A DESCRIPTIVE ANALYSIS OF MATERNAL-FETAL ATTACHMENT BEHAVIORS IN MEXICAN AND ANGLO-SAXON WOMEN

by

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CHAPTER I

INTRODUCTION

The purpose of this study is to explore the differences between maternal-fetal attachment behaviors in Mexican and Anglo-Saxon women. Every cultural system has a unique perspective of pregnancy which elicits many prescribed and proscribed ways of behaving (Mead & Newton, 1967). The pregnancy related behavior of maternal-fetal attachment has recently been conceptualized and described, however most of the literature regarding this phenomenon is derived from an Anglo-Saxon perspective. There is a deficit of research conducted in other cultural groups.

Mexicans constitute the largest minority group in the State of Oregon. Population estimates are placed at 80,000 to 100,000, but are difficult to confirm due to large numbers of illegal immigrants and seasonal migration to follow agricultural work (U.S. Bureau of the Census, 1980a). Mexicans also have one of the highest fertility rates of any minority group in the United States (Bach-y-Rita, 1982; U.S.Bureau of the Census, 1980b). For these reasons, it is likely that nurses or other providers of maternity services in Oregon will encounter Mexican patients.

In contemporary maternity services, the concept of maternal-infant attachment is well known, and has been the catalyst for great change. Maternal-infant attachment refers to the formation of a strong affectional bond between mother and infant which helps to ensure that the infant will be nurtured (Klaus & Kennell, 1982). Failure to form this bond is believed by some to result in unfavorable infant outcome such as

failure to thrive and poor mental, motor and affectional development (Cranley, 1981b; Osofsky & Osofsky, 1980; Tulman, 1981).

Maternal-fetal attachment refers to the portion of this bond that is formed during pregnancy. This process is reflected in specific behaviors which have been postulated to be the precursors for successful maternal attachment to the infant after birth (Cranley, 1981b). Assessment of maternal-fetal attachment behavior antepartally may present an opportunity to identify maternal-fetal dyads at risk, and to intervene accordingly (Trabert, 1981).

Nursing assessment of maternal-fetal attachment behavior in Mexican women is difficult because the literature on this topic is derived from studies conducted almost exclusively in Anglo-Saxon groups. Due to the acknowledged influence of culture on the perspective of pregnancy, research conducted among Anglo-Saxon women may not be applicable to Mexican populations. The question then arises: What are the similarities or differences in maternal-fetal attachment between Mexican and Anglo-Saxon women?

This study will attempt to address this question by measuring maternal-fetal attachment behaviors in a group of Mexican women and comparing the results with those previously obtained in an Anglo-Saxon group. It is hoped that the results will provide information regarding these behaviors in Mexican women. This information can assist nurse-midwives, nurse practitioners, public health nurses, hospital nurses and other maternity care providers in the assessment, planning and implementation of care to Mexican women.

Review of Literature

Literature regarding Mexican women and maternal-fetal attachment behavior is essentially nonexistant. Therefore, this review of literature will consist of an overview of culture and pregnancy in general and a section on pregnancy as viewed by the Mexican culture. Following this, a review of pregnancy as a developmental process and a review of the theories of maternal attachment and maternal-fetal attachment will be presented.

Culture and Pregnancy

Culture is a distinguishing feature of all human groups. It is a system of social behavior, values, beliefs and technology that intensively and extensively pervades all aspects of human life (Aamodt, 1979; Greenwood & Stini, 1977; Hoebel, 1972). One of the functions of culture is to serve as a device or medium for perceiving the world. It also provides an unconscious mechanism for thought, evaluation and performance. This is termed cultural patterning (Griffith, 1982, Mead & Newton, 1967).

Cultural patterning is often apparent in health and illness beliefs and behaviors. Every culture has an explanation for the cause and cure of illness, and a philosophy of health maintenance. When the outcome of a health or illness state is subject to uncertainty, many cultural groups develop magical practices to provide a sense of control (Malinowski, 1948). These magical practices may take the form of positive actions and rituals, or negative sanctions in the form of taboos. Within a cultural

health and healing belief system, few topics elicit more prescribed and proscribed behaviors and rituals than the phenomena of pregnancy (Aamodt, 1979; Affonso, 1979; Mead & Newton, 1967).

Pregnancy has been identified by Aamodt (1979) as having four systems of cultural patterning which influence behavior. One is the moral and value system which determines the desirability of children, the value of human life, the obligation to take care of one's self and the obligation to reproduce. Another is the kinship system which refers to reciprocal rights, duties and obligations of role behavior. The other two are the knowledge and belief system which explains the processes of conception, pregnancy and childbirth, and the ritual system whose actions make phenomena meaningful and understandable.

Mead and Newton (1967) have identified four cultural patterning components that are related to pregnancy. These are (a) maternal feelings of responsibility for fetal well-being and development, (b) heightened solicitude toward the pregnant woman by members of her social group, (c) pregnancy as evidence of sexual adequacy, and (d) pregnancy as a time of shame and reticence or a time of pride and joy.

Another form of cultural patterning is the beliefs held about the relationship between maternal feelings and pregnancy outcome. This is addressed by Ferreira (1965), who contends that every known culture has developed a belief regarding the effect of maternal emotion and behavior on fetal outcome. He cites references in the Old Testament, in the works of Leonardo da Vinci, and in 19th century medical literature which indicate that this idea has long been prevalent. This relationship has

also been the subject of investigation in the twentieth century. Laukaran and Van den Berg (1980) investigated correlations between maternal attitude/psychological condition and obstetric complications. Altmeier, O'Conner, Vietze, Sandler and Sherrod (1982), Egeland & Sroufe, (1981) examined maternal attitude toward pregnancy as a predictor of child abuse. However, data from these studies, is conflicting and confounded by such variables as self-esteem, social support, age, education, socioeconomic status and the use of retrospective recall.

Mexicans and Pregnancy

The term Mexican refers to persons whose recent or past origins are in the Republic of Mexico. Mexican presence in the United States may be traced to several events. First, many Mexicans became U.S. citizens when Mexican territory was purchased or annexed by the United States to form the states of Arizona, New Mexico, California and Texas. Second, the 1910 Mexican revolution triggered massive immigration across the border, especially from northern Mexican states. Third, the depressed Mexican economy of the 20th century has caused many Mexicans to enter the U.S. in search of higher wages and a higher standard of living. This immigration is now illegal, but continues essentially unchecked (Bach-y-Rita, 1982; Gonzalez, 1976).

The Mexican population of the United States is young (median age 22), has one of the highest fertility rates of any minority and is overrepresented in both lower economic and lower educational groups (U.S. Bureau of the Census, 1980b). Bach-y-Rita (1982) states that as a group,

Mexicans tend to blend slowly into mainstream U.S. culture. He attributes this to increased contact with relatives in Mexico, large, close-knit extended family networks, and maintenance of communities which reinforce and sustain language, customs and values.

Mexicans traditionally place a high value on family and family ties. Large families are the norm and frequently three or more generations live in the same household. A woman's status is defined by her marriage and children. Pregnancy is considered to be both a privilege and an obligation which is expected soon after marriage, and at regular intervals thereafter (Clark, 1959; Kay, 1979; Monrroy, 1983).

Pregnancy in the Mexican culture is subject to numerous rules and practices which have their roots in ancient Aztec and medieval Spanish practices, and in traditional Catholic belief (Bach-y-Rita, 1976; Gonzalez, 1976). The Aztecs were a highly civilized Indian group who controlled most of what is now Mexico prior to the Spanish Conquest. Catholicism was imposed at that time and became the predominant religion.

