The Correlation Between Women's Perceived Control During Childbirth and Subsequent Satisfaction with the Experience

by

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CHAPTER I

For the majority of the history of Western civilization, childbirth has occurred as a family event within one's own home (Rothman, 1982). It was not until very recent history, the 1940's, that "delivery" became a medical procedure taking place in a hospital (U.S. Department of Health and Human Services, 1984). As a result of this move, childbirth seemed to acquire a new status--that of an illness (Tanzer & Block, 1976). Furthermore, the promise of "painless childbirth" was readily available in hospitals after 1900. Fitting the view of childbirth as an illness, the medical management of childbirth came to be viewed primarily in terms of pain. Alleviating or decreasing pain by means of anesthesia and analgesia became the means by which the pathology of childbirth was "cured". "Thus began the major transformations in birth: from home to hospital, from suffering to painlessness, from patient care to disease care" (Wertz & Wertz, 1979, p. 128).

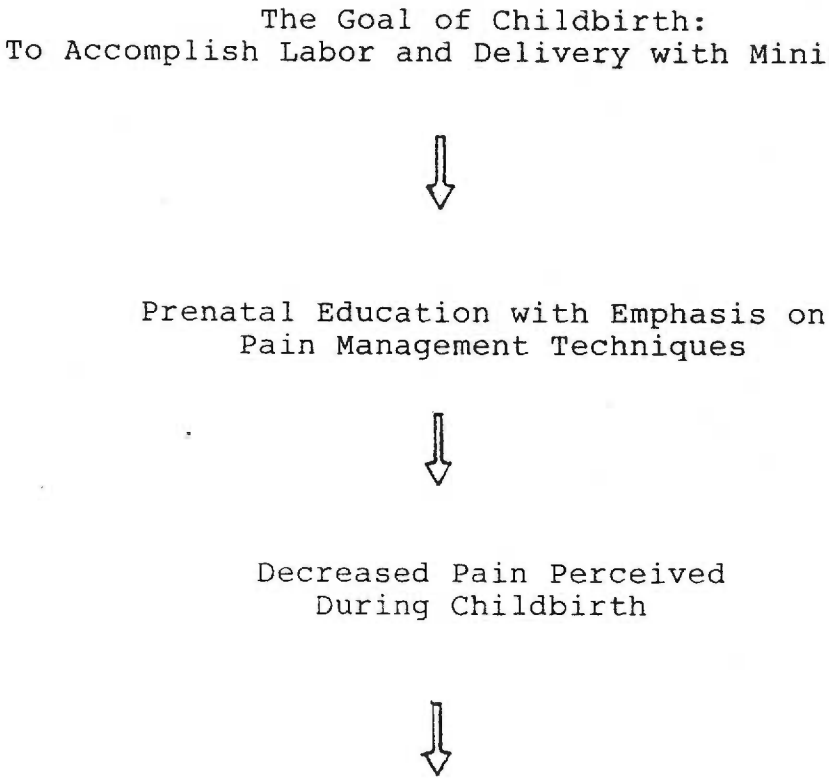
Recently, as urbanization and centralization of health care and improved medical technology has brought greater safety for mothers and babies, the subjective experiences of

women and their families has begun to emerge as an important issue involved in childbirth. Consumers began to challenge the existing models of birth care. In the 1950's, when heavily medicated hospital births were the prevailing mode, consumers began to reclaim birth as a family experience and began to replace medication with the husband's presence as "labor coach" (Edwards & Waldorf, 1984). However, the focus of childbirth preparation and management still continued to be pain and pain control, but this time by the use of patterned breathing techniques, relaxation, support, and coaching.

Statement of the Problem

The proposition that satisfaction with the experience of childbirth is dependent upon decreasing pain is depicted in Figure 1. This model, in which decreasing the amount of pain experienced during childbirth will result in childbirth satisfaction, is not supported in the literature (Davenport-Slack & Boylan, 1974; Humenick, 1981; Humenick & Bugen, 1981; Morgan, Bulpitt, Clifton, & Lewis, 1982; Norr, Block, Charles, Meyering & Meyers, 1977). This is not to imply that pain in no way effects a woman's experience of childbirth. However, pain management alone does not explain all variation in childbirth satisfaction (Humenick, 1981;

Figure 1. The pain management model of childbirth satisfaction.



Humenick & Bugen, 1981). Furthermore, the current model for facilitating childbirth satisfaction and preparing women for the labor and birth experience--by focusing on pain and pain control--does not seem to be sufficient (Astbury, 1980; Beck & Siegel, 1980; Gunn, Fisher, Lloyd, & O'Donnell, 1983; Humenick, 1981; Humenick & Bugen, 1981; Masterpasqua, 1982; Peterson, 1984). The problem, therefore, is the need to identify factors other than pain that are antecedent to childbirth satisfaction.

Significance of the Problem

The subjective experience of childbirth involves many realms of individual and family health. The positive emotional experience of childbirth has been shown to be a significant factor acting to promote early paternal and maternal attachment behaviors (Peterson & Mehl, 1978; Peterson, Mehl, & Leiderman, 1979). Mercer (1985) has demonstrated a significant positive correlation between maternal perception of the birth experience and subsequent mothering behavior in women aged 15 through 29. Childbirth, as an important event in the family life cycle, has been viewed as a situation with a potential for growth that can result in a level of family functioning higher than before the birth occurred (Ayvazian, 1985; Peterson, 1984).

Unplanned and upsetting events surrounding the childbirth experience have been documented to result in serious psychological sequelae for both parents (Stewart, 1982). Thus, the subjective experience of childbirth may be one with a potential for serious and far-reaching implications. Midwives and nurses providing care to birthing women and their families are challenged to facilitate labor and birth as a satisfying experience.

REVIEW OF THE LITERATURE

In order to understand what is known about maternal satisfaction, the following review of the literature will explore those factors which have been empirically tested for their impact upon a woman's perception of satisfaction with her childbirth experience. In addition, the reports that consider the subjective experiences of women during childbirth will be reviewed. Finally, concepts of control as they have been identified for their impact upon the childbirth process will be discussed.

Satisfaction With Childbirth

A number of authors have investigated variables believed to impact upon a woman's subjective satisfaction

with the childbirth experience. These studies will be presented within this section.

Davenport-Slack and Boylan (1974) attempted to explain why childbirth pain and the childbirth experience are reported with such great variation. Seventy-five private patients of two obstetricians participated in the study. The women gave birth in the same hospital, had a choice of medication, whether or not to have their husbands with them, and whether or not to attend prenatal classes. These authors investigated the relationship between 11 predictor variables (childbirth preparation, age, gravity, education, menstrual pain, first menstrual experience, sexual desire during this pregnancy, attitude toward childbirth, whether or not husband's presence was desired, feelings about showing pain, and the amount and type of medication desired) and six childbirth outcome measures (labor length, general anesthesia, body tenseness, self-reported pain, childbirth description, and an experiential testimony which consisted of an account of each woman's childbirth recorded verbatim within 18 hours after delivery). A questionnaire was administered in the physician's office approximately four weeks prior to delivery in order to determine predictor variables. Information from the chart provided labor length

and medication amounts. Body tenseness during labor was quantified by one of the researchers using five-point scales to rate behavior and verbalization. Postpartum questionnaires and interviews were utilized to measure a woman's self-report of pain and anxiety during labor, a description of childbirth, and an experiential testimony. In terms of the subjective experience of childbirth, the authors concluded that, "women who desire to and are given the opportunity to play an active, participatory role in childbirth have far more satisfying experiences than women who expect to rely on drugs and doctors" (Davenport-Slack & Boylan, 1974, p. 222). Childbirth pain, based upon self-report and childbirth testimony, was found to be relatively constant.

This sample consisted of "private," and well-educated women but diverged from homogeneity by the inclusion of prepared as well as unprepared, and multiparous as well as primiparous women. Neither definition nor measurement of the variables are discussed and, thus, critical examination of findings is not possible. Further, the sample is small for the number of variables considered.

Norr, Block, Charles, Meyering & Meyers (1977)

investigated the social, psychological, and biophysical factors accounting for 249 women's birth experiences by means of an interview and questionnaire administered between one and three days postpartum, and hospital records. Data were collected on social characteristics, relevant attitudes, the woman's perception of her degree of pain and pleasure, levels and type of medications, complications, other obstetrical factors, and demographic information. The number of cases was large enough to use multivariate techniques to consider the simultaneous impact of variables. They found pain and pleasure to be two distinct dimensions of the birth experience. Suprisingly, medical factors such as length of labor, complications and difficulty of delivery impacted very little on pain and enjoyment. Social factors emerged as being much more influential. Social class, less traditional attitudes toward sex roles, and greater marital closeness were related to greater incidence of childbirth preparation, husband's help during labor and delivery, and resulted in less pain and more enjoyment. Husband and staff support was also a critical factor in improving birth experiences. In this study, prepared women (those attending birth preparation classes) were overselected (82%), and unwed and Cesarean mothers were underselected. Thus,

generalizability is somewhat compromised.

Shields (1978) determined that satisfaction with nursing care in labor was correlated with the presence of what she termed "supportive" care for 80 postpartum women. Supportive care, which included such techniques as hand-holding, psychological comfort, explanations, physical presence and reassurance was the decisive factor in the way clients viewed their nursing care. The most frequently mentioned element of supportive care was the nurses "sustaining" presence. The congruency between the amount of time that a laboring woman desired the nurse's presence and the actual amount of time spent by the nurse with the woman correlated very significantly with the subsequent satisfaction with nursing care received. Combined care, that is combinations of the three types of care investigated (supportive and medications, supportive and physical, physical and medications) was also found to be satisfying. Physical care alone (vital signs, timing contractions, back rubs, positioning, offering a bedpan or emesis basin), or medications alone were collapsed for analysis into the combined physical care and medications category, and, thus, were not analyzed for their individual impact upon client

satisfaction. There was no significant correlation between worries about the baby, parity, length of labor, anesthesia or sedation in labor, age, race, hospital service, prenatal education, marital status, number of visitors, or time elapsed since delivery (0-96 hours) and client satisfaction with care. The use of oxytocin was found to be significant in that women who had not received oxytocin were more satisfied with their nursing care than those women who had required Oxytocin.

When considering the results of this investigation one must note that no measure of inter-rater reliability was reported for the 16 interviewers who collected data, and that some of the data collection categories were collapsed for statistical analysis. Furthermore, the convenience sample of postpartum women who had normal vaginal births of healthy babies limits the generalizability.

A comparison between the childbirth experiences of primiparous women experiencing vaginal and cesarean birth was made by Marut and Mercer (1979). A convenience sample of 30 primiparous women experiencing vaginal childbirth and 20 primiparous women who had experienced emergency cesarean section were interviewed within 48 hours after delivery. Women in the sample were between the ages of 20 and 32,

experienced a normal pregnancy, and all began labor expecting a vaginal delivery. Qualitative data were collected by means of an open-ended interview. Demographic data, infant weight, Apgar scores, length of labor, analgesia, anesthesia, and delivery and postpartal complications were obtained from medical records. A 29-item questionnaire was administered in order to determine the participant's attitude toward their childbirth experience.

These authors determined that those women who had experienced cesarean childbirth demonstrated a less positive perception of their birth experience than those women whose childbirth had been vaginal. Factors that revealed the greatest differences between these two groups of women were: control of the situation, fear during delivery, worry about the baby's condition, and the time of mother-infant contact following delivery. Marut and Mercer (1979) summarized,

> The subjects' satisfaction with their delivery experience was linked to their feeling of confidence, pleasant feeling states, and their perceived control during delivery. Their ability to enjoy holding their infant the first time was linked with their partner's help during labor and

delivery. (p. 262)

Among the women who had experienced cesarean section, greater satisfaction was expressed when anesthesia was regional than when anesthesia was general.

For women experiencing vaginal childbirth, differences in satisfaction, labor length, infant's weight and Apgar scores were analyzed for the effects of regional or local anesthesia. The only significant difference identified was that length of labor was shorter for those women who delivered with local anesthesia.

The data suggested that the presence of a support person contributed to a woman's satisfaction, but this difference was not demonstrated to be statistically significant in women experiencing cesarean birth when presence of a support person was analyzed for its affect upon satisfaction. All women experiencing vaginal childbirth had a support person present. Other qualitative findings were that women having vaginal births expressed a greater sense of reality and more positive feelings about an effective labor. These feelings seemed to contribute to greater self-esteem. Women experiencing vaginal childbirth more often made remarks that reflected concern toward their infants, and cesarean-delivered women more often made

comments that reflected hostility toward their infants.

Perhaps the most serious limitation of this investigation is the timing of the data collection. Since the interviews were done within 48 hours postpartum, differences in the postpartal recovery between women experiencing cesarean and vaginal births may have impacted results. In addition, samples are small and methods of analysis are not well described for the qualitative data.

