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n Examination of the Consequences of Strenuous and or Non-Sedentary Employment During Pregnancy

by

Laura R. Mahlmeister

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA

San Francisco



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AN EXAMINATION OF THE CONSEQUENCES OF STRENUOUS AND OR NON-SEDENTARY EMPLOYMENT DURING PREGNANCY

Laura R. Mahlmeister R.N., PhD.

University of California, San Francisco, 1989

An increasing number of women are employed during pregnancy. A small but growing percentage are engaged in strenuous and or non-sedentary activities. These women may be confronted with unique physical and emotional hazards. The purpose of this study was to explore the physical, psychological, and social experiences of pregnancy for women employed in physically challenging work. Grounded theory methodology was used to answer the research question:

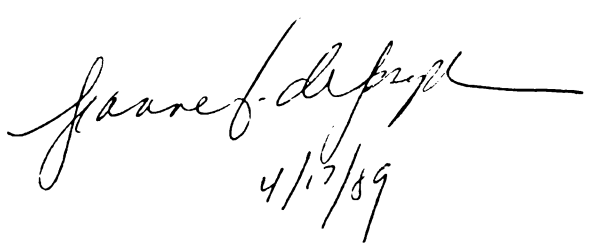
What is the experience of a first and planned pregnancy for women employed full-time in strenuous and or non-sedentary work at conception?

Grounded theory methodology was selected to discover and conceptualize the phenomenon. The goal was to discover substantive, middle range theory about work and pregnancy, using the constant comparative method of qualitative data analysis. A priori assumptions regarding the phenomenon were not delineated, however symbolic interaction, a framework which posits that humans act and interact on the basis of mutually understood symbols, was chosen as a sensitizing perspective. A cross-sectional design was

used and 36 gravid workers were interviewed once during the gestational period. A demographic questionnaire was completed by participants and interviews were guided by a researcher-designed interview schedule.

Data analysis revealed that employed gravid women were engaged in two inextricably linked processes of risk assessing and safeguarding in the work setting. Risk assessing entailed a reappraisal of pre-existing hazards, and the identification of new threats to self and or fetus. Safeguarding consisted of two major strategies, avoiding behaviors and self-regulating behaviors which were intended to protect and preserve those aspects of self or other (fetus), which were most valued, and considered most endangered. These circular processes were central to the pregnancy experience. They also shaped and defined the day-to-day work experience for informants.

The research findings were theoretically significant. Previous studies of planned pregnancies discovered safeguarding acts which focused on fetal well-being. Informants in this study often made pragmatic decisions to protect some aspect of self rather than fetus. The nature of the work setting and larger societal forces were conditions which strongly influenced the focus of safeguarding behaviors.



DEDICATION

This book is dedicated to my mother Irene Szymanski, who endowed me with her great love of learning, and to my husband Michael Mahlmeister, whose continued support and encouragment kept that love alive during the years of study and research.

PREFACE

My interest in the consequences of strenuous and non-sedentary employment during pregnancy stemmed from my practice as a labor and delivery nurse. Caring for women in all phases of the gestational period, who were engaged in arduous work, stimulated a need in me to learn more about this phenomenon. The willingness of these individuals to share their experiences, helped me to articulate the research question.

As I began to interview the women who agreed to participate in this investigation, a contract was established. The participants would share some of their precious leisure time with me, describing the experience of strenuous and or non-sedentary work during pregnancy. They would outline the positive and negative aspects of the phenomenon; the benefits and disadvantages of remaining in the workplace during the gestational period. In return, I would translate this information into a coherent theory which researchers, health care providers, employers, health policy-makers, and legislators could utilize in ways which support positive pregnancy outcomes for pregnant workers.

I would like to thank each woman who spoke with me. The course of interviews did not always run

smoothly. Many women relived experiences which evoked strong negative emotions. Tears were commonly shed as the informants described the emotional and physical trauma sustained on the job during pregnancy. I am also indebted to those participants who were willing to read and critique the emerging explanation of the phenomenon and confirmed the accuracy of the theory.

I wish to express my appreciation to Dr. Anselm Strauss, Emeritus Professor of Sociology, University of California, San Francisco and Dr. Juliet Corbin, San Jose State University, School of Nursing for their invaluable assistance during the data collection and analysis phases of this grounded theory study. Finally, I would like to thank the members of my dissertation committee, Dr. Katherine Crabtree, Dr. Mary Duffy, and the chairperson, Dr. Jeanne DeJoseph, for their ongoing support, encouragement and guidance.

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CHAPTER ONE

The Study Problem

Introduction

An increasing number of women remain in the workforce during pregnancy. For the first time in American history, the majority of gravid women are employed for at least part of the gestational period (U.S. Bureau of Census, 1981). It is estimated that 80% to 90% of those females who become pregnant are working at the time of conception (Jimenez & Newton, 1982), and 48% are still employed in the third trimester (Bumpass and Sweet, 1980). Between 25% and 30% of these women are employed in occupations that require moderate to heavy exertional activity or continuous standing or walking during the course of the work day (Makuc, 1983) (See Appendix A). Among this subgroup of workers, approximately 22% are still on the job in the ninth month of pregnancy (Makuc & Lalich, 1983).

Statement of the problem

A number of recent studies have examined the psychological experience of pregnancy for working women in general (Brown, 1987; Donaldson, 1984; Hees-Stauthamer, 1985; Jimenez & Newton, 1982). However, few investigations have explored the physical, emotional, or social dimensions of the first pregnancy

for blue-collar workers and other women engaged in physically challenging or non-sedentary work, such as coal miners, construction workers, agricultural laborers, waitresses and hospital employees. The Council of Scientific Affairs of the American Medical Association (1984) has stated that the pregnant woman should be able, in most cases, to continue productive work until the onset of labor. Clearly, a solid body of scientific knowledge must be developed in the immediate future to identify the physical and psychosocial needs of gravid women engaged in strenuous and or non-sedentary work.

Purpose and Study Objectives

The purpose of this study was to explore the physical, psychological and social experiences of pregnancy for women employed in strenuous or non-sedentary occupations. Definitions of strenuous and non-sedentary work were derived from an occupational activity classification instrument (Meyer & Daling, 1985), and guidelines for continuation of work during pregnancy proposed by the American Medical Association (1984). Non-sedentary employment was defined as work which requires standing 75% of the time or more. Strenuous employment encompassed very active work which may include climbing stairs, repetitive bending below knee level, or lifting weights greater

than 11 kilograms more than 25% of the time. Appendix A further delineates these criteria.

Grounded theory analysis was used to answer the research question:

> What is the experience of the first pregnancy for women employed full-time in physically challenging and or non-sedentary work?

Specific objectives of the study were to: (a) discover substantive, middle-range theory which explained the experience of pregnancy for women employed in physically challenging work settings; (b) identify variables related to strenuous and non-sedentary work, which have either negative or positive effects on the physical and psychological health of the gravida; (c) identify universalities in the experience of pregnancy which traverse racial, class, educational, and occupational lines; and (d) compare and contrast the findings of this study with data previously reported in the literature regarding the experiences of professional women, or those engaged in sedentary activities during pregnancy.

Other secondary questions addressd in the study included :

1. Do women employed in physically challenging work experience the same developmental tasks of pregnancy, which have been delineated in previous

research with gravid subjects employed in sedentary jobs?

2. What are the predominant work-related health concerns of these women?

3. What other issues or concerns regarding work and pregnancy are verbalized by the participants?

4. What is the meaning of work for gravid women employed in physically challenging work?

5. What effect do nurses and other health care providers have on the experience of pregnancy for these workers?

6. What are the employed woman's perceptions of her co-workers' responses to the pregnancy?

7. What effect do co-workers and managers have on the experience of pregnancy as perceived by the study informants?

Significance of the Study

Nurse scientists have contributed significantly to the development of substantive theory regarding the psychosocial experience of pregnancy including: the nature of developmental tasks (Rubin, 1975), alterations in dyadic relationships (Rankin & Campbell, 1983; Richardson, 1983; Saunders & Robins, 1987), fetal attachment (Cranley, 1981; Stainton, 1985), feelings of vulnerability (Tipping, 1981), social support (Brown,

1986; Cronenwett, 1985), and antepartum stress and pregnancy outcomes (Brown, 1986); Curry & Snell, 1983; Mercer, May, Ferketich & DeJoseph, 1986). However, the experience of pregnancy for employed women, and specifically for those engaged in physically challenging work, has been virtually ignored.

Major extant theories regarding pregnancy adaptations focus on the gravida's experiences within the family setting. Research questions regarding pregnancy were shaped by interest in the woman's changing relationship with spouse, parents (especially mother) and growing fetus. Primary motivation for the elaboration of these intrapsychic and social theories was to understand and prevent impaired maternal-fetal and infant attachment, dysfunctional parenting and child abuse, and to promote traditional family structure and function. The majority of subjects in these investigations were white, middle class professionals or women employed in traditional female occupations which were often sedentary in nature.

Nurse researchers and scientists in other disciplines have contributed to a conceptualization of pregnancy as a period of disequilibrium and potential crisis. It is viewed as a life event which challenges the woman's adaptive capacities. Marked psychological changes are assumed to occur including increased

introversion, passivity, heightened dependency needs, and emotional lability. Pregnancy is also considered a major developmental landmark in the woman's life, which heralds her entrance into adulthood (Tilden, 1980). The signficance of pregnancy as a "transition to adulthood" for women who have gained entree into non-traditional work settings through rigorous training, persistence and sacrifice, has not been questioned or explored in depth.

This investigator re-examined current conceptualizations of pregnancy and their related assumptions. The experiences of blue-collar and pink-collar working class women engaged in strenuous work during the gestational period were studied. Gravid women employed in work roles such as law enforcement officer and armed forces enlistee, which require physical assertiveness, or even aggressive behavior were also interviewed. A major goal of the study was to extend extant theory regarding the psychology of pregnancy, in view of the dramatic changes occuring in women's lives today.

With few exceptions, nurse researchers have focused almost exclusively on the psychosocial adaptations of pregnancy. Physical consequences of work during the gestational period, particularly arduous activity, have not been examined in depth by

nursing scholars. Several recent epidemiologic studies have demonstrated a positive relationship between non-sedentary and strenuous work and poor obstetrical and neonatal outcome. These findings suggest a need for further study.

Work in a continuous standing position has been associated with preterm labor (Mamelle, Laumon, & Lazar, 1984; Papiernik & Kaminski, 1974; Saurel-Cubizolles & Kaminski, 1987), large placental infarcts (Naeye & Peters, 1982), and spontaneous abortions (Hemminki, Niemi, Saloniemi, Vainio, & Hemminki, 1980). Lifting and carrying heavy loads, aspects of strenuous work activity, have been correlated with preterm birth and low birth weight (Mamelle et al., 1984; Papiernik & Kaminski, 1974; Saurel-Cubizolees, 1987; Shilling & Lalich, 1984), complications in labor and delivery (Baltzar, Ericson, & Kallen, 1979), and spontaneous abortion (Hemminki et al., 1980; McDonald et al., 1986).

This study examined the somatic experiences and health concerns of women engaged in strenuous and non-sedentary work. The goal was to expand upon the current narrow focus within nursing on psychosocial aspects of pregnancy, and explore the physical consequences of physically arduous work. Participants

were asked to describe their health concerns and the physical challenges encountered in the work setting.

CHAPTER TWO

Review of the Literature

Introduction

An overview of the research literature regarding pregnancy and employment will be presented in this chapter. In the first section, a critique of the major extant theories regarding the psychological experience of pregnancy will be conducted. Questions will be raised regarding the possible impact of paid work on the intrapsychic processes which are theorized to occur during the gestational period. Investigations which have examined the physical consequences of work, particularly strenuous and non-sedentary activity during pregnancy, will be reviewed in the second section. Gaps in the current knowledge base regarding the gravida's physiologic reactions to exertional work are identified, and avenues for further study are explored. Finally, the chapter concludes with a review of the literature regarding societal and cultural responses to pregnant women in the workplace. This last section focuses on the current laws, safety regulations and health initiatives which govern the activties of the gravid worker and influence her ability to survive in the work setting.

Psychological Processes of Pregnancy and Employment

During this century, scientists and theoreticians have amassed a wealth of data regarding the psychological processes of pregnancy. Interest has particularly focused on the first pregnancy and birth for married couples. The earliest studies of pregnancy utilized female informants whose primary roles were wives and mothers (Benedek, 1959; Bibring, 1959; Deutsch, 1945; Rubin, 1967). The majority of subjects were white, married, middle class women in their twenties who were not employed, or who planned to quit their jobs to devote themselves to the responsibilities of motherhood.

Wolkind and Zajicek (1981) assert that these first theoretical formulations reflected the predominant cultural values and expectations of that time period (1940s through early 1960s) about women's behavior. Pregnancy and motherhood were assumed to be the major adult developmental landmarks for a woman, the primary determinants of her adult identity and status in society, and constituted the ultimate fulfillment of her life. The influence of work on the timing and experience of pregnancy was not explored, even for women who were employed during the entire gestational period.

While an increasing number of studies have begun to examine the psychology of pregnancy for professional women engaged primarily in sedentary work activities (Donaldson, 1984; Hees-Stauthamer, 1985; Jimenez & Newton, 1982), few researchers have explored the phenomenon for blue collar workers and other women engaged in physically challenging occupations. The impact of paid employment on women's timing of pregnancy, as well as the emotional consequences of working during the gestational period must be studied. Theories regarding the psychology of pregnancy often reflect assumptions no longer true about women's lives, or their attitudes, beliefs and experiences surrounding pregnancy (Wolkind & Zajicek, 1981).

Psychoanalytic Theory, Pregnancy, and Employment.

The earliest theoretical conceptions regarding pregnancy emanated from the school of Freudian psychoanalysis. Freud himself demonstrated a consistent interest in pregnancy in his writings, exploring the symbolism of pregnancy in dreams (1900), and the significance of pregnancy symptoms (1905). He maintained that the desire to have a child was not solely the result of socialization, but was a primary wish evolving from a woman's earliest relationship with her mother (1933). During the Oedipal stage of

development, this wish evolved into a longing to be impregnated by the father. This primary pregnancy wish could be invested by other aims at a later age and thus compensate for life's disappointments. Of course all of Freud's reflections arose from the study of middle and upper class females who were not employed.

While Neo-Freudians have revised psychoanalytic theory in terms of the psychological experience of pregnancy, many still support Freud's original thesis of primitive wish fulfillment including Brunswick (1940), Deutsch (1945), Jacobson (1950), Kestenberg (1956) and Parens, Pollock, Stern and Kramer (1976). Woven throughout this psychoanalytic framework of pregnancy is a thread of biological determinism. Freud suggested the existence of inborn mental configurations that direct human activity, including the desire to conceive, which he termed the "phylogenetic heritage". Andresen (1983) states that succeeding theorists continue to add their observations to Freud's orienting discoveries, supporting the idea of a phylogenetically determined pregnancy drive.

Helene Deutsch (1945), the first female psychoanalyst to study pregnancy and motherhood in depth, developed theoretical propositions which form the bedrock of current psychological explanations regarding these events. Pregnancy was described as an

intense intrapsychic experience characterized by passivity, introversion, a progressive withdrawal from interest in external events, and a rich fantasy life focusing on the child-to-be. Central to these mental activities is an evolving identification with, and subsequent differentiation from the fetus which form the foundation of the future mother-child relationship.

Bibring (1959) believed that pregnancy resulted in an intense upheaval of the psychological processes which closely resembled beginning or arrested psychosis, and was characterized by magical thinking, premonitions, depressive reactions, primitive anxieties and paranoid mechanisms. Colman and Colman (1973) portrayed pregnancy as an altered state of consciousness, while Ballou (1978), Rubin (1975),and Tipping (1981) discovered heightened dependency needs, fears of injury and death, and an increased psychological vulnerability among their pregnant informants.

Psychoanalytic interpretations of the pregnancy experience were largely derived from clinical materials obtained in therapy (Benedek, 1952; Bibring, 1959; Deutsch, 1945; Deutscher, 1970; Kestenberg, 1977). Female patients suffering from psycho-sexual disorders, infertility problems, and problematic pregnancies provided the data for a small number of case studies

upon which this theory was built. Chodorow (1978), in her critique of psychoanalytic theory, notes that this framework represents an androcentric view of psycho-sexual development. The theory was developed in a misogynist, patriarchal era and reflects a persistent male bias. Attempts to validate psychoanalytic claims regarding pregnancy and motherhood through quantitative research methods have not generally been successful (Roazen, 1985).

What impact have these theories had upon the nature and course of pregnancy research? First and foremost, many theorists still believe that pregnancy and subsequent motherhood are the primary life events for women under which all other activities and goals are subsumed. A woman may pursue a career today, or other life achievements, but they assume secondary importance when she finds herself pregnant (Chodorow, 1978; Hewlett, 1986; Wolkind & Zajicek, 1981).

Much of the research literature depicts pregnancy as a period in which normal mental functioning is short-circuited in the service of psychological preparation for motherhood. Obsessive thought patterns, phobias, exaggerated fears, inability to concentrate, rich fantasies about the child-to-be and motherhood, and bizarre dreams characterize the

psychological materials obtained from pregnant informants.

How is it possible for women to hold jobs and continue productive employment during such pyschological turmoil? Investigators have begun to ask to what extent the libido is actually divided between pregnancy and other important life activities such as work. Is interest in one sacrificed at the expense of the other? These questions remain unanswered for women employed in non-traditional and physically strenuous occupations as well as those engaged in pursuit of more traditional careers.

Psychoanalytic theorists also assume that the manner in which the gravida handles her feelings of ambiguity regarding pregnancy, constitutes a measure of successful adaptation to pregnancy and motherhood. While the expectant woman may feel ambiguous about approaching parenthood in the first trimester, the general position held is that these conflicts usually resolve around the time of quickening, in women experiencing a healthy psychological adaptation. Persistent conflicts regarding interruptions in career or employment during pregnancy and the postnatal period are assumed to reflect an abnormal adjustment to motherhood.

Wolkind and Zajicek (1981) claim that this undercurrent of negativity reflects a societal view that pregnancy and early childrearing should be experienced with minimial conflict in normal, psychologically healthy women. Little consideration is given for social realities such as the effects of separation from work colleagues, social isolation, the low status attached to pregnancy and motherhood, physical exhaustion, and work interruption (Hees-Stauthamer, 1985; Leifer, 1980). Mercer (1986) notes that questions should be raised concerning the reinforcement women receive for the mothering role from both the family and society.

Pistrang (1984) observes that most research on early motherhood has failed to examine how women feel about giving up or combining employment with parenting. Many investigators who employ a psychoanalytic framework assume that a female, with a primary drive to conceive and bear children, is unable to invest a significant amount of time and energy in her career or job. The assumption that women cannot deal successfully with pregnancy, or provide a nurturing environment for the growing fetus or child while continuing employment, can be traced back to the original work of Deutsch (1945).

Recently, pregnancy researchers have begun to challenge these assumptions. Jimenez and Newton (1982) found that women who adapt well to employment, also adapt well to childbearing. Informants who scored high in job committment had more favorable psychological and emotional experiences in the first pregnancy and the postnatal period. Pistrang (1984) discovered that women tended to have more positive experiences of motherhood if their employment status was congruent with their interest in working. It may be that women who score high on work involvment may have more stressful experiences of pregnancy and new motherhood only if they must give up a job or career they value.

Finally, psychoanalytic theory regarding pregnancy has reinforced a stereotypical picture of pregnancy as a time of passivity, introversion, receptivity, and "vegetative calmness" (Benedek, 1952; Deutsch, 1945; Caplan, 1961; Colman & Colman, 1971; Rubin, 1975). The second trimester especially, is considered a time of both physiological and psychological well-being for women who have resolved the initial feelings of ambiguity toward pregnancy. Researchers have not explored or tested these theories among women employed in physically stenuous occupations that require complex, rapid decision-making skills and assertive or even agressive behavior, such as police

officer, firefighter, professional athlete or military enlistee. It is essential that extant theories regarding pregnancy processes be reassessed among women employed in these non-traditional and physically challenging occupations.

Developmental Theories, Pregnancy, and Employment.

A second framework which has been employed widely to study the psychology of pregnancy is the developmental perspective. Tilden (1980) notes that the developmental model has proven to be an enduring and valuable framework for study of behavior during childbearing and childrearing. Pregnancy and motherhood have been viewed as developmental processes by the majority of life-cycle and pregnancy theorists and researchers (Ballou, 1978; Bibring, 1961; Colman, 1969; Erikson, 1968; Liefer, 1977; Mercer, 1986; Rubin, 1975). It was assumed that the physical and psychological changes of pregnancy initiated a reorganization of the gravida's psyche resulting in greater maturation in the postnatal period.

Bibring (1959; 1961) regarded pregnancy as a developmental crisis because of the revival of psychological conflicts from earlier developmental periods. Caplan (1961) altered this calculus slightly. He asserted that pregnancy was not necessarily a

crisis, but a period of heightened vulnerability and susceptibility to crisis, as a result of an increase in the number of potential problems the gravida faces. Resolution of these problems resulted in a higher level of development.

Within the developmental framework, major emphasis has been placed upon defining the significant adjustive or developmental tasks of pregnancy. The core task of the gestational period is believed to be the gravida's identification with the fetus, its ego-incorporation into her psyche during early pregnancy, followed by an individuation-separation process following quickening (Ballou, 1978; Bibring, 1959; Deutsch, 1945; Leifer, 1977; Rubin, 1975).

Other developmental tasks specific to pregnancy have been posited by researchers and theorists. Rubin (1975) identified four major maternal tasks: (1) seeking safe passage for oneself and the fetus through pregnancy, labor and delivery; (2) ensuring acceptance of the child she bears by significant others; (3) binding-in to the unknown child; and (4) learning to give of oneself to the fetus. Rubin asserts that all four tasks are worked on concurrently and equally, and are transformed and elaborated after delivery to form the qualitative matrix of mothering.

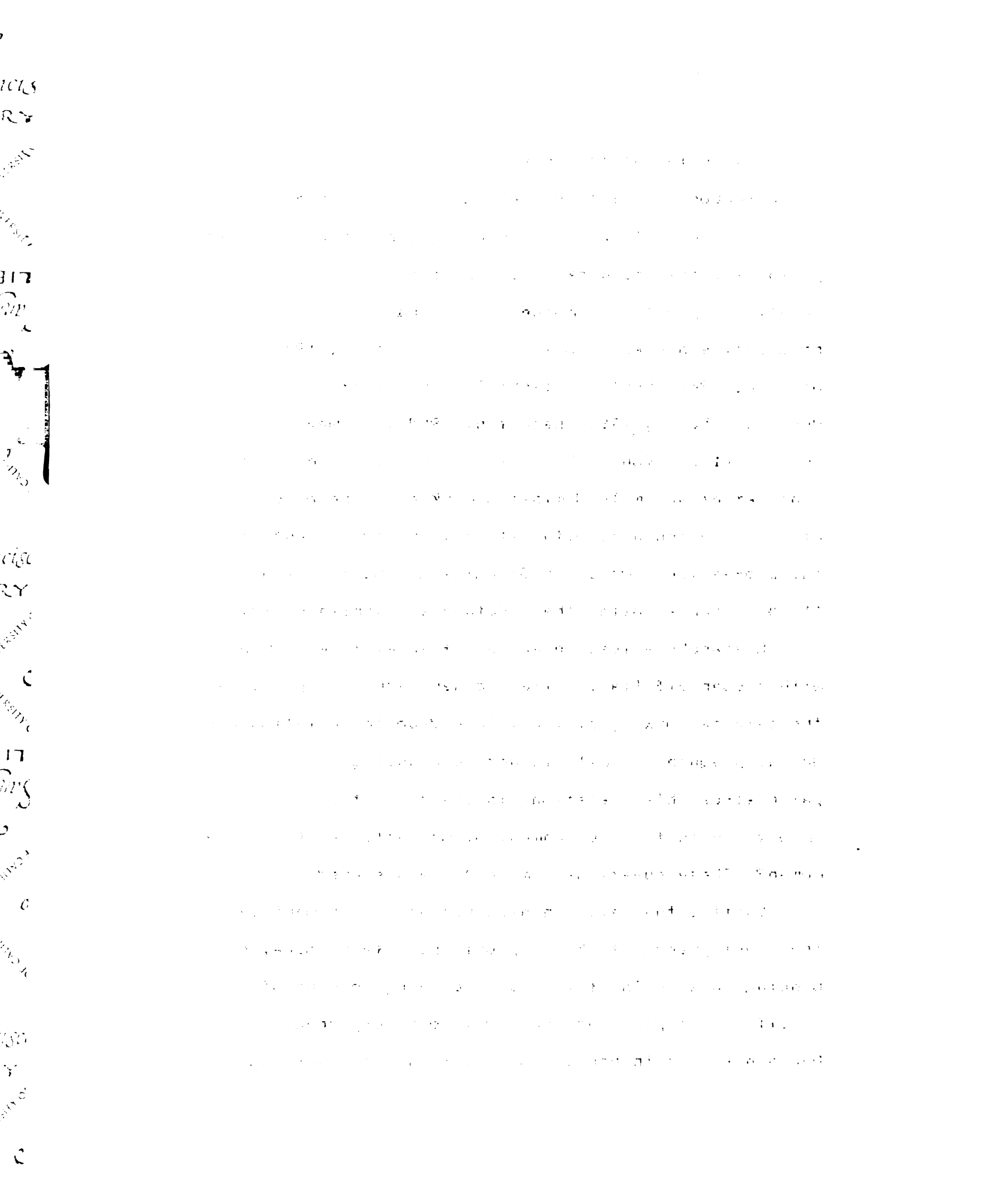
While the use of a developmental model for the study of pregnancy appears one of the most utilitarian and valid frameworks employed by theorists and researchers, it is not without its critics. Hees-Stauthamer (1985) notes that the research suffers from an inclination to view feminine development as a variation of male-determined stages of life, and translates female maturity into satisfactory adaptation to the maternal role. The assumption that most women derive their stable adult identities and primary fulfillment through pregnancy and motherhood must be re-examined.

Hees-Stauthamer (1985) asserts that pregnancy must be experienced differently by women who are older, or farther removed from the identity-formulating stages of young adulthood. Can it even be assumed that relatively young women (mid to late 20s), who have attained positions of power and authority at work, or have broken gender barriers and found employment in male-dominated occupations find pregnancy and motherhood the hallmark of maturity in their lives? The developmental impact of pregnancy in experienced career women, or those who have achieved status in male-dominated and non-traditional fields (many which require physically challenging activity) has yet to be fully explored.

Developmental issues surrounding the mother-daughter relationship and its significance in pregnancy adaptation are also being scrutinized. It is postulated that re-working of the gravida's relationship with her mother is central to the pregnancy experience (Ballou, 1978; Benedek, 1959; Bibring, 1961; Deutsch, 1945; Fisher, 1981; Hees-Stauthamer, 1985; Lederman, 1984). However, Henning (1973) found that women oriented toward high achievement and male-dominated work often reported closer relationships with fathers. Sixty percent of the professional women in Standley and Soule's study (1974) reported being their father's favorite child.

Researchers must determine if an employed woman with closer affiliative ties to her father, experiences the same re-working of the mother-daughter relationship during pregnancy. Will issues surrounding the paternal-daughter relationship assume critical importance in the development of motherliness for these women? These questions remain to be answered.

Lastly, the relationships between employment and the developmental tasks of providing safe passage, of binding-in with the fetus, and learning to give of onself during pregnancy have yet to be explored. Deutsch (1945) in her classic work on pregnancy and



motherhood was one of the first to theorize on the effects of employment on pregnancy.

She writes:

> For the . . . harassed working woman, the sick or tired woman, the masculine-ambitious woman who has turned her productivity to other ends, the approaching reality (birth and mother-infant relationship) is full of dangers. (p. 154).

Brazelton's observations (1986) reflect a similar view of employed women. He notes:

> In my work in pediatric primary care, the parents I see in a prenatal interview are generally predisposed to share their concerns about themselves and the well-being of their future baby. . . . However, when both parents anticipate the pressures of having to return to work too early (in their own words, 'before three months'), they seem to guard against talking about their future baby as a person and about their future roles as parents. (pg. 16)

Virtually no research has been conducted to date to test these assumptions among women employed in non-sedentary and physically strenuous occupations. Developmental tasks may be altered or quite different for this group of gravid workers. The physical demands of arduous work, the presence of multiple environmental hazards, and the nature of co-worker responses to the pregnancy must surely influence the gravida's

experience of this event, and her ability to accomplish major developmental tasks.

