review of literature reveals that the study of the effect of cesarean birth on the perception of birth has been ongoing with equivocal results (see Appendix A). While earlier studies reported negative perceptions and profound emotional distress by women who experienced cesarean births, later studies seem to support the more accepted increased cesarean birth rate. Also, as cesarean births increased, the components of “family centered care” were changed to include the presence of the support person during delivery, regional anesthesia, and earlier contact with the infant.

There are gaps and limitations in the published literature. Due to convenience, most of the reviewed literature studied the effects of the cesarean birth within 24 - 48 hours after birth. The timing of the evaluation may have significance. Two days after delivery is often too soon for women to talk about their birth experiences. One may wonder if the initial relief, gratitude, and joy felt after the birth of a healthy infant may outweigh the psychological distress about a cesarean birth until later contemplation at home. Pain medications and surgical recovery may alter emotional responses. It is also difficult to be critical of the care received while still a patient in the hospital.

Table 1 Comparison of Studies in Literature

Authors	Vaginal delivery	Planned cesarean	Unplanned cesarean	Instrument	Timing of study	Sample size
Marut & Mercer, 1979	X *	combined	combined	MMPBS	48 hours	50
Cranley, Hedahl, & Pegg, 1983	X *	X *	X *	MMPBS	2-4 days	122
Mercer, Hackley, & Bostrom, 1983	X *	combined	combined	MMPBS	2-4 days	294
Culp & Osofsky, 1989	X	combined	combined	Interview Observation Depression scale Marital Adjustment Scale	Second trimester Second day PP Three months PP	80
Padawer, et al, 1988	X *	combined	combined	Childbirth Perceptions Question. Depression Checklist Anxiety Index Maternal Inventory	24-48 hours	44
Fawcett, Polloi, & Tully, 1992	X *	X *	X *	MMPBS Pain Intensity & Distress Scales	1-2 days	473
Fawcett & Weiss, 1993		combined	combined	MMPBS	1-3 days	45

X = variable was studied

* = significant difference in perception

There is also confusion in the literature regarding the comparison of the terms “perception of birth” and “satisfaction with birth”. The terms are often used interchangeably by the studies. Overall, it is inferred that the perception of birth will in part determine the level of satisfaction with the birth, that is; women who reported more positive perceptions of birth also have a greater satisfaction with the birth experience.

The body of knowledge about the effects of cesarean birth was expanded to include both planned and unplanned cesarean births. For this study, the perception of birth was studied two to three weeks after delivery.

Research Question

What differences are there in perception of birth among women delivering vaginally, by planned cesarean birth, or by unplanned cesarean birth?

Research Hypotheses

1. Women with cesarean births will have a less positive perception of birth than women who deliver vaginally.
2. Women with unplanned cesarean births will have a less positive perception of birth than women who deliver vaginally or by planned cesarean birth.

Definition of Terms

Perception of the birth experience is defined as feelings about labor or preoperative procedures, delivery, and initial contact with the infant as measured by the Perception of Birth Scale (Marut and Mercer, 1979). Responses to the birth experience represent adaptation in a global manner.

Unplanned cesarean birth was defined as a surgical birth that was planned during labor. Planned cesarean birth was defined as a surgical birth that was planned at least one week prior to delivery.

CHAPTER THREE

METHODS

Research Design

A descriptive comparative design was used to study the differences in perception of birth among women delivering vaginally, by planned cesarean birth, and by unplanned cesarean birth. The purpose of a descriptive study is to observe, describe, and document a situation as it naturally occurs (Polit & Hungler, 1995). This study was a secondary analysis of data collected as part of a larger study conducted to examine the relationship between psychosocial factors in pregnancy and mother/infant outcomes, perception of childbirth, and satisfaction with care.

Setting

The primary study was designed by a nurse researcher from the faculty of Grand Valley State University. The research team also included two certified nurse midwives and a perinatologist who were on staff at the target hospital. Data were collected from women delivering at a 432 bed facility in southwestern Michigan with a delivery rate of 2,800 per year. It is a regional medical center for maternal/fetal medicine referrals and neonatal care. The women received maternity care either through the Women's Service at the hospital, which delivers an average of 600 patients per year, or from one of two private obstetrical practices. The Women's Service provides care through a unique model that integrates the practice of certified nurse midwives and perinatologists.

