NAVAJO ADOLESCENT PREGNANCY: IDENTIFYING ECOCULTURAL FACTORS AMONG ADOLESCENT MOTHERS AND THEIR INFANTS

by

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ABSTRACT

Navajo Adolescent Pregnancy: Identifying Ecocultural Factors Among Adolescent Mothers and Their Infants

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Understanding the adaptational responses and ecocultural niche of the Navajo adolescent mother from her perspective provides a richness of information about a little-studied population. The overall purpose of this study was to explore the ecocultural factors determined to be significant in the decision of a Navajo adolescent mother to remain in high school or drop out of high school. Thirty Navajo adolescent mothers recruited from two small reservation towns in eastern Arizona participated in the study. Navajo adolescent mothers in the study participated in a one and one half hour semistructured accommodations interview, and completed a Family Resource Scale and a Family Support Scale. An assessment tool, the Bayley Scales of Infant Development, was administered to infants and toddlers of Navajo adolescent mothers. Computation of effect sizes determined the magnitude of difference between the two groups. Findings indicated that (a) Navajo adolescent mothers who remained in high school had more family support than those who dropped out of high school, (b) Navajo adolescent mothers who remained in high school had more family resources than those who dropped out of high school, and (c) Navajo adolescent
mothers who remained in high school made greater adaptations than those who dropped out of high school.

An additional question focused on the relationship between Navajo adolescent mothers' current enrollment in school and the cognitive and motor performance development of their children. Findings indicated that children born to Navajo adolescent mothers in the drop-out group scored higher on both the cognitive and motor performance tests of development than those infants born to the in-school group mothers.
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Jessiline Anderson
Teka’win (Buffalo Woman)
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Adolescents in the United States have higher rates of conception, abortion and birth than adolescents in other industrialized countries (Zabin & Hayward, 1993). This problem appears to be understated in high-risk populations. For example, Hardy and Zabin (1991) examined adolescent pregnancy rates in a poor urban environment and found that the proportion of all births to adolescents among this population was more than twice the national proportion. Another factor that affects adolescent pregnancy rates is ethnicity. Variation by ethnic group indicated that 23% of births among African Americans and 19% of births to Native Americans are to adolescents, in comparison with the national average of 12% (Alan Guttmacher Institute, 1991).

Although adolescent pregnancy has been explored with African Americans, Hispanics, and Caucasians, the issue has not been extensively explored to determine the extent to which adolescent pregnancy is a problem among the Native American population.

As an example of how this issue is being addressed in Native American tribes, several school districts on the Navajo reservation have determined that adolescent pregnancy is a problem in their geographic area to the extent that school officials have applied for grants from private foundations to support adolescent pregnancy projects and to lower the school dropout rate. It was determined in one school district that one out of eight adolescent females became pregnant, and subsequently dropped out of high school (Comprehensive Adolescent Pregnancy Project, 1993).
Purpose

Although several school districts on the Navajo reservation indicate there is an adolescent pregnancy problem and have been able to justify the need for adolescent pregnancy projects in order to keep adolescent females in school, the general lack of empirical studies in this area among the Native American population, more specifically the Navajo, makes it difficult to understand the overall extent of the problem and to begin to develop culturally and ecologically appropriate interventions. The overall purpose of this study was to explore adolescent pregnancy among Navajo females relative to ecocultural factors determined to be significant in the decision of a Navajo adolescent parent to remain in high school or drop out of high school. More specifically, the purpose of this study was to:

1. Develop an instrument that is reliable and valid in studying the ecocultural variables within Navajo families with young children.

2. Determine and describe what ecocultural factors are pertinent in the sustainable daily routine of Navajo adolescent mothers.

3. Determine the social support system available to Navajo adolescent mothers.

4. Examine the child development consequences of infants/toddlers born to Navajo adolescent mothers who either remain in school or who drop out.

Hypotheses

Although there has been a significant amount of systematic research investigating the consequences of adolescent pregnancy among the general population, there has been little systematic research investigating adolescent pregnancy among Native American populations. The research hypotheses were
based on findings in the research literature with the general population. Several hypotheses were generated to guide the research with respect to whether there were similar consequences of pregnancy for Navajo adolescent females and their children.

1. Navajo adolescent mothers who remain in high school will have more family support than Navajo adolescent mothers who drop out of high school.

2. Navajo adolescent mothers who remain in high school will have more family resources than Navajo adolescent mothers who drop out of high school.

3. Navajo adolescent mothers who remain in high school will have to make greater adaptations than Navajo adolescent mothers who drop out of high school.

Although hypotheses were not generated in the area of child development, an additional question was addressed by this study--"What is the relationship between Navajo adolescent mothers current enrollment in high school and the cognitive and motor development of their children?"
CHAPTER II
REVIEW OF THE LITERATURE

There is a profusion of research literature on the topic of adolescent pregnancy in the United States including comparisons between African Americans and Caucasians, and other comparisons of the United States with developed countries. Yet, searches of the psychological, sociological, educational, and medical literature indicate there has been little systematic research that has examined the pregnant or parenting Native American adolescent mother.

Adolescent pregnancy has been long recognized as a complex and serious problem in the United States (Hayes, 1987; Schubot & Schmidt, 1989). Numerous negative costs of adolescent pregnancy have been documented such as the adolescent mothers' health problems (Davidson, Gibbs, & Chapin, 1991; Marchbanks, 1991), lack of educational attainment (Furstenberg, 1976; Marini, 1984), lower socioeconomic status (Jones, Forrest, Henshaw, Silverman, & Torres, 1988; Maynard, 1995), subsequent pregnancies (Card & Wise, 1978; Moore, 1989), and inadequate developmental outcomes for children (Schneck, Sideras, Fox, & Dupuis, 1990; Whitman, Borkowski, Schellenbach, & Nath, 1987). Researchers (Alan Guttmacher Institute, 1994, 1995; Williams, 1991; Zelnik & Gantner, 1980) contend there is a significantly greater proportion of adolescents who are sexually active in the 1990s and experiencing an unwanted pregnancy; other researchers (U.S. Department of Health and Human Services, 1995; Ventura, Martin, Curtin, & Matthews, 1997) indicate a slow decline since 1991 in adolescent birth rates. Zabin and Hayward (1993) reported that approximately one million adolescents become pregnant every year; of those adolescents becoming pregnant, 60% tend to carry
their pregnancies to term. The remaining 40% chose to terminate pregnancy by abortion, or spontaneous abortion occurred.

Ecocultural Theory

There is a growing amount of research suggesting that a range of personal and contextual variables other than age are contributing factors to the developmental consequences of adolescent pregnancy, for both the adolescent mother and her infant (Dalla & Gamble, 1997; Fulton, Murphy, & Anderson, 1991; Geronimus, 1986, 1987; Hechtman, 1989). For example, one's ecological supports as well as cultural beliefs and attitudes are important sources of information to explain the choices made at the time of a high stress event such as adolescent pregnancy (Gallimore, Weisner, Bernheimer, Guthrie, & Nihira, 1993). Models of development and intervention that include both ecological and cultural variables in their explanatory mechanisms make a powerful contribution (Roberts, Rule, & Innocenti, 1998). As such, ecocultural theory helps identify the potential interaction between these two implicit constructs.

Understanding the problem of adolescent pregnancy requires more than just manipulating data—it involves integrating all methods of research. For too long the adolescent mother has not been allowed to voice her story, much less actually being heard by others about what it is like to be an adolescent mother. Ecocultural theorists attempt to understand the individual within his/her social context. They do so by describing connections between environmental pressures, cultural beliefs and patterns of interaction, and the adaptations that individual and/or families must make to accommodate to changing circumstances. Additionally, and more importantly for this research, the ecocultural theoretical perspective addresses the topic of how
families organize their daily routines around the introduction of a new family member, as well as the activities sustaining that daily routine.

Researchers have investigated the ecocultural niche of several environments: the effects of schooling on memory in an ecocultural setting (Dash & Mishra, 1989), and ecocultural variables influencing concept attainment in a science course (Okebukola & Jegede, 1990). More specifically relevant to adolescent pregnancy, Garcia-Coll, Hoffman, and Oh (1987) investigated the social ecology and early parenting of Caucasian adolescent mothers emphasizing the unique social context and parenting practices of adolescent mothers. Similarly, Williams (1991) investigated the experiences of African American adolescent mothers relative to their cultural and personal circumstances.

Ecocultural theory as described by Gallimore, Weisner, Kaufman, and Bernheimer (1989) provides a mechanism and a framework to begin to understand the perspective of an individual's social support network, and the impact on educational/life decisions made as a consequence of pregnancy. Ecocultural theory considers the sociocultural environment of the parenting Navajo adolescent mother as a framework for understanding the adaptational responses that are made by her and her family to the present circumstances. Furthermore, ecocultural theory suggests that change in life circumstances such as pregnancy requires accommodations (adaptations to the environment) in daily routines for the adolescent. This also holds true for the adolescent mother's immediate family members and extended family members. From an ecocultural perspective these adaptations will be, by definition, the result of a mix of cultural and ecological pressures. Interventions that attempt to modify these adaptational patterns without having understood them in this context are likely to fail. Thus, ecocultural theory provides a window both to understanding decisions made by
adolescent mothers as well as a beginning method of assessment to understand factors which maintain current behavioral patterns.

Super and Harness (1986) have conceptualized the family system as a unit of organization that is constantly evolving and changing. The growth and change that occur force a family to restructure its organization when transitions occur, or make accommodations. In the instance of adolescent pregnancy, the family must reorganize its structure to accommodate a new family member and establish new roles (Anastasiow, 1982). Since the adolescent mother may not have reached adult status or have a stable supporting partner, she may not be economically self-sufficient, and have few options with respect to prioritizing as well as balancing basic needs for herself and her child. These adaptations to the support of the new mother and her child may have long-term consequences for all concerned that may be far more complex or different than those adaptations made by older mothers.

In the United States, adolescent mothers are at higher risk for not completing high school and, therefore, long-term consequences may include having fewer economic opportunities available to them. The tasks of raising a young child while the mother herself is dependent on others for economic and basic living support suggest a range of ecological adaptations which must be made. Cultural practices, beliefs, and supports must also be considered in understanding such adaptations. These personal and contextual variables may be related to factors that define an individual's personal or family ecology—as may be mediated by cultural beliefs and practices.

The ecocultural niche of families with developmentally delayed children has been described (Bernheimer, Gallimore, & Weisner, 1990; Gallimore, et al., 1989). Bernheimer et al. (1990) and Gallimore et al. (1989) investigated the accommodation process of families with developmentally delayed children. These researchers have
found: (a) ecocultural factors are powerful and can affect daily routines, (b) family-constructed themes are influential in determining whether ecocultural attributes are positive or negative, and (c) a predictor of child and family outcome was the "sustainability" of daily routines and activities.

Begay, Roberts, Weisner, and Matheson (1996), in their research with Navajo families who have children with disabilities, contend that there are two complementary systems that operate to fulfill the needs of these families. These systems include an indigenous adaptive system that utilizes spiritual or other informal sources of support, and the superimposed bureaucratic system (such as private or public agencies) that provides more formal assistance such as counseling, medical/physical care, specific therapies, and so forth. These informal and formal sources of support are important factors and may present conflicting options for family members. Resolution of these conflicts is critical if the family is to maintain sustainability in daily routines and activities.

The family determines whether ecocultural variables are positive or negative, and what impact these variables have on the ability of the family unit to make changes. Romig and Bakken (1990) have suggested that the family's ability to adapt may be a relevant variable in understanding accommodations of the family with a pregnant adolescent. There are many changes that occur when there is a new member introduced to the family unit. These changes include, but are not limited to physical, emotional, and financial changes in the home. The concept of social support as a positive or negative component in the family accommodation process may be an important ecocultural factor when making accommodations in the daily routine of living, particularly in the case of the parenting Navajo adolescent mother and her family. Social support to the new parenting adolescent mother may be dependent on
the family's ability to adapt based on its own physical, emotional, and financial sustainability.

Social Support

Researchers (Barrera, 1986; Sarason, Shearin, Pierce, & Sarason, 1987) make distinctions between functional aspects of social relationships such as available support and actual (received) support. Available support has been defined as the perception of support that is believed to be available to an individual which acts to buffer the effect of stressful events. Received support is the behavioral demonstration of support, and is important for the emotional well-being of an individual following a stressful event. The concept of social support is an important ecocultural factor in the process of daily accommodations because of the potential positive or negative consequences; for example, actual support may be an ecocultural factor that determines whether or not a parenting Navajo adolescent mother will remain in high school. No research literature has been identified that examines the role of social support in the decision of a parenting Navajo adolescent mother to remain in high school or drop out after giving birth. However, much research literature has been located about the role of social support in general, particularly of parents.

Family Support

Furstenberg and Crawford (1978), in a 5-year longitudinal investigation of adolescent mothers, found significant differences between adolescent mothers who lived with parents or relatives and those adolescents who lived alone. Adolescent mothers who lived with parents or relatives were more likely than those who lived alone to: (a) return to or graduate from school, (b) become employed, (c) be
autonomous of welfare support, or (d) all of the above. These researchers suggest that material support and help with child care from parents or relatives constituted major differences between the two groups of adolescents.

Owens and Brome (1997) examined the status and impact of adolescent pregnancy on the family system of African American mothers whose adolescent daughters were never pregnant, pregnant, or already a mother. The researchers investigated the differences in perceptions of the three grandmother groups relative to variables such as family environment, role satisfaction as a grandmother, social support, and psychological symptoms among those three groups. Results indicated that those women whose daughters had never been pregnant reported a more positive family environment and less satisfaction with the role of grandmother (or becoming a grandmother) than grandmothers or grandmothers-to-be. Apparently the life transitions, or adaptational responses, are greater for women when they become a grandmother.

Maton, Teti, Corns, and Vieira-Baker (1996) examined the levels and correlates of parental support, peer support, partner support, and/or spiritual support among African American and Caucasian groups of three different contexts: (a) pregnant adolescents, (b) first-year college students, and (c) adolescence and young adulthood (15-29 years). Levels of spiritual support were higher for pregnant African American adolescents. Peer support was positively correlated to well-being only for African American adolescents whereas partner support was positively correlated to well-being for Caucasian pregnant adolescents. For neither group was parental support a significant factor in well-being. Relevant to partner support, an earlier study by Lamb (1988) suggested that the degree of social support provided by males to their adolescent partners affected the maternal parenting behavior.
Chen, Telleen, and Chen (1995) examined the family and community support resources available to unmarried, pregnant African American high school students. The researchers found that support persons in the family system were mentioned more frequently than those in the community system as being supportive in all seven functional areas of support (availability of a confidant, extra material aid or financial support, advice and information, positive feedback, planning for infant care, physical assistance with household tasks, participation and involvement with others). At least 67% of all available support involved the father of the infant and the adolescent mother’s mother but with differing support functions. Tangible assistance could be a factor in determining differential outcomes.

Williamson and LeFevre (1992) examined the association between tangible assistance, a measure of social support, and serious perinatal complications in a sample of rural pregnant women, including adolescents. The researchers found that those women who had little or no reliable helpers (one or less) in the third trimester had a higher rate of poor outcomes, including neonatal death, neonatal intensive care, and low birthweight. Those subjects with poor outcomes were in the high sociodemographic risk category with at least one of the following: (a) subjects less than 18 years old, (b) no male partner, or (c) less than a high school education. The researchers indicate that the difference in tangible assistance and poor outcome remained after controlling for biomedical risk.