If pregnancy does not occur shortly after marriage, a series of prayers called a Novena may be offered to any one of several saints, or a shrine may be visited. Various herbs may be taken as tea or in a steambath (Kay, 1979). Life is believed to start at conception. If a miscarriage or stillbirth occurs, the products of conception are baptized and buried if possible. During pregnancy, the mother is the acknowledged caretaker of the fetus. As such, she must carefully follow certain rules and practices to protect her unborn child from harm, and to ensure that it will be healthy at birth (Kay, 1979; Madsen, 1964; Schreiber & Homiak, 1981).

These rules and practices emphasize the intimate psychological and physiological relationship between mother and fetus.

Maternal psychological well-being is believed to have a direct effect upon the fetus. Therefore, the mother is expected to maintain a stable and tranquil emotional state at all times to avoid upsetting the fetus. She has an obligation to avoid any situation that might upset her such as arguing with her spouse, seeing blood or attending a funeral (Clark, 1959; Kay, 1979; Madsen, 1964).

Two "Mexican diseases" which have an especially detrimental effect on the pregnant woman's mental state are coraje and susto. Coraje is a great anger or rage. The woman who experiences coraje may face terrible consequences such as miscarriage, premature labor or knots in the umbilical cord (Kay, 1979). Susto is a shock or bad fright which causes fainting, shaking and loss of appetite which can continue for years. If it occurs during pregnancy, the baby will be born with the condition (Clark, 1959; Spicer, 1977). Both coraje and susto can be cured by various herbal teas and rituals if treated immediately (Clark, 1959; Kay, 1979; Spicer, 1977).

The Mexican mother also has an obligation to protect her unborn child from certain natural and supernatural phenomena. By wearing a steel object like a safety pin or religious medal over her abdomen at all times, she protects her infant from birth defects which could be caused during earthquake (common in parts of Mexico) or eclipse. Mal ojo, or evil eye, can occur if a person, especially another woman, looks enviously at the pregnant woman's abdomen. The infant will then be born

gravely ill or marked (Clark, 1959; Kay, 1979; Madsen, 1964; Spicer, 1977).

Certain physiological rules and practices are also followed. If the mother has antojos, or cravings, the fetus also has the same cravings. Failure to satisfy the cravings may result in a birth defect. Hot or spicy foods ingested by the mother are believed to be the cause of diaper rash in the newborn, but also causes it to be born with much hair on it's head. Raising the arms over the head, or crossing the legs can cause knots to form in the umbilical cord. Decreased activity, and sleeping too much will cause the infant to grow very large; it will "stick" to the uterus and cause a difficult labor and birth injury to the fetus. As labor nears, the infant is fixed into position by means of massage performed by a midwife or female relative; this avoids harmful breech deliveries (Clark, 1959; Kay, 1979; Spicer, 1977).

Pregnancy as a Developmental Process

Developmental models of human behavior center around growth and change which is stimulated by the interaction of a person with the environment. The best known model is probably that of Havinghurst (1956). Havinghurst described this type of change as directional rather than random, and postulated that it occurs in a predictable, orderly and identifiable manner which creates stages or phases. An underlying assumption of his model is that these stages or phases provide the foundation for later stages or phases.

Havinghurst also addressed developmental tasks which are tasks which arise during these stages or phases of an individual's life. He

suggested that successful achievement of developmental tasks leads to integration, equilibrium, and greater likelihood of success in later tasks. He also predicted that a failure to master major developmental tasks of one stage could have a negative impact on following stages.

Bibring (1959), Cohen (1979), Coleman and Coleman (1971), Lederman (1984), Rubin (1975) and others have described pregnancy as a developmental stage. They also identify a series of psychosocial tasks which accompany this process. They postulate that an integral part of these tasks is the formation of a relationship with the fetus. Examples of tasks identified by these theorists include the following: incorporation of the fetus within the woman's life frame and identification of the fetus as part of herself; development of an emotional attachment to the fetus and the ability to give of herself for the benefit of the fetus; differentiation of herself from the fetus after quickening and recognizing the fetus as a separate individual; ensuring a safe passage through pregnancy and delivery for herself and fetus and ensuring acceptance of the child by significant others.

Other tasks of pregnancy are those involving preparation for the motherhood role such as making adjustments in interpersonal relationships with significant others and preparation for labor. Rubin (1975), postulated that women begin to assume the motherhood role during pregnancy. She described such role practicing behaviors as mimicry, fantasy, introjection, projection and rejection. Deutsch (1945), Lederman (1984) and Rubin (1975) addressed the adjustment in roles women must confront with their mothers and spouses. Lederman also described

the need for the woman not only to prepare for labor, but to confront fears of loss of control and self esteem in labor.

These authors and others have suggested that a woman's ability to master the tasks of pregnancy is dependent on her experiences and achievements in previous developmental stages, including the type of mothering she herself received. They have also suggested that the successful resolution of the tasks of pregnancy will influence her resolution of the developmental tasks she will face in the next stage : parenting.

Maternal Attachment Theory

In a synthesis of earlier work, attachment has been conceptualized by Bowlby (1977) as the propensity for humans to form strong affectional bonds with others. Cohen (1974) operationalized this concept to include a demonstration of selective responding behavior. This behavior is considered to be an index of attachment only if it's solicitation or response indicates a clear preference for one person over another.

Bowlby (1977) and Ainsworth (1969) hypothesized that attachment of the human mother to her infant is essential for the survival of the infant. Maternal attachment was considered essential by them to ensure that the infant would be nurtured. They further hypothesized that maternal attachment to the infant formed the basis for the infant's socialization, and that failure to form this attachment could result in abnormal infant mental, motor and affectional development.

The best known study of maternal-infant attachment is probably the work of Klaus and Kennell (1976). In their model, they presented

maternal attachment as a developmental process and postulated that events occuring both before and after birth could greatly affect maternal-infant relationships. Pre-delivery influences or variables thought to affect the quality of maternal attachment included those such as the woman's own parenting experience, her relationship with her spouse and family, events of previous pregnancies and events of the current pregnancy. These variables were not considered to be subject to manipulation. The major emphasis in Klaus and Kennell's model, however, was placed on a variable which could be manipulated: the amount of contact between mother and infant in the period immediately after birth.

Using a paradigm from animal studies and their own observations of human mothers, Klaus and Kennell proposed that there is a brief, sensitive and critical period immediately after birth when the woman develops a bond to her infant. This process, called bonding, was believed to be facilitated by close physical contact between mother and infant. During this time, women have been observed to progress through an orderly pattern of behaviors originally described by Rubin in 1963. These include fingertip touching of the infant's extremeties, caressing the trunk with the palms, and establishing eye to eye contact with the infant. A delay in bonding was postulated by Klaus and Kennell to have long term negative effects on the maternal-infant relationship. This portion of their theory has received the greatest attention and has been the catalyst for change in many areas of maternal and infant care.

In spite of widespread popularity and implementation of immediate postpartum contact between mother and infant, the importance of this

aspect of their theory (bonding) has elicited significant criticism due to the study's small sample size and problems with replication. Although Klaus and Kennell's work has been replicated (de Chateau, 1976), other studies which have manipulated the amount and timing of early contact have not supported their findings (Cranley, 1981a; Curry, 1979; Hales, Lozoff, Soza & Kennell, 1977; Lamb, 1982a, 1982b; Tulman, 1981).