Humenick and Bugen (1981) tested a model of childbirth satisfaction that was derived from viewing childbirth as a task that needed to be mastered. Humenick (1981) formulated hypotheses around her ideas that "childbirth is a psychologically important task for pregnant women. Control or mastery of that task appears to be closely related to overall satisfaction with birth experiences..." (Humenick, 1981, p. 81). These authors analyzed the results of questionnaires administered to 33 primiparous women attending Lamaze childbirth preparation who gave birth vaginally to healthy neonates. These women were tested antenatally for their attitude towards childbirth participation and their self-esteem. Postnatally, these women were asked to evaluate their childbirth experience,

and were tested for self-esteem and their perception of control during the labor and delivery experience. Control was defined as a woman's perception that she mastered the task of childbirth.

A woman's prenatal attitude that childbirth participation was important predicted greater satisfaction with the childbirth experience. It did not, however, predict her perceived control. The prenatal self-esteem scores did not predict satisfaction with the birth experience nor perception of control during the process. What these authors did find was a significant increase in self-esteem scores from the antenatal to the postnatal administration for women who perceived greater control. A woman's perception of control during labor and delivery was not analyzed for its effect upon satisfaction.

Study participants were a homogeneous, convenience sample of highly educated, and highly motivated women. The study design was purely descriptive, that is, there was no experimental nor control group. Thus, results are difficult to generalize and cause and effect cannot be established without further testing.

Morgan et al., (1982) surveyed 1000 women having a vaginal birth of a live child. The women's satisfaction

with the experience of delivery in relation to the type and effectiveness of analgesia was analyzed. All women had been informed antenatally of analgesia/anesthesia options and chose their own methods of pain relief in labor. Pain and satisfaction with the experience of childbirth were determined by means of an interview done 48 hours postpartum and by a questionnaire mailed one year following. Responses to this mailed questionnaire were received from 626 women. The interviewer asked the question "How much pain did you experience?" and presented a linear analogue pain scale where zero = "no pain at all" and 100 = "as much pain as is possible to imagine," on which to reply. Satisfaction was determined by asking the question, "Were you satisfied with your experience of childbirth?" Participants answered "yes", "no", or "don't know." The questionnaire contained another linear analogue scale on which to answer, "Taking all into account, how would you rate your experience of childbirth?" In addition, questions regarding the experience of childbirth were asked such as, "Looking back now, do you consider your labour [sic] was a pleasurable experience/or rather unpleasant but endurable/or a nightmare?" were asked (Morgan et al., 1982, p. 808).

Those women reporting little or no pain were primarily those having epidural anesthesia. The epidural group was significantly less satisfied with the experience when compared to those groups without epidural anesthesia both within 48 hours of birth and one year later. These authors concluded that satisfaction was not related to the efficacy of pain relief. Especially high levels of dissatisfaction were reported by the women who had epidural anesthesia and an assisted (forceps or vacuum extraction) birth. Both high pain and high satisfaction were reported by women who had short labors.

Information from this investigation is difficult to interpret for numerous reasons. The potential influence of extraneous variables is not acknowledged. Factors such as parity, presence of a supportive companion(s), medical complications, and antenatal education may have influenced outcome and are not addressed. Methods of analysis are not described and level of significance is not reported for all of the findings. No analysis of the tools used to measure the variables is reported, thus, their reliability and validity cannot be assessed. Further, three out of the four measures rely upon the answer to one question.

The perceived childbirth experiences of 294 first-time

mothers were investigated by Mercer, Hackley, and Bostrom (1983). Data were collected during postpartal hospitalization by means of a questionnaire, semistructured interview, and a personal and social history form. Obstetrical and demographic information was obtained from hospital records.

These authors found that women aged 20-29 revealed a more positive perception of childbirth than women who were either younger (15-19) or older (30-42). Women who experienced Cesarean childbirth had a less positive birth experience than women who experienced vaginal births. In contrast to earlier findings (Marut & Mercer, 1979), women who remained alert during Cesarean childbirth did not express greater satisfaction than women having general anesthesia. Women who remained "in control" (defined in terms of analgesia/anesthesia as no, local or pudendal versus regional anesthesia during vaginal childbirth) demonstrated more positive experiences. Finally, women who had a mate or other support person present for delivery experienced a more positive perception of childbirth. Characteristics of a woman in the total sample who tended to have a more positive perception of childbirth experienced

earlier contact with her infant, greater positive life events the year prior to birth, had greater network support and greater emotional and physical support from her mate, had higher total positive self-concept scores, fewer maternal illnesses, a healthier infant at birth, a spontaneous vaginal delivery, local or pudendal block or no anesthesia, and a spontaneous labor. She was Caucasian, had good feelings about the current pregnancy, and chose family-centered birth. The authors concluded, "The woman's perception of her birth experience seems to be minimally affected by medical management--cesarean birth, medications, fetal monitoring, and anesthesia--when psychosocial variables are considered." (Mercer, et al., 1983, p. 207).

It must be noted that these data were collected in the immediate postpartum period and, thus, involve ex post facto recall. Maternal perception of some of the variables may be clouded by the birth experience itself. In addition, unstandardized measures and one-item responses were used to assess many of the variables.

In summary of the review of the childbirth satisfaction literature, conflicting results have been demonstrated for the impact of age, race, parity, self-concept, length of labor, childbirth education, assisted (forceps/vacuum)

vaginal birth, and type of anesthesia during cesarean childbirth upon a woman's satisfaction with her experience of childbirth. For vaginal childbirth, either no correlation or a negative correlation has been demonstrated between decreasing pain and subsequent maternal satisfaction with the experience. Likewise, the use of regional anesthesia for vaginal childbirth has been negatively correlated with childbirth satisfaction. A woman's satisfaction with the experience of childbirth has been positively correlated with: a healthy pregnancy, a positive attitude toward the pregnancy, support from staff, husband or other significant person, early infant contact, a healthy infant, a vaginal birth, a spontaneous and unaugmented (with oxytocin) birth, an attitude that childbirth preparation is important, a choice for family-centered birth, and "control" during childbirth.

To further expand upon the experience of childbirth, the following section will review what women have to say about their childbirth experiences. The qualitative data as they relate to childbirth satisfaction will be discussed.

The Subjective Experience of Childbirth

In many studies where women were asked about their

childbirth experiences, the concept of control emerged as an important determinant of satisfaction or dissatisfaction. These investigations will be described.

Willmuth (1975) evaluated the childbirth experiences of 145 women by means of a postpartum questionnaire completed and returned during the "first weeks after delivery" (Willmuth, 1975, p. 39). He reported that the major factor women cited in association with a positive outcome was the woman's perception that she remained "in control" during labor and delivery. These women defined control most frequently as the continued ability to influence the decisions made. Also commonly mentioned was the ability to maintain control over one's emotions and actions. The control of pain perception was only cited occasionally. Thus, control, defined in various ways, was a recurrent theme in this study.

Butani and Hodnett (1980), described the labor experiences of 50 postpartum women based on a postpartum interview completed within 48 hours after childbirth. Thirty-eight percent of primiparas and 24% of multiparas expressed regrets about their behavior during labor. Loss of control was given as the reason by all of the women.

Again, control, although not well defined, was the factor explaining women's perceptions of their birth experiences.

Data from these two investigations were retrospective and methods for data collection and analysis were not reported in the study discussion. In the work by Willmuth (1975), the sample consisted of women whose educational level and socioeconomic status was generally high and who had taken part in childbirth preparation. Butani and Hodnett's (1980) sample was from a large teaching hospital in an urban setting. Thus, control emerged as an important factor in childbirth satisfaction in at least two diverse populations.

Perceived control during the birthing experience was identified by the majority of the investigators reviewed as an important antecedent to maternal satisfaction with the experience of childbirth (Davenport-Slack & Boylan, 1974; Humenick, 1981; Humenick & Bugen, 1981; Marut & Mercer, 1979; and Mercer, Hackley & Bostrom, 1983). Further, the findings of other authors which did not specifically investigate or mention perceived "control" support such a relationship. For example, childbirth preparation was identified by Norr, et al. (1977) to promote satisfaction with the experience of childbirth. Such preparation can be

seen to enhance a woman's perception of control during childbirth vis a vis the acquisition of knowledge and skills with which to cope and to become an active partipant in the childbirth process. Morgan et al.'s (1982) findings that satisfaction with childbirth increased with lesser levels of anesthesia and analgesia likewise support a concept of childbirth satisfaction that includes a woman's control during the process. Large amounts of analgesics or anesthesia may contribute to a sense of loss of control. Finally, when women themselves are asked about their childbirth experiences, control again is identified as a major determinant.

Lacking within all of these reports is a clear definition of "control" during childbirth. In order to further develop this concept of "control during childbirth", the following section will discuss the literature that has attempted to describe and test this aspect of a woman's childbearing experience.

Control During Childbirth

It is clear from the previous review that many authors reporting on "control" during childbirth have provided no clear definition of the term. Various ways of viewing

control, however, have been proposed. This section will discuss concepts of control as they have been identified and tested within the domain of childbirth.

Control was explained by subjects in Willmuth's (1975) qualitative work as the continued ability to influence the decisions made, the control over one's emotions and actions, and the ability to control pain perception. Humenick (1981) described a woman's sense that she had successfully mastered the task of childbirth as control. Mercer, et al. (1983) used the level of anesthesia required by women during delivery for their definition and measurement of control during childbirth.

Rotter (1966) proposed the construct of "locus of control". Individuals were seen either to perceive life events as being a consequence of their own actions (internal locus of control) or as being beyond personal control and the consequence of chance or powerful others (external locus of control). Persons with an internal locus of control, then, would believe that the achievement of a particular goal was contingent upon his or her own behavior. This construct has been applied in the study of childbirth by several authors.

Willmuth, Weaver, and Borenstein (1978) reported that

women who had attended childbirth preparation classes and who demonstrated an internal locus of control (LOC) expressed greater satisfaction with the childbirth experience. This relationship did not hold true for those women with an internal locus of control who were not prepared. Unfortunately, no attempt was made to control for any other potentially intervening variables. In addition, some of the LOC measures were completed antepartally and some postpartally. Windwer (1977) found locus of control unrelated to the choice of psychoprophylaxis. Felton and Segelman (1978) attempted to determine whether a change in LOC occurred after the completion of prenatal childbirth preparation classes. These authors reported a change toward an internal locus of control occurred when Lamaze trained women completed LOC testing after the births of their babies. This change was not significant for women completing the second locus of control test before their deliveries. It appears that the childbirth experience itself may have effected the change in LOC scores.

Highley and Mercer (1978) listed potential areas where self-control can be lost during childbirth. The loss of body image, loss of decision-making, and the loss of

biophysiological control were identified using one woman's childbirth experience as a case report.

It is clear that control during childbirth has appeared frequently in the childbirth literature. What is not clear, is specifically what is meant by control and no consistent pattern emerges based upon previous work. Thus, identifying a gap within the realm of childbirth literature, this report will attempt to further narrow and define an aspect of control that will be tested for its impact upon satisfaction with the experience of childbirth.

CONCEPTUAL FRAMEWORK

Colman and Colman (1977) described a pregnant woman's psychological sentiments with regard to the potential threat of labor and birth.

> The physical event of delivery is tremendous and unforgettable. It involves forced participation in an extraordinary phenomenon which is all the more remarkable both because of its infrequent occurrence for any one woman, and because of the relatively large risk factor that accompanies it. (p. 61 - 62)

Conceptual support for facilitating a positive outcome

(maternal satisfaction) from such a threat (childbirth) can be borrowed from the psychological literature and will be presented in this section.

Lazarus (1966) proposed an extensive account of the variables that influence an individual's response to the threat of aversive stimulation. An important facet of an individual's ability to decrease the potential for a stressful response is termed cognitive appraisal. Cognitive appraisal involves appraisal of the stimulus in relation to the individual appraisal of his resources for coping with the threat. One of the more important cognitions described is one's sense of control over the threatening situation. In fact, Averill (1973) stated, "It is almost axiomatic to assume that personal control over an impending harm will help to reduce stress reactions" (Averill, 1973, p. 286).

