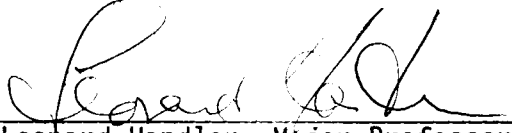


To the Graduate Council:

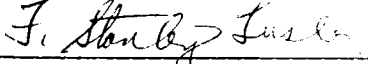
I am submitting herewith a dissertation written by Catherine Collins entitled "Process Changes in a First Pregnancy: The Roles of Quickening and Marital Satisfaction." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.


Leonard Handler, Major Professor

We have read this dissertation
and recommend its acceptance:







Accepted for the Council:



Vice Provost
and Dean of the Graduate School

PROCESS CHANGES IN A FIRST PREGNANCY: THE ROLES
OF QUICKENING AND MARITAL SATISFACTION

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Catherine Collins

December 1986

ACKNOWLEDGEMENTS

Special thanks go to my committee members, who have been supportive and encouraging during this two year process. My chairman, Len Handler, has been a source of support and guidance since my arrival at The University of Tennessee, and he has my special thanks for his supervision of this project, and for being someone I have counted on over the last six years. Anne McIntyre has been consistently helpful in encouraging me to take a more sophisticated and critical approach to clinical research, and this project has been significantly bettered by her suggestions. Bob Wahler and Stan Lusby each have a way of focusing on the positive and interesting that serves to make a task such as this less difficult than it would otherwise be.

Bill Murphy, of U.T. Memphis, was invaluable in assisting with data analysis, and was more than generous with his time and energy.

The women who participated in this study, by their enthusiasm and their willingness to share their experiences with me, made much of my work a pleasure. They have my thanks for their time and involvement.

My husband Garry has been patient and supportive through all phases of this project, and as always, managed to provide comfort and laughter during the uphill stages. On another level, he has been critically involved in what this project is all about, as he and I experienced together what it means to welcome a baby into

our lives. It is to Garry, and to our son Adam, that this work is dedicated.

ABSTRACT

Psychological research has traditionally described pregnancy as a relatively static, isolated and crisis evoking life event. Attitudes and experiences that identify problems of pregnancy--from both a medical and psychological viewpoint--are quite evident in the literature. Recently a number of authors have responded to this conceptualization of pregnancy as crisis, and have begun to investigate the process changes that characterize a woman's experience during pregnancy. Issues related to a woman's sense of self during pregnancy, her feelings about her unborn baby and her attitudes toward being pregnant are examined within the context of normal adult development and adaptive processes.

The current study examined women's experience of a first pregnancy from this perspective, and specifically addressed the roles played by quickening--the sensation of fetal movement--and marital satisfaction on a pregnant woman's attitudes about pregnancy and her feelings of attachment toward her unborn baby. Forty women were administered The Maternal Attitudes to Pregnancy Instrument, The Maternal-Fetal Attachment Scale, The Physical Symptom Subscale, and The Marital Satisfaction and the Life Cycle Questionnaire at three different times during the middle stage of their pregnancies. Quickening occurred for each woman at some point during this period. An analysis of variance technique was used to measure the effect of quickening on the constructs measured by each of these scales,

and a correlation matrix was used to assess the extent of relationship between Marital Satisfaction scores and scores on the Attitudes to Pregnancy Instrument and Maternal Fetal Attachment Scale. Results indicated that quickening plays a significant role in enhancing maternal fetal attachment, maternal sense of well being, and feelings for the unborn baby. The passage of time alone was revealed to foster the development of positive attitudes toward pregnancy, and to play a role in aspects of the maternal-fetal relationship. A positive correlation between marital satisfaction, attitudes toward pregnancy and maternal fetal attachment was demonstrated. Further work using a more heterogeneous sample, as well as including data about fathers' experiences, was suggested.

TABLE OF CONTENTS

SECTION	PAGE
INTRODUCTION	1
I. REVIEW OF THE LITERATURE	4
The Psychology of Pregnancy	4
Pregnancy Outcome Research	7
Quickening	17
Marital Satisfaction	21
II. STATEMENT OF THE PROBLEM	28
Rationale for the Study	28
Research Questions and Hypotheses	30
III. METHOD	33
Design	33
Subjects	34
Procedures	36
Measures	39
IV. RESULTS	43
Preliminary Analysis	43
Tests of Hypotheses	43
V. DISCUSSION	52
Maternal Attitudes to Pregnancy	52
Maternal Fetal Attachment	54
Physical Symptoms	57
Marital Satisfaction	58
Conclusions	60
LIST OF REFERENCES	63
APPENDICES	74
Appendix A. Consent to Participate in Research	75
Appendix B. Maternal Attitudes to Pregnancy Instrument	76
Appendix C. Maternal Fetal Attachment Score	81
Appendix D. Marital Satisfaction Scale	83
Appendix E. Physical Symptom Subscale	85
VITA	86

LIST OF TABLES

TABLE	PAGE
1. Demographic Characteristics of the Sample	37
2. Change Scores on Maternal Attitudes to Pregnancy Instrument Subscale III	46
3. Change Scores on Maternal Fetal Attachment Scale	47
4. Change Scores on Maternal Fetal Attachment Scale Subscale Attribution of Characteristics to Fetus	49
5. Change Scores on Physical Symptom Subscale	50

INTRODUCTION

There has been a significant shift in recent years with regard to the investigations into the experience of pregnancy. Early work related to the psychology of pregnancy was largely limited to psychoanalytically derived conceptualization whereby the woman is seen to have fulfilled her female role in a way that entails the acceptance of a passive and regressive attitude (Benedek, 1951; Deutsch, 1945; Pines, 1972). Other treatments of the topic have likened pregnancy to a crisis state, and consistent with conditions of psychic disorder (Bibring, 1959; Davids, 1961; Blitzer & Murray, 1964). A medical focus, whereby problems of adjustment during pregnancy result in somatic symptomatology is also quite evident in the literature (Lederman, 1978; Crandon, 1979; Zukerman, 1973). In effect, pregnancy has been treated as an isolated and arduous event. In reaction to such a conceptualization, a number of researchers have found this an auspicious time to complement the crisis oriented and medical views of pregnancy with an understanding that it is more developmentally integrated and process focused (Richardson, 1983; Gloger-Tippelt, 1983; Ballou, 1978).

Concurrent with these developments has been a trend toward an investigation of the mother-infant attachment relationship that focuses on earlier and earlier aspects of the dyad's interactions (Brazleton, 1970; Kenner & Klaus, 1976). A result of this trend has been the recent increase in investigations into the woman's experience of

pregnancy and into her attitudes toward and attachment to the child even prior to its birth (Grossman, 1980; Cranley, 1983). From such a perspective, the process of pregnancy is understood to be dynamic and adaptive, as the woman becomes a mother psychologically--in terms of her attachment to and recognition of her infant--even before this has become a reality physically.

In understanding this process, much has been reported regarding the extent to which the unborn child comes to achieve the status of a separate and distinct object of attachment in the pregnant woman's experience (Ballou, 1978; Raphael-Leff, 1980). The achievement of psychological separateness of mother and fetus--and hence the potential for an interactive relationship between them--is largely assisted by the psychological event of quickening, of feeling the baby move in the womb. By making itself known, the fetus begins to become a person, and the woman's experience shifts dramatically as she moves from "being pregnant"--a condition which has "happened to her"--to carrying a baby which implies a focus on the baby as "an other" (Jessner, Weigert, & Foy, 1970).

Hence quickening may be understood as a turning point of sorts in the process of pregnancy. Research has suggested that attitudinal changes regarding the woman's physical condition, her feelings toward the unborn baby, and her sense of attachment to it are positively affected by her awareness of the child's movements inside of her.

The following study represents an attempt to specifically address the question regarding the effects of quickening on the maternal

experience of pregnancy and her attitudes toward the unborn baby. It is expected that the perception of fetal movement will serve to enhance the experience of pregnancy, and will foster the mother's sense of her child as a separate individual, therefore increasing her feelings of attachment toward it.

An additional aspect of the study pertains to the effect of the dimension of marital satisfaction on the quality of the mother's experience of quickening. Relationships have been demonstrated between marital satisfaction and adjustment during pregnancy (Richardson, 1983; and others) and it has been noted that a woman's perception of satisfaction in the marital relationship may be a necessary requirement for subsequent attachment to her infant (Colman & Colman, 1971). It is therefore hypothesized that the psychological effects of quickening, as manifested by maternal attitudinal shifts that accompany the perception of fetal movement, are related to the woman's perceived satisfaction within the marital dyad. The following review of recent research will consider separately the areas of (1) the psychology of pregnancy, (2) quickening, and (3) marital satisfaction.

I. REVIEW OF THE LITERATURE

The Psychology of Pregnancy

Psychodynamic derivations. Until relatively recently most writings pertaining to the psychological aspects of pregnancy have been grounded in psychoanalytical theory. Freud (1920, 1933) postulated that much of a woman's psychological development is a result of her efforts to compensate for her essentially negative feelings regarding her body. Hence the development of a "normal feminine attitude" is a result of defensive efforts mobilized in response to the experience of inadequacy and basic defect related to penis envy. Pregnancy, according to Freud, plays an important role in defensive feminine development in that it provides a symbolic substitute of sorts for the missing penis. Freud described pregnant women as characteristically calm, living in the "bliss of basic wish gratification" (1920, p. 318).

Deutsch (1945) emphasized different aspects of female development than did Freud, but she too focused on the extent to which pregnancy occurs within the context of a passive and essentially narcissistic orientation. She noted the ways in which the experience of pregnancy is bound with unconscious conflict, latent hostile and aggressive tendencies, guilt, and fear. Pregnancy is therefore seen as representative of both conflict and defense.

Fenichel (1945) related the emotional aspects of pregnancy to repressed oral incorporative fantasies, and noted the ways in which

unconscious conflict surrounding these fantasies can influence the psychological course of pregnancy and birth. Benedek, whose work is predicated on libido theory, has written:

Motherhood is not only a substitute for the missing penis, . . . but is a manifestation of the all pervading instinct for survival . . . that is the primary organizer of the woman's sexual drive, and by this also her personality (1970, p. 139).

There are distinct consequences to a conceptualization that presents pregnancy as either a manifestation of, or strongly affected by unconscious drives and conflicts. According to such a view, pregnancy is

. . . understood to be, like puberty or menopause, a period of crisis involving profound physical and psychological changes, and the stress inherent in this activates earlier unresolved crises, resulting in intrapsychic disequilibrium, loosening of defenses, and regression. . . . What looks superficially to be pathological may pertain more to pregnancy in general than to specific problems of the individual (Bibring, 1959, p. 115).

Pregnancy and pathology are therefore closely related, even under the most "normal" of circumstances. Regression during pregnancy should be anticipated, as should the fact that the assumption of a passive dependent role is characteristic of most pregnant women (Pines, 1972). Prenatal fantasies and a resurgence of primitive narcissism are expected components of the pregnancy process, and must be resolved to allow for the subsequent development of a healthy attachment to the infant (Blitzer & Murray, 1964). Bibring (1961)

describes an increase in signs of conflict, a regressive shift with the emergence of developmentally earlier patterns of attitudes and behavior, and a defensive reorganization as characteristic of the changes that occur with pregnancy. Colman, in noting a description of pregnancy as a time of crisis replete with symptoms of emotional lability, anxiety, and lapses in cognitive functioning, asks the question "Is this woman psychotic or simply pregnant?" (1971, p. 9).

Object relations theory represents a major contemporary shift in the psychoanalytic school of thought. These theorists maintain a focus on intrapsychic experience while emphasizing the central importance of human relatedness. As a result, the earliest mother-infant interactions are seen as focal and critical in determining the child's course of development (Guntrip, 1968; Winnicott, 1965; Mahler, Pine, & Bergman, 1975).

As a consequence of the shift in focus from drive theory to relatedness, the experience of pregnancy is viewed differently. Rather than a manifestation of conflict and defense, it is seen as a transition and preparation for a singularly important relationship. Winnicott especially describes pregnancy and early motherhood as a kind of "sickness from which the mother recovers" (1965, p. 182). By this he is referring to an adaptive loosening of self-other boundaries that allows the mother an enhanced sensitivity to her newborn. This process is viewed not as regressive and conflict laden, but as adaptive.

Other object relations theorists have focused on the significance of the pregnant woman's relationship with her own mother

in making the maternal transition. For example, Cheryok (1969) proposed that childbirth represents an extension of a woman's personal development and in particular of her earliest object relationship.