Most studies regarding bonding have been conducted in Anglo-Saxon groups. Mead and Newton (1967) have noted that due to high infant mortality rates in some cultures, infants are not considered human for days or weeks after birth. This belief could be expected to have an impact on immediate postpartum behavior. Olsen (1982) cites this as a possible factor influencing the results of her study among native women in Liberia. In her study of 25 women during the first postpartum hour following spontaneous, uncomplicated vaginal delivery, Olsen found that all the women breastfed their infants but were seemingly indifferent. None of the women she observed displayed the behaviors described by Klaus and Kennell.

The idea of progressive developmental stages in the process of maternal attachment is thought by some authors to be more defensible than that of one critical period (Cranley, 1981b). Transition from one developmental stage to the next implies a dynamic process rather than placing emphasis on an isolated event. As the result of a 1978 study of 46 families during pregnancy and in the postpartum period, Peterson and Mehl proposed that factors operative prenatally, in conjunction with hormonal influences, aided in the development of maternal behavior. They

hypothesized that this process was organized by the birth experience, consolidated by the presence of the infant and reinforced by the interaction of the mother and infant during the postpartum period.

Maternal-Fetal Attachment

Recently, the period before birth has been more closely scrutinized. Rather than placing all emphasis on postpartum events, it has been speculated that maternal attachment begins with the relationship between mother and fetus.

Although not termed maternal-fetal attachment per se, the attachment of a woman to her unborn child has been previously described in the literature. In 1945, Deutsch described the pregnant woman as having an initial narcisstic attitude toward her fetus. She stated that this attitude later developed into an awareness of the fetus as a separate individual, particularly after quickening. Arbeit (1975) noted that many women give interpretation to fetal movement, thereby elaborating personal relationships.

In a qualitative investigation of the experience of pregnancy, Leifer (1977) described the phenomena of maternal attachment to the fetus in terms of observable, physical behavior. She described behaviors such as talking to the fetus, engaging significant others in conversation with the fetus and physically stimulating the fetus in order to elicit and observe a response. She also reported nesting or preparation activities such as selecting and obtaining prenatal care, selecting pediatric care and preparing a nursery and layette.

Maternal-fetal attachment is also apparent in investigations of women

experiencing miscarriage, stillbirth or neonatal death (Kirk, 1984; Kirkley-Best & Kellner, 1982; Klaus & Kennell, 1982). The women in these investigations uniformly expressed grief irrespective of the length of gestation. This suggests that they had formed an emotional attachment to the fetus.

Measurement of Maternal-Fetal attachment

In the early 1980's, two investigators concurrently described measurements of maternal-fetal attachment. These investigators were Cranley (1981), a nurse-researcher in the United States and Lumley (1982), an Australian physician.

Cranley described maternal-fetal attachment as the extent to which women engage in behaviors that represent affiliation and interaction with the fetus. She developed a 24-item scale with 5 subscales to measure this construct, which was tested on 30 subjects in the third trimester of pregnancy. The subscale titles reflect five aspects of maternal-fetal relationship which was derived from the attachment literature. These are: (a) Differentiation of Self from the Fetus, (b) Interaction with the Fetus, (c) Attributing Characteristics to the Fetus, (d) Giving of Self for the Benefit of the Fetus, and (e) Roletaking.

Cranley asserts that the subjects in her study represented a full range of socioeconomic status and lived in both urban and suburban areas. Included in the study were single, married, primiparous and multiparous American women who were all Caucasian with the exception of one black. Subjects ranged in age from 20 to 33 years and had a mean number of 13.9 years of education.

In this group, Cranley did not find any significant relationship between maternal-fetal attachment scores and antecedent or demographic variables. In particular, socioeconomic status and parity were not associated with total or subscale scores. Her findings did, however, support the existance of maternal attachment behaviors toward the fetus and suggested that some were more prevalent than others during third trimester. Reported frequencies (most of the time, frequently or sometimes) were: giving of self (93%), differentiation of self (85%), roletaking (82.5%), attributing characteristics (69%), and interaction with the fetus (55.5%).

In this study, Cranley also examined the relationship between maternal-fetal attachment and social support by administering a social support tool to the 30 women. She found a significant ($p < .002$) positive correlation between maternal-fetal attachment and social support. However, since the instrument used to measure social support had not been validated caution must be exercised in the interpretation of these results. In an investigation of the relationship between marital satisfaction and maternal-fetal attachment (1984) Cranley administered the MFAS to 326 middle-class American women in all trimesters of pregnancy. Subscale scores remained similar, but actual scores tended to be higher when measured in the last half of pregnancy. Not surprisingly, scores on the subscales Differentiation of Self from the Fetus, Attributing Characteristics to the Fetus and Interaction with the Fetus were significantly higher during the second half of pregnancy.

Lumley's study (1982) was designed to describe how women imagined the

fetus during pregnancy and to explore the development of maternal-fetal attachment. She interviewed 30 white, primiparous Australian women during their first, second and third trimesters of pregnancy. The interviews consisted of a fixed format of questions which included:

What do you think the fetus looks like now?

How big is it?

What can it do?

Do you think the fetus is a real person?

Women were also asked to draw the uterus and it's contents at the end of each interview.

Lumley's study focused primarily on the woman's knowledge of fetal development. Her implied hypothesis was that the more knowledge a woman had of fetal development, the more likely she was to believe that it was a real person. She assumed that women who believed that the fetus was a real person would display more maternal-fetal attachment. Lumley found that the degree of fetal development was grossly underestimated by women in the first trimester of pregnancy and that most women had difficulty believing that the fetus really existed. By mid-pregnancy she found that their ideas about the fetus had become more accurate and that maternal-fetal attachment was present in 63%. At 36 weeks gestation, she found that all of the women in her study could give a realistic description of the fetus. She also concluded that maternal-fetal attachment was present in 92% of the women.

The theoretical framework for this study is essentially nonexistant. Lumley does not present any conceptual validity for the assumption that

maternal knowledge of fetal development is correlated with maternal-fetal attachment. The idea however, is unique and merits further investigation.

Taking the construct of maternal-fetal attachment one step further, Carter-Jessop (1981) conducted an experimental study to measure the effect of prenatal attachment intervention on postnatal attachment. A sample of five white, married primiparas in the third trimester of pregnancy were taught and encouraged to be aware of the fetus by palpation of position and abdominal massage. Nine categories of maternal attachment behaviors were measured in the women two to four days after delivery. These categories were: eye contact, talking to the baby, en face position, touching the baby with fingertips, touching the baby with palms, touching the baby's extremeties, touching the baby's trunk, encompassing and mother smiling.

The intervention group's mean score of attachment behaviors (49.6) was more than twice as high as that of the control group (21.4). Additionally, Carter-Jessop found in a review of the log book kept during postpartum observation (by an observer with no knowledge of group assignment) that intervention mothers were consistently more happy, verbal and comfortable with their babies. These findings tentatively suggest that the prenatal intervention described in her study may have the potential to enhance maternal attachment to the infant after birth. However, small sample size, methodological concerns and a failure to replicate these results (Carson & Virden, 1984) severely limit generalizability.

Summary of the Review of Literature

Culture is a pervasive phenomena that affects all aspects of human life including behavior related to pregnancy. The Mexican culture has numerous prescribed and proscribed beliefs and behaviors regarding pregnancy which emphasize the relationship between mother and fetus.

Pregnancy is described as a developmental process with specific psychological tasks to be accomplished in preparation for motherhood. An integral part of these tasks is the development of an affectional relationship with the fetus.