Sample and Procedure

Data was used from the original study which gathered information from a convenience sample of women over the course of their pregnancy. The original study examined individual and situational variables that are hypothesized to influence initial choice of health provider, pregnancy course, and intrapartal outcomes along with outcome variables. The criteria for subject selection was the following:

1. Pregnant and planning to deliver at the selected hospital
2. Able to speak, read and write English
3. Not mentally retarded
4. Not under treatment for significant mental illness
5. Age 15 by time of delivery

After a consent to participate in the study was obtained from participants, arrangements were made to interview the subject at the time of her six month office visit along with a second phone interview during the seventh to eighth month of pregnancy. The Perception of Birth questionnaire and a self-addressed envelope were mailed at one to two weeks postpartum to all patients who had consented to this phase of the study. Members of the research team obtained demographic and outcome data from records of subjects selected for this study using an approved general data form.

The sample population for this study included 78 subjects. All subjects who met the stated criteria and had a cesarean birth were chosen for the study. A similar number of subjects who experienced a vaginal birth was chosen randomly.

Instrument

The instrument used to measure the maternal perception of the birth experience was adapted by Marut and Mercer (1979) from a 15-item questionnaire developed by Samko and Schoenfeld (1975) and was used with permission by the primary study. The instrument consists of 29 statements reflecting feelings of confidence, control, and satisfaction during labor, delivery, and initial contact with the infant. Statements are rated by the subjects on a scale of 1 to 5, ranging from “not at all” to “extremely” (Appendix B). A mean score is calculated for each subject, with a possible score range of 1 to 5. Higher scores reflect more positive feelings and perception about the birth experience.

Content validity was supported by Marut and Mercer (1979) through a literature review, including studies of women’s feelings about their birth experience. Cronbach’s alpha internal consistency reliability ratings ranged from .76 to .86, indicating adequate internal consistency reliability (Beck, 1998; Cranley, Hedahl & Pegg, 1983; Fawcett, Pollio, & Tully, 1992; Marut & Mercer, 1979; Mercer, Hackley, & Bostrom, 1983). In this study the Cronbach’s alpha for the instrument was 0.93.

Human Subjects Considerations

Permission to conduct this study was obtained through the Human Research Review Committee at Grand Valley State University (Appendix C). The original study was approved by the Human Use Committee of the source hospital (Appendix D).

Issues of human subject risk were addressed by the original study to minimize any potential risks to the involved subjects. The risk of fatigue was minimized by conducting

data collection interviews at the subjects' convenience and limiting the data collection sessions to approximately 20 minutes. The Perception of Birth questionnaire was given out at the hospital or sent to the subject's home and completed at the subject's convenience. Subjects were free to not answer any particular questions and to withdraw from the study at any time. In the unusual event that a subject would experience distress as a result of reflection on her current life situation, she would be referred to her care provider. Care was taken not to distress any subject who may have experienced unexpected birth complications. All interviews were conducted by advanced practice nurses with expertise in the area of pregnancy and birth. While the direct benefit from participation in the study was minimal, many subjects seemed to appreciate the opportunity to reflect on the pregnancy and birth experience.

Confidentiality

Confidentiality of the study was maintained by the removal of names from the data collection forms. A separate listing of the patients' names, hospital identification numbers, and study ID numbers was maintained by the primary investigators and destroyed once the data was entered into the data base and checked for accuracy.

CHAPTER FOUR

RESULTS

The purpose of this research was to identify and compare the perception of birth held by women who delivered vaginally, by planned cesarean birth, and by unplanned cesarean birth. Data analysis was accomplished utilizing the Statistical Package for Social Sciences (SPSS/WIN+) software.