Bibring (1959), Benedek (1959), and Ballou (1978) have all discussed the significance of the pregnant woman's relationship with her own mother. Benedek states that the new mother's relationship with her own mother is important because mothering a newborn involves the repetition and working through of conflicts with the mother's own mother. Bibring suggests that pregnancy rekindles old conflicts with the mother which must be dealt with as part of the maturing process for the woman. The process is very important, however, because its successful resolution leads to a more mature identification with the mother which serves as a model of the mothering figure.

Pregnancy Outcome Research

The model of pregnancy-as-crisis, which is derived largely from psychoanalytical theory, has spawned a spate of research. A common theme linking many of the studies pertains to the ways in which emotional conflict is manifest during pregnancy, and the repercussions of such conflict on pregnancy outcome.

Klatskin and Eron (1970) sought to investigate the relationship between projective test content during pregnancy and postpartum adjustment. While others (see Colman's review, 1971) have suggested that one observes in the protocols of pregnant women the loosening of defenses, loss of cognitive focus and emergence of primitive material that typically identify pathological conditions, Klatskin

and Eron found that such protocols were obtained from only a select group of pregnant women. These women demonstrated difficulty in adjusting to the maternal role at the time of a six week postpartum follow-up. Positive projection content, i.e. good female percepts, TAT themes reflecting an acceptance of the feminine role, tended to occur in protocols devoid of pathogenic signs, and was related to positive postpartum adjustment. Gillman (1968), in analyzing the dreams of pregnant women and subsequent maternal adaptation, found no relationship between hostile and masochistic dream content and adjustment to the maternal role postpartum. Osborne (1978), investigating MMPI changes during the course of pregnancy, noted no particular pathological tendencies, but rather a trend toward increased comfort with feminine interests and a decrease in subjective distress as pregnancy advanced. Case study data have been presented by others (Blitzer & Murray, 1984; Turrini, 1980) to support the notion that pregenital fantasies and a state akin to primitive narcissism are evoked by pregnancy and must be resolved to allow for a healthy attachment to the infant. Individual psychotherapy cases have been described (Raphael-Leff, 1980) by way of illustrating the task of pregnancy as understood from an analytic point of view, that is, successfully resolving the primitive conflicts that might otherwise hinder the ability to invest in the newborn. Bibring describes this process:

The successful resolution of the changing narcissistic-object libidinal balance particular to pregnancy ideally leads to the attainment of a balanced libidinal interest in the child (1959, p. 58).

Others have sought to investigate the areas of conflict manifest during pregnancy from a less clearly psychoanalytic perspective. Loesch and Greenberg (1962) interviewed pregnant women in an effort to observe conflict regarding self esteem and role identification. Flopan and Schoenfield (1972), in assessing maternal conflicts *per se*, intervened in a manner intended to enhance the subsequent development of maternal role identification. The relationships between adjustment to pregnancy and life change (Williams, 1975), psychological assets and social support (Nuckolls, Cassel, & Kaplan, 1972), and the marital dyad have been investigated. Hanford (1968), in describing in general terms pregnancy as a state of conflict unto itself, suggested that Festinger's dissonance model best explains the course that pregnancy typically follows. Hanford described a relatively intense conflict related to giving birth and ambivalence regarding a desire for a child. He reported that dissonance is greatest upon initially learning of the fact of pregnancy, with a sense of conflict and physical symptoms pervading the woman's experience. By the second trimester most women have successfully "brought appropriate cognitive elements into line with reality" (p. 1328) by a socially reinforced focus on the positive aspects of having a baby. Should a state of conflict and dissonance extend into the second trimester, he reported an increased number of complications of pregnancy and delivery, and suggested the possibility of difficulties in the mother-infant relationship.

This interest in the predictive relationship of adjustment during pregnancy to the birth outcome and to the quality of the mother-

newborn relationship is quite evident in the literature. Davids, DeVault, and Talmadge (1961) set out to explore the psychodynamics of women who experience difficult pregnancies and problem deliveries on the basis of antenatal testing. The "normal" and "abnormal" distinctions arrived at on the basis of the test bore a positive but nonsignificant relationship to the difficult vs. nonproblematic pregnancies. Similar efforts to identify early warning signs that are possibly predictive of problems during pregnancy are reported by Offerman-Zuckerberg (1980), and are understood to be both physical and psychological in nature.

The most frequently studied variable with regard to adjustment during pregnancy is maternal anxiety. Anxiety and negative attitudes have been correlated with such "outcome variables" as length of labor (Crandon, 1979), delivery complications (Lederman, 1978), and newborn Apgar scores (Beck & Siegel, 1980). Zuckerman (1973) noted significant positive correlations among manifest anxiety during pregnancy, conflictual affective material regarding delivery, somatic complaints during all three trimesters of pregnancy, and difficulty in childbirth. Cogan, Henneborn, and Klopfer (1976) utilized a prenatal assessment instrument that measured maternal anxiety, preparation for birth, attitudes toward motherhood, and marital support. He related these variables to perceived pain during delivery and found them to be moderately predictive of difficulty. Lederman (1979), incorporating biochemical analysis of stress related enzymes in blood samples with more traditional measures of anxiety, found support for the

expectation that anxiety during pregnancy and psychological conflict are positively associated with prolonged or dysfunctional labor. Crandon (1978) reported a correlation between maternal anxiety during the third trimester and pre-eclampsia, prolonged labor, and clinical distress in the newborn. Similar findings were reported by Yang (1976), who found successive correlations between anxiety, maternal autonomy and sense of familial support, duration of labor, and neonatal responsiveness.

The issue of perception of focus of control by pregnant women was investigated by Scott-Palmer and Skevington (1980). They note that, once pregnant, women feel to varying degrees to be under control of the developing fetus, as well as under the authoritative control of those in the medical profession. The results suggest a relationship between beliefs about locus of control during pregnancy and duration and experience of labor and delivery.

A number of investigations have been conducted that explicitly examine the relationship between maternal adjustment to pregnancy, the quality of the mother's experience of childbirth, and the subsequent mother-infant attachment relationship. Pinkus (1977) reported negative correlations between maternal anxiety and scores of infant security in the first months of life. Similar results are reported by Moburg (1981), utilizing Ainsworth's categories of infant attachment.

Pregnancy as process. There has emerged in recent years a body of literature that suggests a dissatisfaction with the pregnancy-as-

crisis model that has derived from psychoanalytical thinking, and with the rather reductionistic kinds of studies that followed. Leifer (1980) expressed what appears to be a common theme that runs through this body of literature. She noted the relative dearth of comprehensive systematic investigations into the process of normal pregnancy and motherhood, noting that most work to date focuses on an understanding of pregnancy that connotes conflict, regression, and emotional crisis. She cited as well the tendency to examine the psychology of pathological pregnancies (i.e., a focus on symptoms of excessive vomiting, premature delivery, toxemia of pregnancy, the habitual aborter) to the exclusion of studying what constitutes a normal, healthy, adaptive pregnancy. This asymmetry in the investigation of the psychology of pregnancy poses problems in terms of how much integrative sense one can actually make of the information so far amassed.

The lack of normative baseline data (regarding the psychology of pregnancy) limits our understanding of individual differences . . . we do not have sufficient information to evaluate problems vs. normalcy (p. 5).

In response to this sort of criticism, she and others (Colman & Colman, 1971; Oakley, 1980; Ballou, 1978; Grossman, Eichler, & Winickoff, 1980; Lips, 1983) have attempted to systematically study the attitudes of normal women toward their pregnancies, implementing longitudinal, hypothesis generating designs. Their goal is to achieve a descriptive conceptualization of the process of pregnancy, of the kinds of feelings and experiences most women typically encounter,

and how these relate to the attitudes and reactions of motherhood. Grossman expressed a notion that frequently appears within these more normatively based studies. "The process of parenting begins at least as early as the conception of new life" (1980, p. 3). According to such a conceptualization, the process of pregnancy affords the potential for experiencing certain "psychological tasks" that can serve to either enhance or hinder the development of the parenting process (Rubin, 1975; Jessner et al., 1970; Leifer, 1980). Ballou (1978) expressed this thought:

The psychological task of pregnancy is one of rearranging one's sense of self and others so as to accommodate a new person in one's life. . . . The task is not simply a biological one. It involves the gradual emergence of the woman's sense of the child as someone who is seen as a locus of feelings, of potential motivations and intentions, and who is experienced in increasingly human terms (p. 102).

In attempting to delineate the ways in which these tasks are achieved, and what the evolution of a normal pregnancy entails, a number of authors have approached the issue from a point of view consistent with object relations theory. The process is understood in terms of symbiosis and separation, reminiscent in many ways of the developmental processes of infancy (Mahler et al., 1975) and adolescence (Blos, 1979). The mother comes, over the nine months of pregnancy, to accept the child first as a part of herself, gradually becoming differentiated, until the infant is finally met as a separate object after birth. The issues of oneness, separateness, loss, and reunion pervade the mother's experience in varying ways. Raphael-

Leff (1980) described the process as follows, describing a series of stages analogous to those posited by Mahler.

Stage 1, the early weeks of pregnancy, represents a symbiotic phase in which the mother and child are one. Their physiological processes are enmeshed, and the mother's body provides a protected haven for the developing fetus. Raphael-Leff likened this relationship to what Mahler described as a mother's function as "stimulus shield" which occurs after birth. Stage 2--"hatching"--describes the gradual individuation of the fetus. While still a part of the mother the fetus is perceived as in varying ways separate, and the mother has an opportunity to begin to contemplate and experience issues related to boundaries and differentiation. Stage 3 is the actual separation during birth, and rapprochement occurs with the extrauterine reunion of mother and baby. Thus,

pregnancy may be regarded as a condensed rehearsal of the mother's future relationship with her baby in the two years following birth. The quality of this experience may have profound implications for how the relationship will progress (Raphael-Leff, 1980, p. 191).

Colman and Colman (1971) presented a similar description of the tasks of pregnancy, drawing their conclusions from longitudinal work with a number of pregnant women. They described a process of (1) incorporation--whereby the fetus is accepted by the mother as a presence in her body; (2) differentiation--as the realization grows that this "part of her" is not part of her; and (3) separation--as she prepares to give up this presence via the process of birth.

Theorists who emphasize the importance of this process see the pregnant woman as gradually turning inward in the early months. . . . They would say that she is working with the issue of identifying a diffusion between herself and her fetus. They would then predict that she should emerge as a more outward relating individual when the baby becomes a truly separate being in her mind (Colman & Colman, 1971, p. 32).

Many authors (Ballou, 1978; Blum, 1980; Leifer, 1980; and others) have suggested that something along these lines--that is, an evolving process whereby the mother comes to "know" her unborn child in changing ways--is a most essential component of pregnancy. The manner in which this process develops may have definite implications in terms of the mother's relationship to her child after birth.

Another pregnancy-as-process model was presented by Gloger-Tippelt (1983), a model that is integrative, comprehensive, and purportive of a view of pregnancy as a sequence of interdependent and qualitatively differentiated phases. Hers is an interactional model that describes four distinct stages of pregnancy, each with its own particular biological, psychological, and interpersonal implications. The first phase is the disruption phase, which entails radical change on all levels of experience, including hormonal shifts and physiological changes. Psychologically the woman is faced with the assumption of a new life role, and important others in her life begin to relate to her on the basis of this new identification. The second phase--which ranges from about the twelfth to the twentieth week--is described as the adaptation phase. Physical symptoms of discomfort decrease, and the woman has typically

had opportunity to adjust both emotionally and socially to the idea of her pregnancy. The third phase--the centering phase--is characterized by Gloger-Tippelt (1983) as entailing an increased focus of energy on the developing child. The biological and psychological concomitants of feeling the child move are described as profound. The mother's own increased focus on the baby is interpersonally reinforced, as she by this time is quite obviously pregnant, and evokes a series of stereotypical responses from others that are typically reserved for those occupying this special role. Finally, toward the thirty-second week, Gloger-Tippelt identified the phase of anticipation and preparation, during which the woman's attention is turned more and more to the future. Her body tells her that birth is imminent, and she imagines with increasing frequency her first contacts with her child. Her expectations, hopes, and anticipation are typically shared and enhanced by her interpersonal network, as familial and medical plans for the baby's arrival are finalized.

A multidimensional model such as this represents something of a shift in conceptualizing the experience of pregnancy. It is understood as more than merely a medical event, a life crisis, or a transient psychological or social state. Rather, all of the aspects of the process interplay in a variety of ways that may color and shape the individual's experience. The understanding of what constitutes normative adjustment is flexible, yet such a model may also serve as useful in identifying problems of adjustment.