Maternal attachment theory hypothesizes that an affectional relationship between mother and infant is necessary for infant survival and optimal development. Limited literature suggests that this affectional relationship commences prior to birth and terms it maternal-fetal attachment. The few studies that have investigated maternal-fetal attachment tentatively support the existance of behaviors which reflect this process.

Conceptual Framework

The conceptual framework for this study involves testing a posited relationship between the concepts of culture and maternal-fetal attachment. This section will discuss these concepts individually, their relationship to each other, and how the research question will test this relationship.

Culture is a system of social behavior, values and beliefs which distinguishes all human groups. Culture pervades all aspects of human life and serves as a medium for perceiving the world (Aamodt, 1979;

Greenwood & Stini, 1977; Hoebel, 1972). It also provides an unconcious mechanism for thought, evaluation and behavior which is termed cultural patterning (Griffith, 1982; Mead & Newton, 1967).

Attachment has been conceptualized as the propensity for humans to form strong affectional bonds with others (Bowlby, 1977). The attachment of the human mother to her infant is thought to ensure that the infant will be nurtured and have optimal motor, mental and affectional development (Ainsworth, 1969; Bowlby, 1977; Cohen, 1979). This process is postulated to begin when the woman has an intellectual and physical awareness of the fetus (Cranley, 1981b), and is termed maternal-fetal attachment. Maternal-fetal attachment is defined by Cranley as behavior that represents a woman's relationship to, or affiliation with her unborn child.

In a review of literature regarding maternal-fetal attachment, no published studies were found which address the relationship between culture and maternal-fetal attachment. If culture patterns human behavior, and maternal-fetal attachment is an example of human behavior, then it may be postulated that culture will pattern maternal-fetal attachment. It is possible however, that maternal-fetal attachment is biologically or genetically determined, and therefor not subject to cultural influence.

Current data on maternal-fetal attachment is derived from studies among Anglo women and may therefore be biased by that perspective. Given the large population and high fertility rate of Mexican women (Bach-y-Rita, 1976), and the postulated importance of maternal-fetal

attachment for infant well-being, it would seem important to explore the potential to apply these studies to this group. This study will explore this potential by utilizing Cranley's Maternal-Fetal Attachment Scale to compare maternal-fetal attachment behaviors in a group of Mexican women with results obtained previously by Cranley in an Anglo group. Culture will be designated the independent variable, and maternal-fetal attachment behavior the dependent variable. The research question posed is:

Is there a difference in maternal-fetal attachment behaviors between Mexican and Anglo-Saxon women?

CHAPTER II

METHODS

This chapter begins with a description of the study design. Next, the sample population and setting for data collection are described. The final section addresses instrument reliability, testing of the translated instrument and procedure for data collection and analysis.

Design

An ex post facto design was used to compare maternal-fetal attachment behaviors in Mexican and Anglo-Saxon women by administering a translated version of Cranley's Maternal-Fetal Attachment Scale (MFAS) to a group of Mexican women, and comparing the results with those obtained by Cranley in an Anglo-Saxon group. An ex post facto design was selected because the independent variable of culture does not lend itself to manipulation, and because prospective data collection would have been extremely complicated.

Threats to internal and external validity are sometimes more difficult to account for in ex posto facto designs than in experimental designs, but may be addressed to some extent. Some controls for internal validity are inherent in an ex post facto design. For example, by testing only once, the factors of maturation, testing and mortality are controlled. In this study there were two factors which may have affected internal validity. One was selection. The group of women in the sample chose the proposed setting for a variety of reasons (for example: convenience, funding or language), any of which may have introduced bias. The second was an unusual one, but one inherent in bilingual studies which is the threat of loss of validity due to translation error. This may also constitute a

measurement threat. Control of this factor is addressed later in this chapter.

History was also a potential threat to internal or external validity in the study. Many Mexicans in the proposed setting were subject to both seasonal migration to follow agricultural work and unexpected deportation (if illegal aliens) by U.S. Immigration and Naturalization Service. However, neither of these events was systematically observed during the time of data collection.

Setting

The setting for this study was a migrant health clinic in rural Oregon. The clinic is situated in a community located 35 miles south of Portland and provides health services to migrant, seasonal, and low income families in the lower Willamette Valley. This population increases approximately 50% during spring and summer months due to the influx of migrant agricultural workers. Prenatal care in the clinic is provided by the nurse-midwifery service which is funded by Public Health Service and Migrant Health Service grants. The nurse-midwifery service provides antepartum, intrapartum, postpartum and newborn care for patients without serious complications. Patients with complications are followed by the clinic's family practice physician, or referred to the University Hospital in Portland.

Sample

More than one-half of the women enrolled in the nurse-midwifery service are Spanish-speaking Mexicans. A sample of 25 was selected by convenience from patients reporting to the clinic for prenatal visits.

Criteria for selection included the following: (a) registered clinic patients; (b) eligible for the nurse-midwifery service; (c) between the ages of 16 and 40; and (d) greater than 24 weeks gestation. Additional criteria included birth, or birth of one or both parents in the Republic of Mexico to control for differences found in other Spanish-speaking cultures. Legal immigration status was not determined. Subjects were also selected by indication of Spanish as primary language on their clinic chart. The rationale for this requirement was to provide some control for the effects of acculturation.

Instrument

Cranley's Maternal-Fetal Attachment Scale (MFAS) is a Likert-type scale consisting of twenty-four statements scored from 1 to 5 (low to high). The statements represent five categories of maternal behaviors presumed to reflect an affiliation with the fetus. These categories are: Roletaking, Differentiation of Self from the Fetus, Giving of Self for the Benefit of the Fetus, Interaction with the Fetus and Attributing Characteristics to the Fetus. The MFAS instrument is seen in Appendix B, and subscale items are presented in Appendix C. The MFAS was selected for this study because of it's established validity and reliability, and because it was relatively easy to translate.

In the process of instrument development, Cranley attempted to build content validity into the instrument by combining the use of literature with her own clinical experience. She also consulted other clinicians, childbirth educators and pregnant women for feedback regarding appropriateness of items and understandability. Following pretesting of

the original instrument, modifications and refinements were made to produce the current 24-item, 5-subscale instrument. Using Cronbach's Alpha as a measure of reliability, the total scale reliability was .85. The following reliability values were reported for the subscales: Roletaking (.73); Differentiation of Self from the Fetus (.62); Giving of Self (.52); interaction (.68) and attributing characteristics (.67). These coefficients are sufficiently high for claiming internal consistancy in this type of measure (Polit & Hungler, 1978).

Subscales

Roletaking refers to maternal behavior that reflects role taking or practicing. Examples of this are the MFAS statements: I picture myself feeding the baby./ I imagine myself taking care of the baby. Differentiation of self refers to behaviors which reflect an acknowledgement of the fetus as a separate individual. MFAS statements in this category are: I have selected a name for a boy./ I have selected a name for a girl. The category of giving of self refers to self sacrificing behaviors for the benefit of the fetus. For example: I eat meat and vegetables to be sure my baby gets a good diet. Interaction refers to physical interaction with the fetus. An example of a statement in this category is: I stroke my tummy to quiet the baby when there is too much kicking. Attributing characteristics refers to projection of characteristics to the fetus. One statement in this category is: I can almost guess what my baby's personality will be like from the way she/he moves around. MFAS subscale items are seen in Appendix C.

Instrument Adaptation

In order to administer Cranley's MFAS to Spanish-speaking women, the instrument was first translated into Spanish by this author, who has fluent Spanish speaking, reading and writing ability. The instrument was then retranslated into English by two Mexican health care providers from the clinic. Differences between the English retranslations and Cranley's instrument were minor, so the Spanish translation was deemed adequate for study use.