Paradigms involved in personal control have been presented by Corah and Boffa (1970). These authors theorized that,

> A sense of control is a determinant of the cognitive appraisal of threat. A procedure which gives the subject the choice of avoiding or not

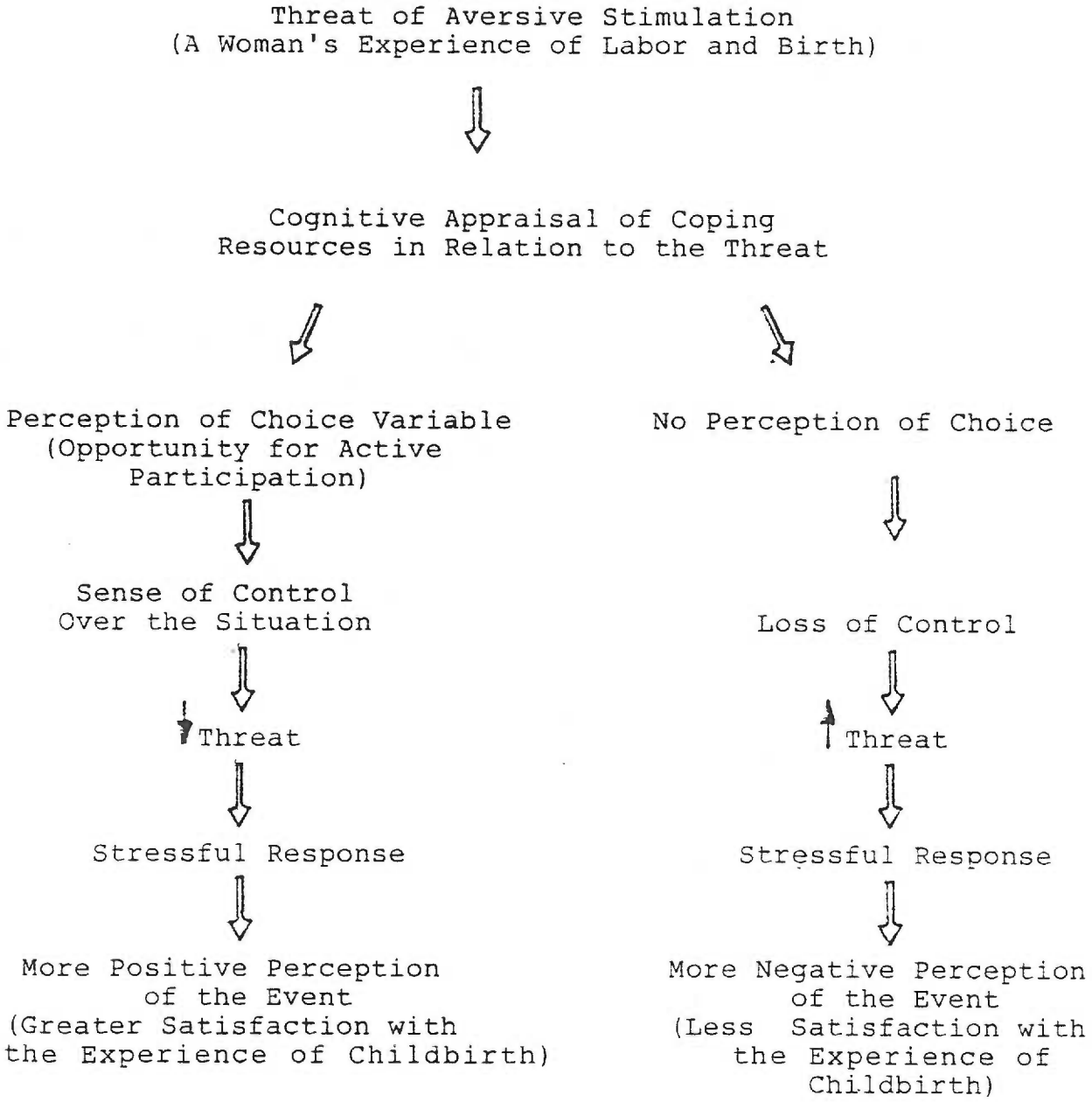
> avoiding the aversive consequences of a stimulus is equivalent to giving him perceived control over the potential threat. (p. 4).

Thus, introducing this "choice" variable encourages a sense of control over a situation.

Research Questions

In summary, applying these theories from psychology to the experience of childbirth, a woman's experience of labor and birth can be threatening and painful. When, in cognitively appraising coping resources, a woman perceives a choice (is given the opportunity for active participation in decisional control and takes action to carry out that choice), a woman can lessen the degree of adverse response to the experience. This lessening of adverse response is ultimately expressed as a more positive perception--or greater personal satisfaction--with the experience of giving birth. Figure 2 shows a model of cognitive appraisal that depicts how the perception of choice acts during childbirth to provide a sense of control and, in turn, serves to decrease the sense of threat and stressful response to the threat of aversive stimulation. Based upon this conceptual framework, the following research questions will be asked:

Figure 2. Personal control during childbirth in relation to satisfaction



1. Is there a correlation between a gravida's score on a scale measuring her perception of "control" during labor and her score on a scale measuring her "satisfaction" with the experience. Likewise, is there a correlation between a gravida's score on a scale measuring her perception of "control" during delivery and her score on a scale measuring her "satisfaction" with the experience.

2. Is the relationship between a gravida's score on a scale measuring her perception of "control" during labor and delivery and her score on a scale measuring her "satisfaction" with the experience affected by the type of labor, type of delivery, degree of pain perceived, the type of analgesia and anesthesia used, the length of labor and delivery, or the timing of or enjoyment at the first infant contact after childbirth?

CHAPTER II

METHODS

Design

The purpose of this study was to describe the relationship between perceived control and satisfaction with the childbirth experience. The research design was a descriptive correlational type of ex post facto research.

Measurement of the Variables

The childbirth experience questionnaire (Appendix B) was intended to measure varibles believed to affect a woman's degree of satisfaction with her childbirth experience. It consisted of five subsections as follows: Questions one and two served to exclude women who had either experienced pregnancy with a pre-existing disease or with complications during her prenatal course. Questions three through 16 were developed and/or revised from another source (Marut, 1978) to collect information on variables with potential effects upon satisfaction with the childbirth experience. Questions 17 through 25 and 26 through 35 represent two scales developed by Humenick (1981) designed to measure a woman's perception of "control" during labor

and during delivery, respectively. Questions 36 through 45 form a scale developed by Humenick and Bugen (1981) that measure a woman's subjective satisfaction with the childbirth experience. The final section of the questionnaire (questions 46 through 53) collect demographic information. These variables and data collection instruments will be discussed further in the sections following.

Measurement of demographic information.

Demographic information was collected on questions 46 through 53 on the Childbirth Experience Questionnaire. This personal characteristics section of the questionnaire was placed last, according to the recommended method of formatting questionnaires proposed by Dillman (1978). Descriptive information regarding age, parity, marital and partnered status, and socioeconomic level were collected. Because the effect of socioeconomic status upon childbirth satisfaction is probably more a factor of "social position" than "economic position", socioeconomic status was determined by Hollingshead's two factor index of social position (Miller, 1983). Educational level and occupation/profession was collected from both the respondent and her husband/partner. In accordance with Hollingshead,

the husband's educational level and occupation was used whenever possible to calculate social position according to the formula depicted in Table 1. When the respondent was unmarried but partnered, the partner's educational level and occupation was used for calculation. When the respondent indicated that she was both unmarried and unpartnered, her occupation and educational level was utilized.

Table 1

Calculation of Hollingshead's Two-Factor Index of Social Position

Factor	Scale Score	X	Factor Weight	=	Partial Score
	(Occupation)	X	7	=	
	(Education)	X	3	=	_____
	Index of Social Position Score (Total)				

Class		Range of Scores
I	High	11-17
II		18-31
III		32-47
IV		48-63
V	Low	64-77

Note. From Handbook of Research Design and Social Measurement (p. 301) by D. C. Miller, 1983, New York: Longman.

Measurement of the perception of active participation in labor and delivery.

One of the major variables in this investigation was "control" during childbirth. Control was conceptually defined as a woman's perception of active participation in the birth process. That is, the childbearing woman was given the opportunity for active participation in decisional control and carried out that choice. Control was quantified by the "Self Perception of Instrumental Behavior in Childbirth Scale" that had been developed by Sharon Humenick, R. N., Ph.D. The tool is intended to measure "the woman's perception of her control during the labor and delivery experience" (Humenick & Bugen, 1981, p. 86). In a personal conversation with Dr. Humenick, her conceptualization of control was described as "akin to active participation" (Humenick, May, 1985). The scale is based upon the work of Bacon (1966) and Spence and Helmreich (1978) on those personal attributes collectively called "instrumental" attributes. Instrumental attributes include such characteristics as self-assertion, activity, decisiveness, and confidence. Thus, it seems that this measure fits the conceptualization of the independent variable in this study.

The Self-perception of Instrumental Behavior in Childbirth Scale is composed of two subscales, the "Labor Agency Scale" and the "Delivery Agency Scale". These scales consist of nine and ten items, respectively, and are self-administered. Respondents are asked to indicate the strength of their feelings on a scale from one to seven in response to a series of apparently opposite statements. The items are given a score from one to seven, are added together and divided by the number of scale items. Thus, the total score for each subscale ranges from one to seven and represents an average score value. The Labor Agency Scale reverses items two, three, four, seven, and nine for scoring. The Delivery Agency Scale reverses items one, two, four, six, seven, and ten for scoring. The higher scores are intended to imply that a woman percieved a greater amount of control. The Labor Agency Scale is found as questions 17 through 25 of The Childbirth Experience Questionnaire. The Delivery Agency Scale is found as questions 26 through 35 of the Childbirth Experience Quesionnaire.

Inter-item reliability has been reported as alpha = .88 for the Labor Agency Scale, and alpha = .89 for the Delivery Agency Scale (Humenick & Bugen, 1981). Further development

of this scale continues. The author hopes that these subscales may eventually be combined for scoring and, thus, result in higher reliability (Humenick, May, 1985).

Criterion related validity for these scales have been provided by correlation with other variables. The Labor Agency Scale and The Delivery Agency Scale have resulted in significant positive correlations with maternal self-esteem ($r=.32$, $p<.05$ and $r=.44$, $p<.01$, respectively for a prenatal measure and $r=.40$, $p<.01$ for both on a postnatal measure) (Humenick & Bugen, 1981). Greater perceived nursing support during labor also correlated with greater amounts of perceived control by women during childbirth (Galvin, 1983). Women having home births showed higher control scores than women having birthing room or traditional hospital births; and women having birthing room births had greater perceived control than women having the traditional hospital births. (Clarady, 1983). No or minimal analgesia as compared to women receiving epidural anesthesia also resulted in higher control scores (Viau & Humenick, unpublished data).

Measurement of satisfaction with the experience of childbirth.

The second major variable of this study was

"satisfaction." Satisfaction was conceptually defined as a woman's subjective feeling of satisfaction with the childbirth experience. Satisfaction was operationalized by the Labor/Delivery Evaluation Scale.

The "Labor/Delivery Evaluation Scale" (L/DES) is a ten item scale devised by Humenick and Bugen (1981) to measure a woman's subjective satisfaction with the childbirth experience. The Labor/Delivery Evaluation Scale utilizes the semantic differential technique developed by Osgood (1962). The semantic differential has been used extensively for measuring the psychological meaning of concepts or objects to an individual and consists of seven-point bipolar rating scales. The scales consist of bipolar adjectives. Osgood, through extensive research with semantic differental scales, found that adjective pairs tend to cluster along three principal and independent dimensions: evaluation, potency, and activity. The most important group of adjectives are those that are the "evaluative" or the attitudinal component of meaning (Osgood, 1962; Polit & Hungler, 1983). It is this evaluative domain that was utilized by Humenick and Bugen (1981) in order to measure women's subjective feelings of satisfaction with their childbirth experiences. The Labor/Delivery Evaluation Scale

was pilot tested on 129 mothers with a resultant inter-item reliability of alpha = 0.91. The Labor/Delivery Evaluation Scale is found as questions 36 through 45 on the Childbirth Experience Questonnaire.

Other variables affecting the childbirth experience.

In order to control for extraneous conditions that may affect the manner in which a woman perceives her childbirth experience, a homogeneous sample with similar pregnancy and labor experiences was sought. Eligible participants included those women who had perceived that they had experienced an uncomplicated prenatal course (absence of pre-existing disease or diagnosed major complication of pregnancy) and delivered a healthy infant of 37 or more weeks gestation. The beginning portion of the Childbirth Experience Questionnaire (questions one and two) as well as the cover letter (Appendix A), served to screen women who had experienced either pre-existing health problems or obstetric complications that led to their perception that they had experienced an "unhealthy pregnancy."

Items three through 14, obtained information about the participant's labor and delivery experience, other than control, which might have affected her satisfaction.

"Labor" was defined as the time a woman recalls from the beginning of painful, regular contractions until she began pushing her baby out. "Delivery" was defined as the time the woman recalls when the baby was being pushed out and born vaginally or the time during a Cesearan birth. When considering the same variables, women have described these two parts of their childbirth experience as significantly different (Humenick and Bugen, 1981; Marut & Mercer, 1979). The Childbirth Experience Questionnaire also collected information about the presence of a non-nurse supportive companion, the degree of pain perceived, the analgesia or anesthesia utilized during both the labor and the delivery, as well as the use of oxytocin during labor. Information was collected regarding the type of delivery (defined as: spontaneous, assisted by forceps or vacuum extraction, or Cesarean) as well as the woman's perception of the length of her labor and delivery as it compares to "most women's". It also determined timing of the first infant contact, as well as her enjoyment at holding her baby the first time.

Assumptions

There are some variables that have been shown to affect a woman's satisfaction with her childbirth experience which have not been addressed in this study. These include self-

concept and maternal perinatal attitudes.