Quickening

According to folklore, quickening refers to that time in pregnancy at which the gods breathe life into the previously inert fetus. When she feels the first sensation of movement, the woman knows that the child, previously only a potentiality, has come to life. It has been understood as a magical time, during which the baby's spirit enters his form, and a belief in his eventual birth is confirmed (see Shettles & Rugh, 1971).

Psychologically, this understanding may capture more precisely than any other the impact that the sensation of fetal movement has for most expectant mothers. There is a relative dearth of literature that specifically addresses the phenomena of quickening; however, those studies that do report on the experience describe similar responses by pregnant women. A shift typically occurs in the way a woman thinks and feels about the child; a shift consistent with the previous process descriptions of pregnancy whereby the baby is identified and "an other" to whom the mother may relate. Ballou, in her longitudinal work (1978), described the change thusly:

After the baby begins to move there is a dramatic increase in thoughts and fantasies about the child, and a marked increase in the sense of the child as a person. Rather than thinking of the child as an amorphous "something" that is growing inside, she thinks of it as a baby who is stretching, kicking and moving. She feels that these movements mean something, and fantasizes being in communication with the child. These fantasies reflect her changed sense of the child, a sense of the child as a person who does things, who communicates, and with whom there can be a relationship (p. 91).

Ballou sees quickening as a time that begins the major "work" of pregnancy which is to come, to be able to have a sense of the child as a person who is potentially, or perhaps already, responsive to and interactive with its mother.

Jessner et al. (1970) noted similar reactions in their work. A sudden shift occurs with quickening, in that the fetus now seems "real." It is no longer an idea, it is a baby, or as one of her subjects described her thoughts: "It used to be that I was just pregnant . . . now I'm going to have a baby" (p. 218).

Leifer's longitudinal study of first pregnancies revealed a sense that quickening represents a highlight of pregnancy:

The turning point in the development of the affective bond to the fetus occurred shortly after quickening in the second trimester. The almost universal reactions to this event were immense relief that the fetus was alive and a new feeling of confidence that the pregnancy would be successfully carried to term. It stimulated a sense of the fetus as a separate entity rather than as part of the self. The baby gets personified, imbued with characteristics, and conversations and communications begin (1980, p. 79).

Colman and Colman (1971) described the woman's self-focus in the first trimester that is contrasted with later focus on the fetus as the object of concern. "The pregnant woman thinks mostly about what is happening to her, for the baby has not yet demanded attention as a separate being" (p. 35). Once movement is felt, however, the baby takes on a life of its own, giving evidence of its presence. The woman conceptualizes him as an individual separate from herself. Changes are understood as occurring not merely to her, but with the baby.

Gloger-Tippelt (1983) described a similar shift in focus as the woman enters the centering phase of pregnancy, during which movement is felt. Physical changes occur with great rapidity here, as weight gain increases, skin changes, and there may be shortness of breath or other discomforts. Yet in contrast to the physical complaints of the initial stages of pregnancy, these are normally reported, not only without undue displeasure, but with a certain degree of relief and pleasure. These developments are seen as happening to and as signals from the growing child.

The movements of the child in the womb often have an enormous impact at the psychological level. The child now seems a fully existing entity and reminders of its existence occur throughout the day and night. This concretization often evokes a readily increasing acceptance of the pregnancy and feelings of great delight (p. 141).

Research has shown, however, that such reactions to the perception of fetal movement, while certainly prevalent, are by no means universal. Jessner et al. noted that some women feel the fetus to be a stranger, a usurper who has taken over their bodies (1970, p. 218). Others report an increased concern about their own bodies, and anxiety related to their sense that the baby's movements might be harming them. Pregnancy is experienced as increasingly unpleasant and potentially injurious (Ballou, 1978). There is suggestion as well that, for some, the confirmation of the baby as a separate entity may be threatening and provocative of increased ambivalence. Colman and Colman reported an example:

One woman experienced the first half of her pregnancy as idyllic. As soon as the baby began to move, however, she seemed less euphoric. She started to talk about vague abdominal problems, and simultaneously how inadequate her own mother had been when she was a child. She became less sure that childbirth would be a positive experience Reassurance helped only for a little while (1971, p. 21).

Leifer noted a number of important correlations with respect to the woman's reaction to perception of fetal movement. She reported that for a proportion of women who were feeling little emotional attachment to the baby during the first trimester, quickening provoked increased ambivalence regarding the separateness of the fetus. Stated one subject: "I have the strange feeling of being two people. I just want to be myself again. I don't want it to move; it depresses me" (1980, p. 80). Such women reported steadily increasing anxiety about handling the baby, and increased fear of damage to their own bodies. By the end of pregnancy they had developed only minimal attachment to the fetus, and their negative or ambivalent feelings persisted after birth. At the time of a two month postpartum follow-up, 50% of these women scored low on a maternal feeling scale.

Hence it appears that a relationship exists between the nature of the emotional tie to the fetus and the sense of affection and attachment at the time of birth and beyond. Those who form an emotional attachment during pregnancy are more likely to form intense bonds with the infant after birth. It also appears that a prerequisite for the development of an attachment to the fetus (as conceptualized by Ballou, 1978; Cranley, 1979; Leifer, 1980; Gloger-Tippel, 1983)

is an awareness of the fetus as a separate entity, a person separate from the self. The affective response to quickening can thus provide a sense of how the woman is experiencing the process tasks of pregnancy, and the extent to which she will feel a sense of continuity between her feelings toward the fetus and toward her newborn.

Quickening provides, as Ballou expressed it, an opportunity to begin "the most important psychological work of pregnancy, which is required to be able to greet the child with recognition" (1978, p. 100).

Marital Satisfaction

The concept of marital satisfaction receives a good deal of attention in the literature, despite the fact that it is generally felt to be a rather elusive and complicated construct to assess. Researchers have approached the issue from a number of directions in efforts to identify those most salient dimensions that appear to characterize a positive marital adjustment, and a number of relevant factors have been reported. Via factor analysis of those variables that appear to discriminate between successful and unsuccessful marriages Kimmell and Vandrveen (1974) noted three components that appeared to identify stable and positive relationships. Sexual congeniality, compatibility--that is, agreeing on such issues as how to spend free time, what constitutes appropriate conduct, etc.--and closeness as manifest by the engaging of activities together, confiding in one another and agreement on basic life goals, are identified as hallmarks of a successful and gratifying marriage.

Marine (1976) related a lack of interpersonal tension and a sense of companionship as predictive of marital satisfaction. Hicks and Platt (1970), in reviewing the research of the previous decade, reported that husbands seem to have a greater role than wives in determining the quality of marital relationship. They described a kind of unilateral arrangement whereby marital satisfaction was equated with husband satisfaction. They also reported that, in general, children detract from marital happiness, and that marital stability and marital happiness bear a negative relationship to one another. Spanier (1976), in his attempt to develop a more cohesive and comprehensive measure of dyadic adjustment, identified four aspects of marital satisfaction. Affectional expression, consensus (agreement on important values and life goals), cohesion (sharing of interests and time together), and overall satisfaction with one's mate were determined to be the most important factors in a successful marriage. The ways in which individual experience of marital satisfaction shift across the life cycle was investigated by Rollins and Feldman (1970) who noted that patterns of adjustment show the ebb and flow throughout the family life cycle that are different for men than for women. A commonly reported difficulty in most all of these studies pertains to the establishing of criteria by which to understand the subjective experiences of happiness or satisfaction (Myerowitz, 1970).

A number of studies have focused specifically on the effect of children on the marital relationship. Much of the research in this area is consistent with the idea of parenthood as a crisis in the relationship.

Parenthood, not marriage, marks the final transition to maturity and adult responsibility in our culture. Thus the arrival of the first child forces the married couple to take the last painful step into the adult world (Dyer, 1963, p. 201).

The view of parenthood as a crisis requiring individual and dyadic reorganization is supported by the works of Russell (1974), Brody and Axelrad (1978), Carer and McGoldrick (1980), and Keniston (1977). The crisis begins with the confirmation of the pregnancy, particularly the first pregnancy, and there is strain and potential damage to both the dyad and each partner's self concept (Callahan & McKluskey, 1983). Russell reports that only 42% of his sample perceived their marriage to be a function of the first pregnancy and birth. Somewhat different findings were reported by Luckey and Bain (1970) in their investigation into the role of children in marriage. They found that in a marriage already experienced as happy or satisfying, the arrival of children enhanced that happiness. In problematic or unsatisfying marriages, however, children represented the only commonly shared source of satisfaction. Hobbs and Cole (1976) likewise evaluated the quality of the relationship before and after the arrival of the first child, and concluded that in most marriages it is more accurate to describe parenthood as a transition rather than a crisis, with potential for growth promotion and integration.

Michael Lamb has devoted considerable attention to the effects of a first pregnancy on the quality of the marriage (1979). He takes issue with the prevalent focus on pregnancy solely from the

perspective of the woman. He describes pregnancy as an occurrence in the context of a complex relationship, rather than in the context of the mother-infant dyad. In investigating the attitudes of prospective parents, he reports findings which reveal a remarkable similarity between those attitudes expressed by both husband and wife. The implication, he reasons, is that pregnancy is a "couple experience" (p. 140). He goes on to review the potential variations in the marital adjustment to this event, and suggests avenues for further investigation.

A related idea posited by a number of researchers has to do with the commonly noted tendency in our culture to exclude the father from the experience of pregnancy and early parenthood in various subtle and not-so-subtle ways. It is suggested that this asymmetry in the relative experience of prospective parents may be related to the subsequent sense of parenthood as a crisis within the marriage; pregnancy and parenthood become divisive rather than promoting "couplehood." Nash, in reviewing the literature on the role of the father in contemporary culture (1965) took issue with the lack of importance given to the father's role, and others (Parke & O'Leary, 1975; Lynn, 1974; and Barry & Adler, 1980) support the notion that the implicit exclusion of the father serves to strain the marital relationship. Wente and Crockenberg (1976) reported further evidence to this claim. Their findings showed that disruption in the marital relationship is related to perceived difficulty in the transition

to fatherhood; support of the father and his inclusion in the pregnancy process results in enhanced marital satisfaction through the neonatal period. Wapner (1976) arrived at similar conclusions and advocated for active involvement of the father in the pregnancy course by physicians and childbirth educators.

Grossman, Eichler, and Winickoff (1980) conducted longitudinal studies of pregnancy, birth, and parenthood, and reported on the relationship between marital satisfaction and the experience of pregnancy from an inverse perspective. That is, they described the extent to which the parents' experience of pregnancy is affected by the quality of the marital relationship.

There is evidence in the literature to suggest that aspects of the interpersonal relationship between husband and wife may well be the most important context within which the woman's pregnancy unfolds and into which the baby is born The quality of the marital relationship as well as features of its style and the readiness of the couple to welcome a new member all play a vital role in influencing the nature of the experience for both the man and the woman and ultimately in influencing the infant (1980, p. 6).

Their research provided further support for this kind of thinking. They reported that aspects of the marital relationship--particularly the degree to which the marriage was experienced in a positive manner--proved to be the strongest predictors of the woman's psychological adaptation to pregnancy. Cranley's work (1983) resulted in similar findings with regard to the relationship between marital satisfaction and attachment to the fetus. Lips, in her 1983

study of the attitudinal differences between men and women with regard to their first pregnancy, noted that although there appear to be gender differences with regard to attitudes toward childbearing, a mutual sense of marital satisfaction is positively correlated with a good adaption during the course of pregnancy.

Richardson's work provided further support for these findings.

She concluded:

The satisfaction or dissatisfaction experienced within the relationship shared with her husband seemed to directly affect the woman's anticipation of and plans for motherhood. As long as the woman maintained her husband in the status of significant other, her perceptions of his responses to her, the pregnancy and the expected baby served as a critical index for the attitudes permeating the expression of her own behaviour. Throughout her pregnancy, both her mood states and the temporal orientations of her activities varied predictably, depending on the absence or presence of problems within the marital dyad (1983, p. 13).

Thus Richardson saw marital satisfaction as a necessary prerequisite for the woman's adaptive working through of the tasks of pregnancy.

A problematic relationship with the husband seemed to distort the critical turning inward to her expected child . . . and the emotional investments are unfavorably influenced. . . . These investments are of critical importance and detrimental alterations can compromise, to varying degrees, the developing mother-child reciprocity (1983, pp. 17-18).

In summary, recent research demonstrates a close interrelationship between indices of marital satisfaction and the ways in which a couple experiences their first pregnancy. Furthermore, there is evidence to suggest that a woman's sense of

herself as satisfied within the context of her relationship with her husband may be closely related to her ability to develop an attachment to and invest in her unborn child during the process of pregnancy.