Native American Family Support

Frodi, Grolnick, Bridges, and Berko (1990) suggested that the socioemotional development of infants born to adolescent mothers who live with their family of origin may be buffered by a network that contains multiple caretakers. This concept of
family support can be clearly seen in the Native American culture where extended family members play a large role in structuring and restructuring the family organizational unit. For example, Joe (1982) found that a child with a disability did not greatly disrupt the family's lifestyle or parental roles since much of the caretaking of the child was done by extended family members. Mainstream society would suggest that the family made accommodations or adaptational responses to the disability of the child. However, this can also be viewed from the Native American perspective suggesting that family care taking is a preferred or inherent cultural style. Since the presence of extended family in a care-taking role is already in existence in Native culture, the addition of a child with disabilities does not make it anymore difficult for extended family to assume the supportive role. However, these tasks associated with care may be considerably more extensive, which suggests that it is important to understand Native American culture, particularly the Navajo cultural belief system surrounding child-rearing practices.

Since family caretaking may be a preferred or inherent cultural style among Native Americans, it is not difficult to understand the child-rearing practices and demonstration of family support among the Navajo. To illustrate, Navajo culture is founded on the thought processes of the Holy People (Manuel, 1988). Navajo parenting values began when the Holy People instructed First Man and First Woman in the appropriate care and nurturance of the first child, Changing Woman. First Man and First Woman were informed that they should rely on the help and advice of other Holy People. Roesell (1985) has suggested that the first Navajo child did not grow up in a nuclear family; instead the first Navajo child grew up in an extended family where other relatives were available to help the parents by providing them with sensible child-rearing advice and parental support.
Several researchers have examined Navajo parenting practices and values based on cultural beliefs (Everett, Proctor, & Cartmell, 1983; Gilpin, 1968). In a study investigating differences in temperament among White and Navajo newborns, Chisholm (1983) suggested there are not only differences in temperament, but also in cultural beliefs and values about appropriate behavior. Child-rearing practices and values noted by Spencer and Jennings (1965) suggest that in the early years: (a) the mother-child bonding is enhanced by the child being kept in close physical contact with the mother, (b) there is little pressure to toilet train, (c) temper tantrums and demonstrations of aggression by the child are permitted, (d) a child is encouraged to grow at his/her own pace rather than being forced into maturity, (e) gentleness and permissiveness are attributes of the parents and extended family that are shown to the child, and (f) cooperation and respect are values held by the parents. Studies such as these suggest that families make adaptations, or accommodations, in their daily routines; however, the more important factor may be that multiple caretakers are an inherent attribute of Native families, so inherent that they are not discussed.

Very little is known about the adjustments made in the daily routines by pregnant or parenting Navajo adolescents and their families as a consequence of pregnancy. However, with multiple caretakers as an inherent part of Native American culture, then social support is a "built-in" mechanism or ecocultural factor relevant to the sustainable daily routine of the adolescent mother and her family.

Negative Consequences of Adolescent Pregnancy

Adolescent pregnancy has been associated with numerous negative consequences for the adolescent mother, including lack of educational attainment, employment opportunities, and developmental consequences for infants. However,
there may be other individual, family, and neighborhood characteristics that predispose young girls to becoming mothers. For example, those who are poor students with low educational aspirations are more likely to become adolescent mothers than those who are high-achievers (Maynard, 1995). Other factors such as alcohol and drug use, early initiation of sexual activity (Urdy, Kovenock, & Morris, 1996; Peterson & Crockett, 1992), and the adolescent mothers living in poverty at the time of the birth of their babies (Alan Guttmacher Institute, 1994) also have a profound influence.

**Educational and Employment Opportunities**

One area of adolescent pregnancy receiving a vast amount of attention in the research literature has focused on educational attainment. Educational attainment has been linked to limited income and employment opportunities for the pregnant adolescent female (Furstenberg, 1976; McClendon, 1976). Nye (1977) presented the concept of an undereducation-underemployment dyad. His research indicated that 31% of the adolescent females in his sample who gave birth before the age of 18 were currently living at or below the poverty level. The reality of the situation for these women was linked to their being single parents with inadequate employment skills, lack of an appropriate education (e.g., high school diploma), which was a disadvantage in being hired for certain jobs, and oftentimes the women were limited in the selection of a marital partner (e.g., spouse's educational attainment and occupational opportunities were similar). Scott-Jones and Turner (1990) have suggested that the number of subsequent births was a good predictor of educational attainment. Lack of education, underemployment, and unemployment are major problems that adolescents who become pregnant must face, especially for those who
must work and are unable to find employment. Related to educational attainment is the complex issue of adolescent pregnancy and school drop out.

Marini (1984) concluded that, in general, mothers who have their first child under the age of 18 are more likely to drop out of school. More specifically, however, it was suggested that those who give birth between 16 and 18 years of age are more likely to drop out of school than those who give birth at younger ages. Hofferth (1979) suggested that those adolescents who drop out of school typically do not catch up completely, although educational progress may be made. Her evidence suggests that these effects are less pronounced among African American adolescent females than White adolescent females. Moore, Simms, and Betsey (1986) accounted for the racial differences as being due to the African American adolescent females having a better developed support mechanism within their families and communities than White adolescent females.

However, recent research has found the educational attainment gap between adolescent mothers remaining in school and those dropping out is narrowing due to general equivalency degrees (GED) programs, school requirements under welfare reform and receipt of benefits, and school policies that reflect a more accepting attitude regarding adolescent pregnancy. It has been suggested that the differences in educational attainment between adolescent mothers and older mothers is not due to adolescent pregnancy, but to preexisting differences (Hoffman, Foster, & Furstenberg, 1993; Hotz, McElroy, & Sanders, 1997).

Health Status of Infants

Another consequence of adolescent pregnancy is the health status of infants born to adolescent mothers (Strobino, 1987). Many of the health outcomes for infants born to
adolescent mothers depend on biological, environmental, and social risk factors (Church, 1991). Adolescent mothers from low-income families are more likely to be at-risk for pregnancy complications due to inability to access appropriate health care and compounded by other social ills (e.g., poverty, abuse, nutrition); other research suggests that an infant born to an adolescent mother is at-risk for health problems and developmental delays (Hayes, 1987). Culp, Culp, Osofsky, and Osofsky (1991) posited that children of adolescent mothers show more physical, intellectual, and emotional problems than do other children. Prematurity and low birthweights have been associated with more anomalies in infants of adolescent mothers (Osofsky, 1968). A National Institute of Health (1972) study indicated that adolescent mothers gave birth to more children who had neurological impairments than did mothers in their twenties. While the health status of infants born to adolescent mothers is of concern, so are the developmental consequences. However, these differences between adolescent mothers and older mothers are becoming less notable in recent research investigations due to increased health care services for these mothers. Negative health outcomes may be more related to poverty and lack of adequate prenatal care (Coley & Chase-Lansdale, 1998; Klerman, 1993).

Research has demonstrated that the environment of the infant plays a major role in his or her development. In an investigation of developmental outcomes of 5-year-old children born to adolescent mothers, Wadsworth, Taylor, Osborn, and Butler (1984) found that these children performed less well on measures of behavior and intelligence. In addition, these children displayed other physical differences such as shorter height and smaller head circumferences. Wadsworth et al. indicated that these differences were significant after allowing for social and biological factors. Another study, longitudinal in nature, was conducted to investigate cognitive and
motor development in infants born to adolescent mothers. Carlson, LaBarba, Selafani, and Bowers (1986) found that infants born to adolescent mothers had lower scores on a mental measurement index than the control group. In addition, the home environments of infants born to adolescent mothers were less nurturing than those of a control group. Whitman, Borkowski, Schellenbach, and Nath (1987) described the effects of maternal health, personal adjustment, learning ability, and infant characteristics on adolescent parenting and child development.

Recent researchers have found that preschoolers of adolescent mothers have behavior problems such as higher levels of aggression and lower impulse control than peers born to older mothers. When children of adolescent mothers become adolescents themselves, they tend to experience higher rates of grade failure, delinquency, and early sexual activity than peers born to older mothers (Furstenberg, Hughes, & Brooks-Gunn, 1992; Grogger, 1997; Haveman, Wolfe, & Peterson, 1997; Moore, Morrison, & Greene, 1997).

Implications for Native Americans

Most studies have examined the issue of adolescent pregnancy among the general population; however, when comparisons have been made it has been between African American and Caucasian pregnant adolescent females with the research ranging from educational attainment to the social support system of each racial group. Many of the same adverse consequences that occur in the dominant culture also occur in the Native American culture.

First, trends in the most recent status report concerning Indian health specific to the Navajo Reservation (Indian Health Service, 1992) show that the birth rate among 15- to 19-year-old adolescent females residing on the reservation is approximately
15.8% of all births. In one school district on the Navajo Reservation, one in eight females became pregnant, resulting in the development of a program to address the specific needs of adolescent mothers in this school district (Comprehensive Adolescent Pregnancy Project, 1993).

Second, the U.S. Department of Health and Human Services (1990) has determined that students from Indian tribes are at increased risk for school dropout. According to the U.S. Department of Education (1991), American Indian and Alaska Native students have the highest dropout rate (36%) in the nation as compared to Hispanics (28%), African Americans (22%), Whites (15%), and Asians (8%). The U.S. Department of Health and Human Services (1990) has reported the number of births to Native American mothers with less than 12 years of education as 35.9/1,000 births as compared to Whites with 17.5/1,000 and African Americans with 31.3/1,000. Indian tribes are at increased risk regarding educational attainment, with approximately 44% of Native Americans not completing a high school education (U.S. Bureau of the Census, 1980). Others (Fiscus, personal communication 1997) contend that the dropout rate is about 65%, equally distributed among males and females, in selected geographic locations.

Third, due to lack of educational attainment, many adolescent mothers are not adequately prepared for employment opportunities and thus have limited income. For some adolescent mothers this means reliance on government subsidies such as TANF (Temporary Assistance to Needy Families) under the new Welfare Reform policy formerly known as AFDC (Aid to Families with Dependent Children), or WIC (Women, Infants and Children's Program), which provides adequate nutrition through a voucher system for mothers to purchase food for their children 5 years old and under. The U.S. Department of Health and Human Services (1990) indicated that
28% of Native Americans had incomes below poverty level, many of whom are female heads-of-household and adolescent mothers. Although many tribes have developed economic enterprises, primarily gaming and casinos, some of those enterprises have not been as lucrative as once thought and poverty remains for most Native American mothers and children.

Finally, there are numerous health risks (Strobino, 1987) and developmental consequences (Card, 1978) for children born to adolescent mothers. These children are at a greater risk of lower intellectual and academic achievement (Levin, 1983), behavioral problems (Furstenberg & Brooks-Gunn, 1985), and problems of self-control (Moore, 1986). Coley and Chase-Lansdale (1998) suggested that many researchers have focused on the infancy and toddler years but little focus has been on the childhood and adolescent years.

Ensminger (1987) reportedly found a high incidence of sexual activity, alcohol use, and drug use during adolescence. Alcohol consumption during pregnancy has serious implications for the health of the fetus. For example, Sulik, Lauder, and Dehart (1984) contend that the rate of growth in the fetus is altered; and Streissguth, Herman, and Smith (1978) suggest that the child's development is altered and affected. Alcohol abuse has been shown to be problematic among Native American adolescents; therefore, children born to adolescent mothers who engage in abuse of alcohol may be at high risk for Fetal Alcohol Syndrome (FAS) or Fetal Alcohol Effects (FAE). The prevalence of FAS among some Native American cultures has been estimated to range from 1.4-9.8 per 1,000 births as compared to a general estimate of 1-3 per 1,000 live births in the general population (May, Hymbaugh, Aase, & Samet, 1983). Thus, much of the research literature pertaining to adolescent pregnancy has described negative effects for both mother and child.
Although several adolescent pregnancy projects have been implemented across the country to address Native American adolescent pregnancy issues, only one published study (Dalla & Gamble, 1997) has been located that specifically pertains to Navajo adolescent pregnancy. The researchers employed a dual technique of inquiry utilizing both quantitative and qualitative methods that explored factors relating to parenting competence among parenting Navajo adolescent mothers. The researchers based their investigation on the process model of parenting competence developed by Belsky, Robins, and Gamble (1984). By using quantitative techniques, the first part of the investigation explored adolescent parenting among Navajo women relative to factors posited as significant for determining parenting competence. The results from the first investigation suggest that self-esteem and school functioning scores were associated with perceived competence. Identification with, or a commitment to, the parenting role emerged as critical. The second part of the investigation involved qualitative techniques to gain an understanding of the Navajo adolescent mothers' perceptions of factors associated with parenting competence. These factors included maternal role, partner/father relationship, and sources of support. Navajo adolescent mothers discussed issues relevant to those determining factors that indicated importance. Parenting behavior revealed significant within-group differences in the second investigation.

Conclusions

In summary, there is a profusion of adolescent pregnancy research literature recognizing it as a problem. Adolescent birth rates began rising in the 1960s; however, those birth rates have steadily declined since 1991. There is a growing amount of research suggesting that a range of personal and contextual variables other
than age is a contributing factor to the developmental consequences of adolescent pregnancy such as ecological supports as well as cultural beliefs and attitudes. Social support is an important ecocultural factor in the process of daily accommodations due to the potential positive or negative consequences for the mother, her child, and her extended family. Since the presence of extended family in a care-taking role is already in existence in Native American culture, the addition of a child does not make it any more difficult for extended family to assume the supportive role, which is a preferred or inherent cultural style. A number of negative consequences for the mother and her infant have been implicated as resulting from adolescent pregnancy (e.g., lack of educational attainment, underemployment and unemployment, as well as negative impacts on the health and developmental status of infants born to adolescent mothers).

The need to address the issue of adolescent pregnancy among the Native American population is critical because there has been little empirical research located that has investigated this issue. In addition, ecocultural theory has demonstrated the potential to be a viable mechanism for understanding the econiche and ecocultural variables relevant to the daily existence of the Navajo adolescent mother and her family. Such information may be useful to those designing school retention programs since it may provide concrete data with respect to adaptations and social support mechanisms at work.
CHAPTER III
METHODS

Introduction

The overall purpose of this study was to provide a qualitative research method designed to explore adolescent pregnancy among Navajo females relative to ecocultural factors determined to be significant in the decision of a Navajo adolescent mother to remain in high school or drop out of high school. More specific objectives to achieve the purpose included developing an instrument that is reliable and valid in studying the ecocultural variables within Navajo families with young children, determining and describing what ecocultural factors are pertinent in the sustainable daily routine of Navajo adolescent mothers, determining the social support system available to and utilized by Navajo adolescent mothers, and examining the child development consequences of infants/toddlers born to Navajo adolescent mothers who remain in high school and drop out of high school.

Understanding adolescent pregnancy requires more than just manipulating data—it involves integrating all methods of research. The adolescent mother has not been allowed to tell her story and share her experiences about what it is like to be an adolescent mother. Ecocultural theory provides the opportunity for such research in understanding the individual within his/her social context. This qualitative methodology utilizing ecocultural theory as a framework is characterized by a participatory process with adolescent mothers which provides a rich description of the connections between environmental pressures, cultural beliefs and patterns of interaction, and the adaptations that individual and/or family members must make to accommodate to changing life circumstances.
In the research study, the ecocultural variables relative to the sustainability of the daily routine for adolescent mothers and their infants include factors such as the family subsistence base, domestic workload including child care tasks and chores, family support and availability, accessibility of educational services, home and neighborhood, role of religion, cultural homogeneity, and couple/role relationships. The interaction of these factors in the daily routine of an adolescent mother contributes to the decision to remain in high school or to drop out of high school.