Research on the Physical Consequences of Employment During Pregnancy

Saurel-Cubizolles and Kaminski (1986) observe that prior to the middle of this century, all collected studies of arduous work during pregnancy yielded negative outcomes for both mother and infant. This was primarily the result of poor working conditions and low socioeconomic status coupled with inadequate health care. Since the end of World War II, the consequences of working during pregnancy have been quite different for the majority of women employed in advanced technological societies. In fact, some studies have discovered a strong association between employment in general for women and positive pregnancy outcomes (Gofin, 1979; Murphy, Dauncey, Newcombe, Garcia & Elbourne, 1984; Naeye & Peters, 1982; Saurel-Cubizolles, 1985). The improved social, demographic, and medical environments that occur with increased income from paid work are assumed to be the major factors responsible for this reversal in perinatal outcomes. However, large scale epidemiologic surveys conducted in both Europe and the United States regarding the effects of work during pregnancy,

continue to demonstrate adverse outcomes when gravid women are engaged in physically strenuous and non-sedentary activities.

Work in a continuous standing position has been associated with preterm labor (Mamelle et al. 1984; Papiernik & Kaminski, 1974; Saurel-Cubizolles & Kaminski, 1987) large placental infarcts (Naeye & Peters, 1982) and spontaneous abortions (Hemminki, Niemi, Saloniemi, Vainio, & Hemminki, 1980). Lifting and carrying heavy loads, aspects of strenuous work activity, have been correlated with preterm birth and low birth weight (Mamelle et al., 1984; Papiernik & Kaminski, 1974; Saurel-Cubizolles, 1987; Shilling & Lalich, 1984;), complications in labor and delivery (Baltzar, Ericson, & Kallen, 1979) and spontaneous abortion (Hemminki et al., 1980; McDonald et al., 1986).

The recent findings of Mamelle et al. (1984) and Saurel-Cubinzolle & Kaminski (1987) in particular, demonstrate the cumulative adverse effects of strenuous activity when pregnant women are engaged in the performance of more than one arduous task at work. Prolonged work hours (greater than 40 hours per week) and the absence of rest breaks while on the job were also associated with negative neonatal outcomes (low

birth weight and prematurity), as were pre-existing medical complications during pregnancy.

Several studies have been unable to identify a relationship between work activity and adverse perinatal outcome. Berkowitz, Kelsey, Holford and Berkowitz (1983) utilized an epidemiologic case-control design to examine the risk factors for preterm delivery among 175 mothers of singleton premature infants and 313 controls. No relationship between employment and preterm delivery was found, but inadequate sample size, and the small number of women actually employed in strenuous work, may have precluded the possibility of detecting significant differences.

Several investigations conducted in the United States failed to identify significant relationships among work, pregnancy and neonatal outcomes. Marbury et al. (1984) interviewed 11,173 gravid workers and non-employed homemakers over a 3 year period regarding pregnancy and work, and work exposures. Women who engaged in paid employment the entire nine months of pregnancy had the lowest rate of adverse outcome. Those leaving work prior to the ninth month of their pregnancy had a higher rate of fetal distress. Self-selection may have played a major role in these findings. Healthy women without pre-existing medical or obstetric complications could continue to work until

the onset of labor, while those with health problems were compelled to quit working before the third trimester.

Marbury notes that a major flaw in this study was the use of non-comparable subjects. In essence, homemakers are not an appropriate "non-exposed" referrent group for comparison with an "exposed" group of working women. Secondly, the majority of employed subjects were white (80%), college-educated (73%), and were not engaged in arduous occupational activities. Furthermore, data were not analyzed separately for those involved in strenuous work.

Zuckerman, Frank, Hingson, Morelock, & Kayne (1986) assessed the impact of women's work during pregnancy upon neonatal outcome among 1,507 women whose work status could be classified. No significant relationship between employment history and infant weight, length of gestation or head circumference was demonstrated when confounding variables were controlled statistically. Unfortunately, newly delivered mothers were not asked explicitly about posture at work, or the number of hours spent standing, lifting, and climbing or time engaged in other strenuous tasks. The authors note that posture was assigned post hoc by the investigators and may have been inaccurate.

Meyer and Daling (1985) reviewed 1981 state of Washington birth certificates to explore the relationship between infant birth weight and employment. No association was detected between activity level of the mother's usual occupation listed on the birth certificate and low birth weight infants. However, this survey also suffers from serious methodologic flaws. The investigators reported that occupation on the birth certificate listed only the mother's usual occupation, rather than specific occupation during pregnancy. No information was available regarding actual work done during the gestational period, duration of paid employment, or the presence of confounding variables affecting infant birth weight such as maternal smoking, alcohol use, and pre-pregnancy weight.

In contrast to the American findings of no adverse effect with physically challenging employment, European researchers have consistently discovered negative outcomes for women employed in strenuous and or non-sedentary occupations. These data are strengthened by probability sampling techniques, appropriate sample size, and the use of multiple regression analysis with control for confounding variables. Recall bias was reduced by collecting data from maternity records and

observation rather than solely interviewing employed women after the birth of the child.

Only one prospective study specifically designed to examine the effects of strenuous employment during pregnancy has been conducted to date. Bell and Rostan (1982) followed 33 gravid coal miners in Tennessee throughout the course of their pregnancies. Seventy-five percent of the women continued to work underground, 16% in an area 5 feet or less in height, for at least part of the pregnancy. Over 50% reported lifting heavy objects (40 pounds or more) five or more times per day and one third worked until at least the seventh month of gestation. The only adverse perinatal outcome reported was a 10% congenital anomaly rate.

The significance of research findings regarding the physical consequences of strenuous work for public and occupational health officials, and health care professionals is obvious. As more women of childbearing age enter occupations that require strenuous and non-sedentary activity, the potential risk of reversing recent improvements in maternal-child health increases. Future investigations must study specific aspects of physically challenging work. Field

research and natural experiments must be conducted in the work setting, taking into account air quality, noise, temperature, humidity, working gear, and other environmental factors altering work load capacity. Researchers must recognize the presence of other health-related variables when evaluating outcomes of strenuous and non-sedentary work such as a history of smoking, or other substance abuse, the presence of chronic disease, or musculoskeletal injuries, and nutritional status of subjects.

Epidemiologic studies must control carefully for threats to validity including selection bias, recall or memory bias, and use of non-comparable subjects. Careful interview data should be corroborated whenever possible by medical records and other documents. The use of objective observers in the work place to confirm the types of work activity in which pregnant women are involved will also strengthen the research design.

Socio-Cultural Research, Pregnancy, and Employment

Societal reactions to and support of gravid workers will greatly influence the outcomes of pregnancy for both mother and fetus. Hees-Stauthamer (1985) observes that while medical advances have significantly reduced the incidence of obstetrical complications, there may be new dilemmas and tasks

confronting the pregnant woman which increase her risk of physical and emotional trauma. Human behavior surrounding the childbearing period is normally channelled through rituals, or social conventions which aim to protect the mother-to-be and her growing fetus (Mead & Newton, 1967). During periods of social upheaval, such as the massive influx of women into the workforce today these practices may no longer be functional. Furthermore, changing societal beliefs regarding the relative value of childbearing versus paid employment for women may adversely affect the gravida's efforts to protect herself and nurture the growing fetus while at work.

In 1986, the United States stood alone among 117 industrialized nations in lacking a national maternity policy which would guarantee all pregnant workers job protection, health benefits, prenatal care and paid maternity leave (Hewlett, 1986). Research indicates that loopholes in the Pregnancy Discrimination Act of 1978 leave thousands of pregnant employees without job security or disability benefits (Trotter, Zacur, & Gatewood, 1982). We live in an era of de-regulation and government cutbacks in funding to watchdog agencies such as the National Institute for Occupational Safety and Health (NIOSH). As a result, growing numbers of pregnant workers are exposed to teratogenic and

mutagenic agents in the work environment, and many industries have deficient health and safety guidelines for pregnant employees (Kamerman, Kahn & Kingston, 1983).

Work Policies Regarding Pregnant Women

Pregnant women have always been represented in America's paid workforce, a small number in occupations involving strenuous and non-sedentary activities. Improvements in working conditions for employees in general, and for gravid workers in particular began during the decades of the 1930s and 1940s. With the advent of World War II, awareness of occupational health issues resulted in landmark guidelines and benefits for pregnant employees, many who worked in heavy industry and armaments production. The Women's Bureau and Children's Bureau, developed and issued "Standards for Maternity Care and Employment of Mothers in Industry" in 1942 (See Health and Safety Initiatives Section).

Perhaps one of the most critical statements contained within the Maternity Care and Employment Guidelines was the following;

> . . . a woman who is expecting a child should give first consideration to her own health and to plans for safeguarding the health of the

child. Nevertheless, some women who are pregnant or who have young children may find it necessary to work.

For the first time in American history, formal recognition was given to the fact that there would always be women in the workforce due to economic necessity and that employers had an obligation to consider the special needs of pregnant employees.

The forces which propelled females of all ages into the labor market during World War II were reversed during the postwar years. Under certain conditions, women were accepted in the workplace, however, society expected and enforced prolonged and periodic absences of women from the workforce during the childbearing years. This was accomplished by legitimizing mandatory unpaid maternity leave policies. In fact, as late as the decade of the 1960s, thirty five states explicitly excluded pregnant women from eligibility for unemployment benefits when they were forced to leave work (Kamerman et al., 1983).

In most settings, when women were placed on mandatory maternity leave, seniority, health benefits, and pension entitlement were lost and job security was doubtful. Reinstatement, when it did occur, was at a lower job classification, with less pay (Trotter et al., 1982). It should be remembered however, that many

women in traditional female occupations such as nursing continued to work during pregnancy. Black Americans, migrant workers, and immigrants arriving in this country and eager to succeed, also defied the prohibitions against working while pregnant, but not always out of choice. Poverty, poor nutrition, lack of education and prenatal services contributed to the very high perinatal morbidity and mortality rates among these groups and confirmed in the minds of many, the wisdom of mandatory maternity leaves for pregnant workers (Weiner, 1986).

The social and political upheavals of the late 1960s and early 1970s swept away many of the laws and unwritten rules limiting women's access to employment. Lebowitz (1980) notes that a social phenomenon of these proportions has multiple causes, among them: (a) the rise of the feminist movement, (b) a falling birth rate, (c) the increase in female-headed households, (d) the explosion of service jobs (primarily held by women), (e) the rise in women's level of education, (f) the effects of inflation on family budgets, and (g) anti-discrimination legislation.

By 1978, the year in which the Pregnancy Disability Act became law (See Entitlement and Exclusion Initiatives Section), the proportion of women in the labor force was approaching its current level.

Even with the onset of a major economic recession in the early 1980s, and the loss of jobs by many male workers, women continued to enter the labor market in record numbers. However, the lack of job protection and entitlements surrounding pregnancy and parenthood for women in the work force has continued.

Legislative and Judicial Initiatives Pertaining to Pregnant Workers

Why does the United States stand alone in denying all pregnant workers adequate occupational and health benefits? Societal expectations and values regarding pregnant women underlie all current written and unwritten laws governing their employment, and in part explain the deficiencies in the existing system. Lewenhab (1980) posits that one test of society's true concern for pregnant workers is the extent to which it provides legitimate support for childbearing activities. The enactment of protective work laws, and the provision of cash benefits for women who are prevented from working during part or all of the gestational period because of illness or reproductive work hazards, are excellent indicators of the value society places on childbearing.

Hewlett (1986), suggests that pregnancy and motherhood are not esteemed in American society and

that the current lack of entitlements for gravid workers and new mothers reflects this devaluing of the maternal role. Company policies, federal and state laws, and the courts have failed to recognize basic reproductive differences between the sexes which require modified work, employment benefits, and special consideration for women of childbearing age.

While current research supports Hewlett's contention regarding the devaluation of pregnancy and maternity in this country (Chodorow, 1978; Hees-Stauthamer, 1982; Mercer, 1986) recent socio-political events have added a new dimension to the issue. Among some fundamentalist religious groups, political conservatives, and pro-life advocates, fetal well-being is strongly advocated, and motherhood is highly esteemed. However, this stance is coupled with a belief in the traditional role of woman as full-time homemaker and mother. Therefore, their efforts are not directed at improving working conditions for pregnant women. Rather they support legislative intiatives which promote the return of women to the home (Eisenstein, 1984).

Kamerman et al. (1983) assert that cultural beliefs regarding pregnancy have strongly influenced the slow progress made by gravid workers in achieving work entitlements including: (a) the assumption that

working women in general, and pregnant women in particular, are marginal in the labor force; (b) the persistence of the Victorian attitude that pregnancy is a "delicate condition", or an embarassment, and inappropriate in the work setting; (c) the assumption that pregnant women have someone to support them when they begin their maternity leaves; and (d) the belief that pregnant women do not want to be employed.

Steinem (1987), Kamerman et al. (1983) and Stellman (1977), also suggest additional factors as major determinants of the present climate for pregnant workers. Among the most significant variables identified by these authors are: (a) the low priority of pregnancy benefits among trade unions, (b) spending cutbacks by the federal government in the area of occupational health and safety, (c) private industry and government concerns regarding the economic costs of expanding benefits to cover pregnant employees, (d) the exemption clause in the current Pregnancy Disibility Act which excuses employers with fewer than 15 employees from adherence to the amendement, (e) the current legal definition of pregnancy as a "disability", (f) the agenda of de-regulation instituted by the Reagan/Bush administration, and (g) the philosophy and goals of the Reagan and Bush

administrations regarding women's rights and work entitlements.

Protective and Restrictive Laws Pertaining to Pregnant Workers

It was not until 1946 that the first federal legislation regarding maternity benefits was voted into law in this country. It was introduced as an amendment to the Federal Railroad Unemployment Insurance Act. This law entitled pregnant railroad employees to job security and paid disability leave of 16 weeks duration (Kamerman et al., 1983). For the rest of American employed women, however, these entitlements remained essentially non-existent. Not until 1978, 32 years later, was the next federal law protecting employed women's jobs enacted, when the Pregnancy Discrimination Act became law.

Pregnancy Discrimination Act. The Pregnancy Discrimination Act of 1978 was an amendment to Title VII of the Civil Rights Act. This Amendment broadened the definition of sex discrimination. It makes it an unlawful employment practice to discriminate on the basis of pregnancy, childbirth, or related conditions in hiring, job promotion, suspension, discharge, or in any other term or condition of employment (Trotter, Zacur, & Gatewood, 1982). Maternity leaves cannot be

determined arbitrarily, but must be based upon an inability to work. Furthermore, seniority and accrued employment benefits cannot be lost when pregnancy disability leave is taken. The Amendment also requires an employer to pay disability or sick leave during pregnancy or medical and hospital costs for childbirth, to the same extent that it pays for disability leave and medical costs for other conditions.

The Amendment has proven to be a double-edged sword for pregnant women. It has cut through arbitrary sex discrimination practices, securing jobs and benefits for those pregnant women who choose to work, but unfortunately, at the same time, it limits the ability of the gravid worker to make accommodations in work schedule, work site, and activities to accommodate the pregnancy. The major deficiency in the current law is its reliance on the medical disability model, which allows absence from the work site for medical reasons only.

Other weaknesses in the Act include clauses which limit the law to employers with 15 or more employees, and to those who already offer health and disability benefits. It does not require employers to institute new benefits programs where none currently exist, or to treat pregnant employees in any special manner with respect to hiring, permitting them to quit work before

they are medically disabled, or allowing them to use paid sick time for the purpose of extending their maternity leave. Finally, employers are not required to offer alternative jobs, or light duty assignments if they are not available for non-pregnant employees with disabilities.

The limitations in the amendment have resulted in gross inequities across work settings. Thousands of small businesses with fewer than 15 employees provide no job security, health benefits, or disability insurance for pregnant workers. Many women must continue to work in hazardous environments, performing heavy labor, without recourse to lighter assignment, or lose their jobs. Because the law is based upon the medical model, and requires the physician's or nurse practitioner's approval for disability leave, there is great variability in the certification process. The gravid worker may be required to work with a number of significant physical limitations related to pregnancy (such as constant backache, dependent edema, neurological disorders including carpal tunnel syndrome, and gastrointestinal upsets), because none of them alone or in combination are considered serious enough to render her disabled (Mahlmeister, 1987).

Hewlett (1986) points out that the current Discrimination Amendment totally ignores the emotional

and social realities of women's lives. It does not recognize the dual responsibilities of women (home and work), the fatigue that many women experience during pregnancy, the lack of appropriate equipment and protective gear for gravid workers, or the presence of multiple hazards that jeopardize both mother and fetus. Because it is not based upon a health promotion/illness prevention model, it does not mandate prenatal care, or education for pregnant workers, or ensure paid hospitalization. Many women, particularly single expectant mothers, are forced to choose between paid work (in order to eat, pay for housing, and maintain benefits) or pregnancy (Hewlett, 1986).

The Pregnancy Disability Act clearly delineates the difference in ideology and philosophy between the United States and the majority of other industrialized nations. Whereas our laws maintain a strict interpretation of pregnancy and childbirth as temporary disabilities, maternity legislation and policy in all remaining industrialized countries recognize the significance of women's contribution to society in the acts of procreation, birth and mothering.

Societal responsibilities in other nations extend beyond providing paid sick leave during the short time period the pregnant woman is unable to work. Their laws also mandate the provision of prenatal care,

payment of hospital costs and extended, paid maternity leave in order to support the growing maternal-fetal and maternal-infant relationship, child development and family functioning. In most countries, paid maternity leave has been extended from a minimum of 12 to 16 weeks to a maximum of one year, in order to foster the development of the parent-child bond (Hewlett, 1986). Compare this with the 6 weeks of paid leave most American women receive if they are fortunate enough to have disability insurance.

A ray of hope was cast upon the issue of maternity leave in the United States in January 1987 when the Supreme Court upheld California's law guaranteeing pregnant women and new mothers up to four months of unpaid leave and the right to their previous jobs upon return to work. Only three other states- Connecticut, Montana, and Massachusetts have the same law, and an additional 12, similar regulations (San Francisco Chronicle, 1987). This still leaves the majority of pregnant women without job security or assured paid maternity leave.

Health and Safety Initiatives Pertaining to Pregnant Workers

Another major indicator of society's attitude toward pregnant women is the nature and extent of

national health and safety standards and regulations pertaining to gravid workers. Tens of thousands of pregnant women are still employed until the onset of labor in occupations which require continuous standing for 12 hours or longer each day. (Professional nursing is one such occupation). They find themselves in worksites which pose significant physical risks and reproductive hazards without benefit of protective working gear or appropriate health and safety guidelines.

As noted earlier, the lack of a coherent national maternity policy for American women is central to the current problems they face. Throughout this century there has been a consistent opposition to the provision of maternity benefits including prenatal care and paid disability leave for all pregnant women who work. This is in part due to a persistent objection to any form of "socialized medicine" in the nation (Kamerman et al., 1983). Ironically, since the 1960's the voices of many feminists have been added to the ranks of those opposed to special consideration for pregnant working women. Fearing that efforts to gain access to male-dominated occupations would be jeopardized if women asked for special considerations surrounding the childbearing years, some feminists have not pressed for improved maternity benefits (Hewlett, 1986).

Progress has been made over the years in the provision of health and safety guidelines, but it has been accomplished slowly. The first nationwide maternity guidelines were instituted during World War II when tens of thousands of women of childbearing age entered the workforce. The Women's Bureau and Children's Bureau collaborated to create "Standards for Maternity Care and Employment of Mothers in Industry" in 1942. Recommendations were made for regular prenatal care, a maximum 8 hour workday, opportunities for rest periods during work hours, and restrictions in the type of work pregnant women did (avoidance of lifting, continuous standing, and exposure to toxic substances). These progressive recommendations, created more than 40 years ago, have subsequently been ignored by most American employers (Kamerman et al., 1983).

While women have entered the American workforce in growing numbers during the last twenty years, the focus of occupational health and safety research has continued to be male-oriented. As a result, specific information is lacking about occupational and reproductive hazards for women, and work policies for pregnant employees are often inaccurate and inadequate (Stillman, 1980). Furthermore, fewer than 1% of the 16,000 chemicals listed in the NIOSH Registry of Toxic

Effects of Chemical Substances have been tested for mutagenic effects (Lebowitz, 1980). Lastly, every aspect of the physical environment tends to be designed for the average male, such as tools, worktables, and control switches, even in female-dominated work settings (Lebowitz, 1980). Appropriate protective gear and work space which accommodates the enhanced girth of gravid workers are also lacking (MacKay & Bishop, 1984).

The last major national effort to secure improved working conditions for all workers, including pregnant women occurred in 1970. Far behind the rest of the industrialized world in occupational health and safety, the United States finally achieved near parity in 1970 with passage of the Occupational Safety and Health Act (OSHA). The purpose of the Act was:

> To assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes.

The National Institute for Occupational Safety and Health (NIOSH) is empowered to carry out the law and spirit of the Act. The research efforts of NIOSH have led to growing knowledge regarding the fetotoxic and

mutagenic effects of many commonly used industrial agents - gases, solvents, detergents, drugs and other chemicals. Some industries have reacted to this information by establishing exclusionary policies which remove females of childbearing age from exposure to these substances. Many women have consequently been fired and others transferred to jobs which pay lower wages. Walsh (1980) reports that some of these women, faced with the loss of income, have undergone sterilization to retain their jobs.

"Fetal vulnerability programs", or exclusionary work policies have been challenged by civil rights activists as a form of sex discrimination (Moelis, 1985). Employers have pleaded a business defense. They argue that the costs of protecting women of childbearing age from exposure to toxins or arduous work by transferring or retraining them for alternative employment during pregnancy would be financially prohibitive. Future liability concerns have also been advanced as a defense for these exclusionary policies.

To date, the courts have not generally supported employer attempts to remove women of childbearing age from hazardous worksites, under the guise of protecting the unborn fetus. The question remains, "Who has won this battle?" Do women win if they are allowed to remain in high paying jobs with excellent benefits, but

suffer disasterous reproductive consequences? Unfortunately, if women lose these jobs, they often also lose wages, health insurance benefits, disability pay and affordable prenatal care.

Lebowitz (1980) notes that the publicity and emotion aroused by these events has overshadowed other critical issues surrounding occupational exposures. Working men may be just as vulnerable to environmental toxins as women. Occupational esposures may affect spermatogenesis and the quality of genetic material the fetus inherits from its father, contributing to the high rate of spontaneous abortion and congenital anomalies observed in some industries. Furthermore, cases have been recorded of pregnant women being exposed to toxic substances carried home on the clothing and hair of their employed spouses (Hunt, 1979). Thus, whenever possible, environmental hazards should be eliminated from the work site, rather than employees.

Unfortunately, the ability to protect any worker at this time is questionable. The efforts of the Occupational Safety and Health Administration to fulfill its goals and functions has been stymied by the currrent cutbacks in federal funding for the agency. As noted, fewer than 1% of known toxins have been tested for mutagenic effects and the generation of

complete data on a substance-by-substance basis would take years to accomplish. Additionally, many of the studies determining the effect of length of exposure to toxins are based on the assumption of an 8 hour work day, 40 hour work week. A growing number of employees are required to work 10 or 12 hour workdays, including nurses, airline attendants, and law enforcement personnel. OSHA's track record with many other occupational safety issues has also been less than satisfactory, and pregnant workers often find themselves at great risk for job-related injuries and illness.

We thus have in operation a system of health and safety regulations that poorly protect the majority of pregnant workers from toxins and other safety hazards. The Courts, in an effort to uphold the letter of the law, have struck down many exclusionary policies which have in fact protected female workers from reproductive injury. Health and safety guidelines are often outdated, incomplete and inaccurate. These data surely support the contention that pregnancy and motherhood and the health and well-being of the infant are not highly valued in this society.

Health Professionals and Pregnant Employees

The efforts of health care professionals to assure the well-being of pregnant employees is another indicator of society's attitude toward childbearing women. Nursing can claim the distinction of being the first health care profession to promote improved working conditions for pregnant workers in this country. Lillian Wald, a registered nurse and founder of public health nursing, created a community nursing service in New York City before the turn of the century which included interventions among working women. Public health and industrial nurses have continued to address the specific health and safety concerns of pregnant employees. Guidelines were published by the Women's Bureau in the 1940s and 1950s regarding maternity care of employees, but they were formulated without the foundation of a national maternity policy.

In contrast, the American Medical Association and health insurance companies have collaborated during the present century to defeat proposals for comprehensive social insurance plans which would have included maternity benefits and health insurance for working women. Kamermen et al., (1983) note that the strength of the coalition precluded passage of any bill which smacked of socialized medicine.

The first concerted effort by the medical profession to address ocupational health and safety issues for pregnant workers occurred in 1978, when NIOSH commissioned the American College of Obstetricians and Gynecologists (ACOG) to write Guidelines on Pregnancy and Work. The treatise was created to help physicians (other health care workers were not recognized in the guidelines) "....assemble and interpret the information necessary for appropriate clinical recommendations to pregnant workers." (p. iii)

Attempts were made to clearly define pregnancy-related disability. This was a critical issue with the passage of the Pregnancy Discrimination Act that same year. The Guidelines admonished physicians to remain objective in determining the woman's ability to continue working. They were to resist any pressure to modify their assessment of gravid workers in order to gain or deny them monetary or other employment benefits.

Currently, the American Nurses Association has supported the passage of the Family and Medical Leave Act, which calls for <u>unpaid</u> leave of up to 18 weeks upon the birth or adoption of a child or the serious health condition of a dependent child or parent. The 1988 version of the bill was defeated. Although a beginning, the bill falls woefully short of all other

nations in providing support for new and expanding families and is reflected in our current health statistics.

Infant mortality rates in the United States remain among the highest in the industrialized world. In January of 1986, America was tied with East Germany for having the highest mortality rate among 20 mechanized countries. Twenty years ago, we ranked sixth as a nation (Children's Defense Fund, 1986). Prematurity remains the leading cause of infant death and has been strongly associated with both strenuous and non-sedentary work during pregnancy (Papeirnik & Kaminski, 1974; Mamell, Laumon, & Lazar, 1984; Saurel-Cubizolles & Kaminski, 1987). Nevertheless, an increasing number of gravid women are engaged in physically challenging work, and not all have recourse to early disability leave or light duty assignments.

CHAPTER THREE

Methodology and Theoretical Perspectives

This study used an inductive research technique to answer the research question, and accomplish its stated purpose and objectives. Specifically, grounded theory methodology was selected to discover and conceptualize the experience of the first pregnancy for women engaged in strenuous or non-sedentary work. This chapter describes grounded theory methodology, the sensitizing theoretical framework selected to guide the collection and analysis of data, and major assumptions underlying the study. The research design, setting and sample are also presented.

Grounded Theory Methodology

Grounded theory methodolgy was created and developed by sociologists Glaser and Strauss at the University of California, San Francisco in the 1960s and is described in their seminal work The Discovery of Grounded Theory (1967). It is a form of field research in which systematic collection and analysis of data are conducted to discover substantive or formal theory, through the strategy of constant comparative analysis. The aim of grounded theory methodology is to discover dominant social processes and explain the actions of

human beings in the social contexts under study (Stern, 1980).

The basic activity in the grounded theory research approach is the simultaneous collection, coding and analysis of data known as the "constant comparative method". This technique of continuous comparison is designed to aid the researcher in generating a theory which is integrated, consistent, plausible and close to the data (Glaser & Strauss, 1967, p. 103). As data collection begins, the investigator initiates the analysis process in the form of theoretical memos; recording questions, ideas, theoretical hunches and tentative hypotheses as they arise. Comparisons are made among previously acquired data and newly emerging evidence in order to answer questions, refine emerging concepts, and develop hypotheses.

Data collection is a selective sampling process in grounded theory research. It is controlled by the emerging theory. As concepts are identified and theoretical questions arise, decisions are made regarding further data collection. The purpose of theoretical sampling is to develop hypotheses and specify the germinal theory. The basic question the researcher asks in making decisions about theoretical sampling is: what groups or subgroups does one turn to next and for what theoretical purpose? (Glaser and

Strauss, 1967, p. 47). The scope of substantive theory can be greatly increased by such conscious choices on the part of the grounded theorist. The decision to cease theoretical sampling occurs when no additonal data are found which develop the properties of categories or concepts, that is, when the data are theoretically saturated.

The identification and naming of major variables or concepts, called categories, is guided by a coding scheme, the "open coding" process. Examination of the data proceeds in a line by line fashion in order to identify and label the social processes which are occuring. These codes are called "substantive codes" because they identify and arrange the substance of the data. Hutchinson (1986) describes three levels of coding which are hierarchical in nature. Coding begins with the simple describing of actions using gerunds, words ending in "ing", which indicate action. These are known as "in vivo" or substantive codes and may be the exact words that subjects use. Coding proceeds to transform empirical indicators into more abstract terms during the second level of coding. During the final level of coding, concepts or theoretical constructs are derived to name and explain the basic social processes.