II. STATEMENT OF THE PROBLEM

Rationale for the Study

The process of becoming a mother is one that develops over time, and has its beginnings even before the child is born. A very unique mother-infant relationship develops during the months of pregnancy, a relationship in which a woman is in the unusual position of thinking about, feeling for, and interacting with someone who is at the same time of and not of her. The mothering experience is one that has typically been afforded a great deal of attention in psychological literature. It seems quite reasonable that focus be expanded to include the aspect of the experience that occurs during the months preceding a mother's official introduction to her newborn, particularly in light of the demonstrated continuity between components of the prenatal and postnatal dyadic relationship (Ballou, 1978; Gloger-Tippelt, 1983; Raphael-Leff, 1980).

The previous review of literature revealed a trend in this direction. Pregnancy is investigated as a process, which, while subject to individual variation, follows a general course by which the task of pregnancy--that is, coming to "know" the child in a way that allows for attachment to it--is accomplished. It has been noted that attitudinal changes in the pregnant woman accompany this process. Specifically, she emerges from a kind of self-focus and preoccupation with the ways in which pregnancy is "happening to her"--which is characteristic of the first half of pregnancy--to a more directed

focus on her child as a separate entity. A sense of attachment to the unborn baby, and specific ideas about and attitudes toward it have been cited.

The perception of fetal movement by the mother, "quickening," has been cited as a most important event which marks the shift from the experience of pregnancy as self-focused to one which focuses on the baby as a separate person. In making itself known in such a tangibly "independent" fashion, the child becomes more of an object of the mother's attention and affection; she begins to attribute characteristics to it, and she feels herself in a communicative interaction with it. This event heralds a change in her attitudes regarding her body, her pregnancy, and her sense of the child itself.

Further work demonstrates the extent to which the process of pregnancy develops in the context of the marital relationship and is influenced by the mother's sense of satisfaction in this dyad. Marital satisfaction is therefore seen to relate to the process by which a pregnant woman experiences quickening as a time of shifting focus, and may be correlated with the extent to which her attitudes about pregnancy and her feelings of attachment toward her unborn baby develop.

The value of investigating the ways in which a pregnant woman's attitudes about and feelings toward her unborn child develop during her first pregnancy is twofold. First, a fuller understanding of the mother-infant relationship may be achieved by examining its earliest beginning more directly. Second, a better understanding

of the attitudes and processes that typically identify a healthy adaptive pregnancy can provide a developmental framework within which problems or potential disruptions in the attachment process may be examined and addressed. Prenatal focus can thereby include not only biological/medical care, but efforts to foster and enhance the quality of a woman's relationship to her child as well, making the experience more positive and growth promoting for all involved.

Research Questions and Hypotheses

The purpose of this study is to examine changes in maternal attitudes and feelings during a first pregnancy. The expectation of the current study relates specifically to women's attitudes about pregnancy and feelings of attachment to their unborn babies and how these change over time. It is predicted that changes in a positive direction occur in both of these areas in response to the perception by the mother of fetal movements, that is, quickening. It is further expected that developments in these areas are related to a woman's sense of satisfaction in the marital relationship. Specific questions to be addressed are as follows:

1. Do pregnant women's attitudes about pregnancy shift in a positive direction after the experience of quickening?
2. Do feelings of attachment toward the unborn baby increase following quickening?
3. Do pregnant women tend to be less preoccupied with the self and is there a decrease in somatic discomfort following

quickening? Is there an increased sense of physical well being?

4. Are attitudes toward pregnancy and feelings of attachment to the unborn baby related to pregnant women's feelings of satisfaction within the marital relationship?

The following hypotheses were tested:

1. The attitudes of pregnant women will shift in a positive direction following the experience of quickening. It is predicted on the basis of this hypothesis that scores on the Maternal Attitude to Pregnancy Instrument (Mat Att Preg: Blau, Welkowitz & Cohen, 1964) will increase following quickening.
2. Women will express a greater sense of attachment to their unborn babies following the experience of quickening. It is predicted that scores on the Maternal Fetal Attachment Scale (Mat Fet Attch: Cranley, 1979) will increase following quickening.
3. It is hypothesized that following quickening, women will show less somatic self preoccupation and will experience a greater sense of physical well-being. It is predicted that scores on the Physical Symptom Subscale (Phys Sx: Wapner, 1976) will increase following quickening.
4. It is hypothesized that there will be a relationship between sense of marital satisfaction and both maternal attitudes toward pregnancy and attachment to the unborn

baby. It is predicted that scores on the Marital Satisfaction and Life Cycle Questionnaire (Mat Sat: Rollins & Feldman, 1970) will be positively correlated with both Mat Att Preg and Mat Fet Attch scores.

III. METHOD

Design

Each of the subjects was administered the four instruments three times over a seven week period. Quickening was expected to occur at some point during this period, either between the first two test administrations (T_1 and T_2) or between the second two test administrations (T_2 and T_3). Thus there were two "between administration intervals"; quickening occurred during one of these two intervals. This was done in order to take into account the effect of the passage of time. Effects could be compared both as a function of time alone and as a function of time and quickening.

The timing of the administrations was intentionally arranged so that approximately half of the subjects experienced quickening during the first interval, and half of the subjects experienced quickening during the second interval. All women first felt fetal movement somewhere between the 18th and 21st week of pregnancy; the timing of their entrance into the study determined during which interval quickening would occur. Those women who experienced quickening during the first interval were identified as the Early Quickening Group (EQ) and the women who felt quickening during the second interval were identified as the Late Quickening Group (LQ).

Change scores were then computed for each subject on each measure across administrations. In this way two change scores (C_1 and C_2)

were obtained for each subject on each measure, the first by obtaining the differences between scores on the first two administrations ($C_1 = T_2 - T_1$) and the second by computing the differences between scores on the second two administrations ($C_2 = T_3 - T_2$).

The purpose of this was to obtain for each group an index of score changes for both time intervals during which quickening occurred, and for a time interval without quickening. For the Early Quickening Group, the first change score reflects the effects of quickening. For the Late Quickening Group, the second change score reflects the effects of quickening. The design therefore provided change scores for (1) time interval preceding quickening (block C), (2) time interval during which quickening occurred (blocks A and D), (3) time interval following quickening (block B), as illustrated by Figure 1.

Subjects

The subjects in this study were 40 married women between 14 and 18 weeks pregnant with their first child at the time of initial contact. Participation was on an entirely voluntary basis, with no monetary or other incentives offered. Volunteers were recruited through their obstetrical care providers, all of whom were private practitioners in Memphis. Exclusion criteria pertained to marital status, parity, and stage of pregnancy. Those women who were separated from their husbands or advanced beyond the eighteenth week of pregnancy were excluded, as were any women who had previously given birth. Information regarding previous spontaneous or

Group	Interval	
	1	2
EQ	A C ₁ --Quickening Occurred	B C ₂
LQ	C C ₁	D C ₂ --Quickening Occurred

Figure 1. Illustration of Design

therapeutic abortions was not solicited and had no bearing on participation in the study.

Each woman's status with regard to age, educational level, employment, employment, number of years married, and source of obstetrical care was recorded. Ages ranged from 20 to 33 years, with a mean age of 27. The average length of marriage was $3\frac{1}{2}$ years, ranging from 1 year to 10 years. The mean educational level was 15 years, ranging from 12 to 18 years; all were at least high school educated and three women held master's degrees. As mentioned, all women were seeing private practice physicians for their prenatal care.

In terms of the timing of quickening, 21 women first felt fetal movement between the first two test administrations, and 19 between the second two administrations. Differences between these two groups of women with regard to age, education level, and number of years married were analyzed using a one way analysis of variance (ANOVA) technique. No significant group differences were found. A chi square analysis was used to test for group differences across the variables employment status and source of obstetric care. There were no significant group differences with regard to these variables.

All women were in good health with no known complications of pregnancy. Demographic data are summarized in Table 1.

Procedures

At the time of the first interview, scheduled to fall between the 14th and 18th weeks of pregnancy, the requirements of participation were further discussed. The nature of the study was

Table 1. Demographic Characteristics of the Sample.

Demographic Characteristic	No. of Subjects
Age (in years)	
Mean	27
S.D.	3.0
Range	20-33
Education (in years)	
Mean	14.5
S.D.	.73
Range	12-18
Years Married	
Mean	3.5
S.D.	2.3
Range	1-10
Employment Status	
Employed	33
Unemployed	7
OB Care Providers	
University of Tennessee physicians	21
Bapist Hospital physicians	11
St. Joseph Hospital physicians	5
University of Tennessee midwives	3

broadly explained as an exploration of maternal attitudes during pregnancy, and each woman was told she would be asked questions regarding her health, her marriage, and her pregnancy. To avoid influencing subjects' expectations and experiences, no specific mention of quickening was made. Written informed consent was obtained from each woman (see Appendix A).

Each subject was asked to complete the following: (1) Maternal Fetal Attachment Scale (Cranley, 1979); (2) The Maternal Attitude to Pregnancy Instrument (Blau, Welkowitz, & Cohen, 1964); (3) Marital Satisfaction & Family Life Cycle Questionnaire (Rollins & Feldman, 1970); and (4) The Physical Symptom Subscale of Wapner's Feelings and Attitudes About Pregnancy Questionnaire (1976). Each of these instruments is in self report question and answer format, taking between 20-30 minutes to complete. Time was allowed at the end of the interview for questions and comments; between 30-60 minutes was spent with each subject.

Two follow-up interviews were scheduled; time intervals between interviews were between 2 and 3 weeks. At those times the same instruments were readministered, followed again by a time for questions and discussion. Questions specifically related to the experience of quickening were introduced at the time of the last interview if the topic did not arise spontaneously. Interviews were conducted either at the office of the subject's physicians, at the office of The University of Tennessee Psychology Department, or in several instances at the subject's place of employment.

Measures

Maternal Attitude to Pregnancy Instrument (Mat Att Preg: Blau, Welkowitz, & Cohen, 1964). This is a 48-item scale originally derived from interview, projective and objective testing material resulting in a series of statements regarding pregnancy and parenthood followed by four response options ranging from "strongly agree" to "strongly disagree." (see Appendix B). Factor analytic validity figures from the Blau et al. study (1964) identified the following three factors:

Factor I (22 items)--reflecting feelings of well being, acceptance of pregnancy, absence of debilitating fears.

Factor II (9 items)--reflecting feelings of pride and positive feelings toward others.

Factor III (11 items)--reflecting a positive attitude toward the unborn baby.

Blau et al. (1964) found Cronbach alpha reliability coefficients to be .87, .78, .83, respectively, for factors 1-3 and .90 for total scale.

Recent use of the scale (Nath, 1982) has found it to reflect attitudinal shifts over time and to significantly discriminate anxious vs. positive adjustment to pregnancy.

Each item on the scale is scored 1-4 depending on the positive or negative loading of the statement, with 4 being the most positive score. Total score and factor subscores are obtained by averaging item scores.

Maternal Fetal Attachment Scale (Mat Fet Attach; Cranley, 1981).

This is a 24-item scale designed to measure the construct of attachment between a pregnant woman and her unborn child. It is comprised of statements regarding pregnancy, motherhood and the unborn baby followed by five response options ranging from "definitely no" to "definitely yes" (see Appendix C).

Further studies (Cranley, 1981; Cranley & Weaver, 1983; Cranley, 1983) identified five subscales, these being (1) Roletaking; (2) Differentiation of self from fetus; (3) Interaction with fetus; (4) Attributing characteristics to fetus; and (5) Giving of self. Cranley (1981) reports Cronbach alpha coefficients of reliability as .85 for total scale with subscale coefficients ranging from .63 to .80.

Items are scored on a scale of 1 to 5, with 5 being the most positive statement. Subscale and total scores are obtained by averaging item scores.

Marital Satisfaction and the Family Life Cycle Questionnaire

(Mar Sat). This is a 15-item questionnaire used by Rollins and Feldman (1970) to assess the pattern of general and specific shifts in marital satisfaction over the life cycle (see Appendix D).

Spanier (1970), in his effort to develop an adequate and comprehensive measure for assessing the quality of marital dyads, incorporated each of the items from Rollins' questionnaire into his scale, and reported his validity and reliability data. Content and criterion related validity were assessed item by item, and therefore

may be used to support Rollins' questionnaire. Each item was evaluated by three judges for content validity regarding its relevance, consistence with nominal definitions of marital satisfaction, and wording. In addition, each of the items was significantly correlated with the external criterion of marital status. In other words, for each item a divorce sample differed significantly from a married sample in their responses. Construct validity was established for Spanier's scale by correlating his obtained scores with those obtained on another established measure, the Locke-Wallace Marital Adjustment Scale. Correlations of .86 and .88 were obtained. However, as Spanier's scale contains an additional 16 items over Rollins' questionnaire, this provides only partial support for establishing its validity. Reliability coefficients for Spanier's scale, which again incorporates but elaborates on Rollins' questionnaire, ranged from .73 to .96 using Cronbach's alpha coefficient, indicating internal consistency and high reliability.