Data Collection

Early in the process of data collection, parenting Navajo adolescent mothers were recruited through the daycare centers of the school districts of two small reservation towns in eastern Arizona. The program directors or coordinators or both at the daycare centers were instrumental in assisting the student researcher in identifying parenting Navajo adolescent mothers willing to participate in the study. Data collection was conducted from June 1994 to March 1997. All data were collected by June 1995 for parenting Navajo adolescent mothers who remained in high school.

There was difficulty encountered in the recruitment of parenting Navajo adolescent mothers who dropped out of high school. Many schools did not have a reliable method for tracking adolescents who dropped out of high school. Therefore, several agencies, including tribal social services and Indian Health Services in Arizona and New Mexico, were contacted for assistance based on the premise that those agencies would be service providers with access to the population from which the high school dropout group could be drawn. However, those agencies were reluctant to assist because the student researcher did not have prior approval from
the Navajo Nation Internal Research Review Board. Within the last 2 years, the Navajo Nation became concerned with publicity from research being conducted by non-Navajo entities. These concerns resulted in the establishment of an Internal Research Review Board to review requests for research to be done on the Navajo Indian Reservation. Before the student researcher could continue to recruit parenting Navajo adolescent mothers who dropped out of school, an abstract of the proposed research study had to be submitted to the Navajo Nation Internal Research Review Board for approval. The tribal research review committee was a requirement that was not in place at the time this study began. The abstract was submitted to the Navajo Nation in September 1996 and was not approved until late February 1997.

Once the proposal was approved, the recruitment of parenting Navajo adolescent mothers who dropped out of high school began. Parenting Navajo adolescent mothers who dropped out of high school were recruited in the same manner as the parenting Navajo adolescent mothers who remained in high school. These parents were recruited through the daycare centers, tribal social services, and outpatient medical clinics at the same reservation towns in eastern Arizona where adolescent mothers who remained in high school had been recruited. Issues with respect to the comparability of the two samples and threats to internal validity due to the time lapse in the two-stage data collection will be addressed in the results section of this document.

In accordance with the Utah State University Human Subjects Internal Review Board, consent forms were completed by those parenting Navajo adolescent mothers who participated in the study. It was determined that since these young women were already mothers, there was no need to have parental consent. Navajo adolescent mothers participated in a semistructured interview (Accommodations Interview),
completed a Family Support Scale and a Family Resources Scale, and infants of parenting Navajo adolescent mothers were administered the Bayley Scales of Infant Development. A detailed description of the instrumentation used in the study is provided below.

Instrumentation

Accommodations Interview

Navajo adolescent mothers participated in the semistructured Accommodations Interview lasting approximately one and one half hours, which was conducted by the student researcher. The interview took place in one or two parts, depending on the adolescent mother's conversational skills, the level of trust the adolescent mothers established with the student researcher, the Navajo adolescent mother's time schedule, and whether or not the infant born to the Navajo adolescent mother was present. Interviews took place in the adolescent mother's home, at the daycare center operating at the adolescent mother's high school, or sometimes a combination of the two.

The Accommodations Interview was chosen because it has the advantage of being objective while still permitting a more thorough understanding of the parenting Navajo adolescent mother's opinions and the reasons behind those opinions. The semistructured Accommodations Interview was revised by the researcher to make it appropriate for use with parenting Navajo adolescent mothers. The steps in the revision process included the following.

1. Review the original Accommodations Interview that was based on use with Navajo families who had children with disabilities.

2. Select appropriate items relevant to the Navajo adolescent mother and child.
3. Select appropriate items relevant to the Navajo adolescent mother.

4. Select appropriate items relevant to the proposed study if the item was revised.

5. Select items to be eliminated due to lack of relevance to parenting Navajo adolescent mothers.

6. Review the proposed revisions with Dr. John Alley, ethnographer at the Early Intervention Research Institute of Utah State University; and Ms. Cathy Mathison and Dr. Thomas Weisner of the UCLA Biobehavioral Institute.

7. Make the necessary revisions to develop a semistructured interview based on items 2, 3, 4, and 6 above.

Prior to and during the revision process, the student researcher was trained to conduct the semistructured interviews. The training of the student researcher was provided by the ethnographer at the Early Intervention Research Institute at Utah State University, who had been trained regarding the criteria of the semistructured Accommodations Interview by the author of the ecocultural scale. The student researcher observed and participated in several semistructured Accommodations Interviews conducted with families of children with disabilities in southeast Utah.

Items that were specific to families who had children with disabilities were eliminated, and those items pertinent to these families that were relevant to parenting Navajo adolescent mothers were modified. Once the necessary revisions were made, a pilot study was conducted with specific focus on the use of the semistructured Accommodations Interview.

Eight tribally enrolled, parenting Navajo adolescent mothers were recruited from a daycare program serving a reservation school district in central Arizona. The
purpose of the pilot study was to tentatively test the newly revised semistructured Accommodations Interview to determine effectiveness and viable use with parenting Navajo adolescent mothers. The semistructured Accommodations Interview proved to be a valuable method of collecting the "stories" about the parenting Navajo adolescent mothers as well as providing a desirable combination of objectivity and depth that could not be gleaned from a purely structured or unstructured interview. The Accommodations Interview also permitted the gathering of valuable data relevant to the adaptational responses, or accommodations, made in the daily routine of a parenting Navajo adolescent mother, and her family in many cases, in the attempt to restructure the family organization around the introduction of a new family member.

After the instrument was used in the pilot study, it was determined if the desired information was readily obtained by coding for information, in particular, from various sections in the interview. When it appeared that information was not readily obtained, the question or section was revised further and the student researcher was able to ask other open-ended questions to ensure that valuable data were not omitted. The instrument was determined to be reliable and valid after revising the instrument a second time, reviewing the information with the ethnographer, as well as establishing interrater reliability on one interview for the pilot study and 20% (six) of the interviews of the total sample.

Coding Procedure

As stated previously, the semistructured Accommodations Interview measures the accommodations, or adaptational responses, of parenting Navajo adolescent mothers in the daily routine of raising an infant and provides the adolescent mother an opportunity to "tell her story." The interviewer is provided with specific questions
and topics to be covered with all Navajo adolescent mothers, and is trained to use probes to ensure that equivalent material is obtained for all adolescent mothers. The coding manual is organized by topic; however, the interview does not necessarily follow the topical order. Single responses to single questions does not allow the coding of each item, but each item may reflect cues from the adolescent mother or family members that were scattered throughout the entire interview as well as field notes kept by the interviewer. Some coding is done from direct responses to direct probes and some coding is done from responses to multiple indirect probes.

The coding instrument (see Appendix A) used in the study allows the researcher to rate the interview for information. The coding instrument has 197 different ratings covering a range of topics pertinent to accommodation, ecocultural characteristics, child status and characteristics, cultural goals and values, and family functioning and status. The Accommodations Interview and coding manual are based on the studies conducted by Gallimore et al. (1989). Gallimore et al. reported the Accommodations Interview interrater reliability to be .81. Interrater reliability was developed in the process of coding interviews for this study with Dr. R. Cruz Begay, formerly associated with the Early Intervention Research Institute at Utah State University and a Native American who has had extensive experience in conducting and coding the semistructured interviews. Dr. Begay and the researcher coded 20% (six interviews) of the total number of 30 interviews. The same interviews were coded independently, then reviewed for discrepancies, and interrater reliability was determined. As discussed between Dr. Begay and the researcher, there did not appear to be any differences between categories on an independently coded scale that was coded by both previously. The interrater reliability was a global rating ranging from .83 to .87 within those cases coded, suggesting a high degree of interrater reliability. The method for determining interrater reliability was the
percent of agreement ratio between independent raters to the ratio of both agreements and disagreements, that is:

\[
\frac{\text{# Agreements}}{\text{# Agreements - Disagreements}}
\]

The coding manual (see Appendix A) is organized by topic; however, the interview does not necessarily follow the organization of the manual. The coding of items is based on cues received from the Navajo adolescent mother that are scattered throughout the interview. The coding procedure is done as soon as possible after the interview, usually within a day or so of conducting the interview. In some instances, coding was done immediately after the interviews were completed by listening to the taped recording of the conversation. For each item a decision must be made as to whether the adolescent mother can best be coded as low, medium, or high for the variable in question. Then, within that category a decision must be made as to whether the adolescent mother is low, medium, or high. Below is an example of a question asked from a specific category, the subject's response, and how the item was coded. The student researcher asked "What was your pregnancy like?" under the prenatal stress category. One Navajo adolescent mother (subject #26) responded:

"...I had to stay in bed the last two months of my pregnancy 'cause I was bleeding and my doctor didn't want me walking around. Before that I had some morning sickness, that's how I found out I was pregnant."

The coding for the section on prenatal stress is as follows:

- 0, 1, or 2 = Low level; trouble free pregnancy
- 3, 4, or 5 = Medium level; average, normal pregnancy
- 6, 7, or 8 = High level; prolonged morning sickness or severe depression; serious complications possibly requiring hospitalization
Based on the cues provided by the adolescent mother, this item was coded as "high." This mother's comments fit within the high level category due to the necessity to remain in bed the last 2 months of her pregnancy. Although she experienced serious complications, she was not required to be hospitalized so her response was coded as "7." Other information contained in the interview can be coded as "not applicable," "missing," or "blank" if, for example, the items contained in the coding manual do not apply to the adolescent mother, or if there is information missing or for which there is no response.

**Family Resources Scale**

In order to gain as much information as possible about the adaptations in the daily routine of a parenting Navajo adolescent mother, her family support, family resources, and the health/developmental status of infants, other methods of data collection were also involved. The participants in the study were asked to complete the Family Resource Scale (Dunst & Leet, 1985), which measures the extent to which different types of resources are adequate in households with young children. Completion of the Family Resource Scale usually took less than 15 minutes. Factors include General Resources, Time Availability, Physical Resources, and External Support. The Family Resource Scale is a 30-item, self-report questionnaire for which the respondent indicates the adequacy of resources on a Likert scale of 1 to 5 (1 = Not at All Adequate; 5 = Almost Always Adequate). Dunst and Leet (1985) reported the reliability inter-subscale correlation to be .94. Additionally, the criterion validity was reported to be supported by significant correlation between Family Resource Scale scores and a personal well-being measure.
Family Support Scale

Participants also completed the Family Support Scale (Dunst, Jenkins, & Trivette, 1984), which assesses the availability of sources of support, as well as the degree to which different sources of support have been helpful to families rearing young children. The Family Support Scale is an 18-item, self-report measure and usually took less than 15 minutes to complete. The respondents indicate which of the 18 sources of support are available to them, and then rate those that are available on a 5-point Likert scale from "Does not apply" to "Almost always adequate." Dunst et al. (1984) reported the reliability data to range from .47 (long-term stability coefficient) to .91 for the total scale scores (short-term test-retest reliability). Dunst et al. indicate that factor analysis supports the construct validity. Criterion validity was supported by the ability of the Family Support Scale helpfulness scores and sources of support to predict personal and familial well-being, number of parent-child interactions, and child progress scores.

Bayley Scales of Infant Development

Finally, the Bayley Scales of Infant Development (Buros, 1972) were administered to the infants or toddlers of parenting Navajo adolescent mothers. The Bayley consists of two scales designed to assess the developmental status of infants and young children. The mental scale consists of 163 items that measure sensory-perceptual acuity and discrimination; early acquisition of object constancy and memory, learning, and problem-solving ability; vocalizations and the beginning of verbal communication; and early evidence of the ability to form generalizations and classifications. The motor scale consists of 81 items that measure degree and control of the body, coordination of the large muscles, and fine manipulatory skills of
hands and figures. The mean score is 100 on this developmental assessment tool. Buros (1972) reported the reliability data for internal consistency to range from .81 to .93 on the Motor Scale, and the validity data were established by correlating the scores of 2-year-old children in the standardization sample with their scores on the Stanford-Binet. The correlation was .57, suggesting a moderate amount of overlap on what the two tests measure. Two Native American individuals who are familiar with administering the Bayley were contracted to administer the tests. These test administrators were "blind" to the hypotheses of the study as well as the group. A tribally enrolled Navajo female and a tribally enrolled Cheyenne River Sioux male administered the Bayley to the infants in this study.

In summary, instruments used in the study were predominantly self-report measures (see Table 1). There are always concerns of questionable validity when

Table 1

Measures Utilized in Study

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semistructured Accommodations Interview</td>
<td>Measures the accommodations (adaptational responses) of parenting Navajo adolescent mothers and provides her an opportunity to &quot;tell her story&quot; about being an adolescent mother.</td>
</tr>
<tr>
<td>Family Resource Scale</td>
<td>Thirty-item self-report questionnaire that measures the extent to which different types of resources are adequate in households with young children.</td>
</tr>
<tr>
<td>Family Support Scale</td>
<td>Eighteen-item self-report assesses the availability of sources of support as well as the degree to which different sources of support have been helpful to families rearing young children.</td>
</tr>
<tr>
<td>Bayley Scales of Infant Development</td>
<td>Assesses the cognitive and performance developmental status of infants and young children.</td>
</tr>
</tbody>
</table>
self-report data are being used because individuals may distort recollections after considerable time has elapsed. However, if one is truly interested and wants to know what it is like to "walk a mile in the Navajo adolescent mothers' moccasins," or understanding the ecocultural perspective and describing the ecocultural niche of the parenting Navajo adolescent mother, then she must be allowed to "tell her story" as she perceives it. What greater objectivity and depth to a story than to "hear" it from the storyteller?

Sample

There were two groups of 15 participants each in the study. One group was comprised of 15 tribally enrolled Navajo adolescent mothers age 18 years and under who had remained in high school, and one group comprised of 15 tribally enrolled Navajo adolescent mothers age 18 years and under who had dropped out of high school. Mothers were identified by various tribal entities, but most were identified through the adolescent pregnancy projects at both reservation towns where data were collected. Navajo adolescent mothers were first approached by the Pregnancy Project Coordinators or School Nurses for interest in participation in the study. Those adolescent mothers identified as interested in participating in the study were placed on a list generated by the project coordinators, and a schedule was developed so the student researcher could talk with the adolescent mothers about the study, obtain informed consent (see Appendix B), have the mothers complete the self-report inventories, and conduct the interviews. Most interviews began with the phrase "tell me about your baby," and no mother was without a loss for words about her baby or other experiences as a young parent. Below is a description of the 30 Navajo adolescent mothers who participated in this study.
Characteristics of the Whole Group

Another extensive description of the full sample of 30 mothers will be provided in this section. Given the strong qualitative nature of this study, it is important to have a good understanding of the subjects in the sample as a whole prior to beginning to describe differences in the mothers and children based on the current school enrollment. First, demographic data will be presented followed by pregnancy descriptions. Adolescent mothers' sense of themselves and their relationship with the child's father, their family, and the child will follow. Information on their daily routines and accommodation patterns is next followed by the results of the standardized measures for the group as a whole.