A woman's self-concept has been reported to be associated with a more positive perception of childbirth (Mercer et al., 1983). Humenick and Bugen (1981) demonstrated that prenatal self-esteem scores did not predict childbirth satisfaction but did, however, increase for women who had perceived control during childbirth. Since Mercer et al.'s (1983) findings are based upon post-natal measurement of self-concept, it will be assumed by this author that the higher self-concept was an effect of the childbirth experience and not a determinant. Thus, self-concept was not quantified in this investigation.

Mercer, Hackley, and Bostrom (1983), identified the choice for family-centered birth, breastfeeding, and prenatal class attendance to be characteristics of a woman who tended to have a more positive perception of her birth experience. These concepts were combined for analysis under "maternal perinatal attitudes." This investigation assumed that drawing from a sample of prenatally prepared women will help to control for this cluster of variables.

Setting, Subjects and Procedure

The setting for recruitment of participants was a local

childbirth preparation oranization. Childbirth education was provided as a seven-week series of classes that included labor and birth preparation, as well as postpartum and newborn information. Clients gave birth in several area hospitals.

Questionnaire packets were mailed to women who had registered for classes during the month of July, 1985. A mailing list of 225 women was obtained. The initial mailing occurred on November 5, 1985.

The methdology proposed by Dillman (1978) for designing and handling mailed questionnaires was utilized whenever possible in order to enhance response rate. The purpose and usefulness of the investigation, an assurance of confidentiality, and an offer to share a summary of the results with the childbirth preparation organization were contained in a cover letter. Women were invited to participate in the study by filling out the Childbirth Experience Questionnaire and returning it, anonymously, in a stamped, preaddressed envelope that was enclosed within the questionnaire packet. One week subsequent to the first mailing, reminder/thank you postcards(Appendix C) were sent to the entire sample of 225. Questionnaires were accepted through the remainder of 1985. The resultant sample of 179

completed questionnaires represents a response rate of 79.56%. The study sample will be further described within the next chapter.

Analysis

Analysis of the data involved description of the sample and correlation between variables. All statistical procedures were calculated by the University of Vermont Statistical Package for the Social Sciences (Nie, 1975). Means, ranges, and standard deviations were reported for ratio data. Adjusted frequencies expressed in percentage were reported for selected demographic characteristics as well as the childbirth experience variables. Pearson's correlation co-efficient was utilized to determine correlation between the following groups of variables:

1. Selected demographic characteristics of the respondents were correlated with labor control, delivery, control, satisfaction scores, and the potentially intervening childbirth experience variables.

2. Labor control, delivery control and childbirth satisfaction scores were inter-correlated for the entire sample as well as for spontaneous vaginal, assisted vaginal, and Cesarean birth groups.

3. The childbirth experience variables were inter-

correlated.

Pearson's correlation co-efficient was also calculated to assess inter-item correlations within each scale used for data collection. Cronbach's alpha was calculated as a single index of internal consistency reliability for each scale utilized.

The results of these analyses will be presented in detail in the following chapter.

CHAPTER III

RESULTS

This chapter will present the findings of the investigation. A discussion of these results will follow in Chapter IV.

Description of the Sample

As discussed previously within the Methodology section, The Childbirth Experience Questionnaire was sent to 225 postpartum women. Returned questionnaires totalled 179 (79.56%).

In order to obtain a homogeneous sample of women with similar pregnancy experiences, this sample of 179 completed questionnaires was further reduced by considering the participant's responses to questions one and two on the questionnaire. The following responses screened for women considered to experience a "high risk" pregnancy and excluded the respondent from being considered within this present analysis:

1. A "yes" response to any of the following pre-existing conditions: (a) diabetes, (b) high blood pressure treated with medication, (c) blood clotting disorders, (d) heart, lung, or kidney disease that caused an alteration in

daily life; (e) alcohol or drug addiction or abuse, (f) emotional or psychiatric problems with altered daily life and/or were treated with medication; or (g) an "other" category which yielded such responses as seizure disorders, infertility and back problems.

2. A "yes" response to any of the following conditions during the most recent pregnancy: (a) diabetes, (b) high blood pressure treated with medication and/or hospitalization, (c) labor before the 37th week of gestation, (d) vaginal bleeding treated by hospitalization, (e) multiple gestation, (f) blood incompatability, or (g) an "other" category which yielded such responses as oligohydramnios, uterine fibroid tumor, anemia, genital herpes, fetal distress, gall bladder disease, separated pubic bone, allergies, incompetent cervix, parasthesias, and exaggerated cases of the common discomforts of pregnancy.

3. A "no" response to either, "I was in good health before I became pregnant this time" or "I experienced a healthy pregnancy."

The final sample that was considered for statistical analysis of the research questions included 134 "low-risk" women.

Selected demographic characteristics of the study sample are presented in Table 2. Subjects' ages ranged from 19 to 38; the mean age was 28.46. A majority of the respondents were married (95.5%) with 97.0% identifying themselves as partnered. The sample was predominantly Caucasian (97.0%) and experiencing a first birth (69.9%). The women were reporting on childbirth experiences that occurred from two to 20 weeks prior as determined by the baby's age. The mean baby's age was 8.29 weeks with a standard deviation of 2.92. Social position was predominantly within the higher categories, with 52.7% being above and not including Class III.

Subjects' childbirth experiences are depicted in Table 3. The type of birth was predominantly spontaneous vaginal (64.4%). The Cesarean birth rate was 15.9% and 19.7% of the births had been assisted by forceps or a vacuum extractor. Oxytocin was used to either induce or augment labor in 37.9% of the study sample. All women reported receiving non-nurse support during labor and 97% reported such support during delivery. The gravidas reported their labor and delivery lengths as largely the same as "most women's" (36.2% and 41.3%, respectively) with both labors and deliveries tending to be perceived more towards the

Table 2

Selected Demographic Characteristics of Subjects

Characteristic	Number of Subjects Responding to Item	Value
Maternal Age in Years	132	
Mean		28.46
Range		19-38
Standard Deviation		4.16
Baby's Age in Weeks	133	
Mean		8.29
Range		2-20
Standard Deviation		2.92
Parity	133	
One		69.90%
Two		27.80%
Three		2.30%
Legal Marital Status	133	
Married		95.50%
Divorced or Separated		0.80%
Single/Never Married		3.80%
Partnered Status		
Partnered		97.00%
Not Partnered		2.30%
Other		0.80%
Ethnic Identification	133	
White		97.00%
Asian		1.50%
Hispanic		0.80%
Other		0.80%
Social Position	133	
Class I High		27.10%
Class II		25.60%
Class III		30.10%
Class IV		15.80%
Class V Low		1.50%

Table 3

Subjects' Childbirth Experiences

Experience	Number of Subjects Responding to Item	Value
Type of Birth	132	
SVD		64.4%
Assisted		19.7%
C/S		15.9%
Scheduled		1.5%
Emergency		14.4%
Use of Oxytocin	132	37.9%
Support During Labor	131	100.0%
Support During Delivery	133	97.0%
Length of Labor	130	
Much Longer than Most Women's		5.4%
Longer than Most Women's		20.8%
Same as Most Women's		36.2%
Shorter than Most Women's		25.4%
Much Shorter than Most Women's		12.3%
Length of Delivery	126	
Much Longer than Most Women's		4.0%
Longer than Most Women's		15.9%
Same as Most Women's		41.3%
Shorter than Most Women's		23.8%
Much Shorter than Most Women's		15.1%
Regional Anesthesia		
During Labor	125	41.6%
During Delivery	127	32.3%
IV or IM Meds		
During Labor	125	38.4%
During Delivery	127	3.9%
Use of No Meds		
During Labor	125	34.4%
During Delivery	127	62.2%
Perceived Pain		
During Labor	130	
Not at all Painful		0.8%
Slightly Painful		10.0%
Moderately Painful		30.0%
Very Painful		33.1%
Extremely Painful		26.2%
During Delivery	132	
Not at all Painful		18.9%
Slightly Painful		15.2%
Moderately Painful		25.0%
Very Painful		24.2%
Extremely Painful		16.7%
Infant Contact	134	
Immediate		70.9%
Within 1 hour		17.2%
Within 2 hours		5.2%
Within 8 hours		3.7%
8 Hours or Longer		3.0%
Enjoyment at First Infant Contact	134	
Slightly		2.2%
Moderately		7.5%
Very Much		22.4%
Extremely		67.9%

shorter than the longer. Regional anesthesia was utilized for labor in 41.6% of the cases and for delivery in 32.3%. It is noteworthy that many women did not indicate the presence of regional anesthesia during delivery when it had been reported during labor. It cannot be determined whether the effect of regional anesthetic was, in fact, present during delivery for these women. Intraveneous, intramuscular, or subcutaneous medications were reported for 38.4% of labors and 3.9% of deliveries. The very low rate of use of such medications during the delivery period probably reflects current standards of care that caution against such use when birth is imminent. No use of medication was reported in 34.4% of labors and 62.2% of deliveries. Childbirth was reported mostly as either moderately or very painful. Infant contact was almost always immediate (70.9%) or within one hour (17.2%), with only 3% of the sample reporting a delay of eight hours or longer. Enjoyment at first infant contact was reported to be extremely enjoyable by 67.9%, and very enjoyable by 22.4%. No one reported that they did not enjoy holding their baby for the first time although 2.2% enjoyed it only slightly.

Research Questions

This investigation asked two research questions

regarding perceived control during childbirth and satisfaction with the experience. The findings relevant to each will be presented.

Research Question One.

The first research question asked if there were correlations between a gravida's scores on scales measuring her perceived control during labor, her perceived control during delivery, and her satisfaction with the childbirth experience. The results for this study sample were highly significant and are presented in Table 4.

Table 4

Correlation Between Control and Satisfaction

	Control During Labor	Control During Delivery	Total Satisfaction
Control During Labor	1.00	0.33*	0.51*
Control During Delivery		1.00	0.41*
Total Satisfaction Score			1.00

* p=0.000

A woman's perception that she was in control during her childbirth correlated significantly with her total satisfaction (r=0.51 p=.000). In other words, 26.01% of the variance in satisfaction scores was explained by the perceived control during labor scores. Likewise, perception of control during delivery correlated significantly with a woman's satisfaction with her childbirth experience (r=0.41; p=.000), or 16.8% of the variance in childbirth satisfaction scores was explained by perceived control during delivery. Control during labor and control during delivery were also correlated significantly (r=0.33; p=.000).

The relationship between the demographic characteristics of the sample and these major variables were also determined. The findings were nonsignificant. There were no correlations demonstrated between maternal age, baby's age, parity and social position and scores on labor control, delivery control, and satisfaction. The possible affect of marital status, partner status, and ethnic identification upon the major variables could not be considered since this sample was so extremely homogeneous for those characteristics.

Research Question Two.

The second research question asked whether the

correlations addressed within the first research question were affected by a number of potentially intervening variables. The type of labor, type of delivery, length of labor, length of delivery, degree of pain perceived, the type of analgesia and anesthesia used, and the timing and enjoyment of infant contact were considered potentially intervening. This group of potentially intervening variables was called the "Other Childbirth Experience Variables." These other childbirth experience variables were analyzed for their potential relationship to perceived control and satisfaction with childbirth as well as the demographic variables. Intercorrelations among these childbirth experience variables were also examined. Finally, intercorrelations between control and satisfaction were analyzed for three separate groups according to type of birth: spontaneous vaginal, assisted, or Cesarean.

Correlation between selected demographic characteristcs and other childbirth experience variables.

Analyses of the correlation between selected demographic characteristics and the other childbirth experience variables revealed few statistically significant correlations. Table 5 presents the analyses of these

variables. Type of birth was significantly correlated with parity. A greater incidence of spontaneous vaginal birth and a lower incidence of Cesarean birth occurred as parity increased. Regional anesthesia for labor and delivery and the use of IV or IM medications during labor correlated negatively with increasing parity. The use of IV or IM medication during delivery was less frequent as maternal age increased. Unmedicated births were correlated with increasing maternal age and with increasing parity. Percieved pain was less as parity increased. Correlation between control, satisfaction and the other childbirth experience variables.

The correlation between the major study variables and the other childbirth experience variables are shown in Table 6. A clustering of relationships are revealed and are discussed within this section.