It was decided to use Rollins' and Feldman's questionnaire rather than one more explicitly validated like Spanier's or Locke's, for two reasons. First, it is less cumbersome in its administration and less intrusive in its wording than most other marital adjustment scales. It is therefore a more viable instrument for use in conjunction with a number of other scales. Second, it contains less reference to historical information and is more focused on the individual's satisfaction in the here and now, making it more

appropriate in light of the purposes of this study.

The questionnaire is comprised of 16 statements or questions, followed by six response options. Each item scored from 1 through 6, with 6 being the positive score. Total scores are obtained by averaging item scores.

Physical Symptom Subscale (Phys Sx). This is a 10-item subscale of the 63-item Feelings and Attitudes about Pregnancy Questionnaire developed by Wapner (1976). While there are no reliability or validity data reported by Wapner for either his total questionnaire or the Physical Symptom Subscale, reliability was later established by Weaver and Cranley (1983). An item analysis utilizing 100 subjects' scores yielded a Cronbach's coefficient of reliability of .70.

The subscale is comprised of 10 statements pertaining to somatic symptoms, followed by 4 response options ranging from "never" to "almost always." Items are scored from 1 to 4 and averaged for a total score. The Physical Symptom Subscale is included in this study because none of the other measures make explicit reference to subjectively experienced physical symptoms related to pregnancy. It has been suggested (Ballou, 1978; Davids, 1961; Nuckols et al., 1972; Jessner et al., 1970; and others) that assessing the presence or absence of such preoccupation is helpful in assessing maternal responses to pregnancy (see Appendix E).

IV. RESULTS

Preliminary Analysis

To assess for a priori group differences on the scores of each of these measures at the time of initial administration, initial scores on each measure for the EQ group were compared with those of the LQ group, using a one way analysis of variance (ANOVA). No significant group differences were found. Likewise, group differences at the time of the test administration immediately preceding quickening were analyzed, using the same technique. There were no significant differences between EQ and LQ scores on any of the measures at the test administration preceding the experience of quickening.

Analyses were performed to test for relationships between dependent variables and demographic factors. A correlation matrix was used to assess the degree of relationship between scores on each of the measures and subjects' age, education, and years married. No significant correlations were found. A chi square analysis revealed no significant relationship between scores on dependent measures and the factors employment status or source of obstetrical care.

Tests of Hypotheses

Analysis. Change scores were analyzed using a 2 x 2 (first time interval vs. second time interval x EQ vs. LQ) analysis of variance technique to assess changes on each of the dependent measures

as a function of quickening. Post hoc comparisons between individual means were conducted when indicated using the Cichetti (1972) method of determining honestly significant differences (HSD). Relationships among various of the dependent measures were assessed using a Pearson correlation. In this instance the actual test scores on each of the measures were used for the analysis to assess the nature of the correlation across administrations. An alpha level of .05 was the criterion for significance.

Hypothesis 1. The first hypothesis stated that pregnant women's attitudes toward pregnancy will be positively influenced by the experience of quickening. From this it was predicted that scores on the Maternal Attitude to Pregnancy Instrument (Mat Att Preg) would increase following quickening. The analysis of variance technique comparing Mat Att Preg total scores revealed a significant main effect for time ($F = 4.74$, $df = 1, 38$, $p < .05$). Both EQ and LQ groups showed a greater increase in Mat Att Preg scores during the second time interval. Therefore, both group scores increased as a function of time regardless of when quickening occurred.

Analysis of the subscale scores on the Mat Att Preg revealed a significant group x time interaction effect for Factor III, which measures a positive attitude toward the unborn baby ($F = 4.52$, $df = 1, 38$, $p < .05$). Post hoc comparisons of individual means revealed that the groups differed significantly across time in the predicted direction. That is, EQ change scores were significantly

greater at time interval 1 than at time interval 2, and significantly exceeded LQ change scores at time 1 ($\text{HSD} = .18$ and $.15$, $p < .05$). LQ change scores were significantly greater at time interval 2 than at time interval 1, and significantly exceeded EQ change scores at time interval 2 ($\text{HSD} = .13$ and $.21$, $p < .05$). Each group therefore showed greater increase in Mat Att Preg scores during the interval that quickening occurred. The results are shown in Table 2.

Hypothesis 2. It was hypothesized that women express a greater sense of attachment to their unborn babies following the experience of quickening. It was therefore expected that scores on the Maternal Fetal Attachment Scale (Mat Fet Attch) would increase following quickening. An analysis of variance in Mat Fet Attch total scores yielded a significant group x time interaction effect ($F = 10.18$, $df = 1, 38$, $p < .05$). Post hoc comparisons showed that EQ change scores were significantly greater at time interval 1 than at time interval 2, and that they significantly exceeded LQ scores at time interval 1 ($\text{HSD} = .10$ and $.21$, $p < .05$). LQ change scores were significantly higher at time interval 2 than at time 1, and significantly exceeded EQ change scores at time interval 2 ($\text{HSD} = .09$ and $.18$, $p < .05$). Each group therefore showed a greater increase in Mat Fet Attch scores during the time interval when quickening occurred. These results support the prediction that Mat Fet Attch scores would increase as a function of quickening (see Table 3).

Analysis of individual subscores revealed a significant main effect for time on the subscale Attribution of Characteristics to

Table 2. Change Scores on Maternal Attitudes to Pregnancy
Instrument Subscale III.

Group	Interval	
	1	2
Early Quickening $\bar{X}(SD)$	.16 (.19)	.05 (.15)
Late Quickening $\bar{X}(SD)$	.04 (.18)	.21 (.20)

$F(1,38) = 4.52$

$p < .05$

Table 3. Change Scores on Maternal Fetal Attachment Scale.

Group	Interval	
	1	2
Early Quickening		
$\bar{X}$ (SD)	.16 (.19)	.08 (.18)
Late Quickening		
$\bar{X}$ (SD)	.09 (.24)	.26 (.18)

$F(1,38) = 10.18$

$p < .05$

Fetus ($F = 4.96$, $df = 1, 38$, $p < .05$). The change scores of both groups were significantly greater at time interval 2 than at time interval 1, indicating an increase in these scores as a function of time, regardless of when quickening occurred (see Table 4).

Hypothesis 3. It was hypothesized that following quickening women show less somatic self preoccupation and experience a greater sense of physical well being. It was predicted that scores on the Physical Symptom Subscale (Phys Sx) would increase following quickening. Analysis of variance of change scores revealed a significant group x time interaction effect ($F = 8.52$, $df = 1, 38$, $p < .05$). Post hoc comparison of means revealed an interaction in the expected direction, with EQ change scores significantly higher at interval 1 than at interval 2, and significantly exceeding LQ change scores at interval 1 ($HSD = .08$ and $.12$, $p < .05$). LQ change scores were significantly higher at interval 2 than at interval 1 and exceeded EQ scores at interval 2 ($HSD = .11$ and $.13$, $p < .05$). Results support the prediction that Phys Sx scores increase as a function of quickening (see Table 5).

Hypothesis 4. It was hypothesized that a relationship exists between sense of marital satisfaction and both maternal attitudes to pregnancy and attachment to the unborn baby. It was predicted that scores on the Marital Satisfaction and the Life Cycle Questionnaire (Mar Sat) would be positively correlated with scores on both the Mat Att Preg and the Mat Fet Attch.

Table 4. Change Scores on Maternal Fetal Attachment Scale
Subscale Attribution of Characteristics to Fetus.

Group	Interval	
	1	2
Early Quickening		
$\bar{X}$ (SD)	.03 (.24)	.12 (.20)
Late Quickening		
$\bar{X}$ (SD)	.03 (.30)	.25 (.33)

$F(1,38) = 4.96$

$p < .05$

Table 5. Change Scores on Physical Symptom Subscale.

Group	Interval	
	1	2
Early Quickening		
$\bar{X}$ (SD)	.30 (.17)	.06 (.11)
Late Quickening		
$\bar{X}$ (SD)	.08 (.13)	.20 (.17)

$F(1,38) = 8.52$

$p < .05$

An analysis of variance performed on change scores for both EQ and LQ groups across time failed to yield any significant effect. This indicates relative stability of scores across administrations, although a positive but nonsignificant trend was noted for both groups. The experience of quickening does not appear to have an effect on women's reports of marital satisfaction.

Pearson product-moment correlations between actual Mar Sat scores and actual Mat Att Preg scores revealed significant positive correlations. Scores for all subjects on the Mar Sat were positively correlated with the Mat Att Preg scores for all three test administrations ($r(40) = .49, .50, .50, p < .05$).

Correlation between actual Mar Sat scores and Mat Fet Attch scores were likewise positive and significant $r(40) = .63, .59, .72, p < .05$). Post hoc comparisons of differences between correlations revealed no significant difference across time or group, indicating a stable positive relationship.

V. DISCUSSION

The purpose of this study was to examine the changes that occur in a pregnant woman's attitudes about her first pregnancy and in her feelings of attachment to her unborn child as a function of quickening. An additional aspect of the study had to do with the extent to which such attitudes and feelings are related to the expectant mother's sense of satisfaction within the marital relationship. Results of the study supported a number of the hypotheses regarding the positive effect of quickening in enhancing women's experience of pregnancy, and suggested as well that time alone is an important component in the development of positive attitudes toward pregnancy as well as feelings of attachment to the unborn baby. The relationship between sense of satisfaction in the marriage and feelings regarding pregnancy and the baby was confirmed.

Maternal Attitudes to Pregnancy

It was predicted that scores on the Maternal Attitudes to Pregnancy would increase following the experience of quickening, indicating an enhancement of feelings regarding "being pregnant," as well as increased pride and more positive attitudes regarding motherhood and the unborn baby. Results indicated that in general attitudes toward pregnancy tend to become more positive with the passage of time, independent of the experience of quickening. Without regard to when quickening occurred, both groups of women demonstrated

a significant positive change in their Maternal Attitudes to Pregnancy during the second time interval. Those women who were further along in their pregnancies, the EQ group, tended to show greater changes in a positive direction than the LQ group, but this difference did not reach statistical significance. The suggestion, however, is that during this middle stage of pregnancy, women tend to feel more positively about pregnancy and impending motherhood as a function of the passage of time. This finding is consistent with the pregnancy as process model described by Gloger-Tippelt (1983). She suggested that after the ambivalence and role disorientation that is characteristic of the first stage of pregnancy, there follows an acceptance of and satisfaction with the idea of pregnancy that becomes more and more positive over time. Results of this study suggest that the process by which women's attitudes toward pregnancy develop is related primarily to their experiencing themselves as pregnant over the course of time. Quickening per se appears not to play a critical role in this process.

Examination of specific factors of the Maternal Attitudes to Pregnancy revealed an area in which quickening plays a significant role in the changes that occur in maternal attitudes to pregnancy. That aspect of the scale specifically pertaining to attitudes toward the unborn baby shifted in a positive direction following the experience of quickening. Women showed significantly greater increases on this subscore following the experience of quickening than they did merely as a function of the passage of time, suggesting that there is something about feeling the fetus move or "show life"

that serves to foster the development of positive attitudes toward it. This finding supports a number of previous reports (Ballou, 1978; Leifer, 1980; Colman & Colman, 1971; Chesler, 1979; Schereshefsky & Yarrow, 1974) which describe the importance of quickening in (1) providing a means by which the unborn child makes himself known to the mother and (2) allowing for the emergence of the child as a separate entity toward whom the mother develops feelings and attitudes.

Maternal Fetal Attachment

The prediction that scores on the Maternal Fetal Attachment Scale, an index of feelings of attachment for the unborn baby by its mother, would increase following quickening was supported. Women's scores on this instrument increased significantly more following the interval during which quickening occurred than they did following the interval either before or after quickening. The prediction that quickening plays an important role in the enhancement of a woman's feelings of attachment toward her unborn baby is therefore supported.