The translated instrument was tested by the author on a total of seven subjects. Testing of the first two subjects resulted in a change in the manner of administration. Initially, a copy of the instrument was given to the subjects to complete. These first subjects had educational levels of four and five years respectively, but were felt to be representative of the educational level of this population. Due to poor reading ability and difficulty conceptualizing the format of response to a Likert scale, it was decided to administer the instrument orally with the subject marking the response on a separate sheet.

To clarify the format of response, two statements unrelated to the content were developed. These statements were: I like the color green/I like liver. The author read the statements orally, discussed the subject's response, and assisted the subject in filling in the related response on the scoring sheet. The rest of the MFAS was then administered orally, but the subjects filled in their responses without help or clarification by the author. No further problems were encountered in the next five subjects, so this method of administration was used in the study.

Procedure

Access to this clinic site was greatly facilitated by two factors. One, was the author's Hispanic background and fluency in Spanish, and the second was the author's previous employment as a nurse-midwife at this site.

In order to collect data, interview times were arranged weekly with clinic staff to maximize the number of subjects available per visit. Women who met the selected criteria were asked by the author to participate in the study while waiting for their clinic appointments (the usual waiting time is 15-45 minutes, so participation did not require extra time). The nature and time frame for participation was explained to the women. Women who agreed to participate signed the consent form seen in Appendix A. They were then taken to a small, private office next to the waiting area where the translated MFAS (Appendix B) was administered as described.

Following administration of the MFAS, demographic information was elicited regarding birthplace, age, marital status, years of education, number of pregnancies and number of deliveries in the U.S. Women were also aked whether or not the pregnancy had been planned, what they thought about the MFAS statements and how they felt about this pregnancy. This information was recorded on the scoring sheet. The sheet (Appendix D) was reviewed for completeness and numbered for identification purposes. Data on gestational age and pay status information was obtained from patient charts.

Analysis

The the significance level for this study was set at $p < .05$. Descriptive statistics were used to describe demographic characteristics of the Spanish-speaking group and when applicable, compared to sample data obtained by Cranley. T-tests were used to determine if significant differences existed between the the Mexican group and Cranley's group for sample and subscale means. In the Mexican sample, t-tests were also used to compare MFAS responses between primigravidas and multigravidas; between married and single women; between planned and unplanned pregnancies and between lower and higher educational levels, incomes and gestational ages. Scale and subscale reliability in the Mexican sample was estimated utilizing Cronbach's alpha and mean inter-item correlations.

Prior to implementation, this study was classified as an exempted study and approved by the Oregon Health Sciences University Committee on Human Research.

CHAPTER III

RESULTS AND DISCUSSION

In this chapter, demographic and antecedent data obtained from the sample of Mexican women is described and compared to Cranley's sample of Anglo-Saxon women. A short section on instrument reliability follows. The chapter concludes with the results of the Maternal-Fetal Attachment Scale and the author's discussion of the use of this data to address the research question.

Sample

A total of twenty-five Spanish-speaking Mexican women completed the MFAS. Twenty-one of the women were born in Mexico and four were born in the United States to Mexican-born parents. The women ranged in age from 17 to 36 years of age with a mean age of 23.6 years. This mean age is representative of the Mexican clinic population (mean = 23.4 years). All but four of the Mexican women were married (84%). No distinction was made between formal marriage and common-law marriage which is prevalent in Mexico.

The mean educational level of the sample was 5.28 years with a range of 0 to 15 years. This group mean is similar to the mean educational level of the Mexican clinic population (5.6 years). Five of the Mexican women claimed no formal education whatsoever and eighty percent of the sample had not completed eighth grade. Not surprisingly, the four U.S. born Mexican women were among the most highly educated.

The income level of the sample was determined indirectly by the clinic payment classification seen in Table 1. Full or 100% charge for prenatal care and delivery is $600 which is considerably less than the usual obstetrical fees in the state of Oregon. Only two of the 25 women had family incomes that required full payment of clinic fees. Eighty-eight percent of the women fell into the category of 50% pay or less.

Table 1
Sliding Fee Scale for Calculation of Payment in Clinic Setting

FAMILY SIZE	STEPS ON SLIDING FEE SCALE: INCOME RANGE IN DOLLARS				
	0%	25%	50%	75%	100%
1	0-5,250	5,251-7,035	7,036-8,715	8,716-10,499	OVER 10,500
2	0-7,050	7,051-9,447	9,448-11,703	11,704-14,099	OVER 14,100
3	0-8,850	8,851-11,859	11,860-14,691	14,692-17,699	OVER 17,700
4	0-10,650	10,651-14,271	14,272 17,679	17,680-21,299	OVER 23,000
5	0-12,450	12,451-16,683	16,684-20,667	20,668-24,899	OVER 24,900
6	0-14,250	14,251-19,095	19,096-23,655	23,656-28,499	OVER 28,500
7	0-16,050	16,051-21,507	21,508-26,643	26,644-32,099	OVER 32,100
8	0-17,850	17.851-23,919	23,920-29,631	29,632-35,699	OVER 35,700
9	0-19,650	19,651-26,331	26,332-32,619	32,620-39,299	OVER 39,300
10	0-21,450	21,451-28,743	28,744-35,607	35,608-42,899	OVER 42,900
11	0-23,250	23,251-31,155	31,156-38,595	38,596-46,499	OVER 46,500

The gestational age range of the Mexican group was 24-41 weeks with a mean of 32 weeks. The number of pregnancies in the Mexican sample ranged from 1 to 10. Twenty-eight percent of the women were primigravidas, sixteen percent were segundigravidas and fifty-six percent were multigravidas. Of the multigravid women, six had never delivered a child in the U.S.; seven of the women had delivered one child in the U.S. previously and five had delivered two children in the U.S. previously.

The sample was almost evenly divided on whether or not the pregnancy had been planned. Twelve had planned the pregnancy and thirteen had not. Almost all of the women spontaneously verbalized pleasure at being pregnant and none expressed concern regarding the additional economic burden of a new child. This attitude was epitomized by the woman who was expecting her tenth child: "Yes, it will be more difficult for all of us, but we all like babies." Complete demographic and antecedent data of the sample is seen in Table 2 .

Table 2
Demographic and Antecedent Data of Sample Women

Subj. #	Place/ Birth	Age	Marital Status	Yrs. Educ.	Gravida	Planned Preg.	Gest. (wks)	U.S. Births	Pay
1	U.S	26	M	15	3	yes	30	1	100%
2	U.S.	22	M	11	2	no	31	1	100%
3	U.S.	22	M	10	1	yes	31	NA	25%
4	U.S.	18	M	7	3	no	29	2	25%
5	Mexico	33	M	0	4	yes	29	2	0%
6	Mexico	27	M	0	3	yes	30	0	0%
7	Mexico	36	S	0	10	no	37	0	0%
8	Mexico	21	M	0	3	yes	41	0	25%
9	Mexico	28	M	6	4	yes	34	2	50%
10	Mexico	24	M	4	3	yes	24	0	25%
11	Mexico	29	M	6	4	no	40	1	50%
12	Mexico	30	M	3	4	no	30	0	0%
13	Mexico	33	M	1	5	yes	34	1	25%
14	Mexico	19	M	4	1	yes	32	NA	0%
15	Mexico	20	M	8	1	yes	32	NA	75%
16	Mexico	17	M	6	1	yes	28	NA	50%
17	Mexico	20	S	7	1	no	24	NA	25%
18	Mexico	19	S	0	3	no	36	2	0%
19	Mexico	23	M	4	1	no	28	NA	50%
20	Mexico	19	M	5	1	yes	36	NA	25%
21	Mexico	22	M	7	5	yes	36	2	0%
22	Mexico	20	S	2	3	no	37	0	0%
23	Mexico	21	S	9	2	yes	32	1	25%
24	Mexico	23	M	10	2	no	30	1	50%
25	Mexico	18	M	7	2	no	38	1	50%

In Cranley's sample of 30 American women, the average age was 27 years and ninety-three percent of the women were married. The women all had a gestational age greater than 24 weeks and gravidity of the group was as follows: primigravidas (26%), secundigravidas (50%) and multigravidas (23%). The group had a mean educational level of 13.9 years and according to Cranley, represented a full socioeconomic range.