A woman's perceived control during labor correlated with spontaneous vaginal births, fast labors and deliveries, nonmedicated births, and enjoyment at first infant contact. Control during labor was negatively correlated with the use of pitocin, regional anesthesia for labor and delivery, the use of IV or IM medication during labor, perceived pain

Table 5

Correlation Between Childbirth Experience Variables and Selected Demographic Characteristics

	Maternal Age	Babies Age	Parity	Social Position
Type of Birth				
SVD	NS	NS	0.25*	NS
Assisted	NS	NS	NS	NS
C/S	NS	NS	-0.23*	NS
Use of Oxytocin	NS	NS	-0.20*	NS
Labor Length	NS	NS	NS	NS
Delivery Length	NS	NS	NS	NS
Regional Anesthesia				
During Labor	NS	NS	-0.16**	NS
During Delivery	NS	NS	-0.26*	NS
IV or IM Medication				
During Labor	NS	NS	-0.21*	NS
During Delivery	-0.16**	NS	NS	NS
Use of No Medication				
During Labor	0.16**	NS	0.26*	NS
During Delivery	0.22*	NS	0.32*	NS
Perceived Pain				
During Labor	NS	NS	-0.14**	NS
During Delivery	NS	NS	NS	NS
Immediate Infant Contact	NS	NS	NS	NS
Enjoyment at First Infant Contact	NS	NS	NS	NS

Note. NS = Nonsignificant
* $p < .01$
** $p < .05$

Table 6

Correlation Between The Childbirth Experience Variables and Control and Satisfaction

	Control During Labor	Control During Delivery	Total Satisfaction
Type of Birth			
SVD	0.14**	0.44*	0.35*
Assisted	NS	-0.15**	-0.18**
C/S	NS	-0.42*	-0.27*
Use of Oxytocin	-0.16**	-0.18**	-0.34*
Fast Labor	0.20*	0.23*	0.49*
Fast Delivery	0.17**	0.18**	0.44*
Regional Anesthesia			
During Labor	-0.42*	-0.24*	-0.28*
During Delivery	-0.18**	-0.43*	-0.30*
IV or IM Medication			
During Labor	-0.25*	-0.19**	-0.15**
During Delivery	NS	NS	NS
Use of No Medication			
During Labor	0.46*	0.17**	0.25*
During Delivery	NS	NS	NS
Perceived Pain			
During Labor	-0.49*	-0.15**	-0.45*
During Delivery	NS	NS	-0.20*
Delayed Infant Contact	-0.16**	-0.46*	-0.41*
Enjoyment at First Infant Contact	0.19**	0.17**	NS

Note. NS = Nonsignificant
* $p < .01$
** $p < .05$

during labor and delayed infant contact. Thus, women who felt less in control were more likely to be medicated, to perceive more pain and to have their first contact with their infants delayed.

Control during delivery correlated with the same variables as control during labor but with the additional finding that women with assisted vaginal and Cesarean deliveries felt significantly less in control.

Satisfaction with the childbirth experience.

Women with higher total satisfaction scores were more likely to experience spontaneous vaginal births, fast labors and deliveries, and childbirth without medication. Conversely, women with the lower satisfaction ratings more often experienced assisted or Cesarean births, the use of oxytocin, the use of regional anesthesia, the use of parenteral medication, greater perceived pain, and delayed infant contact.

A profile of a woman, then, who has perceived control during her childbirth and is subsequently satisfied with the experience becomes clear. She had experienced an unmedicated (either pain medications or oxytocin), fast, less painful spontaneous vaginal birth with immediate infant contact.

The other childbirth experience variables.

Intercorrelation was analyzed between each of the other childbirth experience variables. Table 7 presents the findings of this analysis.

Women who had experienced a spontaneous vaginal childbirth tended to be those who reported shorter, less painful childbirths that were unmedicated and provided more immediate infant contact. Conversely, women reporting assisted vaginal and Cesarean childbirths were those women who tended to have oxytocin induction or augmentation, analgesia or anesthesia, longer and more painful childbirths. In addition, women who had Cesarean deliveries also reported more delayed infant contact. Thus, women who had experienced spontaneous vaginal births showed variable clustering in the same manner as the women reporting greater control and satisfaction.

The findings with regard to enjoyment at the first infant contact warrant comment since they did not fit within the aforementioned profiles. The only significant correlations with enjoyment at first infant contact involved medications. Unmedicated labors were correlated with higher levels of enjoyment at the first infant contact, and, conversely, the use of IV or IM medications during labor was

Table 7
Intercorrelation Between Childbirth Experience Variables

	SVD	Ass	C/S	Oxy-tocin	Fast Lab	Fast Del	Regional Lab	Regional Del	IV/IM Lab	IV/IM Del	No Meds Lab	No Meds Del	Pain Lab	Pain Del	Del Con	Enjoy
Type of Birth																
SVD	--	-0.67*	-0.58*	-0.37*	0.44*	0.50*	-0.47*	-0.72*	-0.17**	NS	0.35*	0.71*	NS	0.27*	-0.50*	NS
Assisted	--	--	0.22*	0.31*	-0.29*	-0.36*	0.45*	0.42*	0.17**	NS	-0.34*	-0.39*	0.15**	NS	NS	NS
C/S	--	--	--	0.15**	-0.27*	-0.27*	NS	0.49*	NS	NS	NS	-0.51*	NS	-0.37*	0.66*	NS
Use of Oxytocin	--	--	--	--	-0.39*	-0.25*	0.32*	0.31*	0.16**	NS	-0.27*	-0.28*	0.27*	NS	0.19**	NS
Fast Labor	--	--	--	--	--	0.60*	-0.45*	-0.32*	-0.18**	NS	0.37*	0.34*	-0.18**	NS	-0.31*	NS
Fast Delivery	--	--	--	--	--	--	-0.41*	-0.43*	-0.18**	NS	0.31*	0.41*	-0.15**	NS	-0.28*	NS
Regional Anesthesia																
During Labor	--	--	--	--	--	--	--	0.54*	NS	-0.15**	-0.61*	-0.47*	0.44*	-0.16**	NS	NS
During Delivery	--	--	--	--	--	--	--	--	NS	NS	-0.30*	-0.89*	0.20*	-0.40*	0.42*	NS
IV or IM Meds																
During Labor	--	--	--	--	--	--	--	--	--	0.24*	-0.57*	-0.23*	0.15**	NS	NS	-0.15**
During Delivery	--	--	--	--	--	--	--	--	--	--	NS	-0.26*	NS	NS	NS	NS
Use of No Meds																
During Labor	--	--	--	--	--	--	--	--	--	--	--	0.37*	-0.35*	NS	NS	0.16**
During Delivery	--	--	--	--	--	--	--	--	--	--	--	--	-0.16**	0.33*	-0.41*	NS
Perceived Pain																
During Labor	--	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS
During Delivery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-0.24*	NS
Delayed Infant Contact	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS

Note. NS = Nonsignificant
* $p < .01$
** $p < .05$

correlated with less enjoyment at the first infant contact.

Since all of the variables that were related to control were also similarly related to type of birth, it was felt that separating groups by type of birth would effectively reduce the impact of those variables on the analysis of the relationship between control and satisfaction. It can be seen in Tables 8 that the correlation between control and satisfaction remained nearly identical for the spontaneous vaginal birth group.

Table 8

Correlation Between Control and Satisfaction for Women Experiencing Spontaneous Vaginal Births (N=84)

	Control During Labor	Control During Delivery	Total Satisfaction
Control During Labor	1.00	0.31**	0.53*
Control During Delivery		1.00	0.38*
Total Satisfaction Score			1.00

* p=0.000

** p=0.002

perceived control during labor and perceived control during delivery did approach significance (r=0.39; p=.059).

Reliability Analyses for the Labor Agency Scale, Delivery Agency Scale, and the Labor/Delivery Evaluation Scale.

Reliability analyses were performed on the entire sample of 179 completed questionnaires. Table 10 summarizes the results. These results and the decisions based upon this analysis are discussed within this section.

Table 10

Reliability Analysis for Labor Agency Scale, Delivery Agency Scale, and Labor/Delivery Evaluation Scale

Scale	N[a]	Alpha
Labor Agency Scale (Control During Labor)	171	0.90
Delivery Agency Scale (Control During Delivery)	163	0.83
If Q-29 Deleted		0.84
If Q-30 Deleted		0.83
If Q-31 Deleted		0.84
If Q-29 and 30 Deleted		0.85
If Q-29,30 and 31 Deleted		0.85
Labor/Delivery Evaluation (Satisfaction with the Childbirth Experience)	172	0.65
If Q-44 Deleted		0.78

[a] N = number of subjects responding to the item.

The scale used in this study to measure a woman's perception of control during labor was the Labor Agency Scale. This scale yielded in an alpha of 0.90 for this study sample. According to Nunnally (1978) an alpha of greater than .70 is desirable for research. Thus, this measure is well in excess of the minimum. For no item would deletion result in an alpha that was greater.

The Delivery Agency Scale, used to measure maternal perception of control during delivery, yielded an alpha of

purposes. However, there were several items within this tool that warrant discussion.

There were two items that if deleted would have resulted in a higher alpha, although not greatly so. If Q-29, which dichotomized delivery as "hard work" versus "requiring little effort", were deleted an alpha of .84 would result. Likewise, if Q-31, which measured "trusted one's self" versus "trusted the Doctor's and Nurses", were deleted an alpha of 0.84 would result. It may be that these items do not fit the conceptualization of perceived control during delivery.

Item Q-30 was also investigated for its affect upon the scale alpha. This item read, "I was simply ending

delivery" versus "I was dealing with delivery." A total of nine women indicated difficulty understanding this item with such comments as, "I don't understand what this means," and "I don't really understand this." No change in alpha resulted with the deletion of this item.

Because the increase in alpha was not great enough to warrant a change in an already existing tool, the decision was made to consider the scale as written for purposes of analysis within this investigation. This was not the case for the Labor/Delivery Evaluation Scale.

The Labor/Delivery Evaluation Scale was used to measure a woman's subjective satisfaction with her most recent experience of childbirth. The scale when analyzed for the sample of 179 women resulted in an alpha of .65. Scale item Q-44 yielded Pearson's correlations that were nearly all negative and, if deleted, formed a revised scale that resulted in an alpha of .78. This item will be further discussed.

Item Q-44 was contained within the semantic differential scale. The opposite adjectives were: "Realistic" versus "Idealistic." One explanation can be provided by noting that the adjective pair is not, in fact, truly opposite as is required for a semantic differential

scale. A second explanation might be afforded by considering that response set bias had set in. The reader may have read "Realistic" versus "Unrealistic" (instead of "Idealistic"). Thus, the scoring of this item would have been conceptually reversed. Because of the significant increase in alpha with Q-44 deleted, the Labor/Delivery Evaluation scale was revised to delete Q-44 for statistical analyses.

CHAPTER IV

DISCUSSION OF THE RESULTS

This chapter contains the discussion of findings from this study. The theoretical implications of the findings will be discussed for how they relate to the relevant literature.

Research Question 1: Control and Satisfaction

The finding that a woman's perception of greater control during both labor and delivery was highly correlated with her subsequent childbirth satisfaction is congruent with the literature reviewed previously.

Davenport-Slack and Boylan (1974) characterized those women who had a more satisfying childbirth experience as those who desired to and were given the opportunity to play an active, participatory role in the childbirth experience. Perceived control during delivery was correlated with satisfaction by Marut and Mercer (1979) and was included among factors that revealed the greatest differences in the birth experiences of women who had uncomplicated, spontaneous vaginal childbirths versus those women who had Cesarean births. Likewise, Mercer, et al. (1983) related

perceived control during delivery to subsequent satisfaction. The relationship between control and satisfaction is supported by other findings. Humenick and Bugen (1981) perceived control during childbirth as an important antecedent to increasing self-esteem scores for women from antepartum to postpartum measures. This increase in self-esteem could certainly be described as influencing maternal satisfaction. Also, childbirth preparation has been associated with greater childbirth satisfaction (Norr, et al., 1977). Such preparation may enhance the parturient's perception of control via the acquisition of knowledge and skills with which to actively participate during childbirth. Morgan et al.'s (1982) findings that satisfaction with childbirth increased with lesser levels of anesthesia and analgesia also support notions of greater control. Certainly large amounts of analgesia or anesthesia may contribute to less perceived control.

The theoretical framework utilized by this investigation was supported by the findings. Women who perceived that they had an opportunity for active participation in childbirth (sense of control over the situation) lessened the degree of adverse response to the

threatening and painful aspects of labor and birth. This lessening of adverse response was expressed as a more positive perception or greater satisfaction with the experience of giving birth.

Research Question Two: Control, Satisfaction and the Other Childbirth Experience Variables

Control during labor and delivery and satisfaction with the childbirth experience--the major study variables--will be discussed as they were seen to relate to the other childbirth experience variables. In, addition, how the other childbirth experience variables intercorrelated will be considered.

The type of birth.

Both control during labor and delivery and satisfaction with childbirth were seen to correlate positively with spontaneous vaginal births. Control during delivery and satisfaction with the childbirth were correlated negatively with Cesarean childbirth. These findings support those of Marut and Mercer (1979) and Mercer, et al. (1983).

The negative correlation with control can be explained by contrasting the vaginal and the Cesarean experience of childbirth. A vaginal birth provides the opportunity for more active involement and, therefore, more control during

childbirth than does a Cesarean delivery whereby the baby is surgically "removed" from a woman. One respondent commented, "The decision [for a Cesarean birth] made me very nervous--I couldn't stop shaking. The doctor assured me that it was a very normal reaction. Its hard to feel in control of a process that is surgical!"

Like Cesarean births, assisted vaginal births showed a negative relationship between control during delivery and satisfaction. The strength of the relationship was weaker and could be likened to being on a continuum between spontaneous vaginal and Cesarean birth and explained in the same manner.