This finding is quite consistent with the reports of a number of authors regarding the process tasks of pregnancy (Arbeit, 1975; Schaffer, 1977; Light & Fenster, 1974). Of particular relevance here is the idea that pregnancy provides an opportunity for a kind of "rehearsal" of the issues that emerge in the mother child relationship during the first three years of life, as described by Raphael-Leff (1980). In object relations theory terms, issues of

oneness and separateness pervade the mothering experience in different ways at different developmental stages. During pregnancy, quickening provides an impetus for the pregnant woman to begin to experience the fetus as an entity separate from herself. It is at this point that the experience of a relationship toward the fetus as "an other" becomes salient, and feelings of affection for and attachment to the unborn baby become stronger. As described by Leifer (1980), quickening represents a

turning point in the development of the affective bond to the fetus . . . a sense of the fetus as a separate entity (is stimulated) . . . and the baby gets personified, imbued with characteristics, and emotional communications begin (p. 79).

Colman and Colman (1971) described a similar process in terms of differentiation. They discussed quickening as a means by which the mother experiences the fetus as distinct from herself, and as a signal for a more affective, interactive sense of pregnancy. In this context the increase in Maternal Fetal Attachment scores following quickening may be understood as a corollary to this differentiation process. The development of feelings of attachment necessarily implies the presence of "an other" to whom one feels attached. In that quickening provides a rather dramatic indication of the fetus' status as an other, it may also be understood as an event that allows for an enhancement of the development of feelings of attachment in the mother. Ballou, in her 1981 longitudinal study, noted the extent to which a woman's fantasies about her baby change

following the experience of movement. "These fantasies reflect of changed sense of the child . . . there now develops a relationship, and fondness" (pp. 91-92).

Of the individual Maternal Fetal Attachment subscales, only one--the attribution scale--showed significant change. Regardless of when quickening occurred, scores on this scale tended to increase as a function of time. In other words, women are more likely to attribute particular characteristics to the unborn baby--regarding temperament, sex, intentionality--as the pregnancy progresses. On the basis of the obtained data, quickening does not itself play a critical role in this process.

Gloger-Tippelt (1983) described the "centering phase" of pregnancy as beginning around the 20th week, which is characterized by an increased energy to "get to know" the child from various somatic and emotional cues. The rise in Maternal Fetal Attachment attribution scores may represent an aspect of this development, and may be understood as a reflection of the feeling of relationship that begins to develop in the pregnant woman toward the fetus. Events begin to be understood not simply in terms of "being pregnant," but in terms of particular characteristics of a particular baby. One subject whose pregnancy had so far been particularly pleasant and asymptomatic reported that her sense of her baby was that of an "easy going girl," with whom it was already easy to get along. It seems reasonable to suppose that a tendency to personify the unborn baby is an aspect of pregnancy that develops over time, and that fetal

movement is just one of a number of cues that the mother responds to in this process.

Physical Symptoms

It was predicted that scores on the Physical Symptoms Subscale would increase following quickening, indicating an increased sense of physical well being and a decrease in somatic preoccupation. This prediction was confirmed. Results indicate a significant increase in Physical Symptoms Subscale scores following quickening when compared to score changes either before or after quickening, which reflects increased report of well being, and a dropping off of reports of somatic complaints. This supports the hypothesis that pregnant women tend to focus less on their own physical condition following the experience of quickening.

The possibility that such a change is related to the natural decline in symptoms of nausea and fatigue that often characterize the beginning stage of pregnancy can be ruled out. Such symptoms tend almost always to disappear by the 12th week of pregnancy (Kitchner, 1983). Quickening, on the other hand, occurs usually around the 20th week, making it quite unlikely that the obtained results are related to the cessation of first trimester symptoms. Each of the subjects was well into her second trimester at the time of initial test administration.

It has been suggested (Gloger-Tippelt, 1983; Wapner, 1976; Osbourne, 1977; Meyerowitz, 1970) that a change occurs in the pregnant woman's physical experience of pregnancy with the perception

of fetal movement. Concerns and physical preoccupation seem to shift from the self to the developing fetus. Physical symptoms are reported not as a burden or a source of self focused anxiety, but rather as signals from and indications of what is happening to the unborn baby. It is interesting that increased report of physical well being occurs at that stage of pregnancy when the most dramatic somatic changes are occurring in terms of bodily changes and weight gain. The suggestion is that quickening serves to assist in shifting the focus of causality of symptoms and somatic changes, allowing the mother to feel good even as she feels more and more pregnant. As Colman and Colman describe the process, the mother is less likely to perceive symptoms as difficulties happening to her, for the baby has now captured her attention as a separate being; changes are now understood as happening to the fetus (1971, p. 35).

Marital Satisfaction

It was predicted that scores on the Marital Satisfaction and the Life Cycle Questionnaire would be positively correlated with scores on both the Maternal Attitudes to Pregnancy Instrument and the Maternal Fetal Attachment Scale. This prediction was confirmed, supporting the hypothesis that the attitudes and feelings of a woman during her first pregnancy are related to her sense of satisfaction in her marriage. Results of the data analysis suggest that there is no significant effect of either time or quickening on the extent to which the scores are correlated. While this does not imply causality, what emerges is indication that a woman's attitudes and

feelings regarding her pregnancy covary with her sense of satisfaction in the marital relationship. Further, there tends to be a positive though nonsignificant change in Marital Satisfaction scores over the course of administrations.

This finding is particularly relevant in light of the state of research regarding pregnancy and parenthood as representative of marital crisis (Dyer, 1963; Russell, 1974; Brody & Axelrod, 1978; Carter & McGoldrick, 1980; Keniston, 1977; Callahan & McKluskey, 1983; Nash, 1965; Parke & O'Leary, 1975; Lynn, 1974; Barry & Adler, 1980; Meikle & Gerritse, 1973; Shapiro, 1979). The findings of the current study refute the notion that a first pregnancy tends to strain and disrupt the marital relationship, at least from the perspective of the woman. Further, in response to the question on the Marital Satisfaction Questionnaire specifically addressing the quality of the marital relationship during pregnancy when compared to earlier phases of the relationship, 95% of the women indicated that they were at least as satisfied with the relationship during pregnancy as they had been prior to becoming pregnant.

Results of the current study tend to support the work of a number of authors who describe the marital relationship as the context within which the woman's experience of pregnancy develops. Grossman, Eichler, and Winickoff described the interpersonal relationship between husband and wife to be "the most important context within which the woman's pregnancy unfolds and into which the baby is born (1980, p. 6). Cranley (1983) and Lips (1983) reported findings which indicated

that the degree to which the marriage is experienced in a positive manner is the strongest predictor of a woman's psychological adaption to pregnancy. Richardson (1983) reported that woman's perception of her husband and their marriage served as a critical index for her own attitudes, her moods, and the developing mother-fetus relationship (1983, pp. 14-18). Erickson (1983) as well named the husband as the single most important provider of support during pregnancy, and thereby the most important variable influencing maternal self-confidence during pregnancy. The relationship between the marriage and maternal adjustment during pregnancy is supported by the correlation between Marital Satisfaction scores, Maternal Attitudes to Pregnancy, and Maternal Fetal Attachment scores. There are no available data that specifically address the issue to the extent to which this relationship may be a function of attributional style of the subjects. However, anecdotal reports (Gloger-Tippelt, 1983; Richardson, 1983; Grossman et al., 1980) suggested that response style alone does not explain the correlation; there is further suggestion in the literature that this is a relationship of some importance.

Conclusions

Results of the present study support the proposal that the perception by a pregnant woman of fetal movement--that is, quickening--plays an important role in her developing feelings toward her unborn child. Specifically, there is indication that attitudes about the

unborn baby and a sense of attachment to it are enhanced by the experience of quickening. It is suggested that quickening serves to foster the mother's sense of her unborn child as separate from herself, thereby allowing for the development of a sense of relationship and attachment to it. Quickening seems also to contribute to an enhanced sense of physical well being on the part of the pregnant woman, with a decrease in somatic preoccupation. It is suggested that this finding is related to a shift in focus; that is, somatic developments tend to be perceived more as a function of fetal development and less of a source of personal discomfort.

Attitudes toward pregnancy in general were found to shift in a positive direction as a function of time, with no significant relationship to the experience of quickening. Likewise, a tendency to attribute characteristics to the unborn baby increases over time. These findings are understood in terms of (1) acceptance of and adjustment to the "role" of pregnancy, and (2) efforts by the mother to feel she is "coming to know" her unborn baby. Both of these have been cited as process tasks of pregnancy; it appears that quickening alone does not play a critical role in their development.

Marital satisfaction was found to bear a relationship to both attitudes during pregnancy and maternal-fetal attachment. This finding is important in that it supports the notion that the marital relationship is an important context within which the processes of pregnancy develop. Findings also refute the idea that a first pregnancy tends to have a disorganizing or disruptive effect on marital satisfaction.

Limitations of the present study relate primarily to the sample. This was a relatively homogeneous group of women, somewhat atypical in terms of education and age. In addition, their willingness to volunteer for participation in the study suggests a certain kind of interest and involvement in their experiences that may not be typical of all or most pregnant women. Further investigations will need to examine attitudinal changes in a heterogeneous sample. This is particularly important in terms of identifying early potential problems of adjustment or impediments to the development of the mother-infant attachment relationship.

Further, follow-up research will need to specifically address issues of continuity between findings regarding the pregnancy experience, and developments in the neonatal period and beyond. Differences with regard to the maternal-fetal and mother-newborn attachment relationships in particular should be evaluated.

Finally, in light of the support this study lends to the concept of "pregnancy as a couple experience" (Lamb, 1979), further investigations of pregnancy including both husband and wife could provide valuable information, both in terms of assessing and identifying problems of pregnancy, and in terms of enhancing the experience of parenthood for all involved.

LIST OF REFERENCES

LIST OF REFERENCES

- Abernathy, V. (1973). Social networks and response to the maternal role. International Journal of Sociology of the Family, 3, 86-92.
- Ainsworth, M. D. S. (1978). Patterns of attachment. Hillsdale, NJ: Erlbaum Publishers.
- Arbeit, S. A. (1975). A study of women during their first pregnancy. Unpublished doctoral dissertation, Yale University.
- Ballinger, C. B. (1982). Emotional disturbances during pregnancy and following delivery. Journal of Psychosomatic Research, 26, 629-634.
- Ballou, J. W. (1978). The psychology of pregnancy. Lexington: D. C. Heath & Co.
- Ballou, J. W. (1978). The significance of reconciliative themes in the psychology of pregnancy. Bulletin of the Menninger Clinic, 42, 383-413.
- Barry, H. R., & Adler, S. P. (1980). The pregnant father. In B. Blum (Ed.), Psychological aspects of pregnancy, birthing and bonding (pp. 220-231). New York: Human Science Press.
- Beck, N. L., Siegel, L. J., & Davidson, N. P. (1980). Prediction of pregnancy outcome. Journal of Psychosomatic Research, 24, 343-351.
- Belsky, J. (September 1986). Transition to parenthood. Medical Aspects of Human Sexuality, 20, 56-59.
- Belsky, J., Spanier, G. B., & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. Journal of Marriage and the Family, 45, 553.
- Benedek, T. (1959). Parenthood as a developmental phase: A contribution to the libido theory. Journal of the American Psychoanalytic Association, 7, 389-417.
- Benedek, T. (1970). The psychology of pregnancy. In T. Benedek & E. J. Anthony (Eds.), Parenthood, its psychology and psychopathology. Boston: Little, Brown & Co.

- Bibring, G. (1959). Some considerations of the psychological processes in pregnancy. Psychoanalytic Study of the Child, 14, 113-121.
- Bibring, A. (1961). A study of psychological processes in pregnancy and of the earliest mother-child relationship. Psychoanalytic Study of the Child, 16, 9-72.
- Blau, A., Welkowitz, J., & Cohen, J. (1964). Maternal attitude to pregnancy instrument. Archives of General Psychiatry, 10, 324-328.
- Blitzer, J. R., & Murray, J. M. (1964). On the transformation of early narcissism during pregnancy. International Journal of Psychoanalysis, 45, 89-97.
- Blos, P. (1979). The adolescent passage. New York: International Universities Press.
- Brazleton, T. B. (1970). Infants and mothers. New York: Delacorte Press.
- Brazleton, B. B. (August 1975). Symposium on behavioral pediatrics: Anticipatory guidance. Pediatric Clinics of North America, 22, 533-544.
- Brazleton, T. B. (1981). On becoming a family: The growth of attachment. New York: Delacorte Press.
- Brody, S., & Axelrad, S. (1978). Mothers, fathers and children. New York: International Universities Press, Inc.
- Callahan, E. J., & McCluskey, K. A. (1983). Lifespan developmental psychology. New York: Academic Press.
- Carter, E. A., & McGoldrick, M. (1980). The family life cycle. New York: Golden Press.
- Chertok, L. (1969). Motherhood and personality: Psychosomatic aspects of childbirth. London: Tavistock Publishers.
- Chester, P. (1979). With child: A diary of motherhood. New York: Thomas Y. Crowell.
- Chodorow, N. (1978). The reproduction of mothering: Psychoanalysis and the sociology of gender. Berkeley: University of California Press.