The two groups were somewhat similar in size, marital status, gestational age and percentage of primigravidas. The Mexican women were younger and had an overall higher percentage of multigravidas which coincides with the high fertility rate of Mexicans in the general population. Although Cranley stated that her sample represented a full socioeconomic range, it is doubtful that they were as poor as the women in the Mexican sample although no data is available to confirm this assumption. The greatest difference between the two groups of women is the educational level. The Mexican women had less than half of the mean years of education of Cranley's group. Because of these differencees, any comparisons of the two groups must be made with great caution.

Instrument Reliability

Reliabilities for the MFAS scale and subscales were estimated utilizing mean inter-item correlations and Cronbach's Alpha. Comparisons of internal consistency between the two groups, and data on subscale inter-item correlations can be seen in Table 3.

Table 3
Comparisons of Internal Consistency and Mean Inter-item Correlations of the MFAS

Subscale	Number of Items	Alpha (Cranley)	Alpha (Mexican)	Mean Inter-Item Correlations (Mexican)
DIFFSELF	4	.62	.23	.07
ROLETAKING	4	.73	.75	.44
GIVSELF	5	.52	.56	.24
ATTRIB/CHAR	6	.67	.31	.07
INTERACT	5	.68	.56	.21
TOTAL	24	.85	.76	.14

Research Question

The research question posed was: Is there a difference in maternal-fetal attachment behaviors in Mexican and Anglo-Saxon women? In this study, a comparison was made between a Mexican Spanish speaking group and results previously obtained by Cranley in an Anglo-Saxon group using the MFAS as a measure of maternal-fetal attachment. Results of this comparison are seen in Table 4. Although the two groups had some demographic similarities, there was a great difference in educational level. Additionally, even though Cranley reported that her group represented all socioeconomic levels, it is doubtful that her group had as large a percentage below the poverty level as the Mexican group. In any discussion of differences between the groups, the potential effects of these extraneous variables must be kept in mind. The following section

addresses the research question in relationship to MFAS subscale results and reliability. Comments are also made on individual item results of interest. MFAS subscales and items can be found in Appendix C.

Table 4
T-test Comparison of MFAS Scale and Subscale Means

Subscale	Cranley Sample	Mexican Sample	t	Significance
DIFFSELF	4.23	3.80	-4.49	.001
ROLETAKING	4.10	4.36	2.32	.05
GIVSELF	3.98	3.94	-.28	NS
ATTRIBUT/CHAR	3.13	3.51	4.45	.001
INTERACT	2.98	3.02	.26	NS
TOTAL	3.97	3.69	-2.80	.05

Roletaking.

The Alpha reliability of this subscale is .75 compared to .73 for Cranley's sample. The mean item correlation was .44 which was the highest value of any of the subscales. Of all of the subscales, Roletaking appears to be the most reliable for measurement of maternal-fetal attachment in Mexican women.

In this subscale, the Mexican sample had mean scores that were significantly higher ($p < .05$) than the Cranley sample. One potential explanation for this difference is the high social value placed on the maternal role in the Mexican culture. One of the items in the subscale (I can hardly wait to hold the baby.) had the highest mean response of all MFAS items (4.8).

Differentiation of Self

The sample means of the two groups for this subscale were significantly different ($p < .001$) with Mexican women scoring much lower. Two of the items in this subscale addressed name selection prior to delivery and were among the lower scoring items on the MFAS. Interestingly, neither this author nor any of the Mexican health care providers in the clinic are aware of any cultural practice which precludes name selection before delivery.

This subscale also had an extremely low inter-item correlation mean (.07) and poor internal consistency in the Mexican group (.23 compared to .62 for Cranley). This would seem to indicate that this scale is not reliable for use in this particular group and makes one wonder if the significant differences between group means reflects actual differences or the poor reliability of the instrument.

Interaction with Fetus.

This subscale received the lowest mean scores in both groups, but between group differences were not significant. In the Mexican group, two of the items in this subscale had the second and third lowest mean responses of the scale. The lowest scoring item on this scale (mean = 2.1) was "I refer to the baby by a nickname." Both the author and other Mexicans questioned by the author agree that such a question is inappropriate for measuring interaction with the fetus in a Mexican sample because nickname assignment is usually reserved for adults. Another very low scoring item (mean = 2.2) was: "I grasp the baby's foot to move it around." In the discussion period after MFAS administration,

many of the women were incredulous that a person would even consider doing such a thing because it might hurt the baby.

The mean inter-item correlation for this subscale was .21. The Alpha was .56 compared to Cranley's .68.

Attributing Characteristics.

In this subscale the mean scores of the Mexican women were significantly higher ($p < .001$) than those of Cranley. Some of the high scoring statements in this subscale began "I wonder if the baby can... think/ hear/ feels crowded." One might speculate that these item responses are affected by educational level (e.g. an educated woman would not wonder if the baby could hear etc., she would know that it could.) If so, the much lower educational level of the Mexican women could account for high positive response rate on these questions.

The mean inter-item correlation was an extremely low .07, and the alpha for this subscale was .31 compared to Cranley's .67. With such reliability values, this cannot be considered a subscale appropriate for measurement in this group. No inferences can be made from these results.

Giving of Self.

Of all of the subscales, this is the one that might be expected to generate significant differences due to the cultural emphasis of the woman's role as caretaker of the fetus, and the many cultural taboos that reflect that role (during the data collection process, the author noted that the majority of the women wore a protective saftey pin or medal over the abdomen). However, no significant difference was found between group means although the Mexican mean was higher.

One of the items in this subscale " I think that my body is ugly" was answered yes or definitely yes by most of the respondents. Scored negatively the item mean was 2.1, the lowest of the total MFAS. This item also had by far the lowest item-total correlation of all MFAS items (.009) which probably indicates that it is just a "bad" item. The Alpha for this scale was .56 as compared to .52 for the Cranley sample, and the mean inter-item correlation was (.24).

Total Scale.

Total scale means were significantly different ($p < .05$). The inter-item correlation mean was .14, which is not impressive. The Alpha level was .76 compared to Cranley's .85. No single item, if deleted would significantly raise the total Alpha level.

In her evaluation of the MFAS subscale responses, Cranley found that the three subscales that involved personal activities on the part of the woman (Differentiation of Self, Roletaking and Giving of Self) had higher means and higher frequencies than the two subscales which suggest a different type of involvement (Attributing Characteristics to the Fetus and Interaction with the Fetus). These same results were encountered in the Mexican group, but in a different order (See Table 3).

Demographic and Antecedent Variables

Cranley reported no significant relationship between MFAS results and maternal age, number of pregnancies or socioeconomic status, nor was any significant relationship found in the Mexican sample for these variables. Additionally, in the Mexican sample, MFAS results were compared between high, low and no education women; and between those with

planned and unplanned pregnancies. There was no significant difference in MFAS responses in any of these groups.