The derivation of concepts and theoretical constructs which emerge through the coding process is

based upon both academic and clinical knowledge of the nurse researcher (Hutchinson, 1986). Dozens of concepts may emerge during the coding and analysis of data, but the grounded theorist must identify core variables which answer the stated research question and explain the phenomenon of interest. Coded data are first assigned to categories according to appropriate "fit". Stern (1980) compares this process to the computer method of factor analysis. Data are coded, compared with other data, and assigned to clusters (p. 21). Reduction or collapsing of related categories occurs at this point, in order to refine the emerging theory and provide an explanation that is accurate, complete, yet parsimonious.

The process of identifying and clarifying the hypothesized relationships between variables or concepts occurs simultaneously with data collection and coding in grounded theory methodology. Every element or concept is used to create an explanation and to develop further questions for research (Simms, 1980). The ultimate goal of grounded theory analysis is the creation of a conceptually dense theory which adequately explains the phenomenon under study and "fits" the data. Another goal in generating theory is to establish empirical generalizations which help to delimit and broaden the grounded theory, enhancing its

explanatory and predictive power (Glaser and Strauss, 1967).

Grounded theory methodology is particularly useful as a technique for discovering and conceptualizing the essence of complex interactional process. Hutchinson (1986) notes that when little is known regarding a phenomenon, and when few adequate theories exist to explain or predict a group's behavior, grounded theory is an appropriate choice. Exploration of the experience of first pregnancy for women employed in physically challenging occupations is a new research endeavor. As noted, very few studies to date have examined the physical and psychosocial consequences of strenuous or non-sedentary work for gravid employees. Because it is derived from, or grounded in the empirical data, the emergent explanation which is generated through the grounded theory method is consistent with the data, and may be operationalized for later testing in quantitative research (Glaser & Strauss, 1967).

Theoretical Perspective Employed in the Study

In grounded theory methodology, the scientist approaches the research problem with some focus, but without a priori assumptions about the phenomenon. Glaser (1978) emphasizes that utilizing a pre-existing framework with preconceived concepts may lead to

pre-judgment, premature closure of ideas, and may force the data in the wrong direction. Hutchinson (1986) also observes that uncritical reliance on preexisting frameworks may preclude preliminary exploration of a research problem, produce a superficial fit between reality and theory, and limit utility of the findings. (p. 113). The goal of this study was the generation of middle range theory regarding the experience of pregnancy for working women. Hypotheses emerged from the data and the theory was "grounded" in the empirical evidence.

Although a theoretical framework was not selected a priori, a "sensitizing perspective" about the nature of social interactions and processes was employed. The history of the development of grounded theory methodology is intimately bound to the symbolic interactionist perspective. Both Glaser and Strauss were trained in the tradition of symbolic interaction and derived their assumptions about basic social conditions and processes from this framework.

Symbolic interactionism posits that humans act and interact on the basis of mutually understood symbols which have meaning and value for the actors (Blumer, 1969). The individual does not merely respond to his or her environment, but reads cues, interprets them, defines the situation and assigns meaning to that

situation. Human behavior or action is self-directed and purposive, rather than evoked by predetermined drives, needs, or unconscious motives. From a symbolic interactionist perspective, the special meaning and value that human beings attach to the phenomena of pregnancy and strenuous or non-sedentary employment for women will shape the actions of both the gravida and her co-workers.

Another major assumption of symbolic interactionist theory is that human beings learn symbols and the meaning of objects in social interaction. Symbols allow actors to transcend time, space and even their own persons (Ritzer, 1983, p. 309). Through the use of symbols, a person can imagine the world from another person's point of view, that is, take the role of the other (Mead, 1934). Also through the use of symbols, each human being attempts to present a particular image of the self to the outside world, and to influence responses to his or her person. Pregnancy may radically alter the individual woman's ability to manage her self image. The pregnant female physique is a powerful physical symbol in all societies (Mead & Newton, 1965) although meaning will vary from setting to setting.

Common societal definitions and meanings usually provide each actor with guidance in directing his or

her own acts to fit the behavior of others (Blumer, 1969, p. 71). At times, however, normative definitions for situations do not exist, creating uncertainty about one's actions and the actions and motivations of people. It may also open the way for new possibilities in human behavior. In novel circumstances such as the presence of pregnant women in physically challenging work environments, new ideas, values, relationships and actions may evolve through the simultaneous processes of interpretation and redefinition.

A unique contribution to symbolic interactionism is Blumer's conception of society and institutional structure and function. To Blumer, the essence of society is to be found in actors and action. The life of society consists of the collective action (joint action) of its members, of individuals fitting their lines of action to one another (1969, p. 16). Social institutions have no life of their own, nor do they constitute a preexisting environment that determines human behavior. Society is dynamic, growing and ever-changing. Customs are created through joint action. People make society; society does not make people (1969, pp. 17-20). With the influx of pregnant women into the work setting, new societal patterns may take shape, and customs surrounding pregnancy may be expected to evolve.

Design and Research Strategies

The Design.

The study was designed to capture the experience of first time pregnancy for women employed full-time in physically challenging work roles. A one time, in-depth interview was chosen to explore the experience, and the consequences of strenuous or non-sedentary work for primigravidae. In order to fully explore the phenomenon, and compare and contrast the experience for women in different stages of pregnancy, the investigator sampled as wide a range of gestational ages as possible. This strategy enhanced variablility in the data, which is a major goal of grounded theory methodology.

The Participants.

An intial convenience sample of twenty-five expectant women was selected. In order to minimize the influence of variables which have been correlated with negative pregnancy outcomes in previous research, the following inclusion criteria were predetermined: (a) first and planned pregnancy which was without medical or obstetric complications; (b) no more than two previous spontaneous abortions; (c) informant between the ages of 18 and 36, and high school graduate; (d) involved in a committed relationship with the father of the baby for at least one year; (e) employed full-time

at the onset of pregnancy in occupation, or profession defined as non-sedentary or strenuous; (f) engaged in present work for at least one year prior to pregnancy; and (g) non-smoker and no history of using recreational drugs during pregnancy.

Participants were recruited through newspaper advertizing, billboard postings in supermarkets and laundromats, and work organization newsletters such as trade union papers (See Appendix B). It was anticipated that some of the participants would be inducted into the study through a snowball technique, and in fact seven women were included in the study through this method. After initial analysis of data on twenty-five informants had been completed, an additional eleven women were inducted into the study to complete theoretical sampling of data among other subgroups of women employed in female-dominated physically challenging occupations. This was done in order to fully develop hypotheses and refine the emerging theory. The final sample consisted of thirty-six women.

Work Classification Criteria

The investigator determined eligibility for inclusion into the study based upon definitions for strenuous and non-sedentary activity. These definitions were derived from the work activity

classification instrument developed by Meyer and Daling (1985) and guidelines for continuation of work during pregnancy recommended by the American Medical Association (1984). (See Appendix A)

Strenuous work was defined as very active work such as climbing stairs or ladders four times per shift or more, repetitive bending below knee level ten or more times per shift, or lifting weights greater than 11 kilograms more than 25% of the time.

Non-sedentary work was defined as work which requires standing 75% of the time or more. As noted, the women must also have been working in their present position for at least one year. This last criterion was included to minimize the effects of "job newness" and uncertainty regarding the structure and function of the work organization on the experience of pregnancy for working women (Meisenhelder, 1981; Benner, 1984).

Setting and Data Collection Methods

Interviews were conducted at the mutual convenience of subject and investigator in an environment which ensured confidentiality. The decision to exclude work settings as the site for interviews was based upon the following considerations. In the pilot study by Mahlmeister (1987) 30% of the subjects did not wish to be interviewed at work, fearing punitive action by a supervisor or employer as

a result of disclosures regarding unsafe working conditions. Secondly, half of the gravid subjects stated that they did not wish co-workers to know about their participation in the study. Finally, the work setting often lacked an appropriate place for the conduct of a confidential and lengthy interview.

Telephone interviews were conducted in four instances. Two informants who lived outside of the immediate geographic area in which the investigator conducted the study requested phone interviews. Two other informants who described extremely negative working conditions, and had suffered physical abuse in the work setting, wished to avoid face-to-face contact and preferred to remain anonymous.

The purpose of the study was explained to potential participants, and signed informed consent was obtained prior to the interviews (See Appendix C). Each subject was also offered the University of California, San Francisco Experimental Subject Bill of Rights (Appendix D). This procedure differed in the case of the two informants who wished to remain anonymous. The consent form and Bill of Rights were read to them during the initial telephone contact. A handwritten consent was signed by the informant (first name only) prior to the interview and mailed to the investigator. The consent read: "I agree to be

interviewed by Laura Mahlmeister about being pregnant and working. She has read the consent form and Bill of Rights to me on the telephone. I prefer to speak with her by telephone."

The first sixteen interviews were audiotaped with the participants' consent, and then transcribed for data analysis. The remaining interviews were recorded verbatim by the investigator using the Gregg method of shorthand, and then transcribed immediately after the interview. Data collection and analysis were conducted simultaneously.

The interview schedule (See Appendix E) was an investigator-designed guide, consisting of open-ended, sensitizing questions. It was developed during a pilot study of the experience of pregnancy for hospital workers employed in physically challenging work (Mahlmeister, 1987). It contained potential questions which could be asked during the course of the interview. The questions were derived through the analysis of the data in the pilot study, as well as from the investigator's knowledge of the research literature, and substantive theory regarding employment during pregnancy

Informants in this study were initially asked to speak freely about the experience of being pregnant while employed full-time in strenuous or non-sedentary

work. Each subject was asked to describe the experience in her own words, without an externally defined sequence or ordering of events, or topics. Clarifying questions were asked and prompts given as the data were collected, to enhance the investigator's understanding of the participant's description. At the conclusion of the interview, the women were asked if they wished to volunteer any further information which may not have been discussed, or touched upon by the investigator.

Schema for Data Analysis

Open Coding

The grounded theory technique of data analysis described by Strauss (1987) was used to generate theory regarding the pregnancy-employment phenomenon. A line by line perusal of the interview data, known as open coding was conducted during the initial phase of analysis. The goal of this operation was to discover in-vivo terms used by the informants which indicated the behaviors and processes used by them to manage the particular situation being studied.

This process fractured the data into many provisional categories or concepts. A name was given to each in-vivo term or code. No attempt was made at this early stage of analysis to determine which

categories were relevant to the theory. It was assumed that some categories would later be discarded. An effort was made to identify as many in-vivo codes as possible in order to create a conceptually dense theory.

An example of open coding is presented to illustrate the process. The category "managing" was extracted from six interviews. Repetition of this in-vivo term provided material for a theoretical memo about the category and its possible relevance to theory generation.

INTERVIEW DATA	IN-VIVO TERM
In this line of work, you gotta learn how to manage your facial expressions. Like, let me give you an example. Sometimes, an inmate would say something really funny, but you just couldn't laugh.	Managing Expressions? Emotions?
I just can't manage my body the way I used to, so how can I be expected to handle the equipment?	Managing Body? Equipment?
Oh yeah, I manage to shuffle around my assignment so I don't	Managing Work?

always take the infectious patients, but it's got to look like it just fell out that way.

INTERVIEW DATA	IN-VIVO TERM
If I could just manage to stay away from the toilets, I was fine. Like I said before, if I could just manage to work near first class, I did o.k.	Managing Work Environment? or Setting?
How do you manage to still look "macho" when you start looking like a watermelon? I didn't know how to deal with that.	Managing Work Identity?
Well, you make it seem like it's their idea.	Managing Other's Responses?

Axial Coding

The second phase of open coding, axial coding was conducted when a recurring category began to establish an appropriate "fit" or relevance to the emerging, but still tentative theory. Efforts were aimed at identifying the dimensions, properties, conditions,

contingencies and consequences of each relevant category. In the case of the in-vivo code "managing", the dimensions became evident early.

EXEMPLAR CATEGORY	DIMENSIONS
"Managing"	1) Physical responses
	2) Emotional responses
	3) Work activities
	4) Work environment
	5) Work identity
	6) Co-worker/manager responses

Each "managing" dimension was further analyzed for its properties, conditions, contingencies and consequences. For example:

EXEMPLAR CATEGORY	CONDITIONS
"Managing Body"	1) Gestational age

INTERVIEW DATA

> I want to keep working, but honestly, when you get so big you can't even tie your shoelaces, how can you? I don't think I realized how hard it would be to do really simple things like bend over and pick up something you've dropped on the floor. And no way could I ask any of the guys (co-workers) to help me. Maybe it really isn't possible once you get to a certain month in pregnancy.

EXEMPLAR CATEGORY	CONDITIONS
"Managing Body"	2) Minor discomforts of pregnancy

INTERVIEW DATA

> I didn't have any trouble with work per se. It was the physical things that happen when you're pregnant that made it tough. Like, it's true we could take toilet breaks, but the boss would time you. And how many times could you run to the john in a day without being harassed? So I tried real hard to keep the pee in until I just couldn't hold it a minute longer. A couple times I didn't make it and had to stuff toilet paper in my pants because they were all wet. It's embarrassing. My grandmother couldn't control her bladder. I never thought it would happen to me.

Selective Coding

The next phase in data analysis was selective coding, a technique for systematically identifying the core category. Strauss (1987) defines the core category as the key variable in the theoretical explanation. It is the main theme or concern of the study participants in the study setting. The core category constitutes the stubstance of what is going on in the data. As major variables or concepts were identified, the central behaviors of "risk assessing" and "safeguarding" were identified. These two linked processes appeared most frequently as the major theme in all interviews. They also related most clearly to

other categories and best explained the action of the pregnant women.

A frequency count of words and phrases related to risk assessing-safeguarding was conducted to aid the investigator in establishing its primacy in the emerging theory. For example, words and phrases used to identify the protecting process included: "protecting", "keeping safe", "safeguarding", "defending", "guarding", "shielding", "covering", "securing", "being careful", and "hiding". Once it was determined that the two concepts formed the core or hub of the pregnancy-employment experience, efforts were made to theoretically saturate the category. This was accomplished by determining the dimensions, properties, conditions, contingencies and consequences of risk assessing and safeguarding. It also involved delineating the relationship of the core category to other variables relevant to the theory.

An example of the process of extracting key words and phrases is presented.

INTERVIEW DATA	IN-VIVO CODE
You try hard to protect yourself from getting hurt. I could wear gloves and cover gowns, but you can't work in a bubble. And it's the baby you're most worried about. But no matter how careful you are something can always go wrong.	PROTECT COVER CAREFUL

Coding for Structural Conditions

Finally, coding was conducted to identify structural conditions central to the employment-pregnancy experience. This process occurred simultaneously with open coding to determine the core category and its related variables. Both immediate contextual elements (work setting), and larger structural conditions (such as company policies regarding employment during pregnancy, and laws governing employment of gravid workers) were identified in order to fully explain the phenomenon.

Interview data were analyzed for evidence of specific contextual elements which provided variation in the phenomenon. As described previously with open coding for the core category, in-vivo codes related to structural elements were initially extracted from the data. Structural conditions were deemed relevant if they were clearly linked to the processes of risk assessing and safeguarding (Strauss, 1987). Axial and selective coding were then accomplished to determine the dimensions, properties, conditions, contigencies and consequences of these structural categories.

Establishing Reliability and Validity of the Study Findings

Issues of reliability and validity are just as critical in evaluating qualitative research as in quantitative investigations. Glaser and Strauss (1967) emphasize the importance of establishing the credibility, plausibility and trustworthiness of grounded theory methodology through systematic collection and analysis of data. Strauss (1987) notes that qualitative analytic techniques require explicitly formulated, reliable and valid methods which insure a careful, scrupulous, and systematic treatment of the data. Recently, nurse scientists have begun to develop criteria which are relevant for evaluation of the adequacy and scientific rigor of qualitative nursing research (Atwood, 1977; Leininger, 1985; and Sandelowski, 1986).

This investigator attempted to establish reliability and validity of the research findings through a series of systematic steps conducted simultaneously with collection and analysis of the data.

Grounded Theory Work Group. A grounded theory work group was established. The major goal of the group was to assist three doctoral students to analyze data and develop theoretical explanations regarding the

phenomena which they studied. The group consisted of the three doctoral candidates, and two faculty members who are recognized experts in grounded theory methodology. Both experts have conducted grounded theory studies. One faculty member had written extensively on qualitative data analysis and grounded theory methodology. The other faculty member had a strong knowledge of the substantive area of this study (psychosocial aspects of the pregnancy experience). The group met for two hours several times per month during the period of data collection and analysis (approximately six months).

During the course of the work group meetings, a variety of methodologic topics was discussed including: (a) theoretical sampling, (b) coding of data, (c) tranformation of categories into abstract concepts, (d) writing of theoretical memos, and (e) development of tentative hypotheses. In the final stages of data analysis, each doctoral candidate presented her proposed theoretical explanation of the phenomenon for the expert faculty members and other students. A conceptual model was also devised to help illustrate the core category and relationships among critical variables.

Establishing Reliability

The investigator attempted to establish reliability through the following activities conducted within the work group setting. One criterion suggested by Guba and Lincoln (1981) to assess reliability in qualitative inquiry is the auditability of the "decision trail" used by the investigator to accomplish theoretical sampling, coding and analysis of data. Atwood and Hinds (1986) suggest that a fitting approach to evaluate the reliability of data analysis in grounded theory is through a systematic estimation of internal consistency. A random sample of data bits previously coded by the investigator is sorted by experts to determine the degree of similarity or sameness of categories.

Work group members were given a random sample of data previously coded by the investigator. They were provided with evidence of the analytic strategies used to categorize the data, and to identify, name, cluster, and define concepts. Flaws in the process, or in its description were identified by work group members. Efforts continued over the course of data collection and analysis to correct errors in this process. Discussion and guidance were offered by group members until agreement was reached that internal consistency

had been achieved, and the "decision trail" employed was clearly understood.

Establishing Validity

Face validity. Face validity of the qualitative study is assessed on the basis of the truth or fit of the theory with selected reviewers' perceptions of reality (Nunally, 1978). This researcher strove to capture truth as it was known to the study participants. A world view or "emic" perspective was sought (Leininger, 1985). Glaser and Strauss (1967) suggest that sharing the developing theory with study informants is an appropriate technique for evaluating the adequacy of the evolving explanation of the phenomenon.

The investigator provided four informants with the evolving theoretical explanation of the pregnancy and work experience. They were asked to read and critique the emerging grounded theory for truth and credibility. Although other participants were offered the opportunity to examine the final product, they declined. The four women who assisted this investigator were a police officer, a physician, a flight attendant and a registered nurse.

All four informants wrote multiple comments on their copies of the theoretical explanation (Chapters Four and Six of the dissertation). The general consensus was that the investigator had captured the

essence of the experience for them. One comment in particular, supported the validity of the grounded theory. A woman wrote:

> This was my story. It reads like a biography. If I had only known that I wasn't alone in this situation, I might have been less depressed, but more angry. Why does society allow this to happen to women? You must do all you can to get this information out to the general public. You owe it to other women going through the same ordeals. And maybe when nurses and doctors read this they will help change the system.

Content validity. Atwood and Hinds (1986) also recommend a formal process of evaluation for estimation of content validity. A systematic examination of the research product is conducted to assess the degree of fit of the research content with the proposed domains. Work group members were provided definitions of categories created by the investigator and then given random samples of data that comprise the categories. The goal of the analysis was to refine categories, clarify concept definitions, and hypothesized relationships among variables. This process was finalized when the investigator formally presented her theoretical framework to the group's members.

Construct validity. Finally an attempt was made to evaluate construct validity. The delineation of categories, the development of clear definitions of concepts and the elaboration of relationships among variables are essential to the establishment of construct validity. Glaser (1978) suggests that assessment of construct validity is in part achieved through comparison of the grounded theory with the existing theoretical literature. In this study, the investigator compared and contrasted the emerging explanation of the phenomenon with the extant research and theoretical literature (See Chapter Six). The faculty work group member and two other researchers who are experts in the substantive area, were also utilized to judge the conceptualization of the phenomenon and the logical adequacy of the grounded theory.

In an attempt to assess the scientific rigor of this study, a series of systematic steps was conducted to establish reliability and validity of the findings. The goal of this process was to insure a scrupulous, methodical treatment of the data. The criteria selected reflect a variety of suggested strategies for determining reliability and validity of qualitative research. The multi-stage process was designed to evaluate the truth and precision of a theoretical explanation derived from qualitative data.

CHAPTER FOUR

The Study Results

Participant Characteristics and Contextual Elements of the Pregnancy-Employment Phenomenon

The phenomenon of strenuous and or non-sedentary employment during pregnancy does not exist in a vacuum. The experience of being pregnant while engaged in physically challenging work was distinguished by characteristics of study participants and the varying contexts in which they lived and worked. The woman's life space including family, friends, and even shelter comprised one aspect of context. The work environment and societal conditions which permitted or prevented continued employment throughout pregnancy (i.e. laws, institutional policies, union membership) constituted another aspect.

Information about participants including educational background and socioeconomic status, and contextual data were obtained from all thirty-six women during the course of interviews and through completion of the Demographic Questionnaire (Appendix F). Similarities and differences among the women were identified in the areas of work experience, income, education and the extent of specific types of support,

including spousal assistance with household responsibilities during pregnancy.

Occupational Data

A wide range of occupations which met the definition of strenuous or non-sedentary work using pre-established criteria were represented in the final sample. Twenty-one women were employed in male-dominated occupations and fifteen in jobs classified as female-dominated. Table 1 delineates data regarding the occupation of each participant and gestational age when interviewed. It also defines the reason for work termination when the woman was no longer employed at the time of data collection.

While all thirty-six participants were working at least 36 hours per week at the time of conception, and desired to work until the ninth month of pregnancy, only twenty-six were still employed when interviewed. Ten women were unemployed as a result of illness, involuntary job termination (firing) reportedly due to pregnancy, voluntary or enforced pregnancy leave, or temporary lay-off.

Of the ten women no longer employed at interview, only one had left the work site voluntarily. Three women experienced pre-term labor requiring strict bedrest. The emotional distress experienced by one of the women who suffered this obstetric complication was

Table 1

Employment Status and Relationship to Occupation

	Gestational Age	Employed at Interview	Nature of Job Termination
Female-Dominated Occupation (n = 14)			
Cashier/Stocker	19 weeks	Yes	
Domestic	39 weeks	No	Preterm Labor Fired - 32 weeks
Domestic	42 weeks	Yes	
Farm Laborer	10 weeks	Yes	
Flight Attendant	14 weeks	Yes	
Flight Attendant	34 weeks	No	Preterm Labor Disability Leave 24 weeks
Food Preparer	40 weeks	Yes	
Hotel Service Worker	23 weeks	Yes	
Motel Service	36 weeks	No	Fired - 30 weeks
Physical Ed Instructor	12 weeks	Yes	
Registered Nurse	5 weeks	Yes	
Waitress	7 weeks	Yes	
Waitress	9 weeks	Yes	
Waitress	36 weeks	No	Fired - 34 weeks

Table 1 Continued

Employment Status and Relationship to Occupation

	Gestational Age	Employed at Interview	Nature of Job Termination
Male-Dominated Occupation (n = 22)			
Airline Maintenance	26 weeks	Yes	
Bartender	27 weeks	Yes	
Bolt Cutter	37 weeks	Yes	
Casino Dealer	35 weeks	Yes	
Construction Worker	12 weeks	Yes	
Dock Loader	37 weeks	Yes	
Freight Loader	40 weeks	Yes	
Industrial Worker	20 weeks	Yes	
Industrial Worker	35 weeks	No	Laid Off 33 weeks
Janitor	23 weeks	Yes	
Mail Carrier	16 weeks	Yes	
Military Enlistee	41 weeks	No	Mandatory Paid Leave - 28 weeks
Physician	36 weeks	No	Preterm Labor 30 weeks
Police Officer	16 weeks	Yes	
Prison Guard	6 weeks	Yes	
Road Construction Worker	27 weeks	Yes	

Table 1 Continued

Employment Status and Relationship to Occupation

	Gestational Age	Employed at Interview	Nature of Job Termination
Male Dominated Occupation (n = 22)			
Roofer	24 weeks	Yes	
Sheriff's Deputy	28 weeks	No	Mandatory Paid Leave - 28 weeks
Strip Miner	40 weeks	No	Paid Disability Leave - 38 weeks
Trucker	16 weeks	Yes	
Utility Repair Person	22 weeks	Yes	
Veterinarian	20 weeks	Yes	

compounded when the employer fired her because she was unable to fulfill her responsibilities as a domestic. Three other women were fired or "laid off" in the third trimester of pregnancy, and as a result suffered extreme financial hardships.

Fourteen women were members of a union, the majority of these in male-dominated occupations. It should be noted that although union membership in this sample conferred job security for all fourteen women, it did not always guarantee paid employment during the pregnancy itself. "Light duty assignments" or the ability to change work roles or settings were not options available to all of the women. In each case where mandatory pregnancy leave was enforced, the required timing of leave differed, even in similar or identical occupations. Only 6 of the 22 informants in non-unionized work settings claimed that they had guaranteed job security.

Socioeconomic and Ethnic Data

The informants represented seven ethnic groups found on the west coast of the United States. Eight women were of European descent, and three of these participants had emigrated from Eastern Europe as adolescents. Four were Latina Americans born in the United States and three were Latina MesoAmerican Indians, who had emigrated to the United States five or

more years ago. Six women were Black American and six were Asians, four of whom had emigrated from the far east six or more years ago. Four particpants were Pacific Islanders and three were Filipina women. All seven of these women had emigrated to this country as children or young adolescents. Two informants were North American Indians.

The women also reflected a wide range of educational levels, and income groups (Table 2). While nine of the participants had combined incomes of greater than $60,000 dollars per year, only four stated that loss of their job would not create a severe economic hardship. Six of the informants' mates were unemployed and another three worked only part-time, making it imperative that these nine women continue working for as long as possible during pregnancy. Thirty-two of the thirty-six women stated they did not have a real choice regarding whether or not to work. Financial responsibilities required that they earn a paycheck each week.

With housing costs in the Bay area among the highest in the nation, almost every woman identified monthly house payments or rent as their primary economic concern and the major reason for needing to work. Potential loss of health insurance benefits was named by nine women as another major factor for

Table 2

Major Demographic Characteristics of Study Particpants

	Range	Mean
Age	21 - 36 years	27.8 years
Educational Level	12 - 20 years	14.5 years
Combined Annual Income Before Pregnancy	$15,000 - $110,00	$46,000
Estimated Loss of Income During Pregnancy	$0 - $7,000	$1,700
Length of Employment in Current Position	2 - 12 years	4.2 years
Number of Hours Employed per Week at Conception	36-60 hours/week	40.6 hours/week
Number of Hours Employed per Week at Interview	0 - 60 hours/week	32.4 hours/week
Number of Hours Spent in Housework per Week at Interview	0 - 15 hours/week	10.2 hours/week
Number of Hours Mate Employed at Interview	0 - 64 hours/week	38.7 hours/week
Number of Hours Mate Spent in Housework per Week at Interview	0 - 6 hours/week	2.4 hours/week

continuing employment until the onset of labor. Twenty-four of the women had created or had added to a savings account prior to conception in order to meet the costs of living, if they or their mates lost their jobs during pregnancy. But the remaining 12 participants had no financial buffer due to employment in minimum wage jobs, which made saving money impossible.

For women who were unable to remain employed during the gestational period, income was derived from a variety of sources including spousal or mate earnings, personal savings, loans from family members or banks, private and state disability insurance, unemployment benefits, public assistance, public soliciting (panhandling) and illicit activities including theft, prostitution and drug trafficking. Two couples experienced temporary periods of homelessness during the pregnancy as a result of the woman's job loss.

Although thirty-two participants reported "having to work" during pregnancy, thirty of the women also said they "wanted" to work during the gestational period. Work was valued for the innate pleasure derived from productive employment for twenty informants. It also allowed eight women to achieve economic independence from mates. Employment relieved

boredom, and provided opportunities for socializing with co-workers, customers, or clients for another eight women. It offered challenge and excitment for six others. In five instances the products of work were viewed with great pride because employement in the particular occupation was the culmination of a life long aspiration.

Obstetric and Health Data

Women in all three trimesters of pregnancy were represented in the sample (Table 1). All pregnancies were reported as intended and wanted. Personal assessments of health status prior to and during the pregnancy were obtained for all thirty six women. All participants classified their general health before pregnancy as "very good" (n = 31) or "good" (n = 5). Two of the twenty-one women employed in male-dominated occupations assessed their health as shifting from "very good" to "fair" during pregnancy. In contrast, seven of the fifteen women working in female-dominated occupations described their health as shifting from "very good" or "good", to "fair" (n = 4) or "poor" (n = 3). As noted, three women experienced preterm labor which required strict bedrest until the 36th week of pregnancy.