- Cichetti, D. V. (1972). Extension of multiple range tests to interaction tables in the ANOVA: A rapid approximate solution. Psychological Bulletin, 77, 405-408.
- Colman, A., & Colman, L. (1971). Pregnancy, the Psychological Experience. New York: Herder & Herder.
- Crandon, A. J. (1979). Maternal anxiety and obstetric complications. Journal of Psychosomatic Research, 23, 109-117.
- Cranley, M. S. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. Nursing Research, 30, 281-284.
- Cranley, M. S. (1983). Parents' relationship with their unborn: Influence of marital satisfaction and perceived stress. Unpublished manuscript.
- Cogan, R., Henneborn, W., & Klopfer, F. (1976). Predictors of pain during prepared childbirth. Journal of Psychosomatic Research, 20, 523-533.
- Davids, A., DeVault, S., & Talmadge, M. (1961). Psychological study of emotional factors in pregnancy. Psychosomatic Medicine, 23, 93-103.
- Deutsch, H. (1945). Psychology of Women (Vol. 2). New York: Grune & Stratton.
- Dinnerstien, D. (1976). The mermaid and the minatour. New York: Harper.
- Dyer, E. D. (1963). Parenthood as crisis: A restudy. Journal of Marriage and the Family, 25, 196-201.
- Erickson, E. S. (1983). Transition to motherhood: Effects of preparation and isolation upon a measure of mastery in primiparae. Unpublished doctoral dissertation, The University of Tennessee, Knoxville.
- Fawcett, J., & York, R. (1986). Spouse's physical and psychological symptoms during pregnancy. Nursing Research, 35(3), 144-149.
- Fein, R. A. (1976). Men's entrance into parenthood. The Family Coordinator, 25, 341-348.
- Fenichel, O. (1945). The psychoanalytic theory of neurosis. New York: W.W. Norton & Co.

- Flopan, M., & Schoenfield, H. (1972). Procedures for exploring women's childbearing conflicts and enhancing maternal role development. American Journal of Orthopsychiatry, 42, 389-397.
- Fraiberg, S. (1980). Clinical studies in infant mental health: The first year of life. New York: Basic Books.
- Freud, S. (1920). Introductory lectures on psychoanalysis. New York: W. W. Norton & Co.
- Gillman, R. D. (1968). Dreams of pregnant women and maternal adaptation. American Journal of Orthopsychiatry, 38, 688-692.
- Gloger-Tippelt, G. (1983). A process model of the pregnancy course. Human Development, 26(3), 134-148.
- Greenacre, P. (1960). Considerations regarding the parent infant relationship. International Journal of Psychoanalysis, 41, 571-584.
- Grossman, F. K., Eichler, L. S., & Winickoff, S. A. (1980). Pregnancy, birth and parenthood. San Francisco: Jossey Bass Publishers.
- Guntrip, H. J. S. (1968). Schizoid phenomena, object relations and the self. New York: International Universities Press.
- Hanford, J. (1968). Pregnancy as a state of conflict. Psychological Reports, 22, 1313-1342.
- Henneborn, N. J., & Cogan, R. (1975). The effects of husband participation on reported pain and probability of medication during labor and birth. (1975). Journal of Psychosomatic Research, 19, 215-222.
- Hicks, M., & Platt, M. (1970). Marital happiness and stability. Journal of Marriage and the Family, 32, 553-574.
- Hobbs, D. F., & Cole, S. P. (1976). Transition to parenthood: A decade replication. Journal of Marriage and the Family, 38, 723-731.
- Hooke, J. F., & Marks, P. A. (1962). MMPI characteristics of pregnancy. Journal of Clinical Psychology, 18, 316-317.
- Horney, K. (1926). Flight from womanhood. International Journal of Psychoanalysis, 7, 324.

- Horney, K. (1967). Feminine psychology. New York: Norton.
- Horsley, S. (1972). Psychological management of the prenatal period. In T. G. Howells (Ed.), Modern perspectives in psycho obstetrics. New York: Brunner Mazel.
- Huck, S. W., Cormier, W., & Bounds, W. (1974). Reading statistics and research. New York: Harper & Row.
- Huck, S. W., & McLean, R. A. (1975). Using a repeated measures ANOVA to analyze the data from a pretest posttest design: A potentially confusing task. Psychological Bulletin, 82, 511-518.
- Jacobsen, E. (1950). The male wish for a baby: Development of the wish for a child. Psychoanalytic Study of the Child, 5, 139-152.
- Jacoby, A. P. (1969). Transition to parenthood--a reassessment. Journal of Marriage and the Family, 31, 720-727.
- Jessner, L., Weigert, E., & Foy, J. L. (1970). The development of parental attitudes during pregnancy. In T. Benedek and E. J. Anthony (Eds.), Parenthood: Its psychology and psychopathology. Boston: Little, Brown & Co.
- Josselyn, I. M. (1956). Cultural forces, motherliness and fatherliness. American Journal of Orthopsychiatry, 26, 264-271.
- Keniston, K., & Carnegie Council on Children. (1977). All our children: The American family under pressure. New York: Harcourt, Brace, Jovanovich.
- Kestenberg, J. S. (1975). Children and parents: Psychoanalytic studies in development. New York: Jason Aronson.
- Kimmel, D., & Vanderveen. (1974). Factors of marital adjustment in Locke's Marital Adjustment Test. Journal of Marriage and the Family, 36, 57-63.
- Kirk, R. (1968). Experimental design procedures for the behavioral sciences. Waco, TX: Baylor University Press.
- Kitzinger, S. (1979). Women as mothers: How they see themselves in different cultures. New York: Random House.
- Kitzinger, S. (1983). The complete book of pregnancy and childbirth. New York: Alfred A. Knopf, 1983.
- Klatskin, E. H., & Eron, L. D. (1970). Projective test content during pregnancy and postpartum adjustment. Psychosomatic Medicine, 32, 487-493.

- Klaus, M. H., & Kennell, J. H. (1976). Maternal infant bonding. St. Louis: C. V. Mosby Co.
- Lamb, M. E. (1979). The influence of the child on marital quality and family interaction during the prenatal, perinatal and infancy periods. In R. M. Lerner and G. D. Spanier (Eds.), Child influences in marital and family interaction: A life cycle perspective. New York: Academic Press, 1979.
- Lederman, R. P., & Lederman, E. D. (1979). Relationship of psychological factors in pregnancy to problems in labor. Nursing Research, 28, 94-97.
- Leifer, M. (1980). Psychological effects of motherhood--a study of first pregnancy. New York: Praeger Publishers.
- Le Masters, E. E. (1957). Parenthood as crisis. Marriage and Family Living, 19, 352-355.
- Lerner, R. M., & Spanier, G. B. (1978). Child influences on marital and family interaction: A life span perspective. New York: Academic Press.
- Light, H. R., & Fenster, C. (1974). Maternal concerns during pregnancy. American Journal of Obstetrics and Gynecology, 118, 46-50.
- Lips, H. M. (1983). Attitudes toward childbearing among women and men expecting their first child. International Journal of Women's Studies, 6, 119-129.
- Loesch, J. G., & Greenberg, N. H. (1962). Areas of conflict observed during pregnancy. American Journal of Orthopsychiatry, 32, 624-646.
- Luckey, E. B., & Bain, J. K. (1970). Children: A factor in marital satisfaction. Journal of Marriage and the Family, 32, 43-44.
- Lynn, D. B. (1974). The father: His role in child development. Monterey, CA: Brooks/Cole.
- Mahler, M. S., & Bergman, A. (1975). The psychological birth of the human infant. New York: Basic Books.
- Marine, M. M. (1976). Dimensions of marriage happiness: A research note. Journal of Marriage and the Family, 36, 443-448.
- Meikle, S., & Gerritse, R. (1973). A comparison of husband and wife response to pregnancy. Journal of Psychology, 83, 17-23.

- Meyerowitz, J. H. (1970). Satisfaction during pregnancy. Journal of Marriage and the Family, 32, 38-43.
- Miller, W. B., & Newman, L. F. (1978). The first child and family formation. Chapel Hill: Carolina Population Center.
- Moburg, B. J. (1982). The relationship between the quality of the woman's birth experience and patterns of mother infant attachment. Dissertation Abstracts, 42(10B), 4224.
- Morris, N. (1960). Human relations in obstetric practice. Lancet, 1, 913-915.
- Nash, J. (1965). The father in contemporary culture and current psychological literature. Child Development, 36, 261-297.
- Nath, C. L. (1982). The effect of prenatal classes on attitudes toward pregnancy. West Virginia University, DAI, 43(3-A), 680. ISSN: 04104209.
- Newton, N. (1955). Maternal emotions: A study of women's feelings toward aspects of their femininity, Psychosomatic Medicine Monograph. New York: Paul Hoeber.
- Newton, N., & Newton, M. (1972). Childbirth in cross-cultural perspective. In J. G. Howells (Ed.), Modern perspectives in psycho-obstetrics. New York: Brunner Mazel.
- Nuckolls, K. B., Cassel, J., & Kaplan, B. H. (1972). Psychological assets, life crisis, and the prognosis of pregnancy. American Journal of Orthopsychiatry, 95, 431-441.
- Oakley, A. (1980). Women confined: Towards a sociology of childbirth. New York: Schocken.
- Offerman-Zuckerberg, J. (1980). Psychological and physical warning signals regarding pregnancy. In B. Blum (Ed.), Psychological aspects of pregnancy, birthing and bonding (pp. 151-173). New York: Human Science Press.
- Osbourne, D. (1977a). MMPI characteristics of multigravidas and primagravidas in the third trimester of pregnancy. Psychological Reports, 40, 81-82.
- Osbourne, D. (1977b). Comparison of MMPI scores of pregnant women and female medical patients. Journal of Clinical Psychology, 33, 448-450.

- Osbourne, D. (1978). MMPI changes between the first and third trimesters of pregnancy. Journal of Clinical Psychology, 34, 92-93.
- Parke, R. D., & O'Leary, S. (1975). Father-mother-infant interaction in the newborn period. In K. Riegel and J. Meacham (Eds.). The developing individual in a changing world. The Hague: Mouton.
- Patterson, G. (1977). Mothers: The unacknowledged victims. In J. Stevens & M. Matthews (Eds.), Mother-child, father-child relations. Washington, DC: NAEYC.
- Payne, F. (1935). A conception of femininity. British Journal of Medical Psychology, 15, 18.
- Pines, D. (1972). Pregnancy and motherhood: Interaction between fantasy and reality. British Journal of Medical Psychology, 45(4), 333-343.
- Pinkus, T. (1977). A study of the relationship between prenatal maternal parameters and the subsequent development of infant security. Dissertation Abstracts, 39(7B), 3535.
- Raphael-Leff, J. (1980). Psychotherapy with pregnant women. In B. Blum (Ed.), Psychological aspects of pregnancy, birthing and bonding (pp. 174-205). New York: Human Science Press.
- Rich, A. (1976). Of women born: Motherhood as experience and institution. New York: Wm. Norton.
- Richardson, P. (1983). Women's perceptions of change in relationships shared with their husbands during pregnancy, Maternal Child Nursing Journal, 12(1), 1-19.
- Richardson, S. A., & Guttmacher, A. F. (1967). Childbearing: Its social and psychological aspects. New York: Williams & Wilkins Co.
- Rising, S. S. (1974). The fourth stage of labor: Family integration. American Journal of Nursing, 74, 870-874.
- Rollins, B. C., & Feldman, H. (1970). Marital satisfaction over the family life cycle. Journal of Marriage and the Family, 32, 20-28.
- Rubin, R. (1975). Maternal tasks in pregnancy. Maternal Child Nursing Journal, 4(3), 143-153.