Research Question

The research question in this study was : What differences are there in perception of birth among women delivering vaginally, by planned cesarean birth, or by unplanned cesarean birth? The instrument used, Marut and Mercer's Perception of Birth Scale (MMPBS), is a 29 item questionnaire about labor, delivery, and initial contact with the infant. After each question, subjects circle one of five responses which most closely describe their feelings. For statistical analysis numbers were substituted for the responses. The responses were "not at all"(1), "somewhat"(2), "moderately"(3), "very"(4), and "extremely"(5). "Not Applicable" was a choice and received zero points. Negative items were reverse scored for consistency in scoring. A mean score was calculated for each subject, with a possible score range of 1 to 5. Higher scores reflect more positive feelings about the birth experience.

Hypothesis

The research hypotheses for this study were: (a) women with cesarean births will have a less positive perception of birth than women who deliver vaginally, (b) women

with unplanned cesarean births will have a less positive perception of birth than women who deliver vaginally or by planned cesarean birth.

The study included a total of 78 women, 37 (47%) had a vaginal birth, 13 (17%) had a planned cesarean birth, and 28 (36%) had an unplanned cesarean birth. Seven sets of twins were also included in the study. Maternal age, baby's birth weight, and infant Apgar scores were compared across the three groups using the one-way analysis of variance and post hoc Scheffe test (table 1). There were no significant differences among the women in the three groups with respect to age ($F=30.10$, $df=2$, $p=.36$), baby birth weight ($F=1632824.23$, $df=2$, $p=.04$), Apgar scores at one minute ($F=2.13$, $df=2$, $p=.39$), and Apgar scores at five minutes ($F=.1864$, $df=2$, $p=.46$). Age, birth weight, and Apgar scores were also checked for significance as covariates with the use of the Pearson's r test. The correlations between the variables and perception of birth were: age, $r=-.17$; birth weight, $r=.14$; one minute Apgar, $r=-.15$; five minute Apgar, $r=.04$. These low correlations did not meet the minimum criterion of $r>.30$ for analysis of covariance procedures (Polit & Hungler, 1995). Thus, covariance procedures were not used.

Table 2 Summary of Characteristics of the Sample by Type of Delivery

Variable: M (SD)	Vaginal	Planned C/S	Unplanned C/S
Mother's age	28 (5.5)	28 (6.3)	30 (4.7)
Birthweight in grams	3473 (472)	3512 (683)	3057 (940)
Apgar 1 minute	7.27 (1.64)	7.92 (.64)	7.54 (1.57)
Apgar 5	8.95 (.41)	9.00 (.00)	8.82 (.67)

The mean scores and standard deviations of the three birth groups are presented in table 3. Inspection of the mean scores reveal that the women with vaginal births reported overall higher scores than those with cesarean births with the planned cesarean births with the lowest scores.

Table 3 Summary of Means, Standard Deviations, and Ranges for Birth Scores by Type of Birth

Type of birth	n	M	SD	Range
Vaginal	37	3.58	.52	2.41-4.76
Planned C/S	13	2.17	.60	1.59-3.52
Unplanned C/S	28	2.78	.80	.41-4.45
Total	78	3.06	.84	.41-4.76

Note: Cesarean birth scores were significantly lower than the vaginal birth scores.

One-way analysis of variance revealed evidence of a statistically significant difference in mean scores for the three birth groups (11.22, $F=26.99$, $p=.00$). The ANOVA was performed the second time with the elimination of the seven sets of twins with similar results (10.14, $F=23.50$, $p=.00$). The Scheffe procedure revealed that the vaginal birth group had a significantly higher mean score than the planned and unplanned cesarean births. In addition, both the unplanned cesarean group and vaginal birth groups had a significantly higher mean score than the planned cesarean births.

In summary, an examination of the variables (maternal age, baby birth weight, Apgar scores) did not reveal significant differences among the delivery groups. The vaginal birth group had a significantly higher mean score than the planned and unplanned

cesarean births. The unplanned cesarean birth group and vaginal birth groups had significantly higher mean scores than the planned cesarean birth groups. Therefore, the first hypothesis that women with cesarean births would have a less positive perception of birth than women who have vaginal births was supported. The second hypothesis that women with unplanned cesarean births would have a less positive perception of birth than women with vaginal or planned cesarean births was not supported. In fact, the women with a planned cesarean birth had significantly less positive perceptions of their births than women in the other two groups.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

The findings of this study supported the first hypothesis that women with cesarean births would have a less positive perception of birth than women with vaginal births. The second hypothesis that women with unplanned cesarean births would have a less positive perception of birth than women with vaginal or planned cesarean births was not supported. An examination of the variables of maternal age, baby weight, and infant Apgar scores did not reveal a significant difference between groups and therefore did not influence the outcome.