Twenty-seven of the thirty-six women were enrolled in some form of prenatal care by the time of interview,

including all fourteen in unionized occupations. Three women in the first trimester were in the process of selecting a health care provider. Twenty-one participants had selected physicians for care and six were seeing nurse-midwives.

Five women were unable to meet deadlines for payment of obstetrician's fees at some point during the pregnancy, and were referred to county facilities for the continuance of prenatal services. Three of the women who could no longer pay their obstetricians did not continue with prenatal care through public health facilities. They cited long waiting lists for first appointments, excessive waiting times during scheduled appointments, conflicts with work schedules, and negative attitudes of medical or nursing staff in the public health care facilities as reasons for discontinuing prenatal care. Three other participants had no plans to seek health care services during pregnancy due to undocumented worker status or lack of income. One woman feared incarceration for previous infractions of the law. She believed that she might be traced by the police if she registered formally for prenatal care.

Consequences of Employment in Strenuous or Non-Sedentary Work During Pregnancy

Elucidation of the Core Category: Surviving Strenuous/Non Sedentary Work During Pregnancy An Act of Safeguarding

The physical nature of strenuous and or non-sedentary employment poses specific types of occupational hazards for all workers. While many women are now employed during pregnancy, the study participants faced risks which are unique to physically challenging work. All informants were to some extent aware of physical dangers inherent in their work. Some of the participants even acknowledged that death on the job was a distinct possibility, particularly those involved in law enforcement.

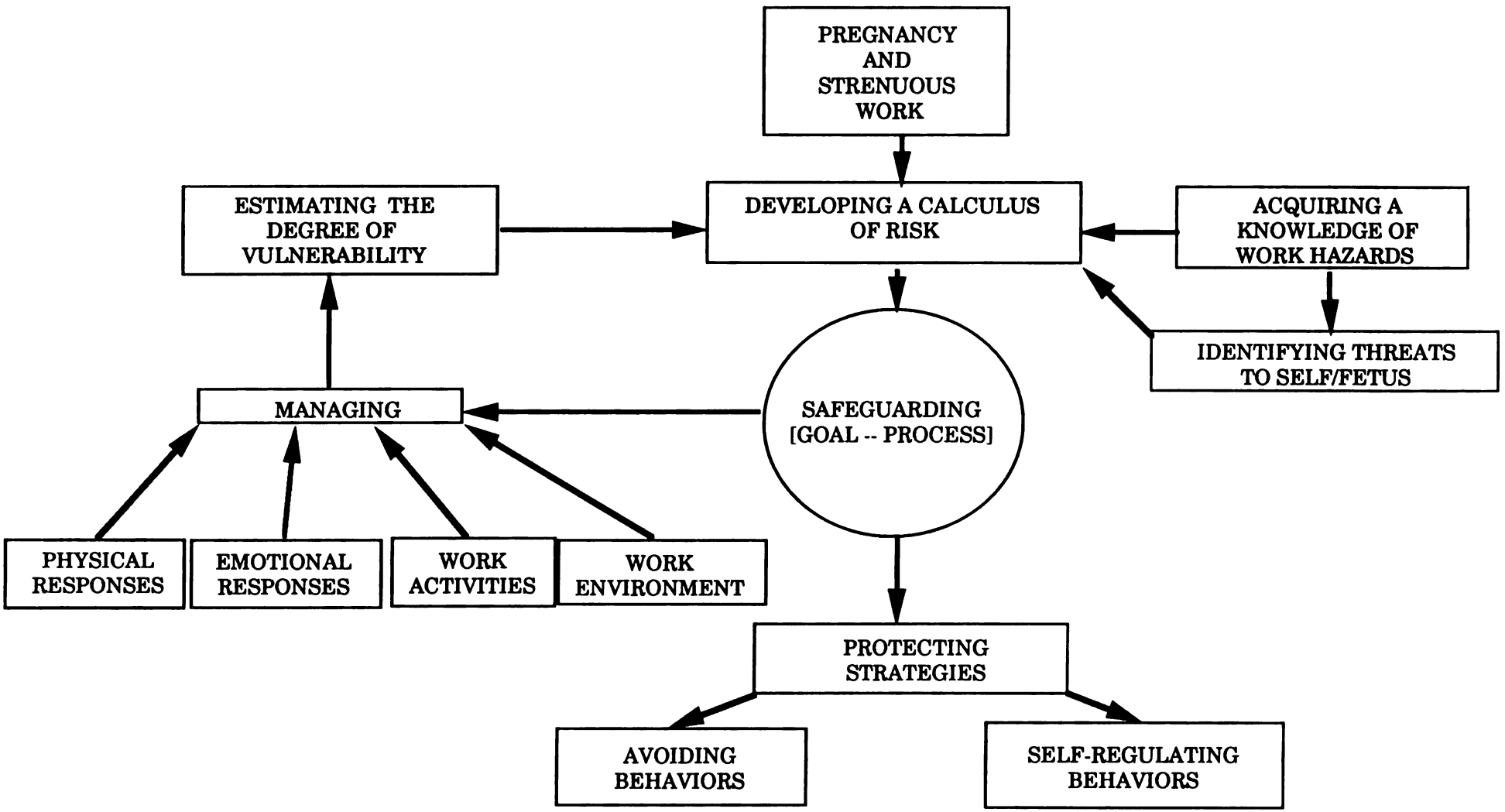
During pregnancy the women were engaged in two, inextricably linked processes: risk assessing and safeguarding in the work setting. Risk assessing entailed a reappraisal of pre-existing hazards, and the identification of new threats to self, and or the growing fetus. Safeguarding consisted of a variety of actions intended to protect and preserve. Both were triggered by the actual, or anticipated physical and emotional alterations experienced during the

gestational period. They were also stimulated by co-worker and manager responses to the pregnancy.

Risk assessing and safeguarding were processes central to this work-pregnancy experience. They shaped and defined the day-to-day work world for study participants. Throughout the course of interviews, each woman wove a story of literal and or figurative assault and defense. In every instance the identified threats were different, but the response of safeguarding was the common reaction to endangerment. Assessing and safeguarding formed the core of the phenomenon of strenuous or non-sedentary employment for this group of gravid workers.

The linked assessing-safeguarding processes were temporal in nature, often began in the pre-conception period, and evolved over time as the woman experienced the inexorable changes wrought by pregnancy. The dynamic characteristics of work and pregnancy resulted in a circular phenomenon. The initial assessment of risk initiated protective responses, followed by a reappraisal of risk, which prompted continuance of the same, or new safeguarding activities. Figure 1 represents a conceptual model of the risk assessing and safeguarding phenomenon which will be explicated in the remaining section of the chapter.

FIGURE 1 RISK ASSESSING AND SAFEGUARDING DURING PREGNANCY



During the pre-conception period, or in the early weeks of pregnancy, the informants described the initial process of identifying and evaluating hazards in the work setting. There was also a reassessment of previously recognized threats in terms of the pregnancy. This process resulted in a perception of risk which I term the "calculus of risk", because the women employed systematic mental operations to estimate the degree of endangerment.

This "calculus" of risk was reformulated by the women as body size and shape and emotional status changed. The calculus was also altered by changing work conditions, and the responses of co-workers and managers to the pregnancy. The threats identified by each woman varied by occupation and setting, and so the calculus of risk also varied. For some women the physical self appeared most endangered, for others it was emotional stability. Others identified threats to the fetus as the greatest hazard of work during the gestational period. Many informants defined risk in terms of job security, work identity and even financial solvency. A woman employed as an assembly line worker in a stamping plant described the process of risk assessment:

> Heck, I knew when I took this job, that I could get hurt. But after a while you tend to forget,

> or ignore things. I almost lost my hand once. When I got pregnant though, I thought, "Hey gal, you'd better clean up your act." I started to look around for things that could hurt me. It's like I got antennas (sic). I'm pretty aware of what's going on now and watch out for things.

The temporal nature of the risk assessment process was revealed when a hotel service worker in the 23rd week of pregnancy told me:

> In the beginning, my big worry was inhaling the fumes from the cleaning things. Somebody told me it could hurt the baby. But later on I wrenched my back real bad, and now I worry I'll really mess up my back- like get paralyzed. I'm nervous all the time. This job is mainly lifting and bending. It (her back) could go out any time and I'd be laid up- maybe permanently.

The cashier clerk who was 19 weeks pregnant recounted the following efforts in developing the calculus of risk:

> Oh yeah, everyday it's something new to worry about. You're kind of always on guard. Does that sound paranoid? But you have to watch for things, like who's got a bad cold to pass on to you. Or, what are those scabs all over that customer's face- are they catchy? Or, is that box too heavy to lift? It's a lot of work and some days it seems to be all I do. I'm always trying to figure out what could hurt me or the baby.

A critical finding was that although each woman claimed that the pregnancy was intended and wanted, the calculus of risk did not always include the fetus. Some of the informants perceived personal risk to one's physical or emotional well-being, job or financial

security, or work identity greater than threats to the fetus. Safeguarding aspects of self perceived as most endangered took precendence over fetal well-being. For the roofer who was 24 weeks pregnant this story emerged:

> I worked for years to get into the trades. I make better money than my husband and my job gives us our health insurance benefits. We finally could afford to buy a house. I've got to keep working as long as possible and wouldn't you know it, I'm getting cramps. My girlfriend said it could be labor. If it is, I just have to keep going. I can get pregnant again, if God forbid something happens to this baby (holding abdomen), but if we lose this house, we won't get another chance. We lost one house already when my husband was laid off.

The road repair worker who was in the 27th week of gestation, told a different story. It reflected her primary concern about alteration in work identity which was occurring as a result of pregnancy:

> Well, if you really want to know, the thing that worries me the most is this looking pregnant thing. I always prided myself on being just one of the guys. I blended in and just did my job. No sweat. No hassle. Now I look pregnant. God, I <u>am</u> pregnant (grabbing abdomen) and everyday it just about kills me to walk into the department in front of the others. They're starting to notice and rib me about it. I hate it. I don't know how to act. This isn't how a road worker looks is it? I even get cracks from people driving by in cars.

In other instances, protecting the fetus was a primary goal, but could only be accomplished indirectly by

reducing threats to self. An industrial worker who was in the 20th week of gestation described it this way:

> I don't know what you mean. I don't do anything specifically for the baby at work- Oh, wait! I guess I do in a way. I bugged the hell out of my supervisor to get my breathing equipment (protective filter mask) checked out, because I was worried about inhaling the fumes. And I got me a platform to stand on so my belly wasn't always hitting the edge of the conveyor belt. It was for me, but I guess it's really for the baby. I didn't worry about these things until I got pregnant.

One of the domestic workers interviewed at 42 weeks gestation, and still working 40 to 50 hours per week, spoke about the overwhelming financial worries which governed her decisions and behavior:

> I want this baby more than anything in the world. But if I don't work, I don't eat and neither does this nino (baby). I don't have insurance (health) and my husband don't work now. My doctor says I should stop and come in to have the baby forced out (induction of labor with oxytocin). But that costs extra and if it don't work, he talks about using the knife (Cesarean birth). I can't afford it. Me and my baby would be out on the street. I have friends on the street with little babies. My baby isn't gonna live on the street (crying).

Properties of the "Calculus" of Risk

As noted, each woman's calculus of risk evolved over time. Furthermore, mental operations were not limited to the time spent at work. Many informants described "worrying" about threats while at home. An informant who drove a "big rig" (truck) and unloaded heavy crates told me:

> I never used to take my work home with me. I would kick back and have a beer on a bad day, but I wouldn't get worked up about things (pause). Like you know, if some jerk cut me off on the road, or my boss gave me hell for some trivial shit, I would just shrug it off. Now I go home and stew about things that happen. I wonder if the stress hurts my baby. Or if I get in an accident, what'll happen to us (touching her abdomen). I lay awake at night wonderin' if the pollution on the roads is bad for the baby. I guess that's part of bein' pregnant.

The calculus of risk was shaped by two major factors: objective knowledge about occupational hazards and other risks to self, and a subjective sense of vulnerability to threats encountered in the work environment. Acquiring objective knowledge about physical dangers was an important aspect of the woman's perception of risk. However, the inner feelings of competence regarding one's ability to limit or avoid specific threats appeared the more crucial of the two components. This "mind set" or sense of vulnerability determined how confident the informant felt about her ability to ward off threats or safeguard.

Acquiring Knowledge of Hazards

Each woman actively sought information regarding specific occupational health hazards for self and the fetus with varying degress of success. The women identified printed occupational health and safety guidelines, company policies, media reports, co-workers and managers, relatives, friends, and health care

providers as sources of information. Each work setting varied in the extent to which it provided occupational health information for gravid workers. Eight of the women reported that their employers had no written information. An informant who worked as a full time domestic for one family recounted the following:

> My sister was very lucky. She got very much information from her boss when she was pregnant, and wasn't allowed to do certain work. I was worried that maybe there was some things I shouldn't be doing, but who do I ask? I told a friend that I was cleaning the cat box. The family has three cats. He told me it was dangerous, and to wear gloves. Why? I get very nervous not knowing these things.

The strip miner who was 40 weeks pregnant and had started her disability leave at 38 weeks gestation recounted a different story:

> There's quite a few of the women getting pregnant here now. The company has a nurse (occupational health nurse) who talks to us. She went over the company policies and gave us some pamphlets. We see her on a regular basis and she decides if we can keep doin' our jobs. We belong to the coal-miners' union and they give us lots of information too. . . . I felt pretty prepared for this. I guess you could say we was pretty well protected.

Conditions Altering the Ability to Obtain Information

The ability to obtain objective knowledge was influenced by varying structural conditions at work. Study participants employed in settings where other women were currently, or had previously been pregnant, felt they had access to more sources of accurate and

helpful information. The cashier/clerk in the 19th week of gestation said:

> It's nice here with all the other women. Four of us are pregnant now and we help each other out- give each other advice about how to get the work done without dropping dead. The company has pretty good information about working when you're pregnant. There's always someone who is. And lots of the gals who have been pregnant give you tips to keep you going and so you know your rights.

In contrast, women who worked in isolation, or in male-dominated occupations voiced frustration regarding the lack of information regarding employment during pregnancy. An informant who was the first female bolt cutter in her work site and only 8 weeks pregnant told me:

> It's hard at times and it's gonna get worse. I'm the first woman on this job and now I'm the first pregnant woman! They don't know what to do with me. When I asked if there was a policy on pregnancy, my foreman said no, and that there never would be, and could I take a hint. I don't know where to get information about what you call occupational hazards- what I can, and can't do.

The physician informant said that the chairperson of her department resisted writing a formal policy governing pregnant residents because it might look like he was "condoning the condition". The lack of written guidelines made it difficult for her to estimate the degree of risk inherent in her work. She was unsure of the real and potential hazards, and found it difficult

to get the information she needed from anyone in the hospital setting. She spent a great deal of time trying to acquire accurate knowledge by reading medical and occupational health journals.

Another condition for successfully acquiring information about occupational health hazards was the type of health care provider chosen for prenatal care. Obstetricians were the least frequently cited sources of information. Only 4 of the 21 women seeing physicians for prenatal care were questioned in detail about their work. Several participants reported being unable to obtain informations from their obstetricians when they specifically requested it. A flight attendant who voiced concern about the poor air quality in the jet's cabin said:

> When I asked my doctor if continuous exposure to the smoke and bad air might hurt the baby, he just patted my hand and said, "Don't worry dear, the FAA monitors air quality and wouldn't let you work if it was dangerous." Then the news came out about two weeks later on how the air on some flights was so bad it could make you sick. I was furious. When I showed it to the doctor, he just shrugged his shoulders and said you couldn't go by just one study.

In contrast, all six women who selected nurse-midwives for prenatal care reported that detailed occupational health histories were obtained. They were also given written guidelines on work and pregnancy. Two midwives contacted occupational health nurses who

practiced in the informants' work settings. They obtained additional information about the nature of the woman's work to complete their data base. They continued to collaborate with the occupational health nurse in the ongoing evaluation of the gravida's ability to remain on the job. Several participants said that their midwives also contacted occupational health agencies to obtain information about specific work hazards.

Each woman also started pregnancy with a work and reproductive history which modified the level and accuracy of knowledge regarding occupational health hazards. Six of the informants had experienced one or two spontaneous abortions in the past while working. One, a registered nurse firmly believed that her pregnancy loss was directly related to employment on an oncology unit, mixing chemotherapeutic agents. She then changed jobs before attempting to conceive again. The five others were unsure of the causes of the miscarriages, but had lingering questions regarding the role of work in the previous pregnancy loss. A woman employed in road repair work told me:

> I was working with the jack (air compression) hammer the first time I got pregnant. I figured it would be o.K. in the beginning. But I started bleeding in my second month and had a miscarriage. I always wonder if it was the constant vibration. The doctor couldn't say. But I'm glad I don't

have to do the same work this time around.

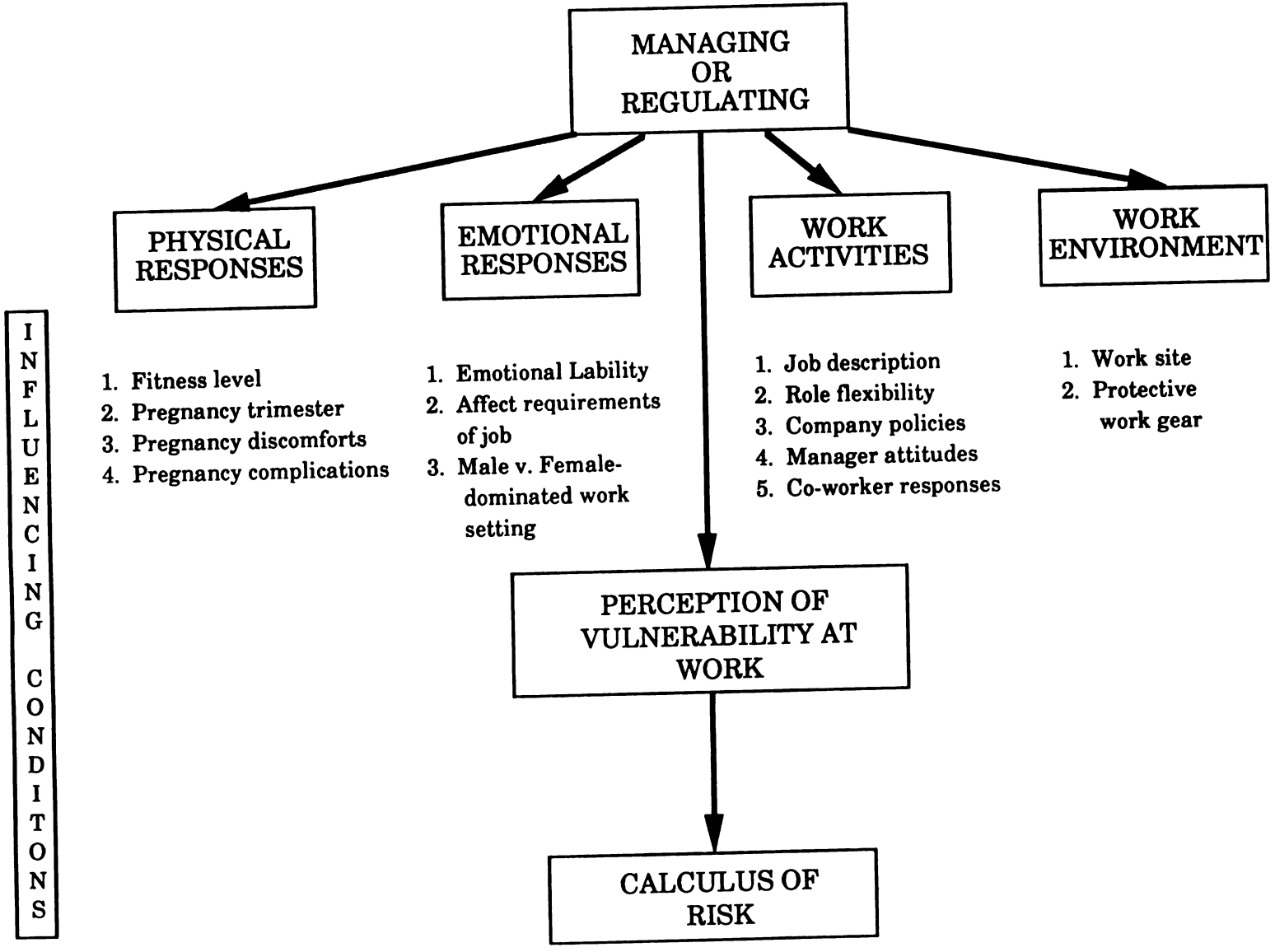
Estimating the Degree of Vulnerability

The second, and more important element in the calculus of risk was the perceived degree of vulnerability to threats in the work environment. Vulnerability was described or defined by the participants as a subjective feeling of "being exposed" or "being open" to "injury" or "attack". Each woman appraised her strengths and weaknesses, and determined the extent of control she had over both animate and inanimate objects in that setting. The extent of control determined the perceived degree of vulnerability.

Control was described by the informants as the ability to "manage" or "handle": one's body, emotional responses, work activities and the work environment itself. Control consisted to these four managing activities. Figure 2 illustrates this process of "managing", the conditions influencing the woman's ability to regulate aspects of self and work, and the relationship between mangaging and the gravida's sense of vulnerability.

Managing Physical Aspects of Self. Because the women were employed in strenuous and or non-sedentary occupations, they were required to maintain a certain level of physical competence on the job. Their ability

FIGURE 2 ESTIMATING THE DEGREE OF VULNERABILITY AT WORK



to do so was directly related to the degree of vulnerability expressed during interviews. A major structural element or condition which accounted for variation in the woman's control of physical actions was sex segregation in the work setting.

For women in non-traditional, male-dominated occupations, maintaining a high level of physical fitness was often a requirement of the job, and periodic evaluation and proof of physical stamina were required (i.e. law enforcement workers and military enlistee). Many of the women employed in non-traditional work roles spoke of their enjoyment of regular exercise and athletic endeavors. Strenuous work was an extension of regular physical activity, and pregnancy was not viewed as a deterrent to continued employment or physical fitness.

The majority of these informants found very little difficulty in continuing exercise and work routines into the beginning of the third trimester. Several were however pressured by managers to quit their jobs because the work was considered "too hard" for pregnant women to perform. A janitor who was 23 weeks pregnant said:

> My boss called me into his office and pushed this paper in front of my face. He told me to sign it. It said that I agreed to keep doing the same work I did before I got pregnant,

> and that I'd quit if I couldn't hack it. What a bunch of crap. He was just hoping to get rid of me. Fat chance. But it put pressure on me, and I worry now that I can keep up the pace. I'm getting bigger by the hour.

The sheriff's deputy placed on mandatory leave at 28 weeks told me:

> It was a real joke. I was in excellent condition right up to the day I had to start my mandatory leave. I was in better shape than a lot of the fat pigs I work with, with their big beer bellies and smokers' lungs. I could take anyone of them down with a good kick to the shin, and they'd be too out of shape to get up without help. But I was supposed to prove I could do the work because I was pregnant. I'm still running 5 miles a day and no one is going to tell me I can't have this job.

In contrast, women employed in traditional female occupations worried more often about their physical ability to continue work in late pregnancy. They also exercised less and did not verbalize pride in their level of physical fitness as frequently as women employed in male-dominated work. In general, domestic workers, hotel service employees, waitresses and the nurse were told that they could remain employed until the onset of labor. Co-workers and managers did not question whether the work itself was too strenuous for pregnant women to accomplish. The farm laborer who was in the first trimester of pregnancy recounted the following:

> They already called me in to tell me I could keep working. They'll let me sweat my ass off in the

> field ten, twelve, fourteen hours a day in the summer, with the rest of the women, lugging those sacks around. But they told me I can't work the machines (harvesting equipment) the men usually do because it's too hard! What a bunch of bullshit. They just don't want women doin' the better paying jobs. They got what you call a double standard.

For all women, an enlarging abdominal girth, and the loss of agility which occurred in late pregnancy, made maintaining physical competence a challenge. For those still employed in strenuous occupations in the third trimester, sustaining pre-pregnancy levels of efficiency and speed while at work was difficult, even if they were in excellent physical condition. The informants usually found this distressing. This in turn enhanced their feelings of vulnerability. The freight handler who was still employed on her expected due date revealed:

> It's very hard to keep up most days now. I used to pride myself on being the best worker on the evening shift. I sure as hell was better than some of those skinny little foreigners that they keep hirin'. I feel bad when I can't keep up now. Maybe I should quit, but every dollar counts. I want to take at least six weeks off after the baby comes.

A food preparer who worked in a restaurant in her 40th week of pregnancy said:

> I keep bumping into things. I keep forgetting my stomach is out there. And I go totally off balance. I fell down twice already. I'm bruised everywhere. I don't want to hurt the baby. Some of the people tell me to quit- that I don't do my share of the work, and that they waste time

> worrying about me. I can't. My husband only works part time. I feel real bad, because I know I don't work as hard as I used to.

Experiencing minor discomforts of pregnancy such as nausea and vomiting in the first trimester, or urinary frequency in late gestation while at work, also resulted in an inevitable lack of control, and enhanced the perceived level of vulnerability. The casino dealer who was still employed at 35 weeks gestation told me:

> The hardest part is holding out for pee breaks. My bladder capacity just isn't what it used to be. Sometimes I'm almost in tears, hopping from one foot to the other. I buzz and buzz for relief, but sometimes it takes a while. I try not to drink anything just before I go in, but I still get close to wetting my pants sometimes. I guess that's the worst part of working now.

Fatigue, particularly in the first and last trimester of pregnancy was also a universal problem for the informants and resulted in a heightened sense of vulnerability. This was particularly true for women engaged in physically challenging work which required intense concentration in order to prevent injuries. The women spoke of the fatigue as "bone-numbing" and "overwhelming". Many attributed feeling "constantly sleepy" in the first trimester, due to giving up coffee on the recommendation of physicians or friends. In the third trimester most believed it was a result of their increased size and the physical nature of the work.

One informant experienced a minor car accident when she fell asleep at the wheel while returning home after work. Many women spoke of trying to "catch cat naps" at work on their lunch breaks. All spoke of having to increase the number of hours slept each night in order to stay awake at work. They described sleep as "deep", and "dreamless". Few participants believed they consistently got enough rest or slept enough hours at night. The construction worker who was 12 weeks pregnant said:

> It's getting better now. But my God, all I did was work and sleep. I didn't see my husband for the first three months I was pregnant. I've never felt anything like it before. If I didn't get 10 or 12 hours sleep a night, I kept dropping tools on my feet, or cutting myself . . .or whacking my fingers with the hammer instead of the nails.

An industrial worker who was 35 weeks pregnant and had been "laid off" at 33 weeks, described her experience of fatigue:

> Everyone told me it would get better once I got through the first couple months of pregnancy, but I was tired all the time. At work, I just barely made it through the day. I was always dragging my ass. And when I got home it was hopeless. I couldn't watch t.v. or read a magazine. I was exhausted. I'd sit down and drop off in two seconds. I'm finally catching up on my sleep now. And I'm dreamin' again! I didn't dream for as long as I can remember. They say women have lots of weird dreams when they're pregnant, but honey, I was too tired to even dream.

Managing Emotional Responses. The ability to handle one's affect while working was crucial to developing the calculus of risk. For many of the women, managing emotional responses in the work setting contributed to feeling in control, and lowered the sense of vulnerability. In particular, informants employed in male-dominated occupations spoke of having to "learn how to hide your emotions" on the job. This skill was acquired prior to pregnancy, and it was essential to maintain a controlled affect during the gestational period. The military enlistee who was one week past her expected due date said:

> You learn not to smile, not to cry, and to ignore crude remarks, and that was hard to do sometimes after I got pregnant. I can't really explain it, but there were times I just felt like crying for no reason. Someone would look at me and I would want to cry. If you do, forget it. You'll never live it down. They've got something on you and they'll use it. It could even cost me a promotion.

One of the informants who worked an assembly line recounted the following incident:

> When I started wearing maternity clothes, I got teased a lot. They'd say things like "Hey baby, what got stuck up you lately?" They were trying to get a reaction. And you can't let that happen. I'll be damned if they'll see me get upset or cry. You couldn't survive on that line if you did.

For the women employed in female-dominated occupations, the need to control one's emotions

appeared less critical. The ability to regulate affect was not as important to the overall feelings of vulnerability. Several of the informants spoke of crying at work after unpleasant encounters with customers or managers. A participant employed as a waitress said:

> I started to bawl like a baby after I saw he didn't leave me no tip. And the other girls just patted me on the back and said "Go ahead and cry honey, it's just being pregnant. You'll feel better afterward." They were real understanding.

Managing Work Activities. Perhaps most crucial in defining one's sense of vulnerability and forming the "calculus of risk" was the woman's ability to manage at least some aspects of work activity. The degree of control was dependent on work conditions such as the job description, company policies, manager flexibility, and variety of skills the worker possessed. Once the women identified specific threats in the work environment, the ability to eliminate or ameliorate them, greatly enhanced the sense of control and reduced feelings of vulnerability.