Demographic Data

Demographic data indicate the average age of parenting Navajo adolescent mothers at the time of this investigation was 17 years, with the minimum age being 16 years and the maximum age being 18 years. The average age of parenting Navajo adolescent mothers at the time of their first pregnancy was 15 years with the minimum and maximum ages being 14 years and 17 years, respectively. The marital status of Navajo adolescent mothers indicates that they are either single and living with their parents or other extended family members (n = 18), cohabiting with the child's father (n = 10), married (n = 1), or cohabiting with their boyfriend who is not the child's father (n = 1). None of the adolescent mothers report having been divorced.

Health and Pregnancy History

Much of the research literature suggests there are negative costs to adolescent pregnancy that impact adolescent mothers, including but not limited to health
problems (Davidson, Gibbs, & Chapin, 1991; Marchbanks, 1991) and subsequent pregnancies (Card & Wise, 1978; Moore, 1989). The health and pregnancy history data of this sample of Navajo adolescent mothers focused on topics such as prenatal stress, perinatal stress, infant prematurity, physical and/or medical problems at birth, professional identification of the infant as being at-risk, repeat pregnancies, other risk factors, and prenatal visits. The coding system used values with a range of 0-9 based on the Ecocultural Accommodations Interview. Those values are as follows:

"0,1,2" = low (responses are specific to the content area, for example, prenatal stress, religiosity, accommodation efforts, etc.)
"3,4,5" = medium
"6,7,8" = high
"9" = blank, missing information

**Prenatal stress.** Many Navajo adolescent mothers report having had high levels of prenatal stress. High levels of prenatal stress (coded "6, 7, or 8") included prolonged morning sickness, severe depression, gestational diabetes, acute hypertension, or other serious complications possibly requiring hospitalization. One 17-year-old Navajo adolescent mother (Subject #14) describes the following stress she experienced during her pregnancy:

> Once when I found out I was pregnant...at four months, they told me I was going to have twins...that there were two of them, and there was a lot of stress at school. I think it was stress that I brought on myself because I worried too much, and my doctor told me that I shouldn't be doing anything too stressful, physical activity and activity that would stress me and my body because my body wasn't ready to have a child, and that it would be harmful on the baby and myself....In my fifth month I started bleeding and I went into the clinic that day....They kept monitoring me and checking me a lot.

**Perinatal stress.** Overall, the parenting Navajo adolescent mothers reported medium levels (n = 16) or low levels (n = 13) of perinatal stress following their
pregnancy. A low level of perinatal stress ("0, 1, or 2") was indicative of a normal or trouble free pregnancy. A medium level of perinatal stress ("3, 4, or 5") included low birthweight of the infant, the use of forceps in delivery or delivery by C-section, or the child had to remain in the hospital beyond what might be expected for a usual delivery, or any combination of the above. Infant prematurity, or the child being born more than 4 weeks early, occurred in only three cases, with most (n = 27) adolescent mothers carrying to full-term. Almost all (n = 29) Navajo adolescent mothers indicated their child did not have any problems at birth and the child was not identified as being "at-risk"; in only one case was the opposite true. Most (n = 18) Navajo adolescent mothers have not had repeat pregnancies, although a substantial number (n = 12) have given birth to a second child within 2 years of the birth of their first child. Of the 12 parenting Navajo adolescent mothers having a second child, 11 adolescent mothers belonged to the "dropout" group. Adolescent mothers indicated that it was more difficult for financial reasons to have a second child rather than one child.

**Prenatal visits.** Prenatal visits varied among the Navajo adolescent mothers. Most (n = 22) Navajo adolescent mothers had prenatal visits throughout their pregnancy since the first trimester. A small number of adolescent mothers reported no prenatal care (n = 4), first prenatal visits during the second trimester (n = 3), or first prenatal visits during the third trimester (n = 1).

**Risk factors.** Although most parenting Navajo adolescent mothers responded "no" to many of the risk factors, the largest number of responses under the "yes" category is, not surprisingly, being an adolescent mother. Other categories indicating a "yes" response include perinatal stress/low birthweight, a victim of any form of abuse, prematurity of infant, poverty/lack of housing, and prenatal drug exposure.
This information is indicative of the health and pregnancy history of a parenting Navajo adolescent mother.

**Child care demands at time of interview.** Information obtained from the Accommodations Interview and coding instrument indicate that parenting Navajo adolescent mothers \( n = 19 \) in this sample believe that behaviorally their child is average, suggesting the child is at times easy going and pleasant as well as difficult or irritable. Only one adolescent mother indicated that her child was difficult, irritable, threw a significant amount of temper tantrums, or was hyperactive.

The child-mother interactive behavior rating from the Accommodations Interview determines how satisfied the child is to be away from the mother or how close the child needs to be, which is suggestive of the demands placed on the adolescent mother. Most mothers \( o = 20 \) described a medium response that involves a moderate or occasional seeking of attention from the adolescent mother by the child, especially in the presence of strangers. The child is generally content with the mother's proximity, minimal touching or vocalizing. Additionally, the child rarely seeks the mother's lap or wants to be picked up, and may find the proximity of others who are familiar almost as or as reassuring. It appears that most children \( n = 16 \) will sometimes initiate interactions with others, but may also avoid interaction after the initial contact. These children tend to be wary around strangers with low to moderate attention seeking with familiar relatives. These behaviors may be indicative of the child's age.

**Medical characteristics of the child.** Pertaining to medical characteristics of the child, most adolescent mothers \( n = 19 \) indicate there are no problems, some adolescent mothers \( n = 10 \) indicate their child has some medical problems (e.g., chronic ear infections, sinus infections, child is sickly), and one adolescent mother
indicated her child has medical characteristics and has been identified by a service provider as being at-risk, suggesting unusual care-giving demands and physical disability.

Communication skills of the child. Communication skills, or lack thereof, is a component in determining whether a child is developing at an average developmental level. Almost all children (n = 29) are developing normal communication skills as reported by their mothers; only one mother indicated there was a problem and expressed concern about her child's communication skills development.

Overall, based on responses to topics such as prenatal stress, perinatal stress, prenatal visits, medical characteristics, and communications skills, Navajo adolescent mothers reported an average level of medical difficulty and development of their children as determined by the Accommodations Interview. However, present findings about the developmental functioning of infants born to Navajo adolescent mothers may suggest other possible concerns.

Adolescent mothers' perception of status. The parenting Navajo adolescent mothers' perception-of-her-status (e.g., why did the Navajo adolescent female decide to have child, or did she make an informed decision?) responses gleaned from the Accommodations Interview are not mutually exclusive, and the subjects were coded for more than response. These responses indicate that parenting Navajo adolescent mothers did not plan their pregnancies (subjects indicated a lack of birth control or "it just happened"), along with a number of potentially conflicting reasons for having the baby such as don't know why they decided to have a baby, adolescent mothers wanted their own family, to show love for their boyfriend, to get away from a dysfunctional home environment, or to get married. Adolescents did not necessarily
choose to become pregnant, but now that they have become young mothers, expectations about their future and the future of their child may be different.

**Adolescent mothers' expectations and goals for the future.** Although the research literature suggests the future of adolescent mothers may be more difficult than for older mothers, parenting Navajo adolescent mothers in this study indicated a variety of responses pertinent to their future and the future of their child. Adolescent mothers, for example, clearly described multiple goals for themselves and their children. Some (n = 12) have high expectations for the future, indicating the adolescent mother is currently attending school, is looking forward to attending college, or has taken some other course of action to enroll in school at a later time. Other adolescent mothers (n = 12) have medium expectations, indicating that she knows she and her child will face struggles but is optimistic about the future. Navajo adolescent mothers in this category expect to return to school and become financially stable at some point in her future. For example, one Navajo adolescent mother (Subject 2) said:

> My first goal is that I want to become a nurse. I have to go to college for that and if I can go beyond being a nurse, I want to become a child physician. Because I know they both pay good money, and I enjoy helping other people. I could think of other things, but it's not really like I wanted to become an X-ray technician....[I] want to do something other than an X-ray technician....I looked into research on some of it and it seems real interesting to me, something I would like to do.

Yet other adolescent mothers (n = 6) have low expectations and see their future as hopeless and bleak, and do not expect to return to school or become financially stable at any point in the future. One adolescent mother who dropped out of high school attempted to show enthusiasm about the possibility of returning to finish high school. When queried about whether she would indeed return, she looked somewhat despondent and replied, "No, I will probably never go back to finish....it's reality."
With these outlooks about the future, parenting Navajo adolescent mothers have determined goals for themselves and their children. Table 2 represents the three highest ranking goals from a list of goals that parenting Navajo adolescent mothers have for themselves as determined by responses provided in the Accommodations Interview. In addition, Table 2 indicates those goals that are being actively implemented by the parenting Navajo adolescent mother as provided by the overall evidence. This suggests that Navajo adolescent mothers have primary goals that they are consistently and actively implementing on a daily basis. The responses are coded using a numerical system of 0-9 based on overall evidence (self-report, behavior and events leading to the implementation of the goal, field notes, communication with pregnancy project staff or family members, etc.). The numerical system used is "0, 1, 2 = Low", "3, 4, or 5 = Medium", and "6, 7, or 8 = High."

Since the children in these cases are infants or toddlers, they cannot express or actively implement goals for themselves. However, Table 3 reflects the primary goals from a list of goals in the same Accommodations Interview that parenting Navajo adolescent mothers have chosen for their children. This table also reflects the goals that adolescent mothers are actively implementing with respect to their child's daily routines by the overall evidence.

Table 2

Navajo Adolescent Mother Primary Goals

<table>
<thead>
<tr>
<th>Primary goal</th>
<th>n</th>
<th>Goal implementation</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finishing school</td>
<td>25</td>
<td>Finishing school</td>
<td>15</td>
</tr>
<tr>
<td>Have relationship with child's father</td>
<td>8</td>
<td>Having relationship with child's father</td>
<td>11</td>
</tr>
<tr>
<td>Other (good job, independence)</td>
<td>8</td>
<td>Having own home</td>
<td>8</td>
</tr>
<tr>
<td>Having own home</td>
<td>8</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>
Goals the adolescent mother chose for her child and consistently implemented were to: (a) finish school (implementation of finish school goal was more closely associated with learning to read, alphabets, numbers, books, stories); and (b) maintain harmony and place within the family. Navajo adolescent mothers were not necessarily consistent in implementing their primary goals in their daily routines. For example, even though adolescent mothers did not indicate that it was an important goal to have their child develop a relationship with the child's father, their behaviors indicate otherwise, particularly with mothers from the "dropout" group encouraging the child's father to participate and otherwise be a part of the child's life, even though there may be hidden or mixed agendas. For example, below is an adolescent mother's account (Subject #8) of her attempt to have her child develop a relationship with the child's father, no matter what the circumstances:

I want her to have her dad back instead of him staying with that girl. I don’t want her [child] to end up like my sister, my sister’s kids. My sister’s kids don’t have no dads...We call him every once in awhile. He comes over on
the weekend...[we are] trying to save money so we can have our own house.

In addition, all adolescent mothers have indicated that a goal they have for their children is to finish school. One mother (Subject #22) who became pregnant while in high school but did not drop out describes how she is implementing that goal:

I tell her everyday that I want her to finish school....I take her to school with me everyday...cause I don't want her to end up like me, getting pregnant before she finishes school. I want her to be in that school environment so she knows what it's like and she won't want to dropout. I read to her every night, I teach her to count, say her ABCs....I tell her that she needs to do better than me and be a doctor or lawyer or something....

Although a few (three) parenting Navajo adolescent mothers chose as a primary goal to "maintain harmony/place within the family," what is most interesting is that more six are actively implementing this goal as opposed to other goals on the list. This information is provided by the overall evidence; even though families may have adapted to some of the dominant society values, there is yet a strong tie to the cultural belief system.

Focal concerns. Issues focusing on day-to-day survival skills such as food, shelter, and clothing are concerns for the adolescent mother. There are also other concerns focusing on attending school, marital/couples situation, kinship obligations, health or other problems of the adolescent mother or other household members, new/geographic relocation, domestic workload, and socializing. Navajo adolescent mothers responded to which is more salient for them--parenting (n = 12), parenting and these other pressures are equally salient (n = 13), or the other pressures (n = 5). There are other econiche variables that must be considered in the sustainable daily routine of the parenting Navajo adolescent mother.
Econiche Variables

In terms of econiche, variables such as family subsistence base, most Navajo adolescent mothers' incomes are based on one to three income sources. Those income sources tend to be the adolescent mothers' wage work, the adolescent mothers' parents' wage work, or welfare assistance (including SSI, Social Security benefits, or AFDC). Additionally, the degree of energy expended in subsistence activities tends to fall within the "low" or "medium" category. The low category indicates that Navajo adolescent mothers are unemployed or underemployed with little or no effort to find a job. The medium category indicates that the adolescent mother is either employed full-time; underemployed but actively seeking a job; or her parents may supplement the income with traditional work such as crafts or livestock.

Services Provided to Adolescent Mothers

Services that have helped Navajo adolescent mothers cope with their situations are day care services, social services/mental health, educational services, and/or financial assistance services (Medicaid, Social Security, SSI). The most used and salient services have been financial assistance (n = 23) and daycare services (n = 16).

Child Raising and Tasks/Chores

It could be posited that the services above have allowed adolescent mothers to be more involved with child raising and child care tasks/chores. Most Navajo adolescent mothers (n = 24) have described themselves as "somewhat" (n = 11) or "very much so" (n = 13) active mothers. These adolescent mothers are those who may depend on others extensively for respite due to conflicts with school (extended
family members may baby-sit or make certain that the child is seen in the clinic while mother attends school) or who may decide to drop out of school for a period of time in order to take care of the child themselves. Navajo adolescent mothers in this sample indicate that there is a moderate degree of complexity/elaborateness to their work and schedule (e.g., learning to manage their time more wisely), and they also respond that this requires little physical effort but is more a mental gymnastics feat. One mother (Subject #3) responded:

At the beginning of the school year I couldn't get up in the morning to get her ready in time for school so my mom said she would watch her for me...then things got on a schedule so I knew I had to get up at 6:00, get ready and then get her ready, go to the bus, go to school, take her to daycare....[W]hen I got home I was tired but I had my homework to do, and I just wanted to spend time with her....

In terms of help with child care, most adolescent mothers (n = 18) indicate they receive little help with transportation and respite from individuals who are not part of the household versus those who are part of the household (n = 14). Relative to child care tasks overall since birth, Navajo adolescent mothers appear to fall into two groups. The first group of parenting Navajo adolescent mothers have described those child care tasks as moderate to heavy (n = 11) in which the child's status has created additional demands on the adolescent mother, such as scheduling conflicts with school, study time, no available respite, or the adolescent mother has been reluctant to be away from the child. The second group of Navajo adolescent mothers (n = 11) have described the child care tasks as heavy and complex in which the child has created more significant demands on and consequences for the adolescent mother. For example, the Navajo adolescent mother has had to drop out of school or her attendance is sporadic because no respite care has been available.
Family Support and Resources Available to Navajo Adolescent Mothers

The availability of the father of the child is somewhat bimodal: either he lives far away off-reservation or he is a part of the household. The father's proximity or availability to the adolescent mother is probably a primary determinant of the support he provides. Table 4 indicates the availability and support provided by the father to the adolescent mother, in which there are overlapping categories.

One young mother (Subject #9) tearfully shared the following about an unsupportive boyfriend:

He was here when she was first born...but then he left, he told me about this other girl...she keeps coming around but he says he doesn't want her...I couldn't handle it no more...[sometimes] he comes around about once a month,...now he doesn't come anymore, and he doesn't help, he doesn't care about us, he's not supportive.