Relationship of Findings to the Conceptual Framework

The Roy Adaptation Model (Roy & Andrews, 1991) conceptualizes the individual as an adaptive system which interacts with constantly changing environmental stimuli. The birth experience provides a mother with multiple focal and contextual stimuli to which she must adapt. The focal stimulus includes the physical and emotional demands of the childbirth experience. The contextual stimuli may be internal or environmental factors that contribute to the experience such as maternal age, birth outcome indicated by baby weight or Apgars, length of labor, type of pain relief, the presence of support persons, and nursing interventions.

The mother uses the regulator and the cognator subsystems or coping mechanisms to respond to internal and external stimuli. Pregnancy and the birth experience require major adaptation in the four adaptive modes: the physiological mode, the self-concept mode, the role function mode, and the interdependence mode.

The Roy Adaptation Model adequately provides a framework for nurses to utilize and to understand the adaptation process involved in the birth experience. Using the Roy Adaptation Model the nurse can assist the mother to effectively adapt to the confronting possibility of a cesarean birth. It also provides a basis for nursing assessment and interventions during pregnancy, labor and delivery. Nursing interventions are utilized not only when a mother's adaptation to cesarean birth is not effective but also to promote and maintain the family's integrity and adaptation to the birth. Ultimately, adaptation to the birth would result in an overall more positive perception of the birth.

Relationship of Findings to Previous Research

The results of this study support findings of five of the seven studies reviewed indicating that women with a cesarean birth had a less positive perception of their birth experience than the vaginal birth group. This is consistent with the two most similar studies (Fawcett, Polloi, & Tully, 1992; Cranley, Hedahl, & Pegg, 1983) although the mean perception of birth scores were remarkably different. All of the reviewed studies were conducted at two to four days postpartum except for the Culp and Osofsky, (1989) study which was conducted soon after birth and at three months postpartum. The mean scores of this study were consistently lower than the previous studies as noted in table 4:

Table 4 Comparison of Birth Perception Mean Scores among Studies

Type of birth-mean	Cranley, et al	Fawcett, et al	Present study
Vaginal	3.86	3.65	3.58
Planned C/S	3.55	3.54	2.17
Unplanned C/S	3.30	3.40	2.78

As mentioned, the results are inconsistent with Culp and Osofsky (1989) who conducted a prospective study of the effects of cesarean birth on maternal and paternal psychologic health, marital adjustment, and mother-infant interaction during the newborn period and at three months postpartum. Their results, measured with three different tools, revealed no significant differences in the mother-infant interaction behaviors or maternal and paternal marital adjustment scores. One may wonder if the difference may lie within the use of a different tool or within a different time frame of study.

The lack of support for the second hypothesis indicated that women with unplanned cesarean births did not have a less positive perception of birth than women who delivered vaginally or by planned cesarean birth. In fact, surprisingly, women with an unplanned cesarean had a significantly more positive perception of birth than those who delivered by planned cesarean birth.

This result is inconsistent with Cranley, Hedahl, and Pegg, (1983) who found that women who had unplanned cesarean births reported less positive birth perceptions than those who had either planned cesarean births or vaginal deliveries. They had speculated that perhaps it was the unexpected nature of the unplanned cesarean birth that was a factor that influenced the perception of the birth experience. Fawcett, Polloi, and Tully (1992) also did not find a difference between the unplanned and planned cesarean groups which makes one think that the unexpected nature of the unplanned cesarean birth is not the only factor that influences the perception of birth.