The registered nurse who was just 5 weeks pregnant felt particularly distressed:

> I'm pretty terrified at times. They've changed the rules around here and pregnant nurses are expected to take care of patients with AIDS, hepatitis, herpes and CMV (cytomegalovirus). The last time I was pregnant (experienced a

> spontaneous abortion at 9 weeks gestation) I could kind of work out assignments to avoid some patients who were infectious. Now I'm told it's not necessary and I shouldn't ask for special assignments. We're supposed to follow these universal precautions (universal body substance precautions). You try doing that when you're short-staffed and running to get your work done. Accidents are always happening. I'm thinking of quitting. This job's not worth having a dead or retarded baby.

A veterinarian who was six weeks pregnant and worked in a group practice treating livestock had greater control over her work activities:

> I feel pretty good about the situation. We've (partners) talked it over and when it gets harder for me to handle the big stock, I can work with the smaller animals and do more surgery. One of the other partners was pregnant and it worked out very well for her.

A major condition influencing control of work activities was manager attitudes toward the pregnant employee. The informants profiled the ideal manager as one who respected the rights of pregnant women to continue employment, were flexible in meeting the special needs of all workers, and would "meet the employee half way" to solve problems surrounding the pregnancy. The majority of participants did not describe their own managers as possessing these traits. Several women in fact, blamed their managers directly for loss of employment or obstetric problems that arose during the gestational period. The dock loader fired at 30 weeks gestation said:

> He hated all women. I knew my days were numbered when I decided to get pregnant. I hid it for as long as I could. But once he got wise, he was on my case day and night. He pulled me in the office and showed me a notebook. He told me he was keeping a file on me and as soon as he had enough to boot me out, I was history. He did it in just six weeks. The owner said maybe the guy had been a little rough on me, but I was pregnant and would have to quit anyway.

The flight attendant who experienced preterm labor at 24 weeks gestation told me:

> Oh, it (pre-term labor) was definitely brought on by the work. When I got pregnant my supervisor said I could cut back if I had problems with full time work, and then she gave me one of the worst schedules in recorded history. When I complained she told me it was the best she could do, and I could take early unpaid leave if I wanted to. I was in the hospital 2 weeks later and just about hysterical. I'd like to kill that bitch. We're (informant and unemployed husband) living from hand to mouth now.

Conversely, other women complained of "overprotective" supervisors, who made it impossible for them to manage work activities satisfactorally. The sheriff's deputy said:

> He told me he wasn't going to let me do certain things anymore. If the baby or I got hurt, I might turn around and sue him. So he changed my assignments all the time. It was horrible. The guys saw it as preferential treatment and made my life miserable. I just wanted to do my job.

The road repair person also experienced a similar response in her manager beginning in the second trimester.

> All of a sudden all I'm allowed to do is hold the red flag and wave traffic by, or sweep pieces of asphalt into the gutter. It's boring and humiliating. But no one will back me up. The foreman isn't going to take any chances with me until I get ready to quit. He told me he wasn't prepared to deliver me in the middle of the road.

Managing the Work Environment. Finally, the gravida's ability to manipulate elements of the work setting itself, was taken into account when developing the calculus of risk. It also contributed directly to her perceived level of vulnerability. Several of the informants had very little or no control over the work setting. They were unable to alter elements such as height of work tables, placement of equipment, or air ventilation systems. Those who worked out-of-doors in particular, had little chance to alter their work setting. The farm laborer who was only 10 weeks pregnant anticipated problems:

> I know what it's like when it gets hot in this valley. I planned the pregnancy so it will be the coldest time of the year in my last months, but I don't look forward to it.

The informant who was 22 weeks pregnant and climbed utility poles said:

> That's my main problem. I can speed up or slow down depending on how I feel. And I can still climb without any problem, but you can't control the weather, and it gets pretty nasty out there sometimes. I try to dress for the weather, but sometimes you get caught. I wonder does the baby get cold when I'm freezing?

Similar stories were told by the mail carrier, road repair person, and strip miner. Other informants had somewhat more control over their work environments, but the nature of physically challenging work made it difficult for any of the women to drastically alter the work setting itself.

The Act of Safeguarding

As the calculus of risk took shape, protecting activities were initiated. Safeguarding was both a goal and a process. The goal of safeguarding set in motion specific strategies which some informants believed would preserve and protect the fetus and their own physical or emotional well-being. Others acted to save their jobs, their carefully created work identity, or to maintain financial solvency. At times the act of safeguarding took precedence over the work itself.

Two major types of safeguarding strategies were employed by all of the informants: avoiding behaviors, which aimed at reducing or completely eliminating specific threats in the work setting, and self-regulating behaviors which nurtured and preserved that aspect of self which was most valued. All of the women spoke of major changes in their activities at work which reflected adoption of safeguarding strategies.

Protecting, like risk assessing, was temporal in nature. The act of safeguarding began for many of the informants in the pre-conception period. When the women began active efforts at conceiving, they employed both avoiding and self-regulating behaviors in order to optimize the chances of success in protecting. The bartender who was 27 weeks pregnant at interview and fearful of losing her job, her only source of income, said:

> I didn't know how the manager would react to me being pregnant. So I'm hiding it for as long as I can. When I decided to go for it, (the pregnancy), I started changing how I dressed. You know, to hide my shape. I bought some new outfits that could expand with me. I just didn't want to show up in maternity clothes one day. I still don't think he knows I'm pregnant. It's pretty dark in the place. But when it finally dawns on him, I may be out on the streets. He's already fired 2 waitresses when they started to show (the pregnancy).

This informant's assessment of her manager and tenuous job security were confirmed. Approximately six weeks later this informant called the investigator to ask for assistance with finding temporary shelter. Her boyfriend, who was disabled in an auto accident when she was 20 weeks pregnant, could not yet find work. She had indeed been fired from her job and was unable to meet her monthly rent payment. She and her boyfriend had no family in the bay area, had outstayed their welcome with friends, and were living in two

cardboard refrigerator boxes in a freeway underpass area.

The circular, linked nature of the risk assessment-safeguarding activities was evident in the story of the physician who suffered severe nausea and vomiting in the first trimester:

> I knew that if I couldn't keep food or even water down for much longer I'd have to drop out of the program (residency). That would have really thrown everything off schedule. I tried eating small amounts of carbohydrates and things like that, but I still lost 20 pounds. I was getting anxious and didn't know what else to do. So I would tank myself up at home with IV fluids before I went into work, and that helped most days. Then I could avoid eating and vomiting. If that didn't work, I'd break down and take an anti-emetic (medication to stop vomiting) as a last resort. That always worked. I finally stopped losing weight.

Avoiding Behaviors

Avoiding behaviors did not imply "avoiding work". Rather they were actions which focused on limiting or eradicating specific threats which jeopardized the most valued aspects of self and or the growing fetus. It also entailed the erection of physical, emotional and even financial barriers in some cases, to prevent injury to self and or the fetus. At times the act of avoiding created more work for the study participants. Informants spoke at great length of the ingenuity and determination it required to accomplish the goal of avoiding. While strategies varied with each work

setting, the specific tactics employed to accomplish avoiding behaviors were the same.

Scanning the Work Setting. Each woman engaged in scanning the work setting on a daily basis for the presence of threats which they had identified during the risk assessing process. The industrial worker who was laid off at 32 weeks gestation used avoiding behaviors to evade her manager and the occupational health nurse. She viewed them as major threats to maintaining her job:

> I was always looking over my shoulder for them. It was like they were always checking up on me to see if I could do the work. Everytime I saw them coming, I'd duck out if I could. I broke three appointments to see the nurse by calling in sick. I think she had something to do with my being laid off.

Negotiating Change in Work Site or Work Activities. A major tactic used by all participants was ongoing negotiations with co-workers and managers to avoid certain types of work or work environments. Both formal and informal negotiation strategies were employed. In unionized settings, several informants instituted formal grievance procedures. This was done when women were unable to successfully accomplish avoiding behaviors through everyday give-and-take with co-workers and managers.

The registered nurse who was 5 weeks pregnant went to her union representative for assistance with negotiations. Her manager attempted to transfer her to another unit because she could no longer administer an aerosol drug which was a known teratogen.

> I tried talking to her reasonbly, and the other nurses were willing to give the drug for me, but she (manager) wouldn't listen. She said it was too inconvenient on a daily basis to shift the work around to others. My God, we only give the damn drug occasionally. We've covered for nurses when they've had bad backs or other problems. But for some reason, she wouldn't listen to me. She said pregnancy wasn't a disability like a back problem, and that I shouldn't have gotten pregnant if I wanted to keep working in the unit.

Negotiation strategies varied under specific conditions. The woman who possessed strong communication skills, was assertive, or had a long-term, shared history of work with fellow employees, was usually much more successful in accomplishing avoiding behaviors through informal negotiations. The sheriff's deputy revealed the following:

> I'm a very assertive person and I had no trouble asking for certain things, like having other people not smoke in front of me once I was pregnant. It usually worked out well. But I know some of the women who have been pregnant had a much harder time because they couldn't speak up for themselves.

The strip miner who had been employed in the same position for 7 years said:

> In general everyone was pretty wonderful to me. We've gone through a lot together - a strike, and hard times when people were laid off, and we've always stuck together. My boss is a bastard, but the guys I work with were real nice. We're like family in a lot of ways. They were pretty flexible when I needed to change my schedule- like for my doctor visits.

Manipulation and deception. In a great many instances, informants described "manipulating" or "lying" to co-workers, managers, or employers in order to eliminate threats, and or erect barriers. Conditions which favored the continued use of manipulation and deception included having male managers, and working in a setting which lacked written guidelines regarding employment during pregnancy.

Women in both traditional and non-traditional occupations talked about learning how to "manipulate" male co-workers and managers to achieve their aims long before pregnancy. Direct confrontation was not always effective and was believed to "bruise the male ego". It also often resulted in denial of the women's requests. A construction worker who was 12 weeks pregnant told me:

> Well, you make it seem like it's their idea. I wanted to get transferred to a job nearer home. The two hour commute was killing me. I had to stop to use the bathroom three or four times on the way. And I worried about something happening to me. I was so far from home and my doctor. So I had to drop all these hints about how this other guy wanted to switch with me, and how I could work more overtime if I didn't have a two hour ride.

> He finally figured it out and thought he had this brilliant idea about tranferring me.

Others continued to manipulate or deceive when the track record of managers or employers appeared to make direct tactics to safeguard impossible. The bartender continued to hide her pregnancy in order to protect her job, because the manager had fired two cocktail waitresses when they "began to show". Many informants admitted to dissembling about the reasons for calling in sick during the pregnancy. The flight attendant who was 14 weeks pregnant admitted:

> I never told them I wasn't coming in because I had morning sickness. Jenny (another pregnant flight attendant) was written up for taking a sick day for morning sickness. She was told, "that's not being sick". But it's o.k. to call in and say you're really hung over, and puking your guts out, so you can't come in.

Monitoring manager and co-worker responses to avoiding behaviors. A continuous surveillance of co-worker and manager responses to avoiding behaviors was another tactic used by the women. In effect, the informants were evaluating the consequences of avoiding behaviors. It was essential to revise the planned strategies if negative reactions occurred which heightened the perception of risk, and reduced the ability to safguard. One informant, the military enlistee, compared it to a game of chess:

> You make one move, then they do. Some of the things you try, to stay in your unit and keep your job work, and sometimes they backfire. I'm pretty good at reading people and that helped, but sometimes, someone would jerk my chain if I tried to go too far. But I love my job and didn't want to quit before I had to.

A flight attendant revealed:

> I tried to work mid-cabin and stay away from the toilets. The smell made me so ill. I almost vomited a couple of times. But once in a while I'd hear snide remarks from one of the other gals who could really cause trouble if she wanted to. So I would ask for assignments nearer first class. The toilets there were usually cleaner.

Self-Regulating Behaviors

A second major group of safeguarding behaviors were directed toward conserving energy and actively nurturing and preserving those aspects of self which were most valued. Actions included altering the rhythm and tempo of work, managing time more efficiently, and performing certain tasks which supported self or fetus. The women in all settings assumed an active stance to safeguard in one form or another. The physician explained:

> I had horrible eating habits. I ate primarily junk food and at irregular hours. I'd snatch something like a candy bar and a coke for energy when I could. But after I was sure I was pregnant (about 3 weeks gestation), I made a concerted effort to eat regular, healthy meals. I drank up to a quart of milk a day once the morning sickness got better. It's made a big difference.

Work tempo and rhythm were frequently altered to safeguard. The mail carrier who was 16 weeks pregnant described her actions:

> I gave up coffee when I decided to get pregnant. I read it was bad for the baby. I used to drink six or seven cups a day - at least three before starting for work. It was sheer hell when I quit (drinking coffee). I could have fallen asleep on my feet. I had to walk double-time and push myself in the first couple months (of pregnancy) to keep going. I always finished early, because I walked so fast. Then I'd go back to the truck and catch a cat nap before heading back to the station. I've never been that sleepy in my life.

Those still employed in the third trimester had to slow the pace of work and consider changes in their center of gravity, and how it affected their balance. Five women sustained falls at work, all in the later part of pregnancy. The domestic worker still employed at 42 weeks gestation reflected:

> I just had to cut back. I couldn't keep up with the work load. How can you bend down with a belly like this (pointing to abdomen). I almost went through a window once when I lost my balance. I'm very tired all the time. Sometimes I just flop down on the couch when I should be cleaning.

The study participants used a group of common tactics to determine appropriate self-regulating behaviors and to accomplish them.

Monitoring physiologic responses. All of the informants described monitoring bodily cues to judge whether they were exceeding physiologic limits,

particularly those in the most strenuous occupations. Constant fatigue, shortness of breath, heart palpitations, acute back pain, and uterine contractions were the most frequently named cues which indicated to informants that they were "overdoing it". The freight handler still employed at 40 weeks gestation said:

> All of a sudden I would get sweaty all over and my heart would start pounding erratically. You know what I mean? That'll slow you down. It really scared me. I would make myself ease up.

The dock loader who was fired at 30 weeks described the following sensations:

> On busy days, I would get this low, dragging backache and my abdomen would ball up. I even spotted (vaginal bleeding) a few times. I would try to pace myself and watch how I lifted things. Sometimes it helped to slow down, but it got me fired.

Monitoring emotional responses. Evaluating the extent of emotional equanimity or its reverse, emotional upset, was also used as a tactic in self-regulating activities. All but two of the informants described themselves as "more emotional" or more easily upset during the pregnancy. Even women who had never felt like crying at work prior to pregnancy, suddenly found themselves ready to burst into tears during stressful periods. Experiencing sudden tearfulness or the feeling that one was on the verge of crying was a major cue to "back off" and avoid

confrontations with co-workers or managers. The roofer who was 24 weeks pregnant admitted:

> I actually liked a good blow out at work once in a while. It cleared the air and you got more respect if you stood up for yourself. But now I have to count to ten or ignore things, or I'm afraid I'll cry. Some of the creeps I work with are always harassing me. I don't know why, but it bothers me so much now.

The woman employed as a food preparer and very near her due date told me:

> I never used to get so upset about work. I'd just say, "Well fuck this job. It's not worth getting worked up about". But if my boss says something now, or I can't keep up, I get upset and I'm hard on myself. I even cry sometimes. It must be the hormones. I usually go into the bathroom and take a few deep breaths and wash my face. That helps. It's bad to get so worked up.

The assembly line worker who was in her 20th week of pregnancy described her tactic:

> I used to run around like a chicken with its head cut off, fussin' when things didn't go just right. Now I sing my favorite songs, and try to smile more, and relax. You know, like the song "Don't worry; Be happy". It's good for me and better for the baby. I'll probably go back to being a bitch when the baby's born, but it helps to be more laid back at work.

Monitoring fetal activity. Monitoring fetal responses to specific work activities was a tactic employed by a majority of the informants who had begun to feel fetal movement. A lack of fetal movement or excessive kicking or activity coincident with certain

types of work was viewed with alarm. It often triggered self-regulating and avoiding behaviors. The women reacted to this fetal response by altering work pace or tempo, reducing the level of emotional distress or ingesting food. If the "negative" fetal response to a particular activity was consistent, the gravida frequently attempted to avoid the work if at all possible. A domestic worker shared her experience:

> If I didn't stop to eat lunch, my baby would get really quiet. He wouldn't move for hours. It scared me to death. I always take time now to eat something. I carry fruit with me too. The nurse in the clinic said the baby doesn't move if it's hungry.

The physician who was on bedrest for preterm labor also noted changes in fetal activity and had attempted to alter her behavior:

> Just before I went into preterm labor, I would notice that if I got very upset about something, like having to stay over to finish seeing my patients, the baby would kick like she was trying to break out (laughing). I knew when I needed to calm down. She's my emotional barometer (patting abdomen).

The industrial worker who was laid off at 32 weeks said:

> When they sped up the line or I worked overtime I noticed when I came home and settled down that the baby wouldn't move for hours. I was so worried. I asked the doctor, and he just said it was normal and the baby was probably sleeping. But in a way I'm almost relieved now that I'm not working because the baby moves more now.

Evaluating co-worker and manager responses to self-regulating behaviors. Informants also reported monitoring their co-workers' and manager's responses to self-regulating behaviors. It was a method for determining the consequences of safeguarding strategies. If support and cooperation were forthcoming from one's peers or the managerial staff, the women continued with activities to promote positive outcomes for self and or the fetus. The construction worker in her 12th week of pregnancy met with understanding and support when experiencing nausea and vomiting while on the job:

> The crew was terrific. It was pretty embarrassing to have to lean over and puke in a plastic baggy every day for 8 weeks, but no one made a fuss. A couple of times I'd forget my bag or drop the one I was carrying, and one of the other guys would bring me something else to barf in. I wouldn't even have to ask. I know I wouldn't have made it without them.

The physical education instructor also had a positive experience during the first trimester:

> All the faculty were thrilled. They fill in when I have a bad day (nausea and vomiting) and they're are always taking time to offer me snacks and to ask how I'm doing. I've even been asked to speak about the pregnancy in the sex education courses.

If self-regulating efforts were met with resentment, resistance, or hostility, the plan had to be altered or abandoned. The sheriff's deputy who had

asked for release time to keep prenatal appointments believed she was punished for this request:

> Some of the men with pregnant wives were very understanding. But four of the deputies who are real pigs got even with me for getting the time off. They came into the observation room - a small, glass enclosed closet about, uhm, 6 feet by 6 feet maybe. They locked me in and began to smoke until the air was just about unbreathable. I was pretty upset, but they made their point and I didn't ask for changes in my schedule after that. I got the message loud and clear.

As noted previously, co-worker and manager reactions to the pregnant employee and her efforts to safeguard were central to the experience in the eyes of the informants. They constituted a major condition for the woman's success or failure in protecting and preserving that which was most valued.

In several instances, larger societal forces appeared to influence the behavior of superiors. Five informants reported that managers acted against them, based upon customer or consumer responses to the presence of a pregnant woman in the work place. A waitress recalled her firing:

> Oh, occasionally customers would comment on my being pregnant, but it was usually harmless chit chat. But this one time, a couple of customers went to my boss and told him he should be ashamed to work a pregnant woman so hard, so he fired me. He said it looked bad and he didn't want to lose business.

The hotel service worker in mid-pregnancy recalled her experience:

> There's this feeling that it doesn't look good to have a pregnant woman cleaning toilets on her hands and knees. This place is real swank and has a reputation to keep up. At least once a week my boss asks me to make myself scarce when there are guests around. I've been moved to the floors with the cheaper rooms and I make fewer tips because of it. But I don't want to squawk and get fired.

Many of the informants believed that manager actions and decisions affecting the pregnant employee were not simply based upon the need to get the work done. Rather, they reflected personal attitudes about the appropriateness of women's presence in the workplace, particularly pregnant women. Managers (females and males) were repeatedly described as "vindictive", "hostile", "woman-haters" by more than half of the participants of this study. Women in both male-dominated and traditional female occupations reported that managers who were barely civil to them prior to conception, frequently became overtly abusive after the pregnancy was announced. In several cases, physical violence was attempted or perpetrated against the gravida. The police officer told me:

> One night I was "accidentally" locked up in a holding area with an absolutely crazed maniac- a rapist and murderer. It was probably only a minute before the door was unlocked, but he could have really hurt me. It seemed like a life-time. I wrote a formal report, but nothing was ever

> done. One of my superiors called me "a pregnant cow in uniform" and said that I was a disgrace to the force.

An informant who was extremely concerned that her co-workers and manager not find out about her participation in the study, confided in me that she had been raped while pregnant, by her supervisor:

> He had been after me for a long time. When I told him I was pregnant and wanted to change departments, he just smiled. When I got off work that night . . . he pulled me into a closet and cold-cocked me (punched her and rendered her unconscious). When I woke up it was all over. He grabbed me the next day and said, "Why worry, you can't get pregnant twice." I didn't get my transfer, but I made sure I was never alone with him again.

An informant in law enforcement recounted an interaction she had with her female superior:

> She called me into her office. She was furious with me. She said that by getting pregnant I had set the cause of women in the division back by a hundred years. She said, "After the struggle we've had to achieve credibleness (sic), how could you get pregnant? You make it bad for the rest of us".

A minority of informants (n = 12) described "helpful" managers who did support both self-regulating and avoiding behaviors. A maintenance worker who was 16 weeks pregnant told me:

> My boss is terrific. Everybody respects him. He's bent over backwards to make things easier for me up to now, and I know he'll help make it possible for me to continue working as things move along. But he's like that with everybody.

> When I had to urinate every few minutes he assigned me to work near the john. He cares about more than just getting the work done and that's why there's such a low turn-over in his department.

The freight handler who was very excited as she approached her expected date of delivery said:

> I was a real control freak. It's the only way to survive in this job. Then I got pregnant and you lose a lot of the control simply because your body takes over. Do you know what I mean? If it weren't for my supervisor, I couldn't have done it. He let me take vacation time when I was wiped out, and found me a place to put my feet up on breaks, when I was working. We didn't have a regular place where you can actually sit down and put your feet up, just a cafeteria.

Finally, the freight handler also discussed a theme that arose frequently for informants in late gestation. The theme was related to management attitudes about, and company policies regarding pregnant employees.

> I wonder if maybe some concessions should be made when women are pregnant. God, I never thought that I'd hear myself say something like that. But they make exceptions for men when they have problems like heart attacks or prostate conditions . . . why not pregnant women?

The casino worker also revealed her thoughts on this subject:

> When I first got pregnant I thought to myself that I would just show everyone how I could keep going without any special favors. I remember a friend saying pregnancy was this normal physical thing that happened. You weren't sick or anything. But boy you get whacked out at times. Would it do any

> harm if your boss showed you a little more consideration? It's only a temporary situation.

Seven of the sixteen informants who were interviewed in the third trimester of pregnancy spoke of their ambivalence regarding the issue of special consideration. While wanting or needing to continue work for as long as possible, many of these women began to see the impossibility of doing so, if they were required to maintain their pre-pregnancy work pace. Five of these individuals were employed in occupations which were male-dominated. They had been required to demonstrate their competence when first hired, and were constantly being challenged about their ability to continue working during pregnancy.

Several women admitted to feeling somehow at fault because they couldn't "keep up" with the job requirements as they approached their due date. Asking for help, or release from a particular work assignment was viewed as a personal failure. However, these same women also felt angry. They knew of instances in which male co-workers were given light duty assignments or other considerations if they were unable to perform their usual tasks. They wondered why pregnant workers could not be exempted from some duties, if they became too difficult to accomplish in the last weeks of the

gestational period. Strong conflicting feeling emerged regarding these issues.

The experience of pregnancy for women employed in strenuous and non-sedentary work has been described in this chapter. The circular processes of risk assessing and safeguarding emerged as the core category or theme. These processes shaped and defined the day-to-day work world for study participants. The dynamic nature of work and pregnancy required a constant reshaping of old strategies and the creation of new ones to protect self and the growing fetus. In the next chapter, exemplar case studies will be presented to systematically illustrate the impact of differing contexts on these risk assessing and safeguarding behaviors.

CHAPTER FIVE

Examination of the Process of Safeguarding in Two Contexts: Male-Dominated Versus Female-Dominated Work Settings

Exemplar Case Studies

Strauss (1987) asserts that the presentation of case materials assists the investigator in meeting the requirements of qualitative analysis for credence, a sense of reality and reader comprehension. In order to achieve these goals and to systematically explore the theoretical interpretation of the strenuous or non-sedentary work during pregnancy phenomenon, exemplar cases in two distinct contexts will be presented. The contexts chosen for comparison are a male-dominated work setting and female-dominated, work site.

The two contexts were chosen because the strongest variations in the experiences of physically challenging work for the study participants occurred in these two types of occupational settings. The contrasts discovered in risk assessing and safeguarding in these two contexts will be delineated and explored in terms of theoretical significance.

Risk Assessing and Safeguarding
in Male-Dominated Settings

Anya is a 30 year old freight handler employed by a large air cargo carrier company. She was 40 weeks pregnant at the time of interview, and determined to work until the onset of labor. Her work entailed continuous standing and repetitive lifting of boxes which could weigh up to 40 pounds. She had been employed for six years in her present position.

This was a first, and planned pregnancy. She has a high school diploma and had initially worked as a store clerk until she married at the age of twenty-three. As both Anya and her husband John wanted to buy a home and start a family, she searched for permanent employment that offered better wages and benefits than the clerking job. At the time of their marriage, John was finishing college with a major in computer technology.

Within a year both had found the work they desired. Anya described herself as a person who had always enjoyed athletic competition and contact sports, and exercised vigorously on a daily basis. She had always hoped to find work which was physically challenging. "A desk job was out of the question. I'd go bonkers". Many well-paying jobs which demand strenuous activity also require special training or an

apprenticeship. The freight handler position which was offered to Anya did not, and she accepted the job.

Anya said that she loved her work. The wages and benefits were excellent, and union membership provided long-term job security. She enjoyed the physical nature of the work. At the time of hiring, she had no knowledge of the company's maternity leave policies and did not think to ask about them. A major drawback of the work was that she was the first woman in this particular department of the air carrier. When she was hired, her immediate supervisor warned her that she would have to "make her own way" with the male employees, who were overtly hostile to the hiring of women.

Anya described the first year on the job as "very difficult emotionally." She was not accepted by the majority of her male co-workers. There were many initial incidents of sexual harrassment until she made it clear that she would not tolerate this behavior. This was accomplished by formally lodging complaints against the men, by physically defending herself, and very importantly, by learning how to manage her affect.

> "You have to maintain a certain attitude. At my old job (store clerk) we were always being reminded to smile and look pleasant for the customers. I learned really fast that at this job you don't smile sweetly, and you definitely don't get chummy with the guys. I get along o.k.

> with some of them, and can joke around once in a while. But you have to be careful. There's always some stud who wants to show off. And you never cry. They try to get you to cry. It gives them the upper hand over you. It's a real power trip.

This management of affect was required of the majority of study participants in non-traditional occupations. It had to be learned very quickly if they were to successfully acclimate to a male-dominated work setting in which physically strenuous work was done. It was imperative to maintain a certain level of aloofness from male workers, avoid smiling or crying. The women had to learn new ways of interacting which did not encourage unwanted male advances, or to send non-verbal messages which the men interpreted as "sexually available". Smiling appeared to be a very powerful message regarding willingness to engage in sexual activity. Crying signalled weakness and vulnerability. Controlling one's expressions was critical.

Pregnancy disturbed the previous emotional equilibrium of the majority of study participants. They described themselves as becoming more easily upset with co-workers during conflicts on the job. Even women who rarely or never cried under stress, said that they found themselves "on the verge of tears" at work, on at least one occasion during pregnancy. This shift

in emotional status required the informants to work harder at controlling their affect. Anya was no exception.

> I found that specially (sic) hard (controlling affect) when I got pregnant because I was much more emotional. If I got worked up about something at work I'd want to cry at times, which definitely was not normal for me.

While Anya had initially gained the acceptance and "grudging approval" of her co-workers by "carrying more than my share of the load . . . and proving that I could lift the heaviest boxes", this acceptance had to be re-earned when her pregnancy became apparent. Anya went on to describe the change that had occurred in her relationship with her manager and the male employees when she announced her pregnancy.

> I wasn't sure how they (co-workers) were gonna take it. I'm still the only woman on the evening shift, and the first woman to get pregnant (several other woman had been hired recently). I just kept it to myself until it was obvious that I was pregnant. That was hard to do at times because I was so happy this was happening, and I'd find myself wanting to smile and let loose a little.
>
> Then one day, my boss called me in and just asked me outright if I had gotten "knocked up". He bust out laughing, which kind of shocked me. It turns out his wife is pregnant too. He's been great. I mean, if it wasn't for him, I don't think I'd still be working. The union does guarantee my job, even if I had to quit early. But I wanted to work as long as possible and when things got tough, he tried to help take the pressure off.