Another adolescent mother (Subject #1) shared the following about her boyfriend who left the area to seek part-time employment, and to attend school so he could become financially stable to help support her and their child:

Table 4

Availability and Support of Father

<table>
<thead>
<tr>
<th>Description</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father lives far away, off-reservation</td>
<td>11</td>
</tr>
<tr>
<td>Father is part of the household</td>
<td>10</td>
</tr>
<tr>
<td>Father has no contact with mother or child</td>
<td>9</td>
</tr>
<tr>
<td>Father offers little help</td>
<td>6</td>
</tr>
<tr>
<td>Father offers intermittent help but mother is more responsible</td>
<td>2</td>
</tr>
<tr>
<td>Father is supportive but the mother is more responsible</td>
<td>1</td>
</tr>
<tr>
<td>Father is co-equal in care, or nearly so</td>
<td>10</td>
</tr>
</tbody>
</table>
His [her son] dad sends us money...we buy stuff like food. Well, he just left like a few weeks ago...he would give us money when he was here. He would give money and come over and visit with us almost every day. Every few days he would give us money, and now that he's in Phoenix he has an apartment there, and he's not making any money out there yet...when he's out there it's hard for him to have money so when his parents send him money, he sends me some of that....That helps out with diapers and stuff.

Availibility and Support of the Child's Grandmothers

With the social support received from family members and active accommodation efforts being made, the primary caretaker of the child is the adolescent mother (n = 26) and the secondary caretaker is the maternal grandmother (n = 14). Table 5 describes the availability and support of the grandmothers. The picture emerging from the Accommodations Interview is that typically one grandmother is available and provides support; that grandmother is most frequently identified as the adolescent mother's mother or stepmother.

Table 5

Availability and Support of Grandmothers

<table>
<thead>
<tr>
<th>Description</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>One grandmother lives nearby in the same or neighboring community</td>
<td>17</td>
</tr>
<tr>
<td>Both grandmothers live nearby in the same or neighboring community</td>
<td>13</td>
</tr>
<tr>
<td>Intermittent help from one grandmother</td>
<td>4</td>
</tr>
<tr>
<td>Intermittent help from both grandmothers</td>
<td>1</td>
</tr>
<tr>
<td>One grandmother provides regular support</td>
<td>17</td>
</tr>
<tr>
<td>Both grandmothers provide regular support</td>
<td>8</td>
</tr>
</tbody>
</table>
Others Availability and Support

Next to the adolescent parents' mothers, the most frequently cited persons available to provide support and actually do provide support have been the adolescent mother's father \((n = 17)\) and the adolescent mother's siblings \((n = 18)\).

Those who have been mentioned as definitely not providing any support were the child's father's father \((n = 17)\), the child's father's siblings \((n = 20)\), and friends of the adolescent mother \((n = 14)\). Others who were mentioned as available and providing support \((n = 6)\) to the Navajo adolescent mother included extended family members such as the adolescent mother's aunts, uncles, and grandparents. Two young mothers (Subject #11 and #22) explained the following about the support they receive from both parents, and their siblings:

When I got pregnant I had problems, it was hard... My parents are always there for me and take care of my son when I need them to. I'd say they do support me. My mom buys things for him. She likes to get things for him, like clothes and diapers. My dad calls him 'little son' and spends time with him since he figures he needs a male role model. My mom is the reason I stayed in school.

Sometimes things got so hard, I couldn't talk to my mom and dad because they would just get mad...but my little sister was always there, and I would talk to her about stuff, like how [child's father] would slap me or pull my hair...it seemed like she understood and I know she's there for me (crying softly).

Extended family members, particularly those of the mother, have been described as being helpful and supportive to parenting Navajo adolescent mothers.

Spousal Violence

Spousal violence emerged as a theme or pattern among the parenting Navajo adolescent mothers. These mothers indicate that their partners have problems with alcohol or substance abuse, and violence has emerged as a behavioral problem in these relationships. In these relationships, the abuse by the partner appears to take
on expressive and communicative functions during intoxication. The communication expressed by the father focuses on his feelings of inadequacy, perceived loss of freedom, and lack of commitment to being a father. Therefore, it is imperative that understanding the ecocultural niche of the parenting father is of utmost importance and should be further explored.

Family Cohesion

Family cohesion describes the level of inclusion in family activities and was taken from the Ecocultural Accommodations Interview. Navajo adolescent mothers (n = 22) indicate the level of enmeshment, or inclusion in family activities, has not changed due to their status as an adolescent mother and they continue to be included in family activities. In terms of nuclear or extended family functioning levels of cohesion, Navajo adolescent mothers indicate a sense of togetherness and group identity in the family. Family members are described as helping and being supportive of one another, and they get along well with each other but respect each other's autonomy. Although there is high emotional bonding between family members, there is also high individuality. More families (n = 19) have been described as flexible with the family being more relaxed about chores and schedules. Family members are described as working out solutions to problems together and there are few explicit rules in the family, and kinship obligations are voluntarily met without prodding from others.

Religiosity

Religiosity takes on the meaning of both a sense of spirituality and/or the actual practice of traditional ceremonies or contemporary religion and church
attendance. Some evidence of a role of religion for the Navajo adolescent mother has been a belief in religion providing a healing or therapeutic cure, and meaningfulness and peace of mind/hozho. Although few Navajo adolescent mothers viewed religion as providing a moral conviction about the decision to have a child and it did not emerge as a common theme, the following excerpt from Subject #16 is indicative of the traditional belief system surrounding those decisions which are based moral convictions.

Well, I actually had no choice. When I talked to my mom about it when I wanted to have an abortion, and my mom said that I wasn't suppose to get rid of my child, I wasn't suppose to have an abortion or put it up for adoption or anything like that...then she said that if I tried to have another, you know like a second child, she said that it won't work. The baby will get sick too often and maybe have a miscarriage and even if the baby survives...maybe when the baby is like three or two years old, the baby would die....so I just went ahead.

Although Navajo adolescent mothers tended to have a sound belief system about spirituality, the adolescent mother's own social practice of religion indicated either a low degree of religiosity \((n = 15)\) or a medium degree of religiosity \((n = 13)\). This suggests that Navajo adolescent mothers tended to have little or some church involvement or participation in traditional ceremonies. There was a mixed response to the topic or religiosity--with the practice of traditional ceremonies blended with practices of a particular church affiliation, which may have made it difficult to separate religion from spirituality.

**Navajo Adolescent Mothers' Daily Routines**

What factors have to be taken into consideration in the sustaining the daily routine of the parenting Navajo adolescent mother? What are the areas in which the Navajo adolescent mother and her family must make accommodations or adaptational responses? Accommodations related to the ecocultural niche of the Navajo adolescent mother are explained below (the coding instrument allows for
determining the three highest ranking variables based on the responses made by each adolescent mother).

1. Family subsistence base (employment of the adolescent mother; reliance on relatives for subsistence support; sources of income).

2. Accessibility of educational services (hassle in getting adolescent mother to educational services, location of residence; access to transportation; adolescent mother moving to relatives home to be closer to school).

3. Home/neighborhood (location of residence or alterations in residence for convenience of adolescent mother; adolescent mother's residence has changed now that she is a mother; resides separate from parents).

4. Domestic workload, excluding care of the child (increased expectation to take role in domestic workload; shares less of the domestic workload so greater attention is given to the child; number of children; number of helpers; time or effort expended; reliance on relatives household).

5. Child care tasks (did adolescent mother have care responsibilities before having a child; number of tasks; number of helpers; degree to which how much of the child care responsibility is turned over to others).

6. Child play groups--decisions the adolescent mother makes directly in her role as a mother (e.g., is it a concern for her who the child plays with; age, gender, kinship category of playmates; is socialization of child a critical issue?).

7. Couple role relationships (between adolescent mother and father/partner; who makes decisions regarding the child; has the child affected the relationship between mother/father; nature and quality of couple roles).

8. Instrumental and/or emotional support for parents (from church, community, parent groups, individuals, kin, other sources).
9. Role of father/partner (has the child redefined the relationship and changed his role; how well does the father/partner accommodate to the presence of the child; how much does/does not the father/partner get involved in parenting, child care tasks, baby-sitting; domestic workload; transportation of the child, emotional support to mother).

10. Sources of child influence--does the adolescent mother accommodate to presence of the child by taking educative and instructional role; making sure that other influences are involved (e.g., games, toys, cultural activities; involvement of strangers in the child's life)?

11. Sources of information regarding parenting goals for adolescent mother--how much does adolescent mother seek out general information about parenting (e.g., books, lectures, training, courses, parent groups, friends, family for advice, traditional sources of information).

12. Community heterogeneity (ethnic, cultural, class, and/or educational diversity in family's world; contact with strangers; variety of social and cultural views, behavior, and attitudes toward adolescent pregnancy).

Evidence of active accommodation efforts in econiche variables by parenting Navajo adolescent mothers are described in Table 6. The Accommodations Interview utilizes the same numerical system for coding--"0, 1, or 2" indicates little or no accommodations efforts; "3, 4, or 5" indicates some accommodation efforts; and "6, 7, or 8" indicates high accommodation efforts. As stated earlier, Table 6 lists the three categories with the highest ranking among the econiche variables. These categories reflect the most accommodations activity for study participants.
One Navajo adolescent mother explained how she had to take on a part-time job to increase her family's subsistence base because she now had a child to care for, acknowledging that her family oftentimes could not provide financial assistance. Another young mother cried softly as she spoke of making changes in her home and neighborhood in which she "gave up" her family and education to marry because this was expected of her due to her status as a pregnant adolescent. She described moving with her boyfriend to his family camp many miles away where there were added demands of domestic workload and child care tasks. Finally, one young mother (Subject #2) described how the couples/partner role relationship with her boyfriend changed after the birth of their baby, developing into a pattern of domestic violence.

After the baby was born...he was kind of like started pushing me around. I would say, why are you doing this, I didn't do anything to you. Then after that he would get mad and start pushing me. He wouldn't hit me though, he would just push me or like pull my hair. So after that I got tired of it so I just left.
Losses Associated with Status

Along with sustainable daily routines come losses that some Navajo adolescent mothers may experience related to those accommodation efforts. The predominant losses are: loss of freedom or independence \((n = 21)\), social withdrawal \((n = 26)\), withdrawal from school \((n = 15)\), loss of friends \((n = 17)\), and growing apart from partner and/or relatives \((n = 15)\). One mother (Subject #24) shared the following about her losses:

I used to go out and play with my little brother a lot, basketball and stuff like that, and [now] when I get there, he wants to play basketball with me, and I tell him I can’t. Things have changed right now, and I have to take care of [son]. I say that to him...Being with my friends, I guess. They used to come over a lot, after I got married...they never came over again....

Family Support Scale

Additional measures of support were obtained from the Family Support Scale about the sources and availability of support to the parenting Navajo adolescent mother. Those sources providing the most support to parenting Navajo adolescent mothers in the past 3-6 months have been the Navajo adolescent mother's parents and the school or daycare center. Those sources viewed as less helpful were spouse's parents, friends, spouse's friends, other parents, social groups/clubs, specialized early intervention services, and coworkers.

The Family Support Scale had a maximum of 76 total points, and the higher scores indicate greater family support. The mean score on the Family Support Scale for the entire sample is 27.7 with a pooled standard deviation of 10.83.

Family Resources Scale

The Family Resource Scale measures the extent to which different types of resources are adequate in households with young children. Factors include general
resources, time availability, physical resources, and external support. Those resources indicating a response of 50% or more of the entire sample of Navajo adolescent mothers in either the "Not at all adequate" or "Almost always adequate" categories are identified. Those items associated with the basic necessities of a household (e.g., food, house or apartment, heat/indoor plumbing/water, furniture for home or apartment) and time with children, someone to talk to, and toys for children were identified as "almost always adequate." However, those resources reflecting the need for freedom or independence (e.g., good job for self or spouse, time to be by self) were identified as "not at all adequate."

Bayley Scales of Infant Development

The overall relationship between family support and available resources on the cognitive and motor development of a child born to a Navajo adolescent mother has been a question. As cited earlier, researchers posit that there are developmental consequences for children born to adolescent mothers. For example, children born to adolescent mothers tend to do poorer on cognitive and behavioral assessments than children born to older mothers (Levin, 1983). Table 7 provides overall scores. Overall, the infants born to Navajo adolescent mothers were within the average range of cognitive and performance development; however, the infants in this study did appear to do less well on the mental development index than the performance index.

Table 7

<table>
<thead>
<tr>
<th>Development index</th>
<th>Mean</th>
<th>SD</th>
<th>Min. score</th>
<th>Max. score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental</td>
<td>88.2</td>
<td>21.9</td>
<td>49</td>
<td>124</td>
</tr>
<tr>
<td>Performance</td>
<td>96.3</td>
<td>20.5</td>
<td>56</td>
<td>133</td>
</tr>
</tbody>
</table>
In the next chapter, the results of this study will be presented with respect to the research questions asked. A mixed methodology will be used that draws upon both qualitative and quantitative data sources to describe the current situation of mothers in both groups.
CHAPTER IV
RESULTS

Introduction

This research employed the combined use of qualitative and quantitative information, similar to the dual inquiry conducted by Dalla and Gamble (1997). The qualitative nature of data collection, combined with the quantitative analysis, provides valuable information about Navajo adolescent pregnancy. An analysis of the differences between the two groups of Navajo adolescent mothers ("in school", $n = 15$; "drop out", $n = 15$) utilized in the quantitative aspects of this research study is based on effect size as discussed by Shaver (1992). The method of analysis utilized in this research study does not address the issue of statistical significance. A test of statistical significance is a procedure for determining how likely a result is to occur by chance in the long run assuming the null hypothesis is true with random sampling and sample size $n$. Given the small sample size of this study, a test of statistical significance is not a useful indicator of the magnitude of a result nor would statistical significance address the clinical, social, or political significance of present findings as would effect size.

Shaver (1992) posited that effect size, which is synonymous with standardized mean difference (SMD), may be better defined as a metric of the magnitude of difference that is independent of scale of measurement and sample size. Therefore, effect size is an indicator of the magnitude of results, which does not infer causality. Cohen (1988) has established criteria for small, medium, and large effect sizes (e.g., .2, .5, and .8, respectively) for standardized mean differences. However, Shaver (1992) cautioned against using such criteria as mindlessly as the .05 criterion in
statistical significance testing but advised to consider the value of the outcome as defined by the validity of the assessment, and the human and financial costs in producing the outcome.

The combination of qualitative and quantitative information provides an understanding of the ecocultural context of the parenting Navajo adolescent mother from her perspective as well as presenting clinical, social, and political significance versus statistical significance. Prior to the description, however, threats to validity will be discussed.

Threats to Validity

Substantial information has been gathered that reflects demographics and issues that are salient to the parenting Navajo adolescent mother within this sample of 30 families. Even though there was an unexpected and unavoidable one and one half year delay in the collection of relevant data, both samples appear to be comparable with respect to external factors that may have changed during that time period. Both samples came from communities where the school districts had been providing in-school adolescent pregnancy projects at the same period of time due to a high number of young women dropping out of high school. New programs or projects had not been added or eliminated that would support or discourage adolescent mothers in their decision-making relevant to educational pursuits. All of the Navajo adolescent mothers, with the exception of one who moved to the family home of her husband, had remained in their communities so the participants did not appear to be transient. All Navajo adolescent mothers had access to medical services through a Public Health Services (PHS) clinic or hospital, as well as tribal or state social services. With regard to school policy toward adolescent mothers, it
appears there had been no change according to school officials. However, both school adolescent pregnancy projects did indicate greater outreach efforts during the one and one half year delay. It is unknown what other state and tribal laws or regulations may have changed to impact adolescent mothers in these communities.