Summary of Results

Of the five subscales, the two with the most highly significant mean differences from the Cranley group also had the poorest reliability in the Mexican group. Except for Roletaking, all of the subscales demonstrated poor or relatively poor reliability in the Mexican sample. Demographic and antecedent variables were not found to have any significant relationship to MFAS results in either group.

Discussion

With such poor instrument reliability, it would be unwise to make any inferences regarding maternal-fetal attachment similarities or differences between the two groups. Only one subscale, Roletaking, had acceptible reliability, but to make inferences from one four-item subscale, tested in a sample of twenty-five, would be imprudent. Instead, it might be more beneficial to speculate as to why an instrument with demonstrated reliability in Cranley's studies would yield such poor reliabilities in the Mexican sample.

The poor reliability of the instrument in this sample could possibly be due to measurement error as a direct result of the Mexican group's low educational level. Although no correlation was encountered between the level of education and MFAS results in this group, the sample was quite small. As mentioned in the section on data collection procedure, many of the women had difficulty conceptualizing the Likert-scale format. Even with the sample demonstration of unrelated statements, the instrument

format may have been too sophisticated.

The sophistication of the instrument in such a poorly educated group may have also caused response set bias. During the data collection procedure the author sensed apprehension in some of the women during explanation of scoring sheet procedures. If the measure was perceived as complicated, it may have been simpler for the women to score statements consistently in the same manner. Also, any of the women who recognized the author from the clinic setting may have had a tendency to score statements in a socially desirable manner.

Another source of measurement error could be the American ethnocentric bias of the instrument. Although the translation of the instrument was precise, more than language is necessary to translate a measurement tool. Some of the items may have been culturally inappropriate or irrelative in the Mexican group e.g., "I refer to the baby by a nickname." or "I think my body is ugly". Others may have had poor discrimination due to culture differences such as "I can hardly wait to hold the baby." or "I wonder if the baby can hear/ think/ feels cramped in there.". Other items like the ones regarding name selection may reflect an ethnocentric bias which is unapparent to this author and other Mexicans in the clinic setting who have much more American acculturation than most of the women in the sample.

Chapter IV

SUMMARY

The purpose of this study was to explore the differences in maternal-fetal attachment behavior between Mexican and Anglo-Saxon women. Every cultural system has a unique perspective of pregnancy which elicits many prescribed and proscribed ways of behaving. Pregnancy related behavior, including maternal-fetal attachment behavior has been conceptualized and described in the literature from an Anglo-Saxon perspective, but there is a deficit in literature conducted in other cultural groups. In this study, an ex post facto design was used to explore the relationship between the independent variable of culture, and the dependent variable of maternal-fetal attachment behavior.

The study was conducted in a migrant health clinic in rural Oregon. The sample consisted of twenty-five Spanish-speaking Mexican women in the third trimester of pregnancy. Subjects were administered a translated version of Cranley's Maternal-Fetal attachment Scale (MFAS). The results were compared with published results from a study conducted by Cranley in an Anglo-Saxon group.

In two of the subscales (Giving of Self for the Benefit of the Fetus and Interaction with the Fetus) no significant differences were found between the two groups. However, significant differences were found in the other three subscales and the total scale. In the subscale Differentiation of Self from the Fetus, Mexican women scored significantly lower than Cranley's group ($p < .001$); in Attributing Characteristics to the Fetus, Mexican women scored significantly higher

($p < .001$); in the subscale Roletaking, Mexican women also scored significantly higher ($p < .05$), and the Total Scale differences were significant at the .05 level. These results however were confounded by poor reliability of the MFAS in the Spanish-speaking group and inappropriateness of certain items. Due to this poor reliability, no conclusions could be drawn regarding the effect of culture on maternal-fetal attachment.

Limitations

Two limitations of this study must be considered in a review of the findings. These limitation center on the instrument, and on the sample itself.

As previously discussed, the instrument is demonstrated to be unreliable in this particular group. Another potential limitation of the instrument is that it purports to measure a very complex psychological phenomenon in a single testing during pregnancy. One must seriously consider whether or not results obtained in this manner reflect a woman's true level of fetal attachment. In the clinical experience of this author, Mexican women definitely do form affectional ties with their unborn children, but the instrument does not appear to accurately measure this phenomenon.

The other limitation of the study relates to sample size and composition. A sample size of 25 is small, and the women in this study were primarily migrant agricultural workers who are probably different from Mexican women living the Mexican barrios of large U.S. cities. The instrument may have proven more reliable in a larger sample or in a

different Mexican group. Another consideration is the acculturation level of the sample. More than likely the women in this group are much less acculturated than the U.S. Mexican population in general. These differences would limit the external validity of this study even if the instrument were more reliable.

Recommendations for Nursing Research

In order to measure maternal-fetal attachment in Mexican women, an instrument would need to be developed that would be reliable in this and other Mexican populations. Qualitative studies would provide descriptive information which could be used in the development of such an instrument. However, in the development of any instrument to measure responses in an illiterate or semi-literate population serious consideration must be given to the advisability of utilizing a written format.

Another possibility would be to modify the MFAS by deleting inappropriate items and replacing them with culturally relevent items. An entirely verbal format would be more suitable than a written format. One must also consider that the existing instrument might be reliable in a larger Mexican sample. This could be determined by retesting of the instrument.

Implications for Nursing Practice

This study points out the possible inappropriateness of applying instruments developed by and from an Anglo-Saxon population to other cultural groups. Unfortunately, at this point in time the majority of nursing research reflects an ethnocentric perspective of white middle

class America. As nurses increasingly encounter clients from differing cultural groups, it beomes more and more important to evaluate the suitability of instruments used in data collection. Ethnocentrically biased instruments can yield innacurate data. If this innacurate data is used in patient assessment, or in the planning, implementing or evaluation of nursing care, the results can be not only unsatisfactory to client and nurse, but potentially harmful.

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Appendix A

Consent Form

Consent Form (English translation)

You are being asked to participate in a study to explore the relationship between women and their unborn babies. I am a nurse-midwife, and you may know me from this clinic, but this is part of my work on my thesis at OHSU, and not part of your care here.

If you consent to assist me in my study, it will take about 10 or 15 minutes and will be done while you wait for your appointment. I will read you a series of statements and ask you to mark your response on a sheet of paper. Your name will not be used, and I will not see how you respond. I will add your results to the results of other women I test. Information on the total group results will be published in my thesis. Nothing will be asked that will cause you any embarassment, and you may change your mind and not participate at any time.

If you agree to participate in my study, please sign on the line below. Thank you.

_____

Consentimiento

Le invito a participar en un estudio de la relacion que tiene la mujer embarazada con su nino que todavia no nace. Soy una enfermera-partera, y quizas me conoce de la clinica. Este estudio es parte de mi tesis en la universidad y no tiene nada que ver con su cuidado prenatal aqui.

Si me ayuda con el estudio, va a tomar unos 10 o 15 minutos mientras se espera su cita. Le voy a leer unas frases, y luego vd. va a hacer comentarios en un papel. No le voy a perdir nada que le de verguenza, y puede decidir no participar en qualquier momento. No voy a usar su nombre ni voy a saber exactamente como se responde.

Despues voy a analizar las responsas suyas y las de otras mujeres embarazadas. Los resultados van a estar publicados en mi tesis.

Si quiere participar en mi estudio, favor de firmar abajo. Gracias.