When asked to elaborate she said:

> I had to prove myself all over again - every single day. It was such a drag. More than a few turkeys (co-workers) came up to me and said, "Are you crazy? What are you trying to prove? What kind of woman would do this work when she's pregnant? I'm not gonna do your work for you now that your pregnant." I kept saying I'd quit if I couldn't handle it, but I had to prove it everyday. And some of them still complain all the time that I'm loafing. I got so pissed off once, that I picked this one little obnoxious bastard up and threw him out of the cargo bay.

This account was typical of the re-working of acceptance that had to be done by women in non-traditional occupations once the pregnancy was announced or became obvious. The presence of women in the work setting was viewed as anomalous, and pregnancy compounded this perception. It was assumed that once pregnant, the gravida would be unable to "do the work", or that she would use the pregnancy as an excuse not to carry her share of the load. A few co-workers and managers also verbalized concern that the work would be harmful to the fetus or mother-to-be, and that there might be legal ramifications to the firm if injury occurred.

In many non-traditional settings, policy required that female employees notify the company of pregnancy within 4 to 6 weeks of its confirmation. When this was not required, most participants said that they preferred to conceal their condition for as long as

possible to avoid anticipated negative reactions among co-workers and managers. Indeed, many of the women spoke of an escalation in the level of hostility and sexual harrassment when the pregnancy was announced.

The majority of informants did feel a certain pride in "proving" that they could do the work. Many had achieved a life-long goal when they were employed in a male-dominated occupation. They did not however, enjoy having to demonstrate their ability to "keep up the pace" on a daily basis, once they were pregnant.

> It's funny, in a way I did want to prove something. I guess that I could do the work. But they made me miserable so many times I wonder if it's worth it. I mean, the stress couldn't be good for the baby.

Some of the women felt the incongruity between being pregnant and being a "police officer", "prison guard", or "road construction worker" for instance, and had as much difficulty dealing with the changing body image as their co-workers did. Anya reflected upon the conflict many women in male-dominated professions experienced.

> It wasn't getting "big", . . .or losing my shape that bothered me. Some of the guys I work with are fat slobs. I don't know how to say it, (pause) but it was being this pregnant woman all of a sudden. You see pregnant women everywhere, but on the other hand you don't. You don't see them in places like where I work. I was like a fish out of water. . . I guess that's one reason I kept it to myself as long as I

> could. I think it must be even harder for women in the army and places like that when they get pregnant.

Risk assessment activities are evident in Anya's early decisions regarding concealment of her pregnancy. She recognized the possibility of negative reactions to the announcement and hoped to avoid them for as long as possible. Efforts were made to decrease her level of vulnerability by carefully controlling her emotions while at work such as not crying when upset, or smiling when she thought about the pregnancy. She also attempted to maintain physical competence by exercising regularly. She also tried to "prove she could do the work", even as she approached her date of delivery. In developing a calculus of risk, Anya engaged in the knowledge-gathering behavior most participants had described.

> I didn't get much help from management. There were guidelines for the women who worked in the business office, but nothing about freight handlers. My boss called headquarters and it turned out they had a pregnant employee in Denver. They faxed us the policy and basically it said I could work as long as I could do the work and my doctor o.K.'d it. So I talked to my doctor, and he just said to take it easy and cut down on lifting the heavy stuff. When I asked him how heavy was heavy, he looked stumped. He raised his eyebrows and said "Over twenty pounds?" What a joke. (She frequently lifted up to 30 and 40 pound boxes). So we just played it by ear and as long as I felt good and didn't have any contractions, I kept going.
>
> Oh, yeah, and I went to the library one day and checked out a book on working while you're

> pregnant. It wasn't much help either. It said to take lots of naps, and put your feet up, and don't get tired. I couldn't find anything on heavy work. (Laughing) In fact, when I asked the librarian, and I told her what I did, she kind of looked at me funny, so I dropped it.

Anya also verbalized the same feelings of isolation expressed by the majority of informants in non-traditional settings, which exacerbated the difficulty of gathering useful information.

> It was bad enough being the first woman in the job and now I'm the first pregnant one. I didn't have anyone to talk to. No one to give me any advice about how to deal with the whole situation. I've got a sister who works. She's got two kids, and she worked when she was pregnant, but she's a nurse. She got all kinds of written information. It was different for her. People were always talking about the baby (fetus) and they gave her a baby shower. All I got were snide remarks. I put on a cool front, but I wasn't sure if I could do it. But here I am, ready to explode (she was 40 weeks pregnant)! I made it.

These women lacked role models, other women who had been pregnant and successfully accomplished their chosen work while maintaining the pregnancy. The lack of detailed occupational health guidelines as well as lack of role models were conditions that made it difficult to develop a calculus of risk. Anya's sense of vulnerability did appear relatively low until the 30th week of gestation. She was in excellent physical condition and continued to engage in aerobic exercise classes until that time. She was able to manage her affect well, having learned that skill long before

pregnancy. She also had some control over work activities, being able to increase or decrease the work pace if she felt fatigued.

Safeguarding activities in the first half of pregnany centered on promoting fetal well-being and concealing the pregnancy for as long as possible in order to avoid negative reactions from co-workers (protecting one's emotional well-being). As noted, this entailed management of her affect as she was tempted to "smile and let loose".

> I guess my biggest worry was about the baby in the beginning. Not taking drugs (over-the-counter preparations) or smoking. I used to smoke a few cigarettes a day. I had this horrible cold in the beginning and I wouldn't take anything. I felt so lousy, and the guys kept pushing antihistamines on me. They didn't know I was pregnant. I was real lucky. I didn't have any morning sickness, so I made a real effort to eat healthy meals and give the baby a good start. And I guess, just trying to look normal so I wouldn't have to explain being pregnant before it was really necessary. It wasn't any of their business, and I didn't need the grief which I knew I was in for when they found out.

Several sudden and unexpected complications altered the calculus of risk over time, and the safeguarding strategies employed by this informant. Anya's husband John was working for a computer firm at the time of conception (six years seniority). When she was 16 weeks pregnant he lost his job in a corporate take-over scheme. Simultaneously, his widowed mother

experienced financial problems which required monthly monetary contributions from her children, including John. He began working odd jobs 10 to 12 hours per day, six to seven days a week for minimum wages, while looking for employment in his chosen field. At the time of interview (40 weeks gestation) several promising positions had become available, and it appeared he would soon have another job in the computer industry.

When Anya's husband lost his job, they were required to pay a large monthly fee to maintain his health insurance benefits. This was essential as Anya's prenatal care and hospital stay would be covered by his health insurance policy. They did have insurance coverage which helped to defray the cost of their monthly mortgage payment, but Anya described their current financial situation as "very shaky". She was planning to return to work as soon as possible after the birth of her infant (about four weeks) if John could not find employment.

Once John was fired, Anya began to focus on maintaining her job at all costs, in order to remain financially solvent. This shift in priorities illustrates the temporal and evolving nature of risk-assessment and safeguarding activities. Contingencies such as the loss of John's job and his

mother's financial problems resulted in a reappraisal of threats, priorities and the planning of new strategies.

> You try real hard to cover all the bases when you plan something like having a baby. But you never know. When John lost his job, I was in shock. I tried not to show it, but I was terrified. It was all on my shoulders, and me four months pregnant. I seriously thought about an abortion. If something happened to me, we'd have lost the house and the car. We couldn't pay the hospital bills. My disability wouldn't have covered everything. Money has been on my mind every minute since then, I think. Every time I had to take a sick day I worried. Would I get written up or fired? One of the guys at work had a box fall on him. All I could think of was "I'm glad it was him and not me". Is that horrible, or what?

At 30 weeks gestation, Anya began to spot and had periods of intermittent uterine contractions. Her physician recommended bedrest and wrote a letter of eligibility for medical disability leave. She had disability insurance through work, which paid part of her salary, but was insufficient to meet all of their financial responsibilities. After one week at home, without any contractions, Anya asked her doctor if she could attempt returning to work. She gave up her aerobic exercise classes and promised to reduce her work load. She explained the severe economic hardships they were experiencing. He agreed to a trial of work.

> It would have been a disaster. We were just barely scraping by on my salary and John's. We

> couldn't have kept up the payments to the doctor, or the insurance, or something. We went through our savings by then, with John losing his job and his mom needing money. Plus the strain on him was unbelievable, between working day and night, worrying about me, and his mother. Plus I wasn't really on bedrest. John was never home to cook the meals, clean the house ot take care of me. I I was doing it! (Neither Anya nor John had family in California). I gave this kid a good start. I just had to hope we'd both hold out. I went back to work and took it one day at a time.

What Anya did do was stop her aerobic exercise classes, lie down when she was on breaks, and she began to avoid lifting the heaviest bags and boxes. This was done surrepticiously and was an example of a deception tactic used by some informants.

> No way could I ask my boss for special treatment. But he did know I was having some contractions, and he found me a place where I could lay down on breaks and put my feet up. God, he was great. If that didn't help, I just kind of eased up on the heavy lifting. That usually stopped the contractions. Then I would just look real busy and move more of the lighter stuff. And once in a while I'd push one of the smaller guys aside when he was struggling with a big box and say something like, "Move out of the way wimp." And I'd sling it on the truck. So it looked like I wasn't slacking off. That usually stopped the complaints about me easing off.

This passage also helps to illustrate the circular nature of the assessing-safeguarding process. If Anya perceived contractions or vaginal spotting (monitoring of physiologic responses to strenuous work), she would begin by putting her feet up on breaks. Reassessment occurred, and if this initial strategy did not work,

she would decrease the intensity and pace of work. She also assessed her co-worker responses to this strategy and revised it if they "got wise" to her and complained about her "loafing on the job".

Anya also stopped working overtime hours and weekends, although this imposed a financial strain on their already stretched budget. She also virtually gave up all household responsibilities. Up until the 30th week of gestation, she had been doing all of the housework, cooking, grocery shopping and laundry because of the long hours John worked each day.

> We basically gave up on the house. I mean it's not a pig sty or anything. But John has to go over it once a week by himself now and he's not Mr. Clean. He does the laundry and runs for the groceries so I can put my feet up as soon as I get home from work. He's one in a million.

Regardless of work setting, the majority of study participants, like Anya retained responsibility for household tasks. The only signifcant change occurred in the last weeks of pregnancy, when many women were physically unable to perform some aspects of housework or if complications arose, as in Anya's case.

At the time of interview Anya was experiencing fairly strong contractions and severe lower back pain. "I hope to God this is it (labor). I'm about ready to drop. I've got the weekend off and I'm hoping I can

call on Monday and say I've delivered." Her physician had discussed the possibility of an oxytocin induction on Monday if she had not delivered by then because her blood pressure was starting to "creep up".

She sat with her feet elevated and I noticed that she had signficant swelling of her feet and ankles. She said that at her last prenatal visit (the day prior to the interview), her doctor had told her that her blood pressure hadn't gone down and that she should go home and go to bed. Instead, she reported to work for one last day.

> "I've used up all my sick time and I can't afford to take a day without pay. I've got the weekend off and I'll stay in bed the whole time." If I don't do it by Monday, I'll go in (to the hospital and get it over with. I'm ready. I can't handle the work anymore. . . I'm so tired. You know, I used to dream about having time to sit and knit little things for the baby, and talk to it, and take long naps. Most of the time I was too tired to do that. Even early in the pregnancy, I was always so tired. Shit, I'm not ready for this kid. I have to send John out this weekend to get some baby clothes.

The majority of women still employed in the late third trimester recognized their inability to maintain their pre-pregnancy work pace. They expressed guilt about this, particularly if employed in non-traditional settings. They also expressed guilt about lacking the time to really prepare for the infant physically and emotionally, if they were not taking time off before

the onset of labor. The day-to-day responsibilities of work and home did not permit them the leisure to fantasize about the coming child and their new role as mother.

The women also felt increasingly vulnerable as they lost their sense of physical competence during the last few weeks of pregnancy. This in turn increased their perception of risk. They described their bodies as "huge", "bloated", "gross", "fat", and "unmanageable". These descriptors were also frequently used by co-workers and managers. Anya told me:

> One of the guys never let up. I wanted to kill him. Lately he's gotten really vicious. He calls me the "pregnant hog"- keeps asking me if I'm "hot to trot". The other day he said I had b.o. (body odor), and asked me if pregnant women stink more when they sweat.

Anya called me the following week to tell me that she had delivered a baby on the following Monday. Her labor had been induced because of mild pre-eclampisia. An emergency Cesarean section was performed due to fetal distress. The infant was small for gestation age, weighing five pounds, one ounce. John's hope for employment was still not realized. Anya was planning to return to work as quickly as possible (within four to six weeks or as soon as her physician would approve her return.

Risk Assessing and Safeguarding
in Female-Dominated Settings

Jean is a 25 year old primigravida who was interviewed at 36 weeks gestation. Married for four years to Andy, an auto assembly line worker, they were eagerly awaiting the birth of their first child. They lived in a large apartment complex, and had no plans to buy a home in the near future due to the extremely high cost of housing. They had a modest savings account and had already purchased clothing and equipment for the infant.

Jean had been working as a waitress in a truck-stop restaurant located along a major interstate highway until the 34th week of gestation. Her job required continuous standing and walking, carrying heavily loaded food trays (greater than 20 pounds), busing dirty dishes, and cleaning all the dirty tables in her station. She worked 40 to 60 hours per week and was involved in shift work every three months (one month of nights and three months of days).

She had been fired in the 34th week of pregnancy by her manager, after several customers made comments to him about the inappropriateness of employing waitresses in advanced pregnancy. She had worked in this particular restaurant for five years and told me, "I was the best worker he had." Her manager would not

give her any reassurances that she would be re-instated in her position after she had the baby. The owner of the restaurant had no formal written maternity leave policy and offered no disability or health insurance benefits.

I had been contacted by this participant the day after she was fired. She said she was "really angry" and needed to talk to someone about "getting the shaft". She wished to see me as soon as possible, but was trying to find temporary work at another restaurant first. After two weeks of unsuccessful job hunting, she called me again and was ready to talk about her experience of working while pregnant.

This young woman felt a keen sense of betrayal by her manager, whom she had helped train three years ago.

> I was stunned. Here I was, the hardest working person in the place. I'd covered off-shifts, worked holidays and overtime. Hell, I trained the bastard when he was hired. I got the best tips. Most of the truckers knew me. And he ups and fires me because a couple of guys said he should be ashamed to work a pregnant woman so hard. It was my decision to work. I love it! . . . He knew every penny counted right now. We're not rich. I was plannin' to take a little time off after the baby was born. Now I'll have to find a job as soon as I can walk. You ever heard the saying "A paycheck away from the streets"? Well, we're almost there. Andy puts in for over-time, and that's the only thing saving us.

Jean shared the fate of many women employed in small, female-dominated work sites, and several of the

study's participants. In small businesses not required to conform to the Pregnancy Discrimination Act of 1978, and without union representation, they were at the mercy of owners and supervisors. They could be, and were fired or placed on unpaid maternity leave when it suited management. The majority of women were allowed to work until the beginning of the third trimester. But if work output declined, or other factors such as negative public response to the presence of a pregnant woman in the work setting occurred, they were given notice. This informant was well aware of her precarious position. Development of the calculus of risk and safeguarding began early for her.

> I guess I knew from the start that he might pull a fast one. Most of the girls who've gotten pregnant didn't last the whole pregnancy. He'd find an excuse to let 'em go. So I asked for as much overtime as I could get in the beginning. In fact I didn't even tell him I was pregnant. . . One day he just said, "Hey girl, you got a bun in the oven? . . . He was pretty stupid. I'd been puking for weeks.

Informal sources of information (co-workers and mother) and articles in women's magazines also provided Jean with the the knowledge she required for beginning risk assessment. Jean spoke lovingly of her baby-to-be and how she had tried to "protect him as best I could". Her employer had no written information regarding occupational health hazards during pregnancy, although

all six waitresses were women of childbearing age, and several had been employed in the restaurant during pregnancy. Jean's physician did not question her either regarding her work or offer specific advice.

> I knew you shouldn't be taking pills or drugs (Jean had been an occasional Marijuana user prior to pregnancy). . . I read in a magazine that you shouldn't drink alcohol or coffee. But I couldn't give up my coffee (laughing). You'd have to get my husband to jump start me in the mornings if I did that. But I think I was real careful. I even asked for the non-smoking section at work. It wasn't what you'd call the perfect place to work when you're having a baby. It was smokey, and noisy and the work was hard. . .

Management of affect and emotional responses was quite different in this female-dominated work environment. Jean had no difficulty announcing her pregnancy to the six other waitresses whom she worked with, or expressing her emotions. Expressing her feelings at work did not enhance her sense of vulnerability. Like other participants, she described feeling "more emotional" at times. "I'd even cry during television commercials."

> They were thrilled. All but two of the other girls have babies. They all worked in the restaurant at one time or another when they were pregnant. . . I had some rough times and I could always count on a shoulder to cry on. They understood what I was going through. Two (women) were really tuned into what I was going through. They even knew when the baby was moving. I'd giggle sometimes and they knew what was going on.

The sense of isolation and lack of co-worker support experienced by women in male-dominated jobs was not evident among the informants working in traditional female occupations. Even those women working somewhat independently, such as domestics, received a great deal of recognition from employers and customers. Frequently, there were role models in the work setting, other women who were or had been pregnant, to guide and support first-time pregnant employees. This also helped with the development of the calculus of risk and appropriate safeguarding strategies. Jean told me:

> They gave me lots of help- not just with the work, but just common sense kind of suggestions. When I was having real bad morning sickness, they brought in home remedies that helped a lot. I didn't want to take pills. . . I don't have any sisters, and it was nice having them around to talk about the baby. They're throwing a shower for me this week. They're a great bunch.

In general, the response to pregnancy, when announced at work, was positive. Informants received very little negative feedback in the early months of gestation, and no one questioned the participants' ability to do the work, however strenuous it might be. While managers might bring pregnant employees into the office for what was termed a "pep talk", there were no judgments passed regarding the appropriateness of their presence in the workplace. As long as the woman could

maintain her pre-pregnancy work pace, she was generally allowed to perform all aspects of her job description.

> Why not work? All the others (waitresses) did when they were pregnant. Yeah, it's hard work. You're on your feet all day and carrying heavy trays around, but this is 1988. Women don't go to bed for nine months when they get pregnant. My grandmother didn't go out of the house when she started showing. . . Boy, she'd turn over in her grave if she could see me slinging hash. I actually like working. I'd go nuts just being home all day. Plus, I can get myself things that we couldn't afford if just Andy worked.

There did not appear to be the same strong sense of "proving oneself" on the job among women employed in female-dominated occupations. Work was simply a fact of life, and "getting through the day" was a primary theme. Informants did not report life-long aspirations to achieve a position in their chosen occupation. The one exception was a flight attendant who said she had hoped to become a "stewardess" even as a child.

Jean's female co-workers varied in their responses to her pregnancy, but in general accepted her presence without comment. Negative reactions occurred when it appeared that she was receiving preferential treatment or trying to "get out of doing her fair share of the work." Jean recounted the following incident:

> There was one bitch who crabbed if I spent too much time in the bathroom puking. But I was pretty sick in the beginning. She'd piss and moan about how she'd have to cover for me, and how when she was pregnant, she never dumped her work on the others. But everyone else was

understanding.

The study participants in female-dominated occupations often discussed the pregnancy with customers or clients, getting both solicited and unsolicited advice. Thoughtful gestures were appreciated and appeared to confirm the value of the pregnancy. They were not embarrassed by the changing body image, and did not verbalize the same sense of incongruency between work and pregnancy that women in male-dominated jobs did. Jean received extra tips at times from customers who would say, "Buy something for the baby."

> A lot of the truckers would ask me how it was go'in. They'd give me a little extra tip for the baby. That's nice. But I didn't expect any special consideration. I just wanted to work and collect my paycheck and tips. Sometimes I wonder if someone really went to my boss about me. Maybe he just used it as an excuse to get rid of me.

Important to note, was that sexual harassment was as common an occurrence in female-dominated settings as in non-traditional work sites. The women described having to defend themselves against the advances of managers, customers and clients. Because many of the informants in female-dominated work were in service jobs, they were expected to "smile" and be pleasant to customers. This behavior often gave rise to undesired advances from men. However, once the pregnancy became

obvious, the study participants in traditional work roles experienced a decrease in harassment. This happened to Jean:

> You had to watch for weirdos all the time. I knew how to handle myself. You can be friendly and polite without coming on to people. But sure, I've had a few close calls. When I started wearing maternity clothes, it eased off. Guys usually don't go around grabbing the asses of pregnant women.

As in non-traditional occupations, manager actions appeared to be a major condition influencing the success of safeguarding activities. In Jean's case, his behavior ultimately resulted in her loss of livelihood. In fact, Jean anticipated not being allowed to work the entire pregnancy, and she asked for additional work in the beginning to increase her income. However, other women described supportive, resourceful managers who assisted the women in developing the calculus of risk and actualizing safeguarding behaviors. Gender did not appear to make a difference in manager attitudes and actions. Women described both supportive male and female superiors.

The evolving nature of risk assessing and safeguarding was evident in Jean's story. As early concerns regarding morning sickness and concealing the pregnancy from her manager were resolved, new concerns emerged. They appeared to be focused on the growth and

development of her baby-to-be. She spoke of new efforts to make time at work, to eat well-balanced meals, to avoid smoke-filled areas of the restaurant and to make time for prenatal appointments with her physician. This was not always easy:

> We're supposed to get lunch relief, but on busy days, we just ran. But I always took time to eat my lunch or dinner. Even if I had to sneak into the john and lock myself in a stall for 10 minutes. What a place to eat! This baby may have some strange eating habits based on where I ate.
>
> . . .and one of the hardest things was arranging my days off to see the doctor. You'd go in and they'd say, see you on Monday at 10:00 a.m. in four weeks. Well, my work schedule's done way in advance and I couldn't always do it. And his secretary would look so put out if I said I couldn't make it. We're not all business executives who can just cut out of work when we feel like it. But I made every one of my appointments.

When Jean was 32 weeks pregnant, she slipped and fell on a wet floor.

> It was kind of ironic, because I was really careful about how I moved and picked up the heavy trays and things. And one night when it was real quiet and things were slow, I just walked out of the kitchen and fell flat on my ass. I really hurt my tailbone. But I didn't break anything. But I was pretty shook up. I waited to feel the baby move. . . then I felt much better. I never told Andy about it (the fall). He would have been real upset.

After the fall, Jean purchased a pair of crepe-soled work shoes which she hoped would grip the floor more effectively. This action helps to

illustrate the circular nature of the assessment and safeguarding processes. Jean began to note changes in balance and increased her vigilance in moving and lifting. When she fell, she reassessed the effectiveness of this strategy, her persistent risk of falling with increasing abdominal girth, and took the additional step of buying new work shoes.

Finally, the calculus of risk regarding job security appeared flawed. When this happened for study participants, it could result in minor or major complications. Although Jean knew that none of the other waitresses had been allowed to work until the onset of labor, she stated she had no idea she would be fired at 34 weeks gestation. She and Andy suffered a serious financial setback.

> I was still working full-time and doin' o.k. He was on vacation when I fell, and no one told him about it. I made them promise they wouldn't. I thought for sure I had at least a couple more weeks. And sometimes babies come a little earlier than your due date. So I was hopin' to work right up to the end. I couldn't believe it. When I went to get my paycheck, he said it was time to call it quits. That I looked like a walking watermelon and that a couple customers thought it was terrible that I was allowed to work so hard. He wasn't about to lose customers over me.
>
> I really lost it. I cried and bitched at him and even begged. We need the money so bad. . . And then not promising me my job back when I have the baby. I've talked with the owner but he says its up to _____(manager).

Jean delivered a healthy 7 pound 2 ounce girl at 38 weeks gestation. She called this investigator just before returning to work at 3 weeks postpartum. Her manager had allowed her to return to work, as he had been unable to replace her while she was gone. She planned to resume her regular 40 hour per week schedule, and had arranged for a neighbor with children of her own to care for her infant.

It appears from the analysis of the experience of pregnancy and strenuous/non-sedentary work in two contexts, that it is not the physical nature of employment alone which accounts for variation in the phenomenon. The gravid employee's ability to assess risk and safeguard will also vary by work setting. Major variation is observed in sex-segregated work environments. The women in this study helped to illustrate the impact of context on the core category of risk assessing and protecting in physically challenging employment.

CHAPTER SIX

Conclusions

Placing the Findings in Perspective

Risk assessing and safeguarding were the primary and prevailing processes identified in this study. For the 36 participants engaged in strenuous and or non-sedentary work, the daily struggle to detect and ward off threats often blunted the pleasure normally derived from employment and being pregnant. The emergence of risk assessing and safeguarding as core social processes for this group of pregnant women supports the findings of previous investigations.

Even in the earliest studies of pregnancy and motherhood, for unemployed women, the act of safeguarding was noted to be a central process of the gestational period. In her classic psychoanalytic interpretation of motherhood, Deutsch (1945) observed, ". . . gradually, the whole physical personality of the woman becomes the protector of the fetus." Rubin (1975) also identified the phenomenon of risk assessing and safeguarding in her seminal work, "Maternal tasks of pregnancy". Rubin described seeking and ensuring safe passage for both self and child through pregnancy and childbirth as one of the four major tasks of the gestational period.

Leifer (1977) and Hees-Stauthamer (1985), discovered that informants in their exploratory studies of the first pregnancy experience became increasingly concerned for the fetus, as well as their own well-being as the pregnancy advanced. Feelings of vulnerability and anxiety were pronounced in many of the participants. Few women remained consistently unconcerned throughout gestation. Rubin (1984) suggested that this increasing sense of vulnerability arose from the rapidly changing body image, postural shifts, and reduced freedom of movement that women experienced during gestation.

Real threats to intactness and survival do occur during pregnancy, and are multiplied when the gravida is employed. Individuals involved in physically challenging work are at even greater risk. And with reduced funding to industrial health and safety agencies, the rates of injury, illness and death have risen. In California alone, work-related deaths among private industries have risen 53 per cent since Cal-OSHA ceased its operations (Schaefer, 1988).

Four of the women in this study reported experiencing preterm labor, one gave birth to a non-viable fetus which died. Five informants sustained falls while at work and one sustained minor injuries in a motor vehicle accident while driving to work. These

factors in part explain the fears experienced by pregnant working woman, as well as the initiation of risk assessing and safeguarding behaviors that were observed among the participants of this study.

Another interesting finding of the study which supports previous research, was the delineation of risk assessing and safeguarding activities. Earlier studies have briefly described the process by which women determine threats to self and fetus. Rubin (1975) discovered that the act of ensuring safe passage entailed more than simply seeking prenatal care. It also included using every form of information available to recognize and neutralize dangers, including written materials, human resources and perhaps most importantly, "childbearing folklore".

Childbearing folklore is described by a number of researchers. Rubin (1984) states that it is a product of feminine culture created to identify hazards and prevent injury during pregnancy. Newton (1967), who surveyed knowledge of pregnant women across cultures, found similarities in topics regarding protection and nurturing of the gravida and her unborn child in many societies. Kruger and Maetzold (1984) were able to identify "practices of tradition" for pregnancy among American women, which were based upon cultural beliefs sometimes referred to as "old wives' tales".

In this investigation, participants also used a multiplicity of resources in attempting to assess and safeguard. However, fewer women reported reliance on childbearing folklore. Many openly derided the "old wives' tales" that their mothers or other unemployed female relatives relied upon to ensure safe passage. The majority of women attempted to gather information which was based upon scientific data. They sought answers regarding hazards in company policies and procedures, governmental guidelines, health promotion literature, popular journals, books, and least frequently, from health care providers. Unfortunately, many were unable to obtain the information they believed was needed to protect and nurture that which was most valued.

Also of interest are the findings related to pregnancy and strenuous and or non-sedentary work in sex-segregated settings. The personal attributes of the women, the attitudes of co-workers and managers, and company policies were markedly dissimilar. These contextual differences strongly influenced the nature and success of risk assessing and safeguarding behaviors.

The participants in male-dominated work described themselves more often as first-born or only children, high achievers, and "less feminine" in their appearance

and behavior. These informants also reported receiving strong parental encouragement to achieve non-traditional occupational goals. There was early acceptance of "non-feminine" or "masculine" attitudes and actions, and support for athletic endeavors. The women enjoyed and desired physical challenge in both work and leisure activity.