Comparison of In-School and Dropout Groups

This section will describe the differences between Navajo adolescent mothers who remained in high school and those who dropped out of high school in basic demographic information, health and pregnancy history, child status at the time of interview, family support and resources available to the adolescent mother, family cohesion, religiosity, the adolescent mother's daily routines and the adolescent mother's expectations and goals for the future. There are two groups, with each group being comprised of 15 parenting Navajo adolescent mothers designated as belonging to the in-school or dropout group.

Demographic Characteristics

The differences in the basic demographic characteristics between those parenting Navajo adolescent mothers who remained in high school and those parenting Navajo adolescent mothers who dropped out of high school are found below. Table 8 shows the current age and age at first pregnancy. Those parenting Navajo adolescent mothers who remained in high school were slightly younger, with a mean current age of 17.4 years versus their counterparts who dropped out of high school with a mean age of 17.6 years. Both groups, however, show an "age at first pregnancy" mean of 15.6 years. Effect sizes computed for both groups show a small difference between groups in current age with no difference between groups for age
Table 8

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>17.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>17.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>15.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>15.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

at first pregnancy. Differences between the two groups in marital status are shown below in Table 9. As can be seen from Table 9, about twice as many Navajo adolescent mothers in school are single and living with their parent(s) or other extended family members (e.g., siblings, aunts, grandparents than those who dropout). No adolescent mothers in the dropout group were married as compared to one adolescent mother in the in-school group. Four times as many adolescent mothers in the dropout group were cohabiting with their child's father than adolescent mothers in school, and none of the adolescent mothers in school were cohabiting with someone other than the child's father as compared to one adolescent mother in the dropout group.

The differences in educational levels attained are shown in Table 10. This table shows that most Navajo adolescent females who became pregnant and dropped out of high school did so during their sophomore year (10th grade) of high school. In addition, this table shows the differences between the groups in terms of effect size. The effect size shows there is slightly greater than one standard deviation difference
Table 9

Differences in Marital Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>Single, living w/parent(s) or relatives</th>
<th>Married</th>
<th>Cohabiting w/child's father</th>
<th>Cohabiting—not the child's father</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-school</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Dropout</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 10

Educational Attainment

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES (both groups)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In school</td>
<td>15</td>
<td>11.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>10.07</td>
<td>1.24</td>
<td>1.17</td>
</tr>
</tbody>
</table>

between the two groups in educational attainment with the in-school group having attained a higher educational level than the dropout group.

Health and Pregnancy History

The Ecocultural Accommodations Interview contains information to be coded about the health and pregnancy history of the Navajo adolescent mother. Prenatal stress was categorized as low, medium, and high levels. Low levels of prenatal stress indicate a trouble-free pregnancy, medium levels indicate an average or normal pregnancy, and high levels indicate a difficult pregnancy. Effect sizes computed indicate there are large differences between the two groups on the prenatal stress variable. In-school mothers had a higher level (medium range) of prenatal stress than those mothers from the dropout group (low level). The in-school mothers noted a substantial amount of fear
associated with telling their parents about their pregnancy, the amount of family support anticipated, and parental expectations of those mothers.

Similarly, there is a large difference between the two groups in perinatal stress. Perinatal stress in the same interview is defined as low, medium, or high. Low levels of perinatal stress indicate a normal labor and birth, and the baby is of average weight. Medium levels indicate low birth weight, use of forceps or a C-section, and the child may not leave the hospital right away. High levels indicate a serious or critical situation, and at worst, the child may not be expected to live. Adolescent mothers from the dropout group had higher levels (medium) of perinatal stress than those adolescent mothers from the in-school group (low). This could be due to mothers in the dropout group receiving little or no support, from family or other service providers, during their pregnancy. Table 11 shows the differences between the two groups.

Parenting Navajo adolescent mothers from the dropout group tended to have more of the risk factors (e.g., abuse, poverty/lack of housing, repeat pregnancies) present than adolescent mothers from the in-school group. For example, there is a

Table 11

Prenatal and Perinatal Stress

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prenatal stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>5.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>3.13</td>
<td>2.81</td>
<td>.71</td>
</tr>
<tr>
<td>Perinatal stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>2.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>3.53</td>
<td>1.63</td>
<td>.77</td>
</tr>
</tbody>
</table>
ratio of the dropout group to the in-school group of 6:1 for abuse, 3:1 of repeat pregnancies, and 3:0 of poverty, which may be suggestive of the unstable family environments in the dropout group as well as the choice of partners in the dropout group. Parenting Navajo adolescent mothers from both groups report they had prenatal visits throughout their pregnancy since the first trimester; however, more adolescent mothers in-school reported prenatal visits during the second trimester; and more adolescent mothers in the dropout group reported having had no prenatal care, which may account for increased risk factors with their children. Reasons for the differences between the two groups on prenatal and perinatal stress could be (a) the in-school group adolescent mothers' anticipatory anxiety relative to parental support and expectations created greater emotional distress than for the dropout group, and (b) the dropout group did not access appropriate prenatal care until much later, if at all, and became more "at-risk" for perinatal stress.

Child's Status at Time of Interview

The child's level of difficulty at entrance (time of interview) is referred to as the "hassle score." In other words, how much of a hassle is it to care for the child and his or her needs. There are several characteristics that are included in the hassle score: behavioral characteristics of the child, child-mother interactive behavior rate (child's need for proximity to mother), child's overall social interaction rate (initiation of interaction with others), medical characteristics of the child, and communication skills of the child. Table 12 shows the hassle scores of both groups. The higher a mean score, the greater the "hassle" of caring for the child. As can be seen from the above table, the parenting Navajo adolescent mothers in the dropout group have indicated that their child has been more of a "hassle." The effect size suggests a moderate
Table 12

**Level of Difficulty of Child at Interview Time**

<table>
<thead>
<tr>
<th>Group</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-school</td>
<td>15</td>
<td>11.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>14.0</td>
<td>4.6</td>
<td>-.6</td>
</tr>
</tbody>
</table>

difference between the two groups in that the in-school mothers indicate that their child is less "hassle" than mothers from the dropout group. This could be because the needs of the dropout group children are greater, or the dropout group infants are maintained in the care of the adolescent mother more so than in-school group mothers. Dropout group mothers tend to have little respite, whereas in-school group mothers may receive greater support and respite or child care. Additionally, it could be that the in-school group mothers are attending classes all day and do not have to provide care for the child as the dropout group mothers do.

Table 13 shows the parenting Navajo adolescent mother's perceptions of why she decided to have a child. One can see from the table that adolescent mothers did not, in most cases, make a deliberate or intentional choice about having a child. As indicated by the table, adolescent mothers from both groups by a large margin indicated they did not plan the pregnancy and/or they did not know why they decided to have a baby.

**Mothers' Expectations and Goals for the Future**

Parenting Navajo adolescent mothers have goals for their future. A number of goals are contained in the Ecocultural Accommodations Interview: (a) being kind,
Table 13
Adolescent Mother's Perception of Pregnancy

<table>
<thead>
<tr>
<th>Decision factor</th>
<th>In-school</th>
<th>Dropout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes, partially</td>
</tr>
<tr>
<td>Leave dysfunctional home</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Adolescent doesn't know</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Didn't plan pregnancy</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Wanted to leave school</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>To become a woman</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Have own family</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Get own house</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Show love for boyfriend</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Wanted to get married</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Have own support (e.g., ADC)</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

helpful, happy, and generous, (b) finishing school, (c) maintain harmony and place within the family, (d) have own home, (e) have a relationship with the child's father, and (f) get her family to help care for the child. The primary goals the adolescent mothers described were coded and the three highest goals (a-f above) were rank-ordered. In addition, the same process was followed for those goals (a-f above) based on the overall evidence in the interview, and then rank-ordered for those goal items the adolescent mother is actively implementing on a daily basis. Tables 14 and 15 describe those results. The primary goals of Navajo adolescent mothers from the in-school group differ from the goals they are actively implementing (e.g., having a relationship with the child's father and securing their own home). In-school group adolescent mothers may have "fairy tale" beliefs (e.g., they will become self-sufficient, marry their boyfriends, and live happily ever after). As can be seen from Table 14,
Table 14

In-School/Dropout Groups: Mother Primary Goals

<table>
<thead>
<tr>
<th>In-school: Primary goals for mother</th>
<th>n</th>
<th>Dropout: Primary goals for mother</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finishing school</td>
<td>15</td>
<td>Finishing school</td>
<td>10</td>
</tr>
<tr>
<td>Other: Self-sufficiency</td>
<td>5</td>
<td>Have own home</td>
<td>5</td>
</tr>
<tr>
<td>Relationship with child's father</td>
<td>5</td>
<td>Other: Self-sufficiency</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 15

In-School/Dropout Groups: Mother Active Implementation

<table>
<thead>
<tr>
<th>In-school: Active implementation</th>
<th>n</th>
<th>Dropout: Active implementation</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finishing school</td>
<td>15</td>
<td>Finishing school</td>
<td>6</td>
</tr>
<tr>
<td>Relationship with child's father</td>
<td>8</td>
<td>Relationship with child's father</td>
<td>3</td>
</tr>
<tr>
<td>Having own home</td>
<td>4</td>
<td>Having own home</td>
<td>4</td>
</tr>
</tbody>
</table>

dropout group adolescent mothers have fewer primary goals and Table 15 shows that these mothers have not actively implemented many goals. Similar to the in-school group, however, goals that are actively implemented are somewhat different from their stated primary goals.

Similarly, there were several goals listed that parenting Navajo adolescent mothers had for their child (a) getting and keeping the child healthy, (b) becoming acquainted with words, books, stories, alphabet or numbers, (c) getting along with others, (d) being cooperative, kind, helpful, happy and generous, (e) finish school, and (f) maintain harmony and place within the family. Given that the children cannot actively implement the goals listed, those being actively implemented by the adolescent mother as provided by the overall evidence in the interview were coded
and the three highest were rank-ordered. Adolescent mothers indicated that they are implementing the primary goals, particularly the "finish school" goal, by providing as much exposure to educational opportunities as possible. For example, adolescent mothers are teaching their children their ABCs and counting, even though they know this information cannot be retained, yet it continues to be an active goal. This information is shown in Table 16.

Econiche Variables

An econiche variable pertinent to the sustainability of family existence is the finances and income sources for the family. Table 17 summarizes the income sources and energy expended seeking employment. Regarding the parenting Navajo adolescent mother's family subsistence base, an effect size was computed to determine if there were any differences between the two groups. There is a small

Table 16

In-School and Dropout: Child Primary Goals and Active Implementation

<table>
<thead>
<tr>
<th>In-school: Primary goals for child</th>
<th>n</th>
<th>Dropout: Primary goals for child</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Becoming acquainted with words, books, stories, alphabet, or numbers</td>
<td>15</td>
<td>Finish school</td>
<td>12</td>
</tr>
<tr>
<td>Other: self-sufficiency</td>
<td>5</td>
<td>Other: Self-sufficiency</td>
<td>2</td>
</tr>
<tr>
<td>Being kind, helpful, happy, generous</td>
<td>5</td>
<td>Get/keep child healthy</td>
<td>2</td>
</tr>
<tr>
<td>Finishing school</td>
<td>5</td>
<td>Acquainted with words, books, numbers</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In-school: Implementation for Child</th>
<th>Dropout: Implementation for Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish school</td>
<td>15</td>
</tr>
<tr>
<td>Becoming acquainted with words, books, stories, alphabet, or numbers</td>
<td>5</td>
</tr>
<tr>
<td>Harmony and place within the family</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 17

Income Sources/Energy Seeking Employment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>1.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>1.67</td>
<td>.68</td>
<td>-.29</td>
</tr>
<tr>
<td>Perinatal Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>.8</td>
<td>1.37</td>
<td>.14</td>
</tr>
</tbody>
</table>

difference (-.29) between the groups with in-school adolescent mothers having fewer income sources than mothers from the dropout group. This does not imply that dropout mothers have more income, but perhaps these mothers have more than one source to meet their needs, whereas in-school mothers had an adequate income source. For example, in-school mothers' source of income was primarily their parents' wage work while source of income was more varied for mothers from the dropout group (e.g., some financial assistance from a part-time job and/or from partner/parent and/or welfare assistance [AFDC]). The differences between the groups were small in the degree of energy expended seeking employment.

Family/Social Support

Parenting Navajo adolescent mothers have described the amount of help they receive, including and excluding other household members (child help score) and the child care work score, which describes the mother's perception about the demands the child places on her. Table 18 shows the differences between the groups. The
Table 18

Help and Demands

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child help score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>7.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>6.00</td>
<td>2.21</td>
<td>.48</td>
</tr>
<tr>
<td>Child care score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>9.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>9.73</td>
<td>4.00</td>
<td>-.11</td>
</tr>
</tbody>
</table>

effect size between the two groups in the child help score demonstrates a moderate difference between adolescent mothers in-school having more help with the child than those who dropped out. In addition, there was a small difference between the groups in the child care score. Adolescent mothers in the dropout group perceived more child care demands. These results could be evidence that adolescent mothers in-school receive more support than mothers in the dropout group, and due to lack of support and assistance for mothers in the dropout group there are more child care demands placed on them.

Father Availability/Support

Whether or not the father of the child is available and supportive may be an important factor in the adolescent mother’s life. Few fathers have made adaptational responses to the presence of the child, either by personal choice or choice of the adolescent mother and/or her family. Table 19 indicates the availability and support of the child’s father.
Table 19

Father Availability and Support

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>3.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>3.60</td>
<td>1.31</td>
<td>-.20</td>
</tr>
<tr>
<td>Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>2.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>3.33</td>
<td>1.77</td>
<td>-.33</td>
</tr>
</tbody>
</table>

When effect size is computed, there were small differences between the two groups with regard to the variable of father availability. It appears that fathers of children in the in-school group were less available to provide support to the adolescent mother than fathers of the children in the dropout group, with the latter more available. The computed effect size indicates a moderate difference between the two groups in that father support was greater for the dropout group adolescent mothers than in-school adolescent mothers.

Grandmother Availability/Support

The effect size (-.14) shown in Table 20 indicates a small difference between the groups in grandmother availability. It appears that even though one or both grandmothers live nearby, in-school adolescent mothers perceive that one grandmother (specifically the maternal grandmother) provided regular support, and more dropout group mothers indicated they receive intermittent support from both grandmothers. Navajo adolescent mothers defined the support they receive as financial support, emotional support, or respite care.
Table 20

Grandmother Availability/Support

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>3.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>3.47</td>
<td>.50</td>
<td>-.14</td>
</tr>
<tr>
<td>Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>5.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>4.87</td>
<td>.93</td>
<td>.21</td>
</tr>
</tbody>
</table>

Other Sources of Support

Few other sources were described as being helpful and supportive to parenting Navajo adolescent mothers. When effect sizes were computed, there were small differences between the two groups with regard to other sources of support to Navajo adolescent mothers. For example, effect sizes for the father's father (.14) and father's siblings (.07) demonstrate small differences between the groups. However, a moderate difference (effect size = -.31) existed between the two groups with respect to the fathers of adolescent mothers. In-school group mothers indicated their fathers to be more supportive that dropout group mothers. Although a small difference, in-school group mothers indicated their friends were more supportive than dropout group mothers. Dropout group mothers indicated that siblings living in nearby camps or communities have assumed the role of "friend" or confidante.