In addition to the aforementioned relationship between control and satisfaction, other explanations may be provided for why women who have experienced Cesarean delivery are less satisfied with their childbirth experiences. The current trends in childbirth abound with a "family" theme (ie. Family-Centered Maternity Care) and seek to reintegrate birth into the entire spectrum of women's lives. Birth has been viewed as coming "full-circle" (Ahmed & Kolker, 1981) in becoming an emotional, personal, family experience whose medical aspects are to be avoided or minimized. Such a

change has provided for increased involvement and emotional gratification. Often not considered are the possible dangers inherent in this approach, given our current childbearing and childrearing culture. One aspect of the childbirth movement, that of pressure against intervention, may have resulted in feelings of guilt or inadequacy on the part of the women experiencing the ultimate in obstetrical intervention: surgical birth--or cesarean section. The recurrent themes within the cesarean literature describe a woman's reaction in terms of a decrease in self-esteem (Cox & Smith, 1982; Hott, 1981; Marut & Mercer, 1981), a sense of failure (Marut & Mercer, 1981; Tilden & Lipson, 1981), and the physical trauma and pain corresponding to a loss of body control (Marut & Mercer, 1981; Tilden & Lipson, 1981). This guilt, inadequacy, sense of failure, physical trauma and pain could certainly explain why these women show less satisfaction with the experience of childbirth.

Cesarean childbirths were correlated with the use of oxytocin, regional anesthesia for delivery, and delayed infant contact. These correlations appear logical. Oxytocin would be utilized for dysfunctional labors with a propensity for ending with Cesarean birth. Regional anesthesia for Cesarean delivery is commonly used within the

geographic area of the study. Delayed infant contact may occur because of the standard practice of pediatric attendance for Cesarean births. Infant contact may also be delayed because of the greater need for infant resucitation and subsequent nursery observation with neonates born by Cesarean. This may be due to the absence of the "vaginal squeeze" to clear the infant's airway, the effects of anesthesia on the neonate or the possibility of neonatal depression because the Cesarean was performed for fetal distress.

Assisted vaginal births were also seen to correlate with the use of oxytocin during labor, the use of regional anesthesia during labor and delivery, the use of parenteral medications during labor, and pain during labor. The use of oxytocin, regional anesthesia, parenteral medications and greater pain during labor could certainly be associated with a parturition that is progressing abnormally in some way and, thus, be more likely to end with assistance due to maternal exhaustion, fetal distress, fetal malposition or a tight cephalopelvic fit.

A second explanation could be provided by considering differences in individual pain tolerance. It could be that

some women experience greater pain during childbirth. These women are more likely to request epidural anesthesia which, in turn, necessitates the use of oxytocin augmentation and often assistance with childbirth. The association between regional anesthesia and forceps and vacuum assisted births are well documented (Jouppila, Jouppila, Karinen, & Hollmen, 1979; Studd, Crawford, Duignan, Rowbotham, & Hughes, 1980; Willdeck-Lund, Lindmark & Nillson, 1979).

The use of oxytocin.

The use of oxytocin for labor induction or augmentation was seen to correspond with lower control scores for both labor and delivery and with lower satisfaction scores. This finding corroborates other childbirth investigations.

Shields (1978) described greater satisfaction with nursing care in labor as correlated with the non-use of Oxytocin. It was suggested that increased stress might be imposed upon a laboring woman by the use of oxytocin and, thus, greater nursing support was needed. The reason for induction or augmentation, the necessity of immobilization by IV lines and continuous electronic monitoring could be described as stressors and could also be explained in terms of control. The need for the use of oxytocin stimulation may signal to a woman that her own body is not working

correctly--or the loss of body control. Immobilization by tubes and wires, again, leads to a loss of control with the inablility to position one's self for greater comfort or even to walk to the bathroom. The use of Oxytocin was correlated with longer labors and deliveries, with regional anesthesia, with analgesia during labor, with more pain during labor and with delayed infant contact.

Oxytocin is used to augment labors that are not progressing normally or to induce labors from the beginning. It follows, then, that these labors and deliveries might be longer. Labors involving Oxytocin have also been described as more painful. Butani and Hodnett (1980) report statements from some of their subjects indicating that "the contractions were too long and too close together, and that the nurses relied on data obtained from the machines instead of listening to them" (p. 78). The slow progress and frequent contractions were described by one of the respondent's within this investigation. "The contractions were very close and strong but were not doing anything--I wasn't prepared for that." Given slower progress and increased pain, it can be seen how a greater incidence of epidural anesthesia and parenteral medication for labor

would be associated with oxytocin stimulated labors.

Delayed infant contact could be explained by this associated use of medication. Both epidural anesthesia and parenteral analgesia have been associated with increased need for neonatal resucitation (Brackbill, 1979; Endler, 1980; Lester, Als, & Brazelton, 1982; Murray, Dolby, Nation, & Thomas, 1981; Rosenblatt, Belsey, Lieberman, Redshaw, Caldwell, Notarianni, Smith, and Beard, 1981). A need for resuscitation with possible nursery observaton would delay first infant contact.

Length of labor and delivery.

Those women who perceived shorter labor and deliveries had both higher labor and delivery control scores and higher satisfaction scores. This is a finding that has mixed support within the childbirth literature. Norr, et al. (1977) found no relationship between labor length and enjoyment of childbirth. On the other hand, Morgan, et al. (1982) found high levels of satisfaction reported by women who had short labors.

An explanation for this finding has not been discussed within the literature and seems less clear. One explanation for this finding might be that labor length exerts its effect upon control and satisfaction indirectly through

other childbirth experience variables. Fast labors and deliveries are associated with unmedicated, spontaneous vaginal childbirths experiences as well as less reported pain during labor, more immediate infant contact and the absence of Pitocin induction or augmentation of labor.

The use of anesthesia and analgesia.

Regional anesthesia had a uniformly negative correlation with control, both during labor and during delivery, and with maternal satisfaction. The use of parenteral medications during labor also correlated negatively with control and satisfaction. Conversely, unmedicated labors were positively correlated with control during labor, delivery and total satisfaction scores. These findings are supported within the literature and will be explained within this discussion in both theoretical and physiological terms.

Morgan, et al. (1982) described women who had utilized epidural anesthesia during childbirths as reporting less satisfaction both 48 hours after delivery and one year subsequently. Mercer, Hackley and Bostrom (1983) reported unmedicated childbirths as being associated with a more positive report of the childbirth experience. These

findings fit conceptually within a "control" framework. The use of regional anesthesia, with its loss of bodily control and its adverse affect upon a woman's ability to physically participate in the childbirth process, could predicate a less satisfying experience vis a vis this loss of control. Parenteral medications could likewise adversely affect control by altering a woman's ability to remain alert and cognizant. This was, in fact, verbalized by one of the respondents. "...I had no medication and was fully aware of what was happening and could be in more control."

A second explanation may be provided by considering prenatal expectations. The use of analgesia or anesthesia by women who had an expectation of unmedicated childbirth may lead to a feeling of failure, and, thus, decrease satisfaction with the experience. "There was only one brief sense of giving up and taking medications..." and "I felt very disappointed that I requested pain meds and an epidural and realize [sic] that I must have a low tolerance for pain." When considering a sample drawn entirely from antenatally prepared women, expectations for unmedicated childbirth experiences would be expected.

A physiologic basis for childbirth satisfaction might also provide explanation for this finding. Kimball (1979)

postulated a physiologic basis, namely the endogenous release of endorphins, for the fact that "Most mothers who actively participate in normal physiologic labor tend to manifest high emotional elation and euphoria," (Kimball, 1979, p. 128). Kimball, Chang, Huang, & Houck (1981) subsequently demonstrated that women experiencing vaginal births had significantly higher immunoreactive endorphin peptides than women experiencing cesarean births. Demerol and epidural blocks have also been associated with lower levels of Beta-endorphin-like immunoreativity (Thomas, Fletcher, & Hill, 1982). Thus, it may be the lower levels of circulating endorphin peptides that lead medicated women to report their childbirths less positively and, conversely, lead women with unmedicated childbirth experiences to report them with greater satisfaction.

Perceived pain during childbirth.

For this sample of childbearing women, less perceived pain during labor was correlated with more control during labor and delivery. Less perceived pain during both labor and delivery was correlated with greater total satisfaction. This is a finding not consistently supported within the childbirth literature.

Published reports that consider childbirth pain either reveal no relationship between pain and childbirth satisfaction or findings contrary to those of the present investigation. Davenport-Slack and Boylan (1974) as well as Norr. et al. (1977) reported pain and pleasure to be separate dimensions of the childbirth experience. Davenport-Slack and Boylan (1974) commented that pain was demonstrated to be a relatively constant finding among all childbirth experiences regardless of the circumstance and outcome. Norr, et al. (1977) described a decrease in pain mediated by childbirth preparation and a husband's supportive presence during the experience which, in turn, lead to greater enjoyment during the childbirth experience. Morgan et al. (1982) reported a correlation between high pain and high satisfaction. A finding that could be explained physiologiclly by greater endorphin release. Certainly less pain could be rationalized to afford a laboring woman with greater perceived control during childbirth, and therefore, be associated with greater maternal satisfaction.

The association between lower levels of pain reported and greater satisfaction might also be explained by how the pain variable was seen to relate to the other childbirth

experience variables. The positive effect of an unmedicated childbirth experience upon total satisfaction has been discussed. Women reporting lower levels of pain were those women who reported using less medication. They were also those women whose labors were faster. The use of oxytocin was also associated with more painful labors. This, too, has been discussed with regard to its' relationship to control and satisfaction.

Infant contact.

More immediate infant contact was correlated positively with the major study variables. More immediate infant contact was associated with greater perceived control during labor and delivery and greater satisfaction with the experience. Again, this is a finding that has been supported in previous investigations.

Mercer, et al. (1983) found that women who had earlier contact with their infants tended to have a more positive perception of the birth experience. This finding may relate to knowledge that the baby is healthy (by being able to "see for yourself"). Marut and Mercer (1979) correlated a less positive perception of childbirth with worry about the baby's condition. It makes sense that fears about the

health of the baby would certainly affect how positively one perceives the experience of childbirth, since a healthy baby is, generally speaking, the actual goal of childbirth.

An explanation can also be afforded by examining how delayed infant contact relates to the other childbirth experience variables. More delayed contact was seen with Cesarean births, the use of oxytocin, and the use of regional anesthesia during delivery. All of these variables were seen to inversely correlate with control during labor and delivery and satisfaction.

The relationship between delayed infant contact and less satisfaction is explained very well by the disappointment expressed by one of the women in the study. "I was really looking forward to holding my baby immediately--[to] feel it against my breast. Instead, I didn't hold my baby for over an hour after his birth."

Enjoyment at first infant contact.

Greater enjoyment at the first infant contact was seen to correlate with greater perceived control--both during labor and during delivery. Interestingly, total satisfaction scores did not correlate significantly. These are variables whose relationship has not previously been discussed within the literature. The study findings can be

explained by how enjoyment at first infant contact relates to the medication variables within this study.

The only childbirth experience variables that were demonstrated to affect enjoyment at first infant contact involved the use or non-use of medications during labor. The use of parenteral medications during labor correlated negatively with infant enjoyment. The use of analgesia for labor has previously been discussed in terms of control. How analgesia for labor may relate to infant enjoyment is well explained by the comments offered by one of the respondent's as an explanation for her answer that she only "moderately" enjoyed holding her baby the first time. "[I was] too tired and drugged (baby and mom) to be really, really alert and thrilled."

Intervening affects of the childbirth experience variables on control and satisfaction.

As previously presented, all of the variables that were related positively to control were associated with spontaneous vaginal births. Furthermore, all of the variables that were related negatively to control were associated with assisted and Cesarean births. Thus, the impact of the other childbirth experience variables were

reduced by separating groups by the type of birth. For the women who had spontaneous vaginal childbirths the correlations between control and satisfaction remained the same. For the women who had assisted vaginal births, control during labor continued to correlate with total satisfaction and control during delivery showed a strong trend toward significance. For women who had Cesarean births, significance was lost. Two possible explanations will be provided.

First, significance may be lost because control is extremely decreased by the other childbirth variables associated with assisted and Cesarean births. That is, the oxytocin, analgesia and anesthesia, longer and more painful labor and deliveries, and delayed infant contact that are so highly associated with assisted and Cesarean births could be expected to decrease a woman's overall sense of control. The small number of subjects within these two subsamples coupled with decreased variability among scores could have precluded statistically significant results.

It could also be that control becomes less important to women as complications arise and issues of survival predominate. Marut and Mercer (1979) report that 75% of the women in their study sample who had experienced Cesarean

births expressed "feelings of 'torture' and 'fears of death'" (p. 264). The principle of a hierarchy of personal needs (Maslow, 1970) may provide explanation. "Only when the more basic needs for the physical safety of mother and child have been assured, do the emotional aspects of childbirth become an issue (Hofmeyr & Sonnendecker, 1985, p. 473).