These findings are consistent with research on gender and occupation. Houser (1985), Lemkau (1983), and Trigg and Perlman (1976) collected personality data on women in male-dominated occupations (not necessarily physically challenging work). Study participants scored high on "competency" traits related to the masculine stereotype and ideal. They shared background characteristics which fostered achievment including firstborn status, comfort with accomplishment in traditionally male fields, parental encouragement of androgynous exploration, high maternal employment and supportive mates.

Almost without exception, informants described male-dominated work settings as non-supportive. Harrassment from male co-workers escalated in many instances once the pregnancy was announced or became evident. Some of the women even experienced physical abuse, and others were required to increase the pace

and intensity of work after conception to "prove" themselves capable of continuing employment.

The findings of Saurel-Cubizolles and Kaminski (1987) and Bell and Rostan (1982) support the discovery of hostile reactions to pregnant women in blue-collar occupations. Indeed, those performing the most difficult labor, often received the least support from managers. The majority of women in traditional male, blue-collar jobs studied by O'Farrell and Harlan (1982) reported high levels of job satisfaction. But a sizable minority were less satisfied with their work because of harassment from male co-workers. Meyer and Lee (1978) found that peer harassment from males was the most frequently reported difficulty among blue-collar women in their sample.

Dealing with negative responses and harassment was particularly difficult when the gravida had made an effort prior to pregnancy to "blend in" with male co-workers or minimize all feminine traits while on the job. Best prepared to deal with hostile reactions were participants who described themselves as possessing both masculine and feminine traits. This last finding was also detected by Lemkau (1983) who noted that androgynous women possess a mixture of competence and expressiveness which facilitates adjustment to male-dominated settings.

While harassment was viewed as a major threat for women in male-dominated occupations, their jobs were often more secure. The majority of informants performing traditional male work were in union settings. Health and disability benefits were provided, and a formal grievance process was in place to assist the gravida if efforts at risk assessing and safeguarding were hampered. Often, the greatest perceived threat during pregnancy was the disintegration of a carefully created work image or loss of the acceptance they had achieved among their peers.

In contrast, informants in traditional female occupations which required strenuous or non-sedentary activity, verbalized greater concern for maintaining physical integrity and avoiding personal injury. For those women still employed in the second half of pregnancy, more frequent doubts were expressed about the ability to continue performing one's usual work. The participants as a group viewed themselves as less healthy, and more fatigued. The majority did not exercise on a regular basis.

Personal attributes of the study participants employed in female-dominated occupations were also markedly different. Fewer were first-born or only children. They did not as often describe themselves as

high achievers, nor did they generally enjoy competition at work. Many of the women admitted having difficulty with assertivenss and "standing up" for their rights. Confrontations with co-workers were handled with difficulty and avoided whenever possible. The women were more often dissatisfied with their jobs, felt "trapped" in dead-end positions, and incapable of finding more gratifying, or better compensated employment.

These discoveries also support recent feminist research regarding personality attributes of women in sex-typed occupations. Utilizing the Personal Attributes Questionnaire (Spence, Helmreich & Strapp, 1984) Jones and Lamke (1985) found that androgynous women employed in male-dominated jobs possessed higher levels of self esteem related to work. The subjects in Lemkau's study (1983) of distinguishing personality and background characteristics of women in sex-typed professions, discovered that females in traditional work demonstrated greater adherence to conventional expectation and were less assertive.

A greater perceived threat to job security also existed for women in traditional occupations. Fewer held positions in union settings which guaranteed job security during pregnacy or while on maternity leave. However, the work environment itself was usually viewed

as less hostile. Co-workers, the majority other women of childbearing age, provided physical and emotional support with far greater frequency. Harassment did occur, but usually originated with managment, not peers. Pregnancy did precipitate an escalation of abuse for some workers, but it was not as intense for women in female-dominated occupations.

The Theoretical Significance of the Findings

A major difference in the focus of the assessing and protecting processes surfaced in this study. In past investigations, the targets of safeguarding activities were the fetus, and to some extent the physical well-being of the gravida herself. In contrast, personal threats were often foremost in the minds of this study's participants. Many of the women concentrated their time and energies on protecting self, or aspects of self that were highly valued and perceived to be endangered.

Worries about physical safety, finances, job security, and work identity were often named as the major sources of anxiety. Actions were aimed at safeguarding one's physical integrity, the job itself (which in some instance was the only source of income), preventing homelessness, protecting work benefits, or the hard-earned work image one had created over time.

In some cases, pragmatic decisions were made which plainly favored self over fetus, even though informants reported planning the pregnancy. In other instances, the woman could only hope to protect her baby-to-be indirectly, by safeguarding some aspect of self.

The findings support the assertions of Wolkind and Zajicek (1981) and Torres and Forrest (1988) concerning the reality of the pregnancy experience for many women employed in modern industrial societies, and in the United States in particular. The generally low status attached to pregnancy and lack of universal protection for gravid workers, coupled with arduous work responsibilities, and physical exhaustion, are conditions which shape the concerns and safeguarding behaviors of gravid women. These conditions help explain the differences in the focus of concern among the study participants.

The findings regarding prioritization of concerns during pregnancy, support the contentions of Brazelton (1986) about the preparation of working couples for parenthood. Unlike the participants of previous pregnancy studies, few women in this investigation reported spending an increasing amount of time as the pregnancy progressed, thinking about birth, motherhood and the child-to-be. The time spent in risk assessing and safeguarding on the job and at home, coupled with

household responsibilities, contributed to the intense fatigue experienced by many of the women. Most of the participants were able to verbalize that these conditions reduced the amount of time available to prepare for parenting. The majority of informants in late gestation had not even begun physical preparations for the infant. They reported finding it difficult to find time for shopping and preparing the environment for the baby.

Pregnancy was not the all-encompassing psychological experience described by previous theoreticians and researchers (Bibring, 1959; Colman, 1969; Deutsch, 1945; Hees-Stauthamer, 1985; Lederman, 1984; Leifer, 1977). Work was a central aspect of most informants' existence. It was not simply accomplished to purchase food and shelter, but was viewed as a means to achieve self-fulfillment, maintain one's autonomy, derive satisfaction from a job well done, and control one's destiny. This clearly expressed "wanting to work" attitude explains in part a woman's distress when she believed her job, or work image was in jeopardy, as a result of the pregnancy. It may account for the less intense psychological experience of "being pregnant" for the study participants.

The difference in focus of concern during pregnancy also appears to reflect in general, the

complex nature of women's lives today. Informants did not describe themselves as "wife" or "homemaker". They described themselves as gainfully employed, independent adults who were performing hard physical labor. They did not perceive pregnancy as the sole act by which they achieved adult status in this society. Having children was only one of a number of major life goals. Every participant defined her life, not only in terms of her relationship to mate and family, but to work and often, valued avocations or hobbies. These findings do not support the developmentalist assumption in previous studies that most women derive their stable adult identities through pregnancy and motherhood.

Also essential to an understanding of the participants' focus on personal threats, rather than fetal well-being, is the nature of the work environment itself, and society's influence on working conditions for pregnant employees today. The majority of informants described the work setting as "hostile", "dangerous", "threatening", "hazardous" or "uncompromising". As noted, the nature of physically challenging work is in part responsible for such a view, but other societal factors contributed to this negative perspective.

The Pregnancy Discrimination Act of 1978 does not protect the jobs of all pregnant workers in the United

States. Exempted are small businesses with fewer than 15 workers. Employers who do not provide health and disability benefits for their employees, do not have to provide them for gravid workers. Many of the study participants were employed by such businesses. The discovery that employers or managers arbitrarily fired pregnant workers or established early, unpaid maternity leave in this investigation, supports the findings of previous studies (Hewlett, 1986; Kamerman et al., 1983).

The slow but steady entry of women into male-dominated occupations supplies a further condition influencing women's perception of the work environment. Policies and occupational health guidelines for pregnant workers were non-existent in some settings, because there had never been a need for them. The inability to acquire objective knowledge about hazards, compounded informants' frustrations regarding the lack of concrete guidelines. Many physicians of study participants could not provide them with information about occupational health hazards. No wonder many of the informants viewed the work setting with alarm.

The current economic climate in this country requires that in many instances both partners continue to work, regardless of complications that may arise during pregnancy. Quitting is an impractical and

impossible alternative for many women, particularly those in minimum wage jobs. Unfortunately, repeated efforts to enact a Parental and Medical Leave Bill which would allow workers to take short-term leaves of absence without losing their jobs, or benefits have met with failure.

Finally, it was very difficult for the study informants who had fought long and hard to "break into" male-dominated trades, to entertain the thought of giving up their positions. Their feelings of self-worth were closely tied to work. Furthermore, some non-unionized settings would not automatically reinstate the woman who took an extended maternity leave. Although each pregnancy was intended and wanted, some women felt forced to make decisions which were not always in the best interest of the fetus.

These employment and larger societal conditions may account for the differences in the experience of pregnancy for the study participants. In previous research, only women labelled as "high risk" due to physical, emotional or social complications during the gestational period, reported such intense focus on self, and demonstrated risk assessing and protecting behaviors aimed at protecting self.

Corbin (1987) described women's perceptions and management of pregnancy complicated by chronic illness

as an act of "protective governing". Through strategies of assessing risk, balancing medical options, and controlling specific actions, the gravida attempted to ameliorate specific medical complications and produce positive pregnancy outcomes. These processes, discovered through a grounded theory study, appear very similar to the dual risk assessing and safeguarding activities that study participants initiated in strenuous work environments.

Corbin also noted that possessing accurate knowledge of one's risk level and having a perceived sense of control over the situation, allowed the gravida to take positive action and manage crises more effectively. These observations appear almost identical to the findings in this study regarding risk assessing, the acquisition of knowledge, and limiting the degree of vulnerability through management of one's body, emotional responses and work activities. While Corbin's context was different, the processes were nearly identical, thus supporting the theoretical explanation of assessing and safeguarding in high risk settings. In this case, the work context is viewed as as a hazardous environment.

In addition to identifying a major shift in focus of concern during pregnancy, this is the first study to delineate the specific risk assessing and safeguarding

strategies and tactics gravid workers employed in strenuous and non-sedentary occupations. Rubin (1975) described types of "avoiding" behaviors, used by her subjects to ensure safe passage, such as ceasing to drive an automobile, avoiding crowds, and remaining close to home as the pregnancy advanced. These actions were closely tied to the era in which the research was conducted, and reflect the limited scope of women's existence at that time.

Researchers and theoreticians have not elaborated on specific categories of avoiding and self-regulating behaviors such as scanning the environment, negotiating change, monitoring physiologic responses and fetal reactions, or using manipulation and deceit to evade specific threats at work. Of great theoretical interest is the reported management of emotional responses in the work setting. The majority of participants spoke at great length about the sudden development of emotional lability, the predisposition to spontaneously laugh or cry, and the difficulties this created in the work setting.

Both physiological and psychological factors have been implicated in the emotional lability of pregnancy (Benedek, 1952; Bibring, 1959; Deutsch, 1945; Rubin, 1975; Leifer, 1977). Informants described sudden episodes of crying under stress and simply in response

to emotionally moving experiences such as reading a passage in a book, watching a movie, or seeing mothers interacting with their infants. This emotional lability and urge to cry, particularly for women employed in male-dominated occupations, was viewed with dismay and alarm.

Crying was considered unacceptable behavior in male-dominated settings. This finding is now supported by recent research literature. In a review of current studies Butler (1988) notes that crying at work can seriously damage a woman's credibility and her career. Most women in the labor force are not in positions of power, and can be reduced to tears by those who are. Women who feel angry or helpless, or are upset by unfairness or difficult managers and co-workers, are most likely to cry. In business, women are told, there is no room for emotion.

The ability of gravid workers to control emotions, particularly in non-traditional settings, appears critical if they wish to maintain their status and credibility. How this is accomplished was illustrated by several quotes from interviews with study participants. Management of emotions requires intense concentration and discipline. It may divert the woman's energies from more important physical and emotional tasks of pregnancy. Furthermore, it may

result in adverse physiological and psychological outcomes. This finding demonstrates the powerful impact of societal conditions on the experience of pregnancy.

Limitations of the Study

This qualitative study of the experience of pregnancy for women employed in strenuous and non-sedentary occupations has several limitations. Self-selection is a major consideration in evaluating the tentative theoretical explanation of the phenomenon. Study participants contacted this researcher and they may have been a group of women working in unique settings with unique concerns. Many of the informants were extremely anxious to meet with me in order to describe their current work situation, their fears, frustrations and challenges. Individuals who did not opt to participate in the study may have had very different experiences.

While women in a variety of strenuous and non-sedentary occupations were interviewed, many types of physically challenging work were not represented in this study. Furthermore, with the exception of two informants, the study participants all resided in one discrete geographic area of the western United States. Working conditions in other occupations and regions of this country may be significantly different, yielding

markedly different experiences for the gravid worker. This was a very limited sample of working women.

The perspectives of non-pregnant co-workers and managers were not studied to determine how closely they mirrored those of the participants. A more complete understanding of the work-pregnancy experience could have been derived by interviewing work peers and allowing them an opportunity to tell their story. In fact, several individuals who were not pregnant approached this investigator, offering to describe their personal experience of working with pregnant employees in strenuous work settings.

Another limitation of the study was the cross-sectional design selected for investigation of the phenomenon. Although women in all periods of gestation were selected in order to examine the consequences of strenuous and non-sedentary work throughout pregnancy, no participants were followed longitudinally. Women in late gestation may have had difficulty remembering past events in early pregnancy. Those in the beginning trimester of pregnancy did not have the opportunity to describe the unfolding experience of being employed in challenging work from conception to birth. Only five participants voluntarily contacted the investigator after the initial interview, to discuss pregnancy outcomes. The

long-term consequences of strenuous and non-sedentary work for each participant was not discovered.

Only informants fluent in English were included in the study. A significant number of women who are employed in strenuous and non-sedentary work during pregnancy, particularly in California, do not speak English. Their experiences may be significantly different. Also, several undocumented workers and women with unemployed mates were interviewed. Their concern for job security may have been magnified by the tenuous financial position in which they found themselves.

Finally, this investigator was able to establish only limited face validity of the qualitative findings. Only 4 of the 36 participants eventually agreed to read and evaluate the tentative explanation of the phenomenon. These individuals did provide me with positive feedback regarding the accuracy of the interpretation and explanation of the experience, but they remain a very small percentage of the total sample. Further distribution and evaluation of the this theory to study participants would have strengthened the validity of the findings.

Implications for Nursing Practice

A significant finding of the study, was the limited use participants made of health care providers for information and support during pregnancy. Occupational health nurses, and other professional nurses providing prenatal services must improve women's access to, and use of educational materials and information regarding physically challenging employment during pregnancy. A first step in this endeavor is to increase the nursing profession's knowledge of occupational health hazards and the physical and emotional impact of strenuous and non-sedentary work during pregnancy.

In several instances, study informants verbalized anger or hostility toward occupational health nurses. They perceived the role of this nurse as gate-keeper to the work site, and feared the consequences of being evaluated for work fitness by this health care provider. Other participants had only minimal contact with the "industrial" nurse and received very little prenatal counselling. It appears that occupational health nursing services are currently uneven across industries and that workers do not always view these professionals as helpful or supportive.

The occupational health nurse must develop a clear role in the assessment, counselling and care of

pregnant workers. He or she must attempt to establish rapport with the gravid employee early in the gestational period. The worker should have a clear understanding of the occupational health nurse's role, and be an active participant in establishing health promotion goals while she remains employed. Company policy and attitudes toward pregnant employees may place pressure on the occupational health nurse to encourage work termination or early unpaid maternity leave. The professional nurse must resist efforts to undermine the desire of women to continue working during pregnancy when no medical contraindications exist.

Occupational health nurses should also be aware of, and utilize occupational health agencies and resources in their provision of health care services. They should be familiar with educational materials and occupational health and safety guidelines available for professionals and their clients. Nurses must also be cognizant of community and national support groups which have been formed for and by pregnant women employed in strenuous and non-sedentary occupations.

It is important to note that in the small group of women who had selected certified nurse midwives for prenatal care, systematic occupational health assessments were conducted. But many physicians failed

to evaluate the gravida's occupational health risks. Professional nurses should advocate the inclusion of a comprehensive occupational health assessment in the intial prenatal examination. Ongoing collaboration between certified nurse midwives providing prenatal services and occupational health nurses in the work setting must also occur to ensure the health and safety of the maternal-fetal dyad while the woman is employed.

The ability of employed women in this study to manage their schedules in order to obtain prenatal care was uneven. Many of the women worked more than 40 hours per week, and were unable to obtain release time for prenatal care. Extended office and clinic schedules may be instituted to meet the needs of employed women. In large businesses and industrial complexes, prenatal services might be offered on the premises in order to reduce lost work time and encourage women to seek regular prenatal care.

The findings of inadequate anticipatory guidance also have implications for practice. A major function of nurses providing health care services to pregnant clients involves anticipatory guidance. Recent practice articles in nursing journals do recommend alterations in client life style and activity to ameliorate the minor discomforts and fatigue of pregnancy. However in many cases these suggestions are

impractical for women employed in physically challenging work.

For example, Horan (1984) suggests that pregnant women alleviate hemorrhoidal discomfort by limiting the amount of time spent standing. Frequent elevation of lower extremities is recommended to decrease dependent edema. In discussing strategies to combat the pronounced fatigue experienced by some women during pregnancy, Poole (1986) recommends frequent breaks, rather than an afternoon nap, for working women. None of these suggested practices many be feasible for women employed in occupations that require continuous standing, walking, or heavy exertional activity.

Mahlmeister (1987) found that 80% of the participants in her study experienced regular difficulty (one or more times per week) finding time for lunch, taking breaks, or limiting paid work to forty hours per week. Many informants also lacked an employee lounge or other appropriate place at work for sitting or resting. The women were often unable to devise workable strategies to handle the physical discomforts which accompany the physiologic changes of pregnancy.

Professional nurses should begin working with women contemplating pregnancy, to fully explore the consequences of strenuous and non-sedentary work during

the gestational period. They may assist the client with identifying work benefits such as health and disability coverage. Information and advice regarding appropriate preparation for work, and management of the changing body and psyche during pregnancy should be offered. Discussion of the minor discomforts of pregnancy should be reality-based, and take into account the ability of the gravida to follow through with suggestions for alleviation of symptoms.

The findings regarding attendance at pregnancy and childbirth preparation classes also suggests the need for development of innovative programs for women employed in strenuous and non-sedentary work during pregnancy. Traditional classroom presentations appeared to be the least appealing form of preparation for the study participants. Informants spoke of "being exhausted" by the end of the working day, and unable to sit through traditional classes offered in the evening. They also found it difficult to find time to practice relaxation techniques if still employed in late gestation.

Educators and health care providers must devise alternative strategies to prepare women not only for childbirth. They might also offer early pregnancy workshops to discuss the physical and emotional changes of pregnancy, and the challenges faced by women

employed in strenuous and non-sedentary work during the gestational period. One-day workshops and video-tape presentations may be acceptable alternatives to the usual class series held over several weeks to months. In large industrial complexes, occupational health nurses may consider developing on-site prenatal classes for groups of pregnant workers.

Childbirth educators might also collaborate with occupational health care nurses to form support groups for women employed in physically challenging work. Many of the women working in non-traditional occupations felt isolated and lacked role models during pregnancy. Support groups composed of gravid workers from disparate fields might meet the needs of some women for information, encouragement and re-affirmation during pregnancy.

Implications for the Nursing Profession

On a wider front, professional nurses committed to improvement in maternal and infant health must engage in political action at the local, state and federal level. Major aims of political action should be to improve working conditions for pregnant women, develop appropriate occupational health and safety guidelines, and sponsor legislation which establishes a national maternity policy. The current Pregnancy Discrimination

Act should be revised to shift the emphasis from a disability to a health promotion and maintenance model. Nurses may achieve these goals through the American Nurses Association and speciality organizations involved in political action. Exchanging ideas and information at international nursing forums may also assist nurses in this country to develop the health promotion and maintenance model required for a rational maternity policy.

Occupational health nurses, maternal-infant nurses and nurse researchers interested in women's health issues surrounding pregnancy or work should be in the vanguard of political action. Major change in the conditions of work can only be achieved through judicial and legislative initiatives. Professional nurses must be willing to collaborate with politicians at all levels of government, and health policy planners to accomplish change.

Implications for Future Nursing Research

The need for ongoing and extensive research in the area of work and pregnancy is essential. The findings of this initial grounded theory study suggest major areas for future investigation. A significant finding that requires further examination is that safeguarding behaviors were not always directed to assure fetal-well being, in ostensibly planned and desired pregnancies. Even when the potential for fetal injury was very high, some informants focused protective activities in another direction.

It is essential that researchers study the decision-making process regarding which aspects of self the gravida chooses to safeguard. This process involves the act of valuing, a rich area for qualitative research. Furthermore, intending pregnancy may be very different from desiring motherhood. Miller (1974) and Cerutti, Fede, Sichel, Volpe and Drago (1983) note that major differences exist between the intent and desire to conceive and the desire to mother. It is important to distinguish between these concepts when examining women's choices regarding protecting in future studies.

Examining the personal attributes of informants, identifying life priorities, and societal factors which influence work conditions may assist the researcher in

understanding the risk assessing and safeguarding process. It may also clarify which aspects of work are perceived as threatening, which aspects of self are considered endangered, and how prioritization in protecting occurs.

The goal of health care providers is to ensure the physical and emotional health of the mother-to-be and the well-being of the fetus during pregnancy. Research is necessary to clearly identify conditions in the work setting which support this goal. The findings of this investigation suggest tentative hypotheses regarding the relationship between certain factors (ie. union membership, availability of occupational health guidelines, presence of occupational health nurses) and the pregnancy experience. Future investigations may attempt to test these hypotheses in a variety of work environments.

Personality attributes of the gravid worker also appeared associated with her success in risk assessing and safeguarding. Marked differences were noted in background characteristics, life experiences and personality traits of informants in the two work contexts selected for comparison. Further examination of personality characteristics is warranted to discover the relationships among these variables and the pregnancy experience for women employed in physically

challenging work. Again, tentative hypotheses regarding the relationship between attributes such as assertiveness and competiveness and successful protecting may be tested in future studies.

Exploring attitudes of co-workers and managers regarding the presence of pregnant women in physically challenging work environments is essential. How closely do the perceptions of gravid employees match those of their peers and managers? To date, very few studies have explored the attitudes of co-workers or employers regarding pregnant women, but they have in general indicated negative reactions (Sheth et al., 1985; Shapiro, 1982; Bell & Rostan, 1982; and Auchincloss, 1982). Few of these studies utilized informants engaged in physically challenging work.

Manager attitudes appeared particularly critical in this study to the experience of work and pregnancy. Silverman (1981) notes that job retention, promotions, and raises may depend on tolerating, or submitting to unwanted sexual advances or other forms of harassment from managers. Working class women, especially those in service occupations were more likely to receive physical as well as verbal advances.

In a study by Working Women United, 70% of respondents reported at least one incident of sexual harassment on the job. A surprising finding of the

study was that pregnant women continued to be the focus of sexual harassment by co-workers, particularly managers. Further examination of harassment is required to determine the extent of this type of abuse during pregnancy. This investigator was unable to find any research which explored sexual harassment of pregnant workers.

Examination of the public view of pregnancy may also be indicated. Informants in this study spoke of both positive and negative reactions of clients and customers to their pregnancies. Davis and Lennon (1983) and Taylor and Lager (1977) suggest that pregnancy is perceived as a form of "social stigma" by many people in American society. In naturalisic settings both investigations discovered a constellation of responses to the presence of pregnant women (withdrawal, avoidance, and staring) which indicate a negative cultural response to the pregnant image. This response may have a direct impact on the ability of women to continue working during pregnancy.

Four of the subjects in this study who had reached the period of fetal viability experienced preterm labor. Current research findings regarding pregnancy outcomes for women engaged in arduous labor in this country are limited. Many women are now employed in

work never previously performed by gravid employees. Prospective studies must be designed which examine the consequences of strenuous work for this population of female workers.

The conclusions derived from European studies regarding the effects of physically challenging work cannot be applied to women in this country. Work environments are radically different and health and safety guidelines for American workers are unevenly applied across work settings. Furthermore, recent cutbacks in funding to occupational health and safety agencies and the climate of de-regulation which exists today, have increased risks for all workers in the United States. Continued and intensive research is essential to justify occupational health initiatives.

The informants of this study reported spending very limited time preparing emotionally for impending parenthood. The majority of women were working 40 hours per week or more. They experienced chronic fatigue and described spending the majority of their free time performing household responsibilities and sleeping. Very few of the participants described spending time fantasizing about the fetus, or the responsibilities of motherhood. Of the 8 women who had reached the 35th week of gestation, only three had completed physical preparations for the infant. Two

had purchased no clothing or furniture at all. None had arranged yet for childcare in order to return to work.

These findings suggest another avenue for future study. The data do not support past research on the psychological experience of pregnancy. Previous studies suggest an increasing introversion in late gestation, a rich fantasy life about the infant and motherhood, and vivid dreams surrounding birth and parenting. It is possible that the physical nature of full-time, strenuous employment and the focus on risk assessing and safeguarding depletes the psychic energy required to engage in the psychological work of pregnancy.

Intriguing findings regarding the differences between traditional female-dominated work settings and male-dominated work sites suggest a final area for future study. Research might be conducted to determine if it is the physical nature of strenuous work itself, or the differences found in sex-segregated work settings which determines the dissimilarities in the pregnancy experience and outcomes. Also important to answer is how personality attributes of women drawn to non-traditional, strenuous work influence the pregnancy-employment phenomenon.

An explanatory theory regarding employment during pregnancy has been developed which was rooted in the participants' experiences. This grounded theory expands and refines past theoretical explanations about the primary tasks of pregnancy. These theoretical formulations extend from the beginning work by Deutsch (1945) and Bibring (1959), through the research of Rubin (1975) and Leifer (1977), to the recent studies by Hees-Stauthamer (1985) Brown (1987) and Corbin (1987). Risk assessing and safeguarding appear to be central tasks of pregnancy. Employment alters these processes, in some cases shifting the balance or focus of protecting activities from fetus to mother-to-be.

The findings of this qualitative study highlight the complex nature of women's lives. Participants engaged in numerous activities during pregnancy including full-time employment, athletic competition, regular exercise, volunteerism, and recreational hobbies. Pregnancy/motherhood was not viewed as the hallmark of adult development for the thirty-six informants, but only one of many life aspirations. The desire to maintain one's physical and emotional integrity and the health of the growing fetus did however become a central goal during the gestational period. This goal strongly influenced the day-to-day

experience of employment during pregnancy for this group of women.

Major implications for nursing practice and research evolved from the findings of the study and have been enumerated in this chapter. The need for political activism among professional nurses was also advocated. This investigator believes that only through change in the socio-political climate can the experience of employment during pregnancy be improved. Nurses can most effectively support positive change through collective political action.

BIBLIOGRAPHY

American College of Obstetricians Gynecologists. Technical Bulletin. (1980). Pregnancy, Work, and Disability, 58. Washington, DC: The American College of Obstetricians and Gynecologists.

American College of Obstetricians and Gynecologists. (1978). Guidelines on pregnancy and work. Rockville, MD: U.S. Department of Health, Education, and Welfare.

American Medical Association, council on Scientific Affairs. (1984). Effects of pregnancy on work performance. Journal of the American Medical Association, 251, 1995-1997.

Andresen, J. (1983). The wish to keep pregnancy secret. Psychoanalytic Review, 163, 163-177.

Atwood, J.R. (1977). A grounded theory approach to the study of perimortality care. Communicating Nursing Research (Vol. 9, pp. 339-350). Boulder, CO: Western Interstate Commission for Higher Education.

Atwood, J.R., & Hinds, P. (1986). Heuristic heresy: Application of reliability and validity criteria to products of grounded theory. Western Journal of Nursing Research, 8, 135-154.

Auchincloss, E.L. (1982). Conflict among psychiatric residents in response to pregnancy. American Journal of Psychiatry, 139, 818-821.

Ballou, J. (1978). The significance of reconciliative themes in the psychology of pregnancy. Bulletin of the Menninger Clinic, 42, 383-412.

Baltzar, B., Ericson, A., & Kallen, B. (1979). Delivery outcome in women employed in medical occupations in Sweden. Journal of Occupational Medicine, 21, 543-548.

Bell, B., & Rostan, J. (1982). Pregnant and mining: A handbook for pregnant miners. Oak Ridge, Tenn: Coal Employment Project.

Benedek, T. (1959). Parenthood as a developmental phase. Journal of the American Psychoanalytic Association, 7, 389-417.

Benedek, T. (1952). Psychosexual functions in women. New York: The Ronald Press Co.

Benner, P. (1984). From novice to expert: Excellence and power in clinical nursing practice. Reading, MA: Addison-Wesley Publishing Co.