Family Cohesion

Parenting Navajo adolescent mothers have an influence on their family relationships within the context of their inclusion in family activities and the family's ability to make adaptational responses to their new situation. In-school group
adolescent mothers are more likely to be included in family activities than dropout group mothers. Dropout group adolescent mothers came from more chaotic families, whereas in-school group adolescent mothers were from more democratic families. Chaotic families are described as having disorganized, unknown expectations of each other; democratic families are described as operating through consensus and shared rule/decision making.

Religiosity

There appears to be a difference between the two groups on the religiosity variable. Religion as a healing cure or therapeutic help appears to be less a prominent theme for the Navajo adolescent mothers in the in-school group than mothers in the dropout group. The effect size equals -.6, which indicates a moderately strong difference between the two groups. Consistent with this finding, there is a moderate difference (effect size = -.44) between the two groups with regard to moral convictions. In-school adolescent mothers are more likely to indicate that religion provides a moral conviction regarding decisions about having the child.

Adolescent Mother's Daily Routine

Table 21 provides a representation of the kinds of accommodations Navajo adolescent mothers are making with regard to having a child. To determine what accommodations are being made, the three highest accommodation variables are discussed in rank-order.

First, there are obviously large differences between the two groups on the adolescent mother's educational level (e.g., has the adolescent mother dropped out of high school in order to take care of her infant, has she had to secure employment, is she relying more on relatives for subsistence and other support). Second, there is
### Table 21

**Accommodation Efforts**

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>In-school mean</th>
<th>Dropout mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family subsistence</td>
<td>6.27</td>
<td>6.00</td>
<td>1.17</td>
<td>.22</td>
</tr>
<tr>
<td>Educational level*</td>
<td>1.13</td>
<td>6.87</td>
<td>2.97</td>
<td>-1.93</td>
</tr>
<tr>
<td>Educational services</td>
<td>2.93</td>
<td>1.80</td>
<td>2.14</td>
<td>.53</td>
</tr>
<tr>
<td>Home/neighbor</td>
<td>2.67</td>
<td>4.13</td>
<td>2.57</td>
<td>-.57</td>
</tr>
<tr>
<td>Domestic workload</td>
<td>5.20</td>
<td>4.60</td>
<td>1.42</td>
<td>.42</td>
</tr>
<tr>
<td>Child care tasks</td>
<td>4.40</td>
<td>5.00</td>
<td>1.90</td>
<td>-.32</td>
</tr>
<tr>
<td>Turns—others*</td>
<td>3.20</td>
<td>1.80</td>
<td>1.96</td>
<td>.70</td>
</tr>
<tr>
<td>Child play groups</td>
<td>2.13</td>
<td>2.60</td>
<td>1.73</td>
<td>-.27</td>
</tr>
<tr>
<td>Couple role relationship</td>
<td>4.60</td>
<td>5.47</td>
<td>1.61</td>
<td>.54</td>
</tr>
<tr>
<td>Support for parent</td>
<td>3.67</td>
<td>3.87</td>
<td>1.57</td>
<td>-.12</td>
</tr>
<tr>
<td>Role of father</td>
<td>4.13</td>
<td>5.13</td>
<td>2.40</td>
<td>-.41</td>
</tr>
<tr>
<td>Child influence</td>
<td>2.40</td>
<td>3.27</td>
<td>1.78</td>
<td>-.49</td>
</tr>
<tr>
<td>Community heterogeneity</td>
<td>1.27</td>
<td>.93</td>
<td>.48</td>
<td>.69</td>
</tr>
<tr>
<td>Community heterogeneity</td>
<td>1.27</td>
<td>.93</td>
<td>.48</td>
<td>.69</td>
</tr>
</tbody>
</table>

* Subcategory of the category listed directly above the item.

A large difference between the two groups in domestic workload with relevance to how much does the adolescent mother turn over the care of her child to others. The in-school adolescent mothers described increased parental expectation to take a role in the domestic workload due to their status as a mother in addition to being responsible for homework and studying. These mothers may also have more responsibility for the care of younger siblings in addition to their own child due to parental employment. However, parents and other family members are willing to assist in the responsibility for care of the infant so the adolescent mother may have time to study and complete homework so she is more likely to turn over the responsibility of care to others. These mothers may have an indigenous support system that is cultural; that is, caretakers and support providers are already a part of...
the family system so when adaptations need to be made it is not difficult to do so. The dropout group adolescent mothers may not have an inherent support system or the luxury of respite care, and are expected to have total responsibility for the care of their child. Third, accommodations in community heterogeneity suggest a moderate difference between the two groups. Adolescent mothers from the dropout group did not expose themselves to as many diverse ethnic, cultural, class, and/or educational experiences, and are thus less likely to have contact with strangers. In addition, these mothers did not have a variety of social and cultural views, behaviors, and attitudes toward adolescent pregnancy.

Relevant to their status, parenting Navajo adolescent mothers have mentioned a number of losses since becoming a mother. Those losses are described in Table 22. Losses representing the areas of greatest difference include freedom/independence, friends, withdrawal from school, and limited time.

Family Support Scale

Table 23 shows the differences in terms of effect size between the two groups, which suggests little or no difference in family support. Not only does the Family Support Scale measure the amount of family support an adolescent mother receives, but also other agencies or services that may provide support to an adolescent mother. A question arises as to whether or not adolescent mothers are able to access these services, or whether the services are perceived to be support services by the adolescent mothers.

Family Resources Scale

Similarly, Table 24 shows the differences between the groups on the Family Resources Scale. The Family Resources Scale measures whether or not a family
Table 22

**Losses Related to Accommodation Efforts**

<table>
<thead>
<tr>
<th>Losses</th>
<th>In-school</th>
<th>Dropout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Freedom/independence</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Reduced money/possessions</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Assist/support relatives</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Withdrawal from school</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Limited time</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Grown apart from partner</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Job</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Table 23

**Group Differences on Family Support Scale**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-school</td>
<td>15</td>
<td>27.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>28.00</td>
<td>10.83</td>
<td>-.05</td>
</tr>
</tbody>
</table>

Table 24

**Family Resources Scale Mean Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-school</td>
<td>15</td>
<td>123.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>109.33</td>
<td>18.84</td>
<td>.70</td>
</tr>
</tbody>
</table>
with a small child has enough resources to meet its needs. Values range from zero to a maximum of 5 points for each of 30 questions for a total possible score of 150 points. As indicated by the effect size, there are large differences between the two groups in the amount of resources available. These results suggest that adolescent mothers in-school have more resources to meet their needs.

**Bayley Scales of Infant Development**

As presented earlier, the research literature suggests there are developmental consequences for children born to adolescent mothers. Administration of the Bayley Scales of Infant Development was done to address the relationship between the Navajo adolescent mothers current enrollment in high school and the cognitive and motor performance of their children. Table 25 shows the group differences on the Bayley Scales of Infant Development. As the results indicate, there were moderate differences on both the mental and performance scales between the infants of the two groups of mothers. Infants born to the Navajo adolescent mothers dropout group had higher scores on both the mental and performance scales of development than infants born to

**Table 25**

**Group Differences: Bayley Scales of Infant Development**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n)</th>
<th>Mean</th>
<th>Pooled SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child help score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>83.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>92.47</td>
<td>21.9</td>
<td>-.38</td>
</tr>
<tr>
<td>Child care score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-school</td>
<td>15</td>
<td>92.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropout</td>
<td>15</td>
<td>99.93</td>
<td>20.48</td>
<td>-.35</td>
</tr>
</tbody>
</table>
the in-school mothers group. These results suggest implications for future research and policy-making as it pertains to adolescent pregnancy issues. These implications will be discussed in Chapter V as to the possible nature of a reverse direction in scores.

Summary of Effect Size Findings

Effect sizes were computed for the quantitative analysis aspect of the research; these effect sizes indicate the magnitude of the difference between the two groups of Navajo adolescent mothers on ecocultural variables. There were no differences between the two groups of adolescent mothers on the variable of age at first pregnancy and responses to the Family Support Scale.

Small differences were noted between the Navajo adolescent mothers on the following variables: current age, econiche variables, and sources of available support. For example, adolescent mothers from the in-school group had fewer income sources than adolescent mothers from the dropout group. This does not indicate that dropout group mothers had more income, only that they perhaps found it necessary to have more than one or two resources to meet their needs. In terms of sources of support/availability, there were small differences between the groups on the variables of the child's father availability, grandmother availability, the child's paternal grandfather availability, the child's father's siblings availability, and friends availability.

Moderate differences existed between the two groups of Navajo adolescent mothers on the following variables, with in-school group mothers experiencing greater prenatal stress, less child "hassle," more help/respite care provided for the child, more family and social support, and more support from the adolescent mother's father. Moderate differences also existed between the two groups, with religion providing a
moral conviction for adolescent mothers in the dropout group regarding whether or not to have a child. Accommodations that are made by Navajo adolescent mothers indicated those in the dropout group were less likely to be exposed to various cultural diversity, but were more homogenous in their neighborhoods and communities. Additionally, there were moderate differences between the two groups of infants born to Navajo adolescent mothers on the cognitive and motor performance indices of the Bayley Scales of Infant Development. Those infants born to adolescent mothers from the dropout group scored in an unexpected direction, which was higher than infants born to mothers from the in-school group.

The largest differences existed between the two groups of Navajo adolescent mothers on the variables of educational level attained, with the in-school group having attained a higher level of education. The domestic workload accommodations variable indicated that in-school group mothers now had greater responsibilities for assisting with household chores than dropout group mothers. The in-school group of adolescent mothers also had more resources available to meet the needs of their families, which may be due to having a greater array of knowledge about the resources available in their communities. Finally, adolescent mothers from the dropout group experienced greater perinatal stress. As discussed earlier, this could be due to lack of adequate prenatal care.
CHAPTER V
DISCUSSION AND CONCLUSIONS

Introduction

Results are briefly summarized as follows: (a) Family support emerges as a contributing factor in the decision of a parenting Navajo adolescent mother to remain in high school or to drop out of high school. Specifically, the person who provides that support to the mother is paramount. (b) Adolescent mothers with more family resources remain in-school, compared with mothers with fewer family resources. (c) Navajo adolescent mothers who remain in school make greater adaptations or accommodation efforts than those mothers who drop out of school. (d) Infants born to mothers in the dropout group have higher scores on indices of cognitive and performance developmental functioning than infants born to mothers who remain in school.

Hypotheses

The first hypothesis, Navajo adolescent mothers who remain in high school will have more family support than Navajo adolescent mothers who drop out of high school, is supported by the results of this research. However, family support in general was less important than support provided by specific individuals in the pregnant adolescent's life. For example, on the Ecocultural Accommodations Interview important goals for Navajo adolescent mothers in school included an ability to "maintain harmony and place within the family" and to "finish school." This suggests these adolescent mothers may not have wanted to "rock the boat" and would do what is necessary to maintain their status and support within the family system, as
well as kinship obligations based on parental expectations. An important goal for
Navajo adolescent mothers in the dropout group is to “have a relationship with the
child’s father,” which may be indicative of lack of support from family, based on the
family’s inability to make adaptational responses to the situation. The family’s inability
to adapt may be due to various social ills such as poverty, alcoholism, and domestic
and family violence. These results demonstrate how parenting Navajo adolescent
mothers seek out social support and from whom.

One type of support that was important for these young mothers was assistance
in child care. For instance, Navajo adolescent mothers in school depend extensively
on family members for respite especially surrounding conflicts with school. Navajo
adolescent mothers in school have more complex work and activity schedules, need
more help with physical activity, and spend more time each day transporting and
caring for their child’s needs. All of these factors together account for a higher child
care work score for the in-school mothers. Although Navajo adolescent mothers in
school had higher child care work scores, they also had higher child care help scores.
In-school mothers received more support from their mothers, fathers, and siblings
than did mothers in the dropout group. The in-school mothers had a significant
amount of social support inclusive of parents, family members, and others.

Others who are available and provide support also was examined. There is a
difference between the two groups of Navajo adolescent mothers pertaining to the
child’s father availability. The child’s father was more available and more supportive to
the Navajo adolescent mothers in the dropout group. Many of these mothers report
their partners to be involved since the beginning of the pregnancy. This implies
fathers did not leave the immediate area, and remained so they could be involved in
the child’s life. Thus the dropout mothers perceive their partner to be more supportive.
On a less fortunate side, it could be that fathers remained because they have little aspiration or motivation to do otherwise.

An area of informal support noted was the role of religion in the lives of Navajo adolescent mothers. Adolescent mothers in the dropout group viewed religion as providing healing, cures, therapeutic help, or all of the above, as well as a moral conviction regarding decisions relating to having the child (e.g., not having an abortion, not giving the child up for adoption, the belief that something bad will happen by not having the child, and so forth).

There is much controversy in Indian country about whether one is "traditional" versus "contemporary." Although difficulty arises in attempting to define these terms, it could be that the belief and value systems of the dropout group mothers are what they perceive or define to be more "traditional" than their counterparts: traditional in that they are active participants in their spirituality (a sense of being spiritual) versus religiosity (attending church or ceremonies for the purpose of socializing). Adolescent mothers from the in-school group appear to be "contemporary," that is, more acculturated and assimilated into the western world view, where education equals power and power equals financial security. However, these adolescent mothers possess a healthy respect for tradition.

Although the Family Support Scale includes items related to the amount of support received from parents, spouse's parents, extended family, and friends, about half the scale requires the respondent to assess how helpful agencies, organizations, or others have been to them. Apparently sources have been available to the families since few parenting Navajo adolescent mothers crossed out any of the items. However, a richer and broader depth of information about the social and family support received by young mothers was apparent in the Accommodations Interview.
The second hypothesis, "Navajo adolescent mothers who remain in high school will have more family resources than Navajo adolescent mothers who drop out of high school," was supported by data. Navajo adolescent mothers remaining in high school have more family resources to meet their needs. This could be reflective of educational and socioeconomic factors as well as general knowledge about the types of resources available in the community. Parents of in-school mothers may be more educated and employed as professionals or paraprofessionals, which places them in an economically stable category. Thus, they are able to obtain more material resources to meet the needs of the family.

The third hypothesis, "Navajo adolescent mothers remaining in high school are more likely to make greater adaptations than those who drop out of high school," was supported by the findings. Differences occurred on 3 of the 12 accommodation variables. First, the accommodation variable domestic workload (excluding care of the child) was greater for Navajo adolescent mothers who remained in high school. All family members make accommodations to the introduction of a new family member, including, if not especially, the parenting Navajo adolescent mother. There could be an increased or decreased expectation to take a role in the domestic workload because now there is another family member who requires more attention. Domestic workload includes activities such as cooking, cleaning, laundry, and baby-sitting younger siblings. Many adolescents report that now they are a mother, they are expected to "help out more around the house." Although the Navajo adolescent mothers incur greater domestic workloads, their parent(s) assume more responsibility for child care while the mother continues her studies.