_____

Appendix B

Maternal-Fetal Attachment Scale

Maternal-Fetal Attachment Scale

Sample A: Me gusta el color verde. (I like the color green.)

Sample B: Como higado. (I eat liver.)

1. Hablo con mi nino que todavia no nace. (I talk to my unborn baby.)
2. Vale la pena aguantar las molestias del embarazo. (I feel all the trouble of being pregnant is worth it.)
3. Me gusta ver como se mueve mi panza cuando patalea el nino. (I enjoy watching my tummy jiggle as the baby moves inside.)
4. Trato de imaginar como va a ser cuando doy de comer al nino. (I picture myself feeding the baby.)
5. Tengo muchas ganas de ver como se parece este nino. (I'm really looking forward to seeing what the baby looks like.)
6. Me pongo a pensar en si el nino se siente apachurrado adentro. (I wonder if the baby feels cramped in there.)
7. Le doy un sobrenombre a este nino. (I refer to the baby by a nickname.)
8. Trato de imaginar como va a ser cuando estoy cuidando al nino. (I imagine myself taking care of the baby.)
9. Casi puedo adivinar la personalidad del nino por la manera en que se mueve. (I can almost guess what the baby's personality will be like by the way s/he moves.)
10. Tengo seleccionado un nombre para una nina. (I have decided on a name for a baby girl.)
11. Hago cosas para conservar mi salud que no haria si no estuviera embarazada. (I do things to stay healthy that I would not do if I were not pregnant.)

12. Me pongo a pensar en si el nino puede oir adentro. (I wonder if the baby can hear inside of me.)

13. Tengo seleccionado un nombre para un nino. (I have decided on a name for a baby boy.)

14 Me pongo a pensar en si el nino puede pensar y sentir cosas adentro de mi. (I wonder if the baby thinks and feels things inside of me.)

15. Como carne y verduras para asegurar que el nino recibe ailimentacion buena. (I eat meat and vegetables to be sure my baby gets a good diet.)

16. Se me hace que el nino da patadas y se mueve para decirme que es la hora de comer. (It seems to me that the baby kicks and moves to tell me it's eating time.)

17. Toco el nino para hacerle mover. (I poke the baby to get him/her to poke back.)

18. Tengo muchas ganas de tener el nino en mis brazos. (I can hardly wait to hold the baby.)

19. Trato de imaginar como va a parecer el nino. (I try to picture what the baby will look like.)

20. Cuando el nino patalea mucho, sobo a mi panza para tranquilizarlo. (I stroke my tummy to quiet the baby when there is too much kicking.)

21. Me doy cuenta cuando tiene hipo. (I can tell when the baby has the hiccoughs.)

22. Me siento como si esta muy feo mi cuerpo. (I feel my body is ugly.)

23. Dejo de hacer ciertas cosas porque quiero ayudar a mi nino. (I give up doing certain things because I want to help my baby.)

24. Agarro el pie del nino por mi panza para moverlo. (I grasp my baby's foot through my tummy to move it around.)

Appendix C

MFAS Subscales and Items

MFAS Subscales and Items

Differentiation of Self
3. I enjoy watching my tummy jiggle as the baby moves inside.
5. I'm really looking forward to seeing what the baby looks like.
10. I have decided on a name for a baby girl.
13. I have decided on a name for a baby boy.

Roletaking
4. I picture myself feeding the baby.
8. I imagine myself taking care of the baby.
18. I can hardly wait to hold the baby.
19. I try to picture what the baby will look like.

Giving of Self
2. I feel all the trouble of being pregnant is worth it.
11. I do things to stay healthy that I would not do if I were not pregnant.
15. I eat meat and vegetables to be sure my baby gets a good diet.
22. I feel my body is ugly.
23. I give up doing certain things because I want to help my baby.

Attributing Characteristics
6. I wonder if the baby feels cramped in there.
9. I can almost guess what the baby's personality will be like by the way s/he moves.
12. I wonder if the baby can hear inside of me.
14 I wonder if the baby thinks and feels things inside of me.
16. It seems to me that the baby kicks and moves to tell me it's eating time.
21. I can tell when the baby has the hiccoughs.

Interaction With the Fetus
1. I talk to my unborn baby.
7. I refer to the baby by a nickname.
17. I poke the baby to get him/her to poke back.
20. I stroke my tummy to quiet the baby when there is too much kicking.
24. I grasp my baby's foot through my tummy to move it around.

Appendix D

Scoring Sheet

Edad ____ Lugar de nacimiento (vd.) _____ (sus padres) _____

Numero de embarazos ___ Numero de hijos nacidos en los EEUU ___ Casada ___

Anos de educacion _____ Embarazo fue planeado _____ Meses de embarazo_____

	Definitivamente que si	Si	No Estoy Segura	No	Definitivamente que no
A.	____	____	____	____	____
B.	____	____	____	____	____
1.	____	____	____	____	____
2.	____	____	____	____	____
3.	____	____	____	____	____
4.	____	____	____	____	____
5.	____	____	____	____	____
6.	____	____	____	____	____
7.	____	____	____	____	____
8.	____	____	____	____	____
9.	____	____	____	____	____
10.	____	____	____	____	____
11.	____	____	____	____	____
12.	____	____	____	____	____

	Definitivamente que no	Si	No Estoy Segura	No	Definitivamente que no
13.	____	____	____	____	____
14.	____	____	____	____	____
15.	____	____	____	____	____
16.	____	____	____	____	____
17.	____	____	____	____	____
18.	____	____	____	____	____
19.	____	____	____	____	____
20.	____	____	____	____	____
21.	____	____	____	____	____
22.	____	____	____	____	____
23.	____	____	____	____	____
24.	____	____	____	____	____

Appendix E

Letter of Agreement

Salud de la Familia Cilnic
347 N. Front
Woodburn, Oregon 97071

March 6,1985

Laura Flores Goldfarb C.N.M.
10005 S.W. Balmer Circle
Portland, Oregon 97219

Dear Laura,

This letter is to give you permission to collect data for your Master's thesis here in the clinic. I understand that you will be requesting the voluntary participation of pregnant Hispanic patients in your project, and that this participation will involve answering a questionnaire regarding maternal-fetal attachment behaviors. Per your request, you may administer the questionnaires at variable times during clinic hours for a period of 3-4 months, beginning in March, 1985.
I join the nurse-midwives in welcoming you back to Salud, and hope that the results of your study will provide information that will assist in the provision of maternity care to these clients.

Sincerely,

[redacted]

Heidi Thomas, M.D.
Medical Director

AN ABSTRACT OF THE THESIS OF

LAURA FLORES GOLDFARB

For the MASTER OF SCIENCE

Date of Completion of Degree Requirements: July 12, 1985

Title: A DESCRIPTIVE ANALYSIS OF MATERNAL-FETAL ATTACHMENT BEHAVIORS IN MEXICAN AND ANGLO-SAXON WOMEN.

APPROVED: _____

Mary Ann Curry, R.N., DNSc., Thesis Advisor

The purpose of this study was to explore differences between maternal-fetal attachment behavior in Mexican and Anglo-Saxon women. The study was based upon a conceptual framework that tests the relationship between culture and the affective relationship between a woman and her unborn child using an instrument that had proven reliable in an Anglo-Saxon group. Significant differences were found between the two groups on three of the five instrument subscale and total scale results. However, due to poor reliability of the instrument in the Mexican group no inferences can be made from this data.

The study points out the potential problems in using an instrument from one culture to measure behaviors in another culture. Nursing research directed at the development of culturally relevant instruments could be of benefit to both client and nurse.