CHAPTER V

CONCLUSIONS

Summary

A childbearing woman's subjective satisfaction with the experience of birth may play an important part in many realms of individual and family health. Although many variables have been seen to influence a woman's childbirth satisfaction, control emerges as an important and recurrent theme. The purpose of this study was to explore the relationship between a woman's sense of control during the childbirth process and her subsequent satisfaction.

The conceptual framework upon which this study was based came from the psychological literature that consider an individual's response to the threat of aversive stimulation. When appraising one's resources for coping with a threat, a sense of control is one of the more important cognitions described to reduce adverse reactions. A procedure which gives the subject choice has been demonstrated as equivalent to giving them perceived control over the potential threat. Since the physiological process of childbirth cannot really be "controlled", this perception of choice may be a very important determinant of perceived

control. A lessening of adverse response should be associated with greater satisfaction.

Two research questions were formulated:

1. Is there a correlation between a gravida's score on a scale measuring her perception of "control" during labor and her score on a scale measuring her "satisfaction" with the experience. Likewise, is there a correlation between a gravida's score on a scale measuring her perception of "control" during delivery and her score on a scale measuring her "satisfaction" with the experience.

2. Is the relationship between a gravida's score on a scale measuring her perception of "control" during labor and delivery and her score on a scale measuring her "satisfaction" with the experience affected by any of the following potentially intervening variables: the type of labor, type of delivery, degree of pain perceived, the type of analgesia and anesthesia used, the length of labor and delivery, or the timing of or enjoyment at the first infant contact after childbirth?

The sample consisted of 134 women who had experienced uncomplicated pregnancies. They were from two to 20 weeks postpartum. The sample was largely Caucasian, married and

consisted of the higher social positions. All were prenatally educated for childbirth and had support persons present for labor. Most experienced a spontaneous vaginal childbirth and immediate contact with their infants.

Data were collected by means of a mailed questionnaire. Demographic information and information on variables believed to affect a woman's degree of control during childbirth and satisfaction with the experience were collected. In addition, two instruments were used to measure perception of control during childbirth and satisfaction with the labor and delivery experience. "The Self Perception of Instrumental Behavior in Childbirth Scale" consisted of two subscales for the measurement of perceived control during labor and during delivery, separately. "The Labor/Delivery Evaluation Scale" was used to measure a woman's subjective feeling of satisfaction with the total childbirth experience.

A woman's perception that she was in control during her labor and her delivery correlated significantly with her total satisfaction. The analysis of the relationships between control, satisfaction, and other potentially intervening determinants revealed a clustering of variables. The profile of a woman who had perceived control during

labor and delivery and who expressed satisfaction with the experience was one who had experienced an unmedicated (either pain medications or oxytocin), fast, less painful spontaneous vaginal birth with immediate infant contact.

The correlation between control and satisfaction was weakened when a woman had an assisted vaginal childbirth. There was no statistically significant correlation between control and satisfaction when women had Cesarean deliveries.

Limitations

There are several limitations within this study. These limitations involve sampling and measurement methodology.

Because this sample was obtained without random selection, systematic over and underrepresentation of certain variables occurred. The extreme homogeneity of the sample with regard to ethnicity, marital status, social position and childbirth experience limits generalizability to diverse childbearing populations.

Other methodological considerations derive from a study design involving ex post facto recall of an event. Memory loss and the possibility of occurrences between the event and measurement could certainly influence results. An extreme difficulty is that childbirth satisfaction is an

outcome that is subject to complex influence by many possible variables, not all of which can or have been measured. Judith Lumley (1985) states,

> Birth changes women's lives so that satisfaction with birth is inevitably colored by the degree of satisfaction we and they experience at what birth has brought about. Satisfaction with birth is a complex, subtle, and constantly changing collage of memories, reflections, beliefs, reactions and convictions, "remembered" by a series of active and even creative processes. (p. 144)

Further limitations are found with the small sample sizes of the Cesarean and assisted vaginal birth groups. Statistical significance for these groups of women may have been precluded by using sample sizes of less than 30.

Implications for Nursing Practice

Control has been seen to be an important correlate of childbirth satisfaction. The facilitation of a woman's sense of control, then, is an important task of nurses and midwives who work with childbearing women.

The aspect of control that has been investigated within this study involves active participation in decisional control. We are challenged to educate women and their

families so that informed choices can be made. During parturition, we must provide for active participation within decision-making whenever possible. Finally, we must allow women the opportunity to verbalize and process their childbirth experiences. This may be especially important for women who have experienced loss of control and those situations associated with loss of control.

Recommendations for Future Research

Recommendations for future study include the need for replication with different samples of childbearing women, qualitative work on the concept of control during childbirth as well as the measurement of the concept. Finally, further investigation is warranted with regard to the impact of current obstetric technology on women's perceptions of control and satisfaction with the childbirth experience.

Because of the aforementioned homogeneity of this study sample, replication is warranted using childbearing samples differing in demographic characteristics and childbirth experiences. Larger numbers of women who have experienced Cesarean or assisted childbirths might be investigated for the concepts of control and satisfaction.

Control during childbirth has been described often

within the literature and many definitions have been proposed (Butani & Hodnett, 1980; Felton & Segelman, 1978; Highley & Mercer, 1978; Humenick, 1981; Mercer et al., 1983; Willmuth, 1975; Willmuth et al., 1978). It is this author's belief that the concept of control during childbirth is one that is multidimensional. Further analysis of control during childbirth is warranted in order to answer such questions as: Is the concept of control one that is multidimensional? If so, what are the dimensions? Are some dimensions more important than others in terms of childbirth satisfaction? Do all dimensions of control correlate with satisfaction in the same manner for all women?

The current practice of obstetrics is fraught with the application of technology. For example, the decade of the 1970's revealed an increase in the Cesarean birth rate from 5.5% in 1970 to 15.2% in 1978 (Rosen, 1980). Oxytocin was used in 37.9% of this sample of low-risk women. Regional anesthesia was used in labor for 41.6% of the sample and there was a 19.7% incidence of assisted births. Electronic fetal monitoring is standard obstetric practice even though it use has not been proven beneficial to low-risk childbearing populations (Banta & Thacker, 1979; Havercamp, Orleans, Langendoerffer, McFee, Murphy, & Thompson, 1979).

Further understanding of control and satisfaction relative to the application of such technology is warranted in order to add greater understanding of the risk-benefit analysis.

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APPENDICES

APPENDIX A

COVER LETTER FOR THE

CHILDBIRTH EXPERIENCE QUESTIONNAIRE

PCA
PREPARED CHILDBIRTH ASSOCIATION

A Consumer Member Group of
INTERNATIONAL CHILDBIRTH EDUCATION ASSOCIATION

This booklet is an invitation for you to participate in a study about women's childbirth experiences. The experience of giving birth is felt to be important to the health of an individual and to a family. This research is being carried out as a Master's thesis for the Oregon Health Sciences University. The principal researcher is Rebecca Ecklund-Fitzthum, R.N. Carol Howe, C.N.M., D.N.Sc. is the advisor. The administration of Prepared Childbirth Association has offered their support and assistance in contacting volunteers.

If you have had your baby and you both are home and healthy, please fill out the questionnaire and return it in the self-addressed, stamped envelope. Because only a small but representative sample of women who have recently given birth have been invited to participate, your answers are very important and would be greatly appreciated.

So that complete confidentiality is assured, please do not sign your name or use any identifying marks on the questionnaire itself. The number on the return envelope is so that your name can be removed from the mailing list after your questionnaire has been received. Your responses will be pooled with the responses of other childbearing women in our community with the hope of helping childbirth educators, doctors, midwives, and nurses to better understand how to assist women to have positive birth experiences. The results of this research will be made available to The Prepared Childbirth Association.

I will be glad to answer any questions that you might have. Please feel free to write or call. My mailing address is: 1607 SE 51st, Portland OR 97215. I can be contacted by telephone at: 239-5540 between 6pm and 9pm.

Thank you for your consideration,

Rebecca Ecklund-Fitzthum, R.N.
Oregon Health Sciences University
Department of Family Nursing, Nurse-Midwifery

APPENDIX B

THE CHILDBIRTH EXPERIENCE QUESTIONNAIRE

Thank you for taking the time to help us learn more about women's childbirth experiences.

THE CHILDBIRTH EXPERIENCE QUESTIONNAIRE

Please respond to the following items with regard to your **most recent** childbirth experience.

Q-1 Did you have any of the following conditions **before** you became pregnant this time?

Please **circle** your answer for each condition.

YES	NO	A.	Diabetes
YES	NO	B.	High blood pressure treated with medication
YES	NO	C.	Blood clotting disorders
YES	NO	D.	Heart, lung, or kidney disease which altered your daily life
YES	NO	E.	Alcohol or drug addiction or abuse
YES	NO	F.	Emotional or psychiatric problems which altered your daily life and/or were treated with medication
YES	NO	G.	Previous Cesarean birth
YES	NO	H.	Other medical condition (please specify)

_____

YES	NO	I.	I was in good health before I became pregnant this time

Q-2 Did you have any of the following conditions **during** this most recent pregnancy experience?

Please **circle** your answer for each condition.

YES	NO	A.	Diabetes
YES	NO	B.	High blood pressure treated with medication and/or hospitalization
YES	NO	C.	Labor before the 37th week (three weeks before your due date)
YES	NO	D.	Vaginal bleeding that was treated by hospitalization
YES	NO	E.	Multiple gestation (twins, triplets, etc.)
YES	NO	F.	Blood incompatability with the baby's
YES	NO	G.	Other complicaton of pregnancy (please specify) _____
YES	NO	H.	I experienced a healthy pregnancy

Q-3 My most recent childbirth experience was: (Please **circle** your answer)

1 A SPONTANEOUS VAGINAL BIRTH (THE BABY WAS PUSHED OUT BY ME ALONE)
2 A FORCEPS OR VACUUM EXTRACTION BIRTH
3 A **SCHEDULED** CESAREAN BIRTH
4 AN **EMERGENCY** CESAREAN BIRTH

Q-4 ***IF YOU HAD A CESAREAN CHILDBIRTH,** WHAT WAS THE REASON?

1 SCHEDULED REPEAT CESAREAN
2 BREECH
3 MULTIPLE GESTATION (TWINS, TRIPLETS, ETC.)
4 FAILURE TO PROGRESS IN LABOR (THE BABY WOULDN'T FIT)
5 FETAL DISTRESS
6 PLACENTA PREVIA/ PLACENTAL ABRUPTION
7 PREGNANCY INDUCED HYPERTENSION OR "TOXEMIA" OR "PRE-ECLAMPSIA"
8 OTHER (Please explain)_____

_____

Q-5 Did your baby have to stay in the hospital <u>after</u> you were discharged home?

1 YES
2 NO

There are two parts to the next few questions. **"DURING LABOR"**, refers to the time during your childbirth experience after the onset of painful contractions but before you began pushing your baby out. **If you had a scheduled Cesarean Birth and did not have any labor,** answer "DID NOT LABOR" for the labor portion of the question.

The **"DURING DELIVERY"** section refers to the time during your childbirth when you were pushing your baby out and the time when your baby was being born vaginally or the time during your Cesarean Section. Please **circle** the response that most accurately depicts your answer.

Q-6-7 Did you have a non-nurse companion with you? (Husband, partner, friend, relative or other supportive person).

DURING LABOR	**DURING DELIVERY**
1 YES	1 YES
2 NO	2 NO
3 DID NOT LABOR	

Q-8-9 How did the length of your childbirth compare with most women's? (**Circle** the number that best describes your feeling)

DURING LABOR	**DURING DELIVERY**
1 MUCH LONGER THAN MOST	1 MUCH LONGER THAN MOST
2 LONGER THAN MOST	2 LONGER THAN MOST
3 SAME AS MOST	3 SAME AS MOST
4 SHORTER THAN MOST	4 SHORTER THAN MOST
5 MUCH SHORTER THAN MOST	5 MUCH SHORTER THAN MOST
6 DID NOT LABOR	

Q10-11 Did you have any pain medication during childbirth? (**Circle** all that apply)

DURING LABOR	**DURING DELIVERY**
1 EPIDURAL OR SPINAL ANESTHESIA	1 GENERAL ANESTHESIA (PUT TO SLEEP)
2 PAIN SHOTS	2 EPIDURAL, SPINAL OR CAUDAL ANESTHESIA
3 LOCAL OR PUDENDAL ANESTHESIA	3 PAIN SHOT(S)
4 NO MEDICATIONS	4 LOCAL OR PUDENDAL ANESTHESIA
5 DON'T KNOW	5 NO MEDICATIONS
6 OTHER _____	6 DON'T KNOW
7 DID NOT LABOR	7 OTHER _____

Q12-13 How painful was your childbirth? (**Circle** the number that best describes your feeling)

DURING LABOR	**DURING DELIVERY**
1 **NOT AT ALL** PAINFUL	1 **NOT AT ALL** PAINFUL
2 **SLIGHTLY** PAINFUL	2 **SLIGHTLY** PAINFUL
3 **MODERATELY** PAINFUL	3 **MODERATELY** PAINFUL
4 **VERY** PAINFUL	4 **VERY** PAINFUL
5 **EXTREMELY** PAINFUL	5 **EXTREMELY** PAINFUL
6 DID NOT LABOR	

Q-14 Oxytocin is a medication that is given to induce labor or to make contractions stronger during labor. It is administered through an intraveneous line. Did you have oxytocin during your childbirth?