While the findings that women who deliver by cesarean birth have a less positive perception of birth is consistent with the majority of studies, it is more of a surprise to

to find a lack of support for the second hypothesis that women with unplanned cesarean births would have a less positive perception of birth. One may speculate on the reasons for the less positive birth perception of the planned cesarean birth group. Perhaps it was the smaller sample size of the planned cesarean birth group (n=13) that may have affected the outcome. There are also many variables present in the birth process that were beyond the scope of this study. These include factors such as gravity, marital status and/or social support, gestation, level of education, type of pain medication or anesthesia, length of labor, maternal antepartal risk factors, prenatal education, and postpartum complications.

The use of the Roy Adaptation Model also directs one to reconsider the coping mechanisms utilized to adapt to an unplanned cesarean birth. One can also speculate which factors promoted adaptation and thus a more positive birth perception for the unplanned cesarean birth group. Last, but not least, the unplanned cesarean birth group generally have longer and more frequent contact with the nurses. Perhaps effective nursing interventions were utilized to promote the mother's adaptation to an unexpected birth outcome.

Limitations and Recommendations

There were several limitations to this study. The most obvious was the sample. The subjects comprised a convenience sample from a single hospital. The sample size was small, particularly the planned cesarean birth group. Thus, the conclusions can not extend beyond this group.

The second limitation was the lack of control of the other variables that occurred during birth. Some of the other studies reviewed in the literature have controlled or studied such factors as length of labor, type of pain medication or anesthesia, presence of the support person, social support, initial contact with the infant, postpartum complications, and birth expectations. One can also only speculate the effects of these variables along with the impact of maternal coping mechanisms and the influence of nursing interventions.

A third limitation of the study involves the MMPBS tool which was developed to measure the birth perception of labor and delivery. It was not quite as applicable for the planned cesarean birth group who did not experience labor and thus choose “not applicable” for many of the questions pertaining to labor. It is also limited to self-reported data. Many of the reviewed studies used supplemental measurements of depression, marital adjustment, anxiety index, and mother-infant interaction, all of which would add to the strength of the study.

Implications for Nursing

The findings of this research support previous studies that women with cesarean births have a less positive perception of birth than those who deliver vaginally. These results have application in the areas of nursing education, practice and administration.

Although childbirth educators have continuously attempted to include cesarean birth education and preparation in the prenatal classes it is probably unrealistic to expect that the women who have a cesarean birth will not have some degree of disappointment. The cesarean birth is truly a surgery that adds an extra dimension and thus, adaptation to

the physical and emotional recovery. Nurses should be challenged to facilitate adaptation to cesarean birth by developing, testing and promoting effective nursing interventions. The unplanned cesarean birth often presents as a critical, unexpected situation. The nursing care during the unexpected birth situation includes not only technical expertise but also the conveying of concern and caring. Every effort should be made to explain the situation to the mother and to prepare her adequately, including the provision of emotional support. The nurse can often help the woman integrate her childbirth experience by giving her the opportunity to later review and clarify the course of events surrounding the birth.

The nursing administration also should be challenged to continue to develop the components of family centered care to include the cesarean birth family. This includes such interventions such as allowing the support person into surgery, giving the mother some choice about the type of anesthesia, and encouraging immediate contact with the infant both during birth and during the immediate recovery time following birth. Lastly, nursing administrators should continue to monitor their local cesarean rate and encourage vaginal births after cesareans whenever appropriate.

Future Research

Although the results of this study can not be generalized past this sample, it did, however, replicate similar findings in other studies. This replication adds power to the study of the perceptions of the cesarean birth. Future research should examine the effects of the less positive perceptions on such variables as mother-infant interactions, length of breast feeding, level of depression or anxiety, marital adjustment, and self-esteem. It

would be best to not only use self-reported tools but also tools which include objective observations.

Research should also be conducted not only immediately postpartum but also at approximately three months postpartum as a comparison. A comparison at three months postpartum would lend assistance in assessment of the mother's overall adaptation to a less positive birth experience. If the less positive birth experience influences her overall adaptation to the mothering role then additional nursing interventions need to be directed towards facilitating the maternal adaptation to the cesarean birth.