- Russell, C. S. (1974). Transition to parenthood: Problems and gratifications. Journal of Marriage and the Family, 36, 294-302.
- Schaffer, R. (1977). Mothering. Cambridge, MA: Harvard University Press.
- Schereshefsky, P. M., & Yarrow, L. J. (1974). Psychological aspects of a first pregnancy and early postnatal adaptation. New York: Raven Press.
- Scott-Palmer, J., & Kevington, S. (1981). Pain during childbirth: A study of locus of control. Journal of Psychosomatic Research, 25(3), 151-155.
- Sears, R., Maccoby, E., & Levin, H. (1957). Patterns of childbearing. New York: Row Peterson.
- Shapiro, E. R. (1979). Transition to parenthood in adult and family development. Unpublished doctoral dissertation, University of Massachusetts.
- Shettles, L. B., & Rugh, R. (1971). From conception to birth: The drama of Life's beginnings. New York: Harper & Row.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scale for assessing the quality of marriage and similar dyads. Journal of Marriage and the Family, 38, 15-28.
- Stolz, L. (1967). Influences on parent behavior. Stanford, CA: Stanford University Press.
- Tanner, J. M., & Taylor, G. R. (1965). Growth. New York: Life Science Books.
- Turrini, P. (1980). Psychological crises in normal pregnancy. In B. Blum (Ed.), Psychological aspects of pregnancy, birthing and bonding (pp. 135-150). New York: Human Science Press.
- Walton, C. M. (1982). Expectant fatherhood: An investigation of the Couvade Syndrome and an exploration of anticipating childbirth for fathers. Unpublished doctoral dissertation, The University of Tennessee, Knoxville.
- Wapner, J. (1976). The attitudes, feelings and behaviors of expectant fathers attending Lamaze classes. Birth and the Family Journal, 3, 5-13.
- Weaver, R. H., & Cranley, M. S. (1983). An exploration of paternal fetal attachment behavior. Nursing Research, 32(2), 68-72.

- Wente, A., & Crockenberg, S. (1976). Transition to fatherhood: Lamaze preparation, adjustment difficulty and the husband-wife relationship. Family Coordinator, 25, 351-357.
- Williams, C. (1975). Pregnancy and life change. Journal of Psychosomatic Research, 19, 123-129.
- Winnicott, D. W. (1959). Mother and child: A primer of first relationships. New York: Basic Books.
- Winnicott, D. W. (1960). The theory of the parent infant relationship. International Journal of Psychoanalysis, 41, 585-595.
- Winnicott, D. W. (1965). The maturational processes and the facilitating environment. New York: International Universities Press.
- Wolkind, S., & Zajicek, E. (1981). Pregnancy: A psychological and social study. London: Academic Press.
- Zuckerman, M., Barrett, B., & Bruijen, A. (1963). Psychological correlates of somatic complaints in pregnancy and difficulty in childbirth. Journal of Consulting Psychology, 27(4), 324-339.

APPENDICES

APPENDIX A

CONSENT TO PARTICIPATE IN RESEARCH

Project: The purpose of this project is to learn about women's feelings and attitudes during their first pregnancy. This will be done by asking each individual to answer a number of questions regarding her health, her experience of her pregnancy, and her relationship with her husband. This project focuses on the ways that attitudes in these three areas are related, and how they may shift during the course of pregnancy. Three 20 minute meetings will be held with each participant over a 5-6 week period.

I have read the above summary of the research project and have had the opportunity to ask any questions I might have. I understand that there is minimal risk of injury or discomfort to me as a function of my participation in this study.

I understand that all material is confidential and that my identity will be protected. I understand that participation is entirely voluntary and that I may withdraw my consent to participate at any time, with no negative consequences.

Name

Witness

Date

Researcher:
Catherine Collins

728-6217

APPENDIX B

MATERNAL ATTITUDES TO PREGNANCY INSTRUMENT

Instructions - Read each of the statements below. Rate each statement as to whether you strongly agree, agree, disagree, or strongly disagree. There are differences of opinion about these statements. We would like to know what you think about these statements. Please check (x) in the space provided that choice which comes closest to saying how you feel about each statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Most women feel sick to their stomachs for the first 3 months of their pregnancy.	_____	_____	_____	_____
2. Looking forward to having a baby gives greater pleasure than actually having one.	_____	_____	_____	_____
3. At least half the babies born in the US are not "planned".	_____	_____	_____	_____
4. Most women would have more babies if they did not have to be pregnant for nine months.	_____	_____	_____	_____
5. You can love a baby before it's actually born.	_____	_____	_____	_____
6. Most women want to be awake during labor.	_____	_____	_____	_____
7. A woman looks her best during her pregnancy.	_____	_____	_____	_____
8. One out of every five babies in the US is born with some physical defect.	_____	_____	_____	_____

	Strongly Agree	Agree	Disagree	Strongly Disagree
9. A woman almost always gets her figure back after pregnancy.	_____	_____	_____	_____
10. A woman has to be handled gently during pregnancy because she is liable to get excited easily.	_____	_____	_____	_____
11. Many women feel they will lose their husbands when they are pregnant.	_____	_____	_____	_____
12. Most fathers handle their new babies very well.	_____	_____	_____	_____
13. The delivery is a frightening part of pregnancy.	_____	_____	_____	_____
14. Most women know how their babies are born.	_____	_____	_____	_____
15. Most pregnant women do not really care if they have a boy or a girl.	_____	_____	_____	_____
16. It is unusual for a woman to be sorry that she became pregnant.	_____	_____	_____	_____
17. A woman should not continue to hold a job after she has a baby.	_____	_____	_____	_____
18. Most women feel especially well during their pregnancy.	_____	_____	_____	_____
19. Many mothers are permanently injured during childbirth.	_____	_____	_____	_____
20. Most women would like to take care of their own newborn babies in the hospital.	_____	_____	_____	_____

	Strongly Agree	Agree	Disagree	Strongly Disagree
21. Most women dream about having an abnormal baby sometime during their pregnancy.	_____	_____	_____	_____
22. It is very difficult to lose a baby during pregnancy.	_____	_____	_____	_____
23. Most doctors take a great deal of interest in their patients.	_____	_____	_____	_____
24. Most women "feel blue" during or soon after their pregnancy.	_____	_____	_____	_____
25. Very few unborn babies in the US are lost during the mother's first three months of pregnancy.	_____	_____	_____	_____
26. The first three months of pregnancy are very easy.	_____	_____	_____	_____
27. It is important to have a nurse at home for several weeks because most mothers do not know how to take care of their new baby.	_____	_____	_____	_____
28. Breast feeding does not ruin the mother's figure.	_____	_____	_____	_____
29. The labor is a horrible part of pregnancy.	_____	_____	_____	_____
30. It is unusual for the mother not to love her baby immediately.	_____	_____	_____	_____
31. Most women are concerned about being able to carry their babies to term.	_____	_____	_____	_____

	Strongly Agree	Agree	Disagree	Strongly Disagree
32. If a mother reads about animals during her pregnancy, her baby will be born deformed.	_____	_____	_____	_____
33. Most new-born babies are alike.	_____	_____	_____	_____
34. Most women enjoy wearing maternity clothes.	_____	_____	_____	_____
35. Very often, the father pays more attention to the new baby than to the wife.	_____	_____	_____	_____
36. It takes a long time for the mother to feel that her baby is really her own.	_____	_____	_____	_____
37. Many women would prefer to have their babies delivered at home.	_____	_____	_____	_____
38. Most mothers need a lot of medical advice about their new babies.	_____	_____	_____	_____
39. If a pregnant woman is hurt her unborn baby is hurt also.	_____	_____	_____	_____
40. The unborn baby gets its food from the mother's stomach.	_____	_____	_____	_____
41. Breast-fed babies are healthier than bottle-fed babies.	_____	_____	_____	_____
42. Most women are unprepared for having a baby.	_____	_____	_____	_____
43. Worry cannot make a mother lose her unborn baby.	_____	_____	_____	_____

	Strongly Agree	Agree	Disagree	Strongly Disagree
44. If hospitals were not so crowded it would be better for a new mother to stay at least 10 days.	_____	_____	_____	_____
45. Pregnancy can be an awful time.	_____	_____	_____	_____
46. Most women want to breast feed their babies.	_____	_____	_____	_____
47. Putting the mother to sleep during birth can hurt the baby.	_____	_____	_____	_____
48. Most women feel that being a mother is the happiest thing in their lives.	_____	_____	_____	_____

APPENDIX C

MATERNAL FETAL ATTACHMENT SCORE

Please respond to the following items about yourself & the baby you are expecting. There are no right or wrong answers. Your first impression is usually the best reflection of your feelings.

Make sure you mark only one answer per sentence.

	definitely yes	yes	uncertain	no	definitely no
I think or do the following:					
1. I talk to my unborn baby	___	___	___	___	___
2. I feel all the trouble of being pregnant is worth it	___	___	___	___	___
3. I enjoy watching my tummy jiggle as the baby kicks inside	___	___	___	___	___
4. I picture myself feeding the baby	___	___	___	___	___
5. I'm really looking forward to seeing what the baby looks like	___	___	___	___	___
6. I wonder if the baby feels cramped in there	___	___	___	___	___
7. I refer to my baby by a nickname	___	___	___	___	___
8. I imagine myself taking care of the baby	___	___	___	___	___
9. I can almost guess what my baby's personality will be from the way s/he moves around	___	___	___	___	___
10. I have decided on a name for a girl baby	___	___	___	___	___

	definitely yes	yes	uncertain	no	definitely no
11. I do things to try to stay healthy that I would not do if I were not pregnant	_____	_____	_____	_____	_____
12. I wonder if the baby can hear inside of me	_____	_____	_____	_____	_____
13. I have decided on a name for a baby boy	_____	_____	_____	_____	_____
14. I wonder if the baby thinks and feels inside of me	_____	_____	_____	_____	_____
15. I eat meat and vegetables to be sure my baby gets a good diet	_____	_____	_____	_____	_____
16. It seems my baby kicks and moves to tell me it's eating time	_____	_____	_____	_____	_____
17. I poke the baby to get him/her to poke back	_____	_____	_____	_____	_____
18. I can hardly wait to hold the baby	_____	_____	_____	_____	_____
19. I try to picture what the baby will look like	_____	_____	_____	_____	_____
20. I stroke my tummy to quiet the baby when there is too much kicking	_____	_____	_____	_____	_____
21. I can tell that the baby has hiccoughs	_____	_____	_____	_____	_____
22. I feel my body is ugly	_____	_____	_____	_____	_____
23. I give up doing certain things because I want to help my baby	_____	_____	_____	_____	_____
24. I grasp my baby's foot through my tummy to move it around	_____	_____	_____	_____	_____

APPENDIX D

MARITAL SATISFACTION SCALE

1. In general, how often do you think things are going well between you and your husband?
 _____ all the time
 _____ most of the time
 _____ more often than not
 _____ occasionally
 _____ rarely
 _____ never

2. How often would you say that the following events occur between you and your husband?

never	a year	twice a year	once or twice a month	once or twice a week	once or twice a day	more than once a day
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

you feel resentful
 you feel not needed
 you feel misunderstood
 you feel a lack of affection

3. How often would you say that the following events occur between you and your husband?

	once or twice a year	once or twice a month	once or twice a week	about once a day	more than once a day
you laugh together	_____	_____	_____	_____	_____
you calmly discuss something together	_____	_____	_____	_____	_____
you have a stimulating exchange of ideas	_____	_____	_____	_____	_____
you work on a project together	_____	_____	_____	_____	_____
you share outside interests	_____	_____	_____	_____	_____
you show affection	_____	_____	_____	_____	_____

4. Different stages of the family life cycle may be viewed as being more satisfying than others. How satisfying do you think the following stages have been?

	very satisfying	quite satisfying	somewhat satisfying	not satisfying
when you first met	_____	_____	_____	_____
before you got married	_____	_____	_____	_____
when you were first married	_____	_____	_____	_____
before you got pregnant	_____	_____	_____	_____
during your early pregnancy	_____	_____	_____	_____
(during your middle pregnancy)	_____	_____	_____	_____

APPENDIX E

PHYSICAL SYMPTOM SUBSCALE

Almost Always	Often	Some- times	Statement
_____	_____	_____	I've felt tired more often during the last seven months.
_____	_____	_____	I've had more difficulty sleeping during the last seven months.
_____	_____	_____	I've been suffering from an upset stomach in the last few months.
_____	_____	_____	In the last few months my appetite isn't what it used to be.
_____	_____	_____	I've had increased amounts of indigestion in the last few months.
_____	_____	_____	I've had more headaches recently.
_____	_____	_____	I've had a toothache since I became pregnant.
_____	_____	_____	I've been constipated more often than usual.
_____	_____	_____	My joints have been swollen during the last few months.
_____	_____	_____	I'm physically less attractive right now.

VITA

Catherine Collins was born in Nyack, New York on June 12, 1954. She received a Bachelor of Arts degree in Psychology from Temple University in 1976. After working three years at Horsham Psychiatric Clinic, she entered the doctoral program in Psychology at The University of Tennessee, Knoxville. She completed an internship at the Memphis Clinical Psychology Consortium in 1986, and received a Doctor of Philosophy degree with a major in Psychology in December 1986.