1 YES
2 NO
3 DON'T KNOW

Q-15 How soon after delivery did you hold your baby?

1 IMMEDIATELY
2 WITHIN ONE HOUR
3 WITHIN TWO HOURS
4 WITHIN EIGHT HOURS
5 EIGHT HOURS OR LONGER

Q-16 How much did you enjoy holding your baby the first time?

1 NOT AT ALL
2 SLIGHTLY
3 MODERATELY
4 VERY MUCH
5 EXTREMELY

This section of the questionnaire refers to your **LABOR** experience. ("Labor" is the time during your childbirth experience after the onset of painful contractions but before you began pushing your baby out). If you did not experience labor, as with a scheduled Cesarean birth, go on to Q-26.

Please **circle** the number which shows most accurately the strength of your feelings during your **LABOR**.

EXAMPLE:

I WAS RELAXED 1 2 3 4 5 (6) 7 I WAS TENSE

(This answer would indicate that you were very tense though not extremely tense.)

DURING LABOR:

Q-17	I WAS PANICKED	1	2	3	4	5	6	7	I WAS IN CONTROL
Q-18	I FELT CONFIDENT	1	2	3	4	5	6	7	I FELT HELPLESS
Q-19	EVERYTHING SEEMED PEACEFUL AND CALM	1	2	3	4	5	6	7	EVERYTHING SEEMED CHAOTIC AND CONFUSED
Q-20	I FELT COMPETENT	1	2	3	4	5	6	7	I FELT INCOMPETENT

DURING LABOR:

Q-21	I WAS FEARFUL	1	2	3	4	5	6	7	I FELT CONFIDENT
Q-22	EVERY-THING SEEMED WRONG	1	2	3	4	5	6	7	EVERYTHING SEEMED RIGHT
Q-23	I HAD A SENSE OF BEING IN CONTROL	1	2	3	4	5	6	7	I HAD A SENSE OF NOT BEING IN CONTROL
Q-24	I WAS NOT ACCEPTING WHAT WAS HAPPENING	1	2	3	4	5	6	7	I WAS ACCEPTING WHAT WAS HAPPENING
Q-25	I FELT GOOD ABOUT THE WAY I WAS BEHAVING	1	2	3	4	5	6	7	I FELT BADLY ABOUT THE WAY I WAS BEHAVING DURING LABOR

This section of the questionnaire refers to your **DELIVERY** experience. ("Delivery" is the time during your childbirth experience after you began pushing your baby out and during the time your baby was actually being born vaginally or during your cesarean section).

Please **circle** the number which shows most accurately the strength of your feelings during your **DELIVERY**.

EXAMPLE:

I WAS A USEFUL MEMBER OF THE TEAM	1	2	(3)	4	5	6	7	I WAS WORTH-LESS

(This answer would indicate that you felt useful though not extremely useful as a member of the obstetric team during your delivery.)

DURING DELIVERY:

Q-26	I EXPER-IENCED A SENSE OF STRENGTH	1	2	3	4	5	6	7	I EXPERIENCED A SENSE OF WEAKNESS
Q-27	I WAS VERY ACTIVE	1	2	3	4	5	6	7	I WAS VERY PASSIVE
Q-28	I FELT POWERLESS	1	2	3	4	5	6	7	I FELT POWERFUL

DURING DELIVERY:

Q-29	I WORKED VERY HARD DURING DELIVERY	1	2	3	4	5	6	7	DELIVERY REQUIRED LITTLE EFFORT ON MY PART
Q-30	I WAS SIMPLY ENDING DELIVERY	1	2	3	4	5	6	7	I WAS DEALING WITH DELIVERY
Q-31	I TRUSTED MYSELF MORE THAN THE DOCTORS AND NURSES	1	2	3	4	5	6	7	I TRUSTED THE DOC-TORS AND NURSES MORE THAN MYSELF
Q-32	I FELT VERY INVOLVED	1	2	3	4	5	6	7	I FELT VERY DETACHED
Q-33	I EXPER-IENCED A SENSE OF PASSIVE SUFFERING	1	2	3	4	5	6	7	I EXPER-IENCED A SENSE OF ACTIVE STRIVING
Q-34	I HAD A A SENSE OF NOT BEING IN	1	2	3	4	5	6	7	I HAD A SENSE OF BEING IN CONTROL
Q-35	I WAS IN CHARGE OF MY DELIVERY	1	2	3	4	5	6	7	SOMEONE OR SOMETHING ELSE WAS IN CHARGE

This section of the questionnaire refers to your **entire experience of childbirth—Labor and Delivery.** Use the following coding system to rate your most recent childbirth by **circling** the number that most reflects how related the words listed at the left and right were to your own experience.

EXAMPLE:

	VERY CLOSELY RELATED	CLOSELY RELATED	SLIGHTLY RELATED	NEUTRAL	SLIGHTLY RELATED	CLOSELY RELATED	VERY CLOSELY RELATED	
SUCCESSFUL	(1)	2	3	4	5	6	7	UNSUCCESSFUL

(This answer would indicate you felt that your childbirth experience was extremely successful.)

		VERY CLOSELY RELATED	CLOSELY RELATED	SLIGHTLY RELATED	NEUTRAL	SLIGHTLY RELATED	CLOSELY RELATED	VERY CLOSELY RELATED	
Q-36	FAST	1	2	3	4	5	6	7	SLOW
Q-37	DANGEROUS	1	2	3	4	5	6	7	SAFE
Q-38	HEAVENLY	1	2	3	4	5	6	7	HELLISH
Q-39	ROUGH	1	2	3	4	5	6	7	SMOOTH
Q-40	PLEASANT	1	2	3	4	5	6	7	UNPLEASANT
Q-41	GOOD	1	2	3	4	5	6	7	BAD
Q-42	DIFFICULT	1	2	3	4	5	6	7	EASY
Q-43	UGLY	1	2	3	4	5	6	7	BEAUTIFUL
Q-44	REALISTIC	1	2	3	4	5	6	7	IDEALISTIC
Q-45	FAIR	1	2	3	4	5	6	7	UNFAIR

Finally, we would like to ask a few questions about yourself for statistical purposes.

Q-46 What is your age? _____ years.

Q-47 What is your baby's age? _____ weeks.

Q-48 How many children have you given birth to? (Include your most recent) _____ children.

Q-49 What is your legal marital status (please **circle** the number of the correct answer)

1 MARRIED
2 DIVORCED OR SEPARATED
3 WIDOWED
4 SINGLE, NEVER MARRIED

Q-50 What is your partner status? (please **circle** the number of the correct answer)

1 THIS PREGNANCY WAS A SOLO EXPERIENCE AND I PLAN TO BE A SINGLE PARENT FOR THIS CHILD.
2 THIS PREGNANCY WAS A JOINT EXPERIENCE WITH MY PARTNER WHO PLANS TO BE A PARENT WITH ME FOR THIS CHILD.
3 OTHER (please explain)_____

_____

Q-51 What is your ethnic or racial identification (please **circle** the number of the correct answer)

1 WHITE (CAUCASIAN)
2 BLACK
3 MEXICAN-AMERICAN
4 ASIAN
5 AMERICAN INDIAN
6 OTHER (please identify)

_____

Q-52 Schooling completed by yourself (please **circle** the number of the correct answer)

1 SOME GRADE SCHOOL
2 SOME JUNIOR HIGH SCHOOL
3 SOME HIGH SCHOOL
4 HIGH SCHOOL GRADUATE
5 SOME COLLEGE
6 COLLEGE OR UNIVERSITY GRADUATE
7 GRADUATE DEGREE

Schooling completed by your husband/partner (if applicable)

1 SOME GRADE SCHOOL
2 SOME JUNIOR HIGH SCHOOL
3 SOME HIGH SCHOOL
4 HIGH SCHOOL GRADUATE
5 SOME COLLEGE
6 COLLEGE OR UNIVERSITY GRADUATE
7 GRADUATE DEGREE

Q-53 Occupation or Profession (please specify)

SELF _____

HUSBAND/PARTNER (IF APPLICABLE) _____

_____

Once again, thank you for sharing in the hopes of helping us to understand more about women's childbirth experiences. If you have any additional comments you would like to make, please feel free to do so on these blank pages at the end of the questionnaire.

APPENDIX C

REMINDER/THANK YOU POSTCARDS

Last week a questionnaire seeking information regarding your most recent labor and birth was sent. Your name was selected from class listings through The Prepared Childbirth Association.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so as soon as possible. Because it has been sent to only a small, but representative sample of women who have recently given birth, it is extremely important that yours be included in the study if the results are to accurately represent the opinions of childbearing women in our community.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me at 239-5540 between 6pm and 9pm and I will get another questionnaire in the mail to you.

Sincerely,

Rebecca Ecklund-Fitzthum, R.N.

AN ABSTRACT OF THE THESIS OF

Rebecca Ecklund-Fitzthum

For the MASTER OF SCIENCE

Date of Receiving this Degree: June 13, 1986

Title: THE CORRELATION BETWEEN WOMEN'S PERCEIVED CONTROL DURING CHILDBIRTH AND SUBSEQUENT SATISFACTION WITH THE EXPERIENCE

Approved: Carol L. Howe

Carol L. Howe, C.N.M., D.N.Sc., Thesis Advisor

A childbearing woman's subjective satisfaction with the experience of birth may play an important part in many realms of individual and family health. Although many variables have been seen to influence a woman's childbirth satisfaction, control emerges as an important and recurrent theme. The purpose of this study was to explore the relationship between a woman's sense of control during the childbirth process and her subsequent satisfaction.

Two research questions were formulated:

1. Is there a correlation between a gravida's score on a scale measuring her perception of "control" during labor and her score on a scale measuring her "satisfaction" with the experience. Likewise, is there a correlation between a gravida's score on a scale measuring her perception of

"control" during delivery and her score on a scale measuring her "satisfaction" with the experience.

2. Is the relationship between a gravida's score on a scale measuring her perception of "control" during labor and delivery and her score on a scale measuring her "satisfaction" with the experience affected by any of the following potentially intervening variables: the type of labor, type of delivery, degree of pain perceived, the type of analgesia and anesthesia used, the length of labor and delivery, or the timing of or enjoyment at the first infant contact after childbirth?

The sample consisted of 134 women who had experienced uncomplicated pregnancies. They were from two to 20 weeks postpartum. The sample was largely Caucasian, married and consisted of the higher social positions. All were prenatally educated for childbirth and had support persons present for labor. Most experienced a spontaneous vaginal childbirth and immediate contact with their infants.

Data was collected by means of a mailed questionnaire. Demographic information and information on variables believed to affect a woman's degree of childbirth satisfaction were collected. In addition, two instruments were used to measure perception of control during childbirth and satisfaction with the labor and delivery experience. "The Self Perception of Instrumental Behavior in Childbirth

Scale" consisted of two subscales for the measurement of perceived control during labor and during delivery, separately. "The Labor/Delivery Evaluation Scale" was used to measure a woman's subjective feeling of satisfaction with the total childbirth experience.

A woman's perception that she was in control during her labor and her delivery correlated very significantly ($p<.000$) with her total satisfaction. The analysis of the relationships between control, satisfaction, and other potentially intervening determinants revealed a clustering of variables. The profile of a woman who had perceived control during labor and delivery and who expressed satisfaction with the experience was one who had experienced an unmedicated (either pain medications or oxytocin), fast, less painful spontaneous vaginal birth with immediate infant contact.

The correlation between control and satisfaction was weakened when a woman had an assisted vaginal childbirth. There was no statistically significant correlation between control and satisfaction when women had Cesarean deliveries.

There are several limitations within this study. These limitations involve sampling and measurement methodology.

Because this sample was obtained without random selection, systematic over and underrepresentation had

occurred. The extreme homogeneity of the sample with regard to ethnicity, marital status, social position and childbirth experience limits generalizability to diverse childbearing populations.

Other methodological considerations derive from a study design involving ex post facto recall of an event. Memory loss and the possibility of occurrences between the event and measurement could certainly influence results. A particular difficulty is that childbirth satisfaction is an outcome that is subject to complex influence by many possible variables, not all of which can or have been measured.

Further limitations are found with the small sample sizes of the Cesarean and assisted vaginal birth groups. Statistical significance for these groups of women may have been precluded by using sample sizes of less than 30.

Control has been seen to be an important correlate to childbirth satisfaction. The facilitation of a woman's sense of control, then, is an important task of nurses and midwives who work with childbearing women.

The aspect of control that has been investigated within this study involves active participation in decisional control. Nurses are challenged to educate women and their families so that informed choices can be made. During parturition, active participation within decision-making

should be provided whenever possible. Finally, a woman must be allowed the opportunity to verbalize and process her childbirth experience--especially with regard to issues of perceived control.