In summary, perception of birth is an important consideration for all health care providers. Nurses, in particular, can have a direct impact on mothers' perception of birth contributing to maternal self-confidence and self-esteem and overall adaptation to the maternal role.

APPENDIX A

PERCEPTION OF BIRTH QUESTIONNAIRE

Date of delivery: _____ Today's date: _____

Name: _____

Please circle the number on each scale that best describes the feeling state referred to in each question. (You may circle "Not Applicable" if you did not experience something. For example, if you did not have any labor, you would circle "Not Applicable to all questions that referred to labor.")

214. How successful were you in using breathing or relaxation methods to help with contractions?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

215. How confident were you during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

216. How confident were you during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

217. How relaxed were you during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

218. How relaxed were you during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

219. How pleasant or satisfying was the feeling state you experienced during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

220. How well in control were you during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

221. How well in control were you during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

222. To what extent did your experience of having a baby go along with the expectation you had before labor began?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

223. To what extent do you consider yourself to have been a useful & cooperative member of the obstetric team?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

224. How useful was your partner in helping you through your labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

225. How useful was your partner in helping you through delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

226. To what degree were you aware of events during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

227. To what degree were you aware of events during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

228. How unpleasant was the feeling state you experienced during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

229. Do you remember your labor as painful?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

230. Do you remember your delivery as painful?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

231. How scared were you during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

232. Did you worry about your baby's condition during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

233. Did you worry about your baby's condition during delivery?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

234. Did the equipment used during labor bother you?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

235. Was the delivery experience realistic as opposed to dreamlike?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

236. Did you have choices about interventions, example: examinations or treatments during labor?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

237. Did your partner or some other person review (talk about) your labor experience with you?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

238. Did you feel better after reviewing the labor and delivery experience?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

239. Were you pleased with how your delivery turned out?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

240. How soon after delivery did you touch your baby?

Immediately	within 1 hr.	within 2 hrs.	within 5 hrs.	within 8 hrs.
1	2	3	4	5

241. How soon after delivery did you hold your baby?

Immediately	within 1 hr.	within 2 hrs.	within 5 hrs.	within 8 hrs.
1	2	3	4	5

242. Were you able to enjoy holding your baby the first time?

Not at all	Somewhat	Moderately	Very	Extremely	OR: Not
1	2	3	4	5	Applicable

APPENDIX B

LETTER OF APPROVAL FROM GRAND VALLEY STATE UNIVERSITY



**GRAND VALLEY
STATE UNIVERSITY**

1 CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

December 2, 1998

Karen Blamer
3836 Observation
Kalamazoo, MI 49004

Dear Karen:

Your proposed project entitled "*A Comparative Study of Women's Perceptions of Vaginal and Cesarean Births*" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

A solid black rectangular box redacting the signature of Paul Huizenga.

Paul Huizenga, Chair
Human Research Review Committee

APPENDIX C

**LETTER OF APPROVAL OF ORIGINAL STUDY FROM
BRONSON METHODIST HOSPITAL**

**BMH1037 Study to Evaluate the Effectiveness of an Integrated
CNM/Perinatology Model of Care for Childbearing Women
(PUnderwood/JPLavery)**

At the December 14, 1995 Meeting of the Bronson Methodist Hospital Human Use Committee, BMH1037 and the informed consent were approved with the following changes:

1. On the consent form include the title and the purpose of the study.
2. The BMH Human Use Committee determined the continuing review interval for this study to be set at 12 months.
3. Before this protocol can be implemented i.e., prior to a drug being given or a procedure undertaken, all changes must be made and a corrected signed copy of the protocol and informed consent filed with the BMH Human Use Committee Chairman (or designee). The clinical investigator is required to receive approval from the BMH Human Use Committee prior to initiating any changes in approved research during the period of which BMH Human Use Committee approval has been given. J. Patrick Lavery, M.D. attended this meeting and has agreed to the above changes and procedures.


Robert H. Hume, M.D., Chairman
Bronson Methodist Hospital
Human Use Committee
252 East Lovell Street
Kalamazoo, MI 49007
(616) 341-7988

15 Dec 95
Date

cc: PUnderwood
JPLavery

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