Berkowitz, G.S., Kelsey, J.L., Holfort, T.R., & Berkowitz, R.L. (1983). Physical activity and the risk of spontaneous preterm delivery. Journal of Reproductive Medicine, 28, 581-588.

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

Blumer, H. (1969). Symbolic interaction: Perspective and method. New Jersey: Englewood Cliffs. Prentice Hall.

Brazelton, T.B. (1986) Issues for working parents. American Journal of Orthopsychiatry, 56, 14-25.

Brown, M.A. (1987). Employment during pregnancy: Influences on women's health and social support. Health Care for Women International, 8, 151-168.

Brown, M.A. (1986). Social support, stress, and health: A comparison of expectant mothers and fathers. Nursing Research, 35, 72-76.

Brunswick, R.M. (1940). The preoedipal phase of libido development. In R. Fliess (Ed.), The psychoanalytic reader. New York: International Universities Press.

Bumpass, L., & Sweet, J. (1980). Patterns of employment before and after childbirth. U.S. Vital Statistics, 23(4).

Butler, A. (1988, January 31). Women beware: Crying can damage your career. San Francisco Examiner, p. 19.

Caplan, G. (1961). An approach to community mental health. New York: Grune & Stratton.

Carelli, R. (January 13, 1987). High court upholds pregnancy leaves. San Francisco Chronicle: San Francisco.

Cerutti, R., Fede, T., Sichel, M.P., Volpe, B., & Drago, D. (1983). Desire of pregnancy and desire of motherhood. Clinical Experiments in Obstetrics and Gynecology, X(2-3), 105-107.

Children's Defense Fund. (1986). The health of America's children. Washington D.C.: Children's Defense Fund Press.

Chodorow, N. (1978). The reproduction of mothering. Berkely: University of California Press.

Colman, A.D. (1969). Psychological state during first pregnancy. American Journal of Orthopsychiatry 39, 788- 797.

Colman, A.D., & Colman, L.L. (1971). Pregnancy: The psychological experience. New York: Herder and Herder.

Corbin, J.M. (1987). Women's perception and management of a pregnancy complicated by chronic illness. Health Care for Women International, 8, 317-337.

Cranley, M. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. Nursing Research, 30, 281-284.

Curry, M., & Snell, B.J. (1983). The relationship between life stress, social support, and antepartum hospitalization. Paper presented at the Sigma Theta Tau Nursing Research Program, Madrid, Spain.

Davis, L.L., & Lennon, S.J. (1983). Social stigma of pregnancy: Further evidence. Psychological Reports, 53, 997-998.

Deutsch, H. (1945). The psychology of pregnancy. Volume Two: Motherhhod. New York; Grune & Stratton.

Deutscher, M. (1970). Brief family therapy in the course of first pregnancy: A clinical note. Contemporary Psychoanalysis, 7(1), 21-35.

Donaldson, S.M. (1984). 'Suddenly you've become somebody else': A study of pregnancy and the creative woman. Women's Study International Forum, 7(4), 227-235.

Eisenstein, H. (1984). Contemporary feminist thought. Boston: G.K. Hall & Company.

Erikson, E.H. (1968). Womanhood and inner space. San Francisco: Jossey-Bass Publishers

Fischer, L.R. (1981). Transitions in the mother-daughter relationship. Journal of Marriage and the Family, 43(3), 613-621.

Freud, S. (1900). The interpretation of dreams. Standard Edition. (1953) London: Hogarth Press.

Freud, S. (1905). Three essays on the theory of sexuality. Standard Edition. (1953). London: Hogarth Press.

Freud, S. (1933). New introductory lectures on psycho-analysis. Standard Edition, 22:5-182. London: Hogarth Press.

Glaser, B.G. (1978). Theoretical sensitivity. Mill Valley, Ca: The Sociology Press

Glaser, B.G., & Strauss, A.L. (1967). The discovery of grounded theory. New York: Aldine De Gruyter.

Gofin, J. (1979). The effect on birth weight of employment during pregnancy. Journal of Biosocial Science, 11, 259-267.

Guba, E.G., & Lincoln, Y.S. (1981). Effective evaluation. San Francisco: Jossey-Bass.

Hees-Stauthamer, J.C. (1985). The First Pregnancy. Ann Arbor, MI: UMI Research Press.

Hemminki, K., Niemi, M.L., Saloniemi, L., Vainio, H., & Hemminki, E. (1980). Spontaneous abortions by occupation and social class in Finland. International Journal of Epidemiology, 9, 149-153.

Henning, M. (1973). Family dynamics and the successful woman executive. In R. Knudsin (Ed.), Women and success New York: William Morrow.

Hewlett, S. (1986). A lesser life. New York: William Morrow and Company.

Houser, B.B., & Garvey, C. (1985). Factors that affect nontraditional vocational enrollment among women. Psychology of Women Quarterly, 9(1), 105-117.

Hunt, V.R. (1979). Work and the health of women. Boca Raton, Fla: CRC Press, Inc.

Hutchinson, S. (1986). Grounded theory: The method. In P.L. Munhall & C.J. Oiler (Eds.), Nursing research: A qualitative perspective. Norwalk CT: Appleton-Century-Crofts.

Jacobson, E. (1950). Development of the wish for a child in boys. Psychoanalytic Study of the Child, 5, 139-152.

Jimenez, M.H., & Newton, N. (1979). Activity and work during pregnancy and the postpartum period: A cross-cultural study of 202 societies. American Journal of Obstetrics and Gynecology, 135, 171-176.

Jones, S.L., & Lamke, L.K. (1985). The relationship between role orientation, self esteem, and sex-typed occupational choice of college women. Psychology of Women Quarterly, 9(1), 145-153.

Kamerman, S.B., Kahn, A.J., & Kingston, P. (1983). Maternity policies and working women. New York: Columbia University Press.

Kestenberg, J.S. (1977). Regressiona and reintegration in pregnancy. In H.P. Blum (Ed.),

Female Psychology. New York: International Universities Press, Inc. (pp. 213-250.

Kruger, S., & Maetzold, L.D. (1984). Practices of tradition for pregnancy. Maternal-Child Nursing Journal, 13(3), 135-139.

Lebowitz, A. (1980). Overview: The health of working women. In D.C. Walsh and R.H. Egdahl (Eds.), Women, work and health: Challenges to corporate policy. (pp. 27-72).

Lederman, R. (1984). Psychosocial adaptation in pregnancy. New Jersey: Prentice-Hall Inc.

Leifer, M. (1980). Psychological effects of motherhood. New York: Praeger.

Leifer, M. (1977). Psychological changes accompanying pregnancy and motherhood. Genetic Psychology Monographs, 95, 55-96.

Leininger, M.M. (1985). Nature, rationale, and importance of qualitative research methods in nursing. In M.M. Leininger (ed.), Qualitative research methods in nursing. New York: Grune & Stratton, Inc.

Lemkau, J.P. (1983). Women in male-dominated professions: Distinguishing personality and background characteristics. Psychology of Women Quarterly, 8(2), 144-165.

Leslie, L.D., & Lennon, S.J. (1983). Social stigma of pregnancy: Further evidence. Psychological Reports, 53, ;997-998.

Lewenhab, S. (1980). Women and work. Glasgow, Scotland: Fontana Paperbacks.

Mackay, C.J., & Bishop, C.M. (1984). Occupational health of women at work: some human-factors considerations. Ergonomics, 27, 489-498.

Mahlmeister, L.R. (1987). Examination of the consequences of strenuous work in pregnancy. Unpublished data.

Makuc, E., & Lalich, N. (1983). Employment characteristics of mothers during pregnancy. In U.S. Department of Health and Human Services, Health: United States (pp. 25-31). Hyattsville, MD: D.H.H.S.

Mamelle, N., Laumon, B., & Lazar, P. (1984). Prematurity and occupational activity during pregnancy. American Journal of Epidemiology, 119, 309-322.

Marbury, M.C., Linn, S., Monson, R.R., Wegman, D.H., Schoenbaum, S.C., Stubblefield, P.G., & Ryan, J.J. (1984). Work and pregnancy. Journal of Occupational Medicine, 26, 415-421.

McDonald, A.D., Armstrong, B., Cherry, N.M., Delorme, C., Diodati-Nolin, A., McDonald, J.C., & Robert D.

(1986). Spontaneous abortion and occupation. Journal of Occupational Medicine, 28, 1232-1238.

Mead, G.H. (1934). Mind, self and society. Chicago: University of Chicago Press.

Mead, M., & Newton, N. (1965). Conception, pregnancy, labor and the puerperium in cultural perspective. In First international congress of psychosomatic medicine and childbirth, (pp. 51-54). Paris: Gauthier-Villars.

Meisenhelder, J.B. (1981). The new graduate socialization. The Journal of Continuing Education in Nursing, 12(13), 16-22.

Mercer, R.T. (1986). The relationship of developmental variables to maternal behavior. Research in Nursing and Health, 9, 25-33.

Mercer, R., May, K., Ferketich, S., & DeJoseph, J. (1986). Theoretical models for studying the effect of antepartum stress on the family. Nursing Research, 35, 339-345.

Meyer, B.A., & Daling, J.R. (1985). Activity level of mother's usual occupation and low infant birth weight. Journal of Occupational Medicine, 27, 841-847.

Miller, W. (1974). Relationships between the intendedness of conception and the wantedness of

pregnancy. The Journal of Nervous and Mental Diseases, 139, 396-405.

Moelis, L.S. (1985). Fetal protection and potential liability: Judicial application of the pregnancy discrimination act and the disparate impact theory. American Journal of Law and Medicine, 11, 369-390.

Murphy, J.F., Dauncey, M., Newcombe, R., Garcia, J., & Elbourne, D. (1984). Employment in pregnancy: Prevalence, maternal characteristics, perinatal outcome. Lancet, 1, 1163-1166.

Naeye, R.L., & Peters, E.C. (1982). Working during pregnancy: Effects on the fetus. Pediatrics, 69, 724-727.

Newton, N. (1967). Pregnancy, childbirth, and outcome: A review of patterns of culture and future research needs. In E.R. Grimm, E.M. Grunenberg, I. Raymond, M. Mead, N. Newton, and J.S. Rosenblatt (Eds.) Childbearing: Its social and psychological aspects (pp. 147-243).

O'Farrell, B., & Harlan, S.L. (1982). Craftworkers and clerks: The effect of male co-worker hostility on women's satisfaction with non-traditional jobs. Social Problems, 29(3), 252-265.

Papiernik, E., & Kaminski, M. (1986). Multifactorial study of the risk of prematurity at 32 weeks of gestation. Journal of Perinatal Medicine, 2, 30-36.

Parens, H.L., Pollock, J., Stern, J., & Dramer, S. (1976). On the girl's entry to the Oedipus Complex, Journal of the American Psychoanalytic Association, 24, 79-107.

Pistrang, N. (1984). Women's work involvement and experience of new motherhood. Journal of Marriage and the Family, 46, 433-447.

Poole, C.J. (1986). Fatigue during the first trimester of pregnancy. JOGNN, 14, 375-378.

Rankin, E.A., Campbell, N.D. (1983). Perception of relationship changes during the third trimester of pregnancy. Issues in Health Care of Women, 6, 351-359.

Richardson, P. (1983). Women's perception of change in relationships shared with their husbands during pregnancy. Maternal Child Nursing Journal, 12(1), 1-19.

Ritzer, G. (1983). Sociological theory. New York: Alfred A. Knopf.

Roazen, H. (1985). Helene Deutsch: A psychoanalyst's life. New York: Doubleday.

Rubin, R. (1984). Maternal identity and the maternal experience. New York: Springer Publishing Company.

Rubin, R. (1975). Maternal tasks in pregnancy. Maternal Child Nursing Journal, 4(3), 143-153.

Rubin, R. (1967). Attainment of the maternal role: Part I. Nursing Research, 16, 237-245.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science, 8(3), 27-37.

Saunders, R.B., & Robins, E. (1987). Changes in the marital relationship during the first pregnancy. Health Care for Women International, 8, 361-377.

Saurel-Cubizolles, M.J., & Kaminski, M. (1987). Pregnant women's working conditions and their changes during pregnancy: A national study in France. British Journal of Industrial Medicine, 44, 236-248.

Saurel-Cubizolles, M.J., & Kaminski, M. (1986). Work in pregnancy: Its evolving relationship with perinatal outcome. Social Science and Medicine, 22, 431-442.

Saurel-Cubizolles, M.J. (1985). Women's work during pregnancy in France in 1981. Eleventh Franco-British Conference on Epidemiology and Social Medicine. Cambridge England; Cambridge University.

Schaefer, A. (1988, August 11). Rise in work-related deaths. San Francisco Chronicle, p. A14

Shapiro, J. (1982). Pregnancy during residency: Attitudes and policies. Journal of American Medical Womens's Association, 37, 96-103.

Sheth, S., Freedman, M.T., & Arak, G. (1985). Policies and attitudes toward the pregnant radiology resident. Investigative Radiology, 20, 413-415.

Shilling, S., & Lalich, N.R. (1984). Maternal occupation and industry and the pregnancy outcome of U.S. married women, 1980. Public Health Reports, 99, 152-161.

Silverman, D. (1981). Sexual harassment: Working women's dilemma. Quest Quarterly. New York: Longman Publications.

Simms, L.M. (1981). The grounded theory approach in nursing theory. Nursing Research, 30, 356-359.

Stainton, C. (1985). The fetus: A growing member of the family. Family Relations, 34, 321-326.

Standley, R., & Soule, B. (1974). Women in male-dominated professions: Contrasts in their personal and vocational histories. Journal of Vocational Behavior, 4, 245-258.

Steinem, G. (1987). Looking to the future. Ms Magazine, 16(1-2), 55-57.

Stern, P.N. (1980). Grounded theory methodology: Its uses and processes. Image, XII(1), 20-23.

Stellman, J.M. (1977). Women's work, women's health. New York: Pantheon Books.

Strauss, A.L. (1987). Qualitative analysis. Cambridge: Cambridge University Press.

Taylor, S.E., & Langer, E.J. (1977). Pregnancy: A social stigma? Sex Roles, 3(1), 27-35.

Tilden, V.P. (1980). A developmental conceptual framework for the maturational crisis of pregnancy. Western Journal of Nursing Research, 4, 667-677.

Torres, A., & Karroch Forrest. (1988). Why do women have abortions? New York: Alan Guttmacher Institute.

Tipping, G.T. (1981). The vulnerability of a primipara during the antepartal period. Maternal-Child Nursing Journal, 10(1), 61-77.

Trigg, L.J., & Perlman, D. (1976). Social influences on women's pursuit of nontraditional career. Psychology of Women Quarterly, 1(2), 138-149.

Trotter, R., Zacur, S.R., & Gatewood, W. (1982). The pregnancy disability amendment: What the law provides: Part I. Personnel Administrator, 2, 47-54.

United States Bureau of Census. (1981). Statistical abstract of the United States, 1981. Washington, D.C.: U.S. Government Printing Office.

United States Department of labor, Women's Bureau. (July, 1942). Standards for maternity care and employment of mothers in industry. Washington, D.C.: Government Printing Office.

Walsh, D.C. & Egdahl, R.H. (1980). Women, work and health: Challenges to corporate policy. New York: Springer-Verlag.

Werner, L.Y. (1986). From working girl to working mother. Chapel Hill: The University of North Carolina.

Wolkind, S. & Zajicek, E. (1981). Pregnancy: A psychological and social study. New York: Grune and Stratton.

Zuckerman, B.S., Frank, D.A., Hingson, R., Morelock, S., & Kayne, H.L. (1986). Impact of maternal work outside the home during pregnacy on neonatal outcome. Pediatrics, 77, 459-464.

APPENDIX A

Work Classification Criteria

Non-Sedentary Work Criteria

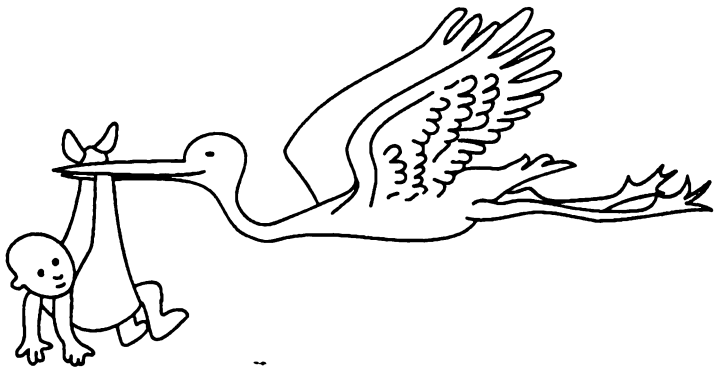
Work which requires standing 75% of the time or more and may include:

1) Stationary standing
2) Continuous walking
3) Combination of stationary standing and walking

Strenuous Work Criteria

Work which requires very active work including one or more of the following activities;

1) Climbing stairs or ladders of 10 or more steps, eight times per shift or more
2) Repetitive bending below knee level ten or more times per shift
3) Lifting, pushing or pulling weights greater than 11 kilograms more than 25 % of the time



ARE YOU **PREGNANT** AND **EMPLOYED** IN A JOB THAT:

-KEEPS YOU ON YOUR FEET MOST OF THE DAY?

-INVOLVES HEAVY WORK?

I AM A NURSE-RESEARCHER IN THE SCHOOL OF NURSING AT THE UNIVERSITY OF CALIFORNIA, SAN FRANCISCO.

I AM CONDUCTING A STUDY TO UNDERSTAND WHAT IT IS LIKE TO BE PREGNANT AND DOING PHYSICALLY CHALLENGING WORK.

IF YOU HAVE ABOUT ONE HOUR TO TALK TO ME EITHER IN PERSON **OR** BY PHONE, I WOULD LIKE TO HEAR ABOUT YOUR EXPERIENCES AND ANY SUGGESTIONS YOU HAVE ABOUT CHANGING THE WORK SITUATION FOR PREGNANT WOMEN.

*** ALL INFORMATION IS CONFIDENTIAL

*** YOU DO **NOT** HAVE TO GIVE ME THE NAME OF YOUR WORKPLACE OR EMPLOYER

LAURA MAHLMEISTER RN MSN
CLINICAL NURSE SPECIALIST

DOCTORAL CANDIDATE
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

(415) 564-6490

Pregnancy and Work
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APPENDIX C

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CONSENT TO BE A RESEARCH SUBJECT

Laura Mahlmeister R.N., a graduate student in the school of nursing, at the University of California, San Francisco is conducting a study about the consequences of physically challenging work in women who are employed during their pregnancies. If I agree to be in this study, the following will occur:

I will be interviewed for approximately one to two hours about my experience of being employed while pregnant. The interview will take place in a location that is private and convenient to both me and Ms. Mahlmeister.

If I agree, audiotapes may be made of these conversations.

If it is impossible for me to meet in person with Ms. Mahlmeister I may agree to a telephone interview to be conducted at a time that is convenient to me. All costs arising from the telephone call will be paid by Ms. Mahlmeister. Telephone conversations will not be audiotaped.

POTENTIAL RISKS/DISCOMFORTS

Some of the questions I am asked may make me uncomfortable or upset. I am free to refuse to answer any questions I don't wish to, or to stop the inteview at any time.

CONFIDENTIALITY

Participation in research may involve the loss of privacy. The research records will be handled as confidentially as is possible within the law. Study information will be coded, and kept in locked files at all times. Only study personnel will have access to the files and audiotapes. After the study has been completed and all data has been transcribed from the tapes, the tapes will be destroyed. No individual identities will be used in any reports or publications resulting from this study.
I will not be asked to reveal the identity or location of the place where I am employed.

BENEFITS

There may be no direct benefits to me from participation. However it is anticipated that the information that I share with Ms Mahlmeister about being pregnant while employed will potentially benefit other women in the future who choose to work in physically challenging settings while they are pregnant.

Ms. Mahlmeister will also be glad to answer any questions about pregnancy or childbirth which may arise during the interview that she is qualified to answer based on her education and expertise as a maternity nurse.

QUESTIONS

If I have any questions or comments about participation in this study, I should first talk to Ms. Mahlmeister. If for some reason I do not wish to do this, I may contact the Committee on Human Research, which is concerned with protection of volunteers in research projects.
I may reach the committee office between 8 AM and 5 PM, Monday to Friday, by calling (415) 476-1814, or by writing:

University of California
Committee on Human Research
Laurel Heights Suite 11
Box 0616
San Francisco, CA. 94143

CONSENT

I voluntarily agree to participate in this study.
I have been given a copy of this consent form and a copy of the Experimental Subject's Bill of Rights to keep.

DATE:_____

SIGNATURE:_____

_____
Person Obtaining Consent

Laura Mahlmeister, RN, MSN
Phone: (415) 564-6490

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UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

EXPERIMENTAL SUBJECT'S BILL OF RIGHTS

The rights below are the rights of every person who is asked to be in a research study. As an experimental subject I have the following rights:

1) **To be told what the study is trying to find out,**

2) **To be told what will happen to me and whether any of the procedures, drugs, or devices is different from what would be used in standard practice,**

3) **To be told about the frequent and/or important risks, side effects or discomforts of the things that will happen to me for research purposes,**

4) **To be told if I can expect any benefit from participating, and, if so, what the benefit might be,**

5) **To be told the other choices I have and how they may be better or worse than being in the study,**

6) **To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study,**

7) **To be told what sort of medical treatment is available if any complications arise,**

8) **To refuse to participate at all or to change my mind about participation after the study is started. This decision will not affect my right to receive the care I would receive if I were not in the study.**

9) **To receive a copy of the signed and dated consent form,**

10) **To be free of pressure when considering whether I wish to agree to be in the study.**

If I have other questions I should ask the researcher or the research assistant. In addition, I may contact the Committee on Human Research, which is concerned with protection of volunteers in research projects. I may reach the committee office by calling: (415) 476-1814 from 8:00 AM to 5:00 PM, Monday to Friday, or by writing to the Committee on Human Research, University of California, San Francisco, CA 94143.

Call 476-1814 for information on translations.

APPENDIX E

Interview Questionnaire

Examination of the Consequences of Strenuous Work In Pregnancy

1. What is your age?
2. What is your marital status?
3. If not married, are you currently in a committed relationship with the father of the baby?
4. Was this a planned pregnancy?
5. How many times have you been pregnant?
6. How long have you been a Name of Occupation?
7. What was the nature of your training or education for this work?
8. Please describe a typical work day for you.
9. How many hours per week do you work?
10. Has this changed during the pregnancy?
11. Were you working when you became pregnant?
12. How long did you plan to work during pregnancy?
13. Has this changed? Please explain.
14. If working when you were attempting to conceive, did you alter or attempt to alter your job responsibilites or work environment in any way? Please explain.
15. If yes, what was the response of your co-workers or supervisors?
16. When did you inform your workplace of your pregnancy?
17. To whom did you reveal the pregnancy?
18. What was the response?
19. When did you reveal your pregnancy to family members and co-workers?

20. Are you aware of any policy your employer has regarding reporting pregnancy as soon as possible for health or safety purposes?

21. Were you aware of any pregnancy or maternity leave benefits you workplace offers prior to your pregnancy?

22. If no, when did you obtain information about benefits?

23. Were you a member of a union or were you covered by a collective bargaining contract while you worked during your pregnancy?

24. Are you aware of any specific pregnancy or maternity benfits you possess as a result of a collective bargaining contract?

25. Does your workplace have any "Infection Control" or "Hazardous Substances" policies or guidelines specifically addressing pregnant workers?

26. Did you ever have occassion to read these policies?

27. If yes, what were the circumstances surrounding your reading them?

28. How was your health and emotional status during the first trimester of your pregnancy?

29. Do you feel that your health or emotional status affected your work performance in any way in the first trimester? Please explain.

30. Do you feel that the nature of your work affected your health or emotional status in the first trimester?

31. Did you alter, or attempt to alter your work activities or your work environment in the first trimester? Please explain.

32. If yes, what were the results? What was the response of co-workers or supervisors?

Repeat Questions 28, 29, 30, 31, and 32, substituting the words SECOND TRIMESTER and THIRD TRIMESTER at the end of each question (except question 32).

33. Are (were) any co-workers or supervisors helpful to you during pregnancy? If yes, please explain.

34. Did you have difficulty in your work relationships with any co-workers or supervisors. Please explain.

35. What was the most rewarding aspect of your work during this pregnancy?

36. What would have made your work easier?

37. What was the most difficult aspect of work? Please describe in detail if not covered earlier.

38. (For Health Care Workers). You work in a profession where people are frequently very ill. There may be death and dying. Patients and families are frequently anxious or depressed. Has your ability to deal with these situations changed since your pregnancy?

39. What home or household responsibilities do you also have outside of work hours?

40. Did these responsibilities change during the pregnancy? Please describe.

41. When you wished to ask about your pregnancy or discuss your concerns (with the exception of specific medical problems referred to your obstetrician), with whom did you speak?

42. If you could do it again, is there anything you would have done differently at work during the pregnancy?
Anything you would have changed in relationship to work?

43. Did you consider requesting a change in work site or assignments during pregnancy? Please explain?

44. If you did, what was the response from your supervisor?

45. Did you discuss working during pregnancy with your husband/boyfriend/father of the baby?

46. What were his views?

47. Did your mother work while she was pregnannt?

48. Did you discuss your working during pregnancy with her?
If yes, please describe.

49. I would like to ask some questions about your baby (fetus). Do you remember when your baby first moved?

50. What was that like for you?

51. Does the baby appear to be more active at any particular time of the day or night?

52. Does the baby move or kick while you are at work?

53. Do you share these sensations with your co-workers? Please explain.

54. Some woman describe developing a relationship with the baby before it is born and can talk about the baby's temperment and behavior in some detail. Does this describe you? If yes, please explain.

55. Do you plan to return to work after the baby is born?

56. If yes, have you discussed your maternity leave with your supervisor?

57. What has been his/her response?

58. Have you arranged for infant care yet?

59. During pregnancy, many women imagine what it will be like to be a new mother. They often have a particular woman in mind as a role model or the woman they hope most to be like. Have you given any thought yet to what it will be like after the baby is born?

60. If yes, is there anyone in particular you feel is your role model for mothering?

61. Is there anything else you would like to tell me about work and pregnancy that we have not covered?

APPENDIX F

Demographic Questionnaire

Respondent number:. . . . . _____

1. Age: . . . . . _____

2. Educational level (12 = High School Grad; 14 = Associate Deg. Grad; 16 = College Grad; 18 = Masters Deg Grad; 20 = Post Masters Education . . . . . _____

3. Personal income:. . . . . _____

4. Mate's Age: . . . . . _____

5. Mate's Income: . . . . . _____

6. Mate's EducationaL Level: (see # 2) . _____

7. Number of years married: . . . . . _____

8. Number of years living together. . . _____

9. Do you anticipate a change in the family income <u>after</u> the baby is born? (yes = 1; 2 = no) . . . . . _____

10. What is the estimated amount of change? . . . . . _____

11. Number of moves in the past two years_____

12. Are you planning a move during the pregnancy? . . . . . _____

13. What is the week of gestation? . . . _____

14. Have you had difficulty getting pregnant? (yes = 1); no = 2).. . . _____

15. How would you rate your general health before the pregnancy? (very good = 4; good = 3; fair =2; poor = 1) . . . . . _____

16. How would you rate your health now? _____

17. Does your mate HELP or SHARE the housework? . . . . . _____

18. Number of hours you spend doing housework per week . . . . . _____

19. Number of hours your mate spends doing housework per week . . . . . _____

20. Number of hours per week you work . _____

21. Has the number of hours per week you work changed since you became pregnant? . . . . . _____

22. If yes describe how hours have changed _____

23. Do you have a choice about whether or not you work? (yes = 1; no = 2). . _____

24. How long do you plan to be off work before the birth? . . . . . _____

25. How long do you plan to be off work after the birth? . . . . . _____

26. Will you return to the same job? . . _____

27. Will you work the same hours per week? (yes = 1; no = 2) . . . . . _____

28. How many hours per day do you stand at work? . . . . . _____

29. How many hours per day do you walk at work? . . . . . _____

30. Does your job/career require lifting? (yes = 1; no = 2) . . . . . _____

31. How many pounds do you lift at any one time? . . . . . _____

32. Do you do volunteer work? (yes = 1; no = 2) . . . . . _____

33. What type of volunteer work? . . . . _____

34. Number of hours per week doing volunteer work . . . . . _____

35. Do you plan to continue volunteer work after the birth of the baby? (yes =1; no = 2) . . . . . _____

36. Does your mate have a job or career outside of the home (yes = 1; no = 2) _____

37. How many hours per week does your mate work? . . . . . _____

38. Has the number of hours per week your mate works changed since you became pregnant? (yes = 1; no = 2) . . . . . _____

39. Does your mate's company have a parental leave policy? (yes = 1; no = 2) . . . . . _____

40. Will your mate work the same number of hours per week after the infant is born? . . . . . _____

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