The adaptational responses incurred on family subsistence base, more specifically, the level of education, is very large for obvious reasons. The addition of a
new family member, specifically an infant, is often a very costly expense socially, emotionally, and financially due to greater needs and demands of the infant. The choice to remain in high school is a direct result of the social support received, with adolescent mothers also having high expectations for themselves and about their futures with an emphasis on personal goals (e.g., continuing their education in order to become financially independent from family or others). An additional factor that was not examined by this research is academic achievement of both groups prior to and at the time of their pregnancy. Perhaps Navajo adolescent mothers who dropped out were not high academic achievers but had academic or personal difficulties (or both) prior to becoming pregnant, and thus dropping out of high school may have been the answer to academic and personal challenges.

Navajo adolescent mothers in school made more accommodations in the cultural homogeneity variable. These mothers make more changes in their cultural views, behavior, and attitudes toward adolescent pregnancy. In-school mothers are exposed to a variety of sources and outside influences about parenting. The adolescent pregnancy projects at both schools use teaching methods that focus on learning about parenting through a variety of classroom activities including lecture and applied experiences. Both schools have a daycare center, primarily for children of adolescent mothers as well as some employees of the school, where adolescent mothers are required to spend a portion of their day in care of their infant. At both offices there is a project coordinator who provides parenting education and a nurse who assists adolescent mothers with the proper care of their infants. In-school mothers have the opportunity to experience other world views, have access to a number of education materials, and gain access to other culturally diverse staff and administrators.
Dropout mothers are more isolated and have a limited world view about behaviors and attitudes associated with adolescent pregnancy and other aspects of their lives.

Although hypotheses were not generated, an additional question addressed by this study focused on the relationship between Navajo adolescent mothers' current enrollment in high school and the cognitive and motor performance development of their children. The infants in this research were administered the Bayley Scales of Infant Development and the results indicate there are moderate differences between the two groups of infants but not in the expected direction; adolescent mothers who remained in high school were exposed to a number of different attitudes and world views, so it might be expected that these mothers would also expose their children to a variety of experiences. If infants are provided with a diversity of experiences, it could be presumed these experiences may stimulate their cognitive and motor performance on such a developmental assessment.

Findings based on the Bayley Scales of Infant Development indicate that infants born to Navajo adolescent mothers in the dropout group scored higher on both the cognitive and motor performance tests of development than those infants of in-school Navajo adolescent mothers. Possible explanations for this unexpected finding might include time and demand factors placed on both groups of mothers. Responses to the Accommodations Interview indicate that dropout adolescent mothers consider themselves full-time mothers, with little or no respite, thus spending more time with their infants. These adolescent mothers report that they maintain close proximity to their infants by kissing, cuddling, holding, and carrying their child. The student researcher observed these behaviors occurring during the interviews as well. Thus, infants born to mothers in the dropout group may be more stimulated by the exposure
to their mothers and surrounding environments. If infants are in full-time day care, this may have negative effects if there is reduced stimulation for the infant.

In-school adolescent mothers may be striving to be "super moms," but time management becomes an issue when there is little time and energy to devote to their infants after being in school and doing chores at home. On the other hand, dropout group adolescent mothers have fewer domestic workload and child care demands placed on them. Perhaps these young mothers manage their time differently because they can spread their domestic workload and child care tasks throughout the course of the day. Another factor to consider is if dropout group adolescent mothers consider themselves "traditional," where cultural expectations require the mother to be the primary caretaker of the child. This expectation, or definition of the mother's role by her culture, may require her to remain in the home to teach and spend time with her child.

A theme emerging from the Accommodations Interview focused on spousal abuse as a risk factor, particularly where abuse was present in these adolescent mothers' family of origin. Six mothers from the dropout group versus one from the in-school group identified themselves as coming from abusive homes. These young women have learned how to function in a dysfunctional environment, suffer from low self-esteem, and experience little or no success. It is not surprising that mothers from the dropout group may unconsciously seek out those relationships that may be abusive in nature.

Conclusions

Although there has been a significant amount of systematic research investigating the consequences of adolescent pregnancy among the general
population, there has been little systematic research investigating adolescent pregnancy among Native American populations. This study was conducted to expand the knowledge base about a specific population of Native Americans where little knowledge existed previously. The purpose of this study was to explore and determine what ecocultural factors and systems of support are available and utilized by Navajo adolescent mothers in response to the adaptations that must be made as a result of being an adolescent mother, specifically, either remaining in high school or dropping out of high school.

Another purpose of this study was to develop an instrument that is reliable and valid in studying the ecocultural variables within Navajo families with young children. A semi-structured Accommodations Interview was revised for use with parenting Navajo adolescent mothers. In addition, much of the research literature posits adverse health or developmental consequences (or both) for infants born to adolescent mothers; therefore, this study addressed the question of cognitive and motor performance of infants/toddlers born to Navajo adolescent mothers. It should be noted, however, that there are limitations to the research study since the sample is small.

The research hypotheses were based on findings in the research literature with the general population. Several hypotheses were generated to guide the research with respect to whether there are similar consequences of pregnancy for Navajo adolescent females and their children.

1. Navajo adolescent mothers who remain in high school will have more family support than Navajo adolescent mothers who drop out of high school.

2. Navajo adolescent mothers who remain in high school will have more family resources than Navajo adolescent mothers who drop out of high school.
3. Navajo adolescent mothers who remain in high school will have to make greater adaptations than Navajo adolescent mothers who drop out of high school. 

Although hypotheses were not generated in the area of child development, an additional question was addressed by this study—"What is the relationship between Navajo adolescent mothers current enrollment in high school and the cognitive and motor performance of their children?"

Results indicate that social support as defined in the Accommodations Interview is an important factor for Navajo adolescent mothers who remain in high school. The Family Support Scale, which was too broad in scope, did not emerge as an instrument that provided as much information as the Accommodations Interview relative to the decision to remain in high school or to drop out. Parenting Navajo adolescent mothers who remained in high school have more resources available to them to meet the needs of their family. Navajo adolescent mothers who remained in high school did make more accommodation efforts—including increased domestic workloads, educational attainment, and cultural heterogeneity. One of the most interesting results is the developmental assessment of infants born to Navajo adolescent mothers. Both groups of infants are below average in those areas; however, infants born to mothers who dropped out of school performed far better on the cognitive index of development than those infants born to mothers who remained in school. If genetics is a factor, then this would go against an earlier assumption that adolescent mothers who drop out of high school may have had more academic achievement difficulties. However, genetics and academic achievement, as well as the impact of higher stress levels on the cognitive functioning of the newborn, are areas requiring further research.
Limitations of the Research

This study was conducted to expand the knowledge base about a segment of the population where little knowledge previously existed. Although the knowledge base has been expanded, there are limits to this research study. First, the small sample size of this study limits the research results, and these results cannot be generalized to other tribal groups of parenting adolescent mothers. With over 500 federally recognized Native American tribes, there could be just as many differences as there are similarities so one could not make the assumption that these results will generalize to other Native American tribes.

Second, due to the length of time undertaken for this research study, it is not known if there are other threats to validity present. For example, since the implementation of this research study, welfare reform has emerged as a national issue. The impact that welfare reform has had on the Navajo reservation and parenting adolescent mothers is not known.

Finally, this research study has not addressed the academic achievement of parenting adolescent mothers who dropped out of high school. Therefore, it is not known which came first; adolescent mothers in the dropout group may have been experiencing academic difficulties, dropped out of school and became pregnant, or they may have become pregnant first and then dropped out of school.

Implications

While the issue of social support and adolescent pregnancy has been addressed as it relates to parenting Navajo adolescent mothers, it is not being suggested that these results can be generalized to other Native American groups. Since the Navajo
Nation is the largest group of Native Americans in the United States, it would be interesting to see results with other Native American groups. Comparative studies of social support and adolescent pregnancy should be addressed in various Native American groups to determine if there are similar findings across groups. For example, it would be interesting to see whether the results in this study are similar within the Oglala Lakota Nation, as it is the second largest Native American group. In addition, comparative studies of social support and adolescent pregnancy should be initiated within smaller Native American groups. Future studies should also include academic achievement as a variable to examine in making determinations about the decision of adolescent mothers to remain in school or to drop out.

The evidence from this study also indicates that there are persons who emerged as primary supporters to the Navajo adolescent mother. For those mothers remaining in high school, primary supporters are the immediate and extended family, whereas for mothers dropping out of school the primary supporter is her partner/spouse. More attention needs to be directed toward the father in these situations in terms of demographic variables, father/partner role, and his changing responsibilities--particularly with the significant theme of domestic abuse. When the partner of an adolescent mother leaves, it can be rationalized that his leaving was for the better. When the partner chooses to remain, he is viewed in a positive manner and it is said that he is a good man for taking on his responsibilities. However, his story is not heard: the accommodations that he has to make since becoming a father, and how these accommodations impact his ability to meet his needs and the needs of his family. These results are discussed in three parts that focus on implications for: (a) future clinical research, (b) social policy, and (c) services design and delivery.
Implications for Future Clinical Research

The consumption of alcoholic beverages is a major factor of fetal alcohol syndrome and fetal alcohol effects. Determining the drinking patterns of Native American adolescent females as a potential risk factor in the development of cognitive and motor performance delays of their children might serve as a prevention/intervention mechanism. According to the mothers in this research study, none of the children had any diagnosable syndrome although several mothers indicated that they had been consuming alcoholic beverages when their child had been conceived.

Future studies should focus attention on the role of the adolescent mother's partner and the effects of domestic violence. Prevention and intervention programs are needed to address these issues, perhaps as part of a health/parenting education awareness package for school curriculum.

Implications for Policy

Adolescent pregnancy appears to occur predominantly among poorer populations. A primary issue for policy suggests the need for understanding and being sensitive to the life experiences of the poor. There are monetary allocations to address the issue of adolescent pregnancy; for example, in this research the primary sources of assistance were the adolescent pregnancy projects receiving funding from federal and/or private grant foundations. Unfortunately, this is similar to crisis intervention and putting a Band-Aid on a cut. The issue is not to cover the wound and hope it heals, but to find the real source of the problem—to focus on ways to eradicate poverty in this country. Poverty may serve to lower self-esteem of individual family members, resulting in a breakdown of traditional values, which further results in the inability of the family to make adaptational responses. This inability to make
adaptations can be seen from the results of this study with those Navajo adolescent mothers who dropped out of high school. This creates a particularly disturbing policy issue related to welfare reform for adolescent mothers, whose current situation may already be impeded by lack of appropriate resources to meet the needs of their families.

Direct Services Design and Delivery

Some adolescent pregnancy projects have been instrumental in retaining pregnant and/or parenting adolescent females in school. For example, one of the sites indicated their program was established because a significant number of adolescent females were becoming pregnant and dropping out of school--one of eight females in high school. These programs are geared to provide outreach services, parenting education, medical services, daycare services, and limited transportation services for pregnant or parenting Navajo adolescent mothers who remain in high school. Although programs are addressing the needs of the adolescent mother, it is difficult to say with conviction that they are addressing the needs of the infants of the Navajo adolescent mothers who remain in high school. These infants may not be in an environment that is conducive to providing them with the necessary stimulation to promote cognitive and motor performance development and growth. The reasons for this may be: (a) a disproportionate number-of-child to caregiver ratio, (b) daycare providers may be inadequately trained in the provision of child care development, but more specifically regarding the therapeutic needs of the child for stimulation, and (c) Navajo adolescent mothers are required to spend time in the daycare center with their child; however, most mothers report they are in the daycare centers to eat lunch and to check on their child, which does not allow enough time for mothers to spend in
direct interaction with their child. This has implications for the necessity to change, or incorporate, current methods of learning in the high school curriculum so it is more sensitive to the needs of the adolescent mother and her child. For example, if a young mother must take a mathematics course, then it would be beneficial to have the young mother at the daycare center, spending time with her child and clearly thinking about what her needs are, developing a family budget rather than manipulating numerical figures. Clearly, in addition to academic skills, young mothers need time with their child to focus on independent living skills.

In conclusion, this research has contributed to expanding the knowledge base relevant to the issue of ecocultural variables and family support among parenting Navajo adolescent mothers. This information will assist others, particularly service providers, in the development of appropriate programs to address issues pertinent to Native American adolescent pregnancy. However, there are even more questions and challenges raised that need to be addressed in the future by Native American communities. For example, what can Native American communities do about the challenge of pregnancy prevention, and educating females and males in the communities about adolescent pregnancy? What is the role of the Native American adolescent father and the impact of fatherhood on him? How can poverty be eradicated so as to reduce or eliminate the social ills such as alcoholism, child abuse and neglect, and domestic/family violence that plague Native American communities? Similarly, what role can Native American communities play to ensure that young people in these communities are adequately prepared for the work force? What can Native American communities do to ensure the continuity of the sacred circle—the preservation of the family? These challenges are very real in Indian country today, but
the questions raised can only be answered by the Native American communities themselves.

For generations, Native Americans have believed in and practiced the oral tradition as a method for passing along stories. This research has focused on the voices of young Navajo adolescent mothers. Experiencing the existence of adolescent mothers by hearing their stories about what it is like to be an adolescent mother in their ecocultural environment has been a rich and valuable lesson. I have learned much. Therefore, it is only fitting to conclude with a quote from Harris (1990) about oral tradition, which summarizes all that has been accomplished by this research and is given as a gift from the voices of these young Navajo adolescent mothers:

Tribal "stories" encapsulate wisdom and teaching. However, they are not to be "believed." They are to be "learned from," and learned from in a very particular way...no one says what you are supposed to learn. The Tellers ask you, "What did you learn?" (p. 15)
REFERENCES


APPENDICES
Appendix A

Ecocultural Accommodations Interview Coding Manual
ADOLESCENT MOTHER (AM): DEMOGRAPHICS

1. _____ Current age

2. _____ Age at first pregnancy

3. _____ Marital Status:
   1 = single or never married
   2 = married
   3 = cohabiting with child’s father
   4 = cohabiting with boyfriend (not child’s father)
   5 = divorced

4. _____ Education:
   1 = 6th
   2 = 7th
   3 = 8th
   4 = 9th
   5 = 10th
   6 = 11th
   7 = 12th
   8 = vocational training/community college
   9 = other ____________________________

HEALTH AND PREGNANCY HISTORY OF ADOLESCENT MOTHER

5. _____ Prenatal stress:
   0, 1, or 2 = Low level; trouble free pregnancy.
   3, 4, or 5 = Medium level; average, normal pregnancy
   6, 7, or 8 = High level; prolonged morning sickness or severe depression;
                 serious complications possibly requiring hospitalization.

6. _____ Perinatal stress:
   0, 1, or 2 = Low level; normal labor, birth. Baby is of average weight.
   3, 4, or 5 = Medium level; low birth weight; use of forceps or C-section; TC
                 may not leave hospital right away.
   6, 7, or 8 = High level; serious to critical situation; at worst, child may not be
                 expected to live.

7. _____ Child was preterm (more than four weeks early)?
   1 = no
   2 = yes

8. _____ Evidence of physical/medical problems at birth; prognosis for normal development
   is poor?
   1 = no
   2 = yes

9. _____ Has a professional identified TC as “at risk”?
   1 = no
   2 = yes

10. _____ Has the adolescent mother had repeat pregnancies?
    1 = no
     2 = yes
Were any of these risk factors present?

<table>
<thead>
<tr>
<th></th>
<th>1 = no</th>
<th>2 = yes</th>
<th>9 = NA/not at risk</th>
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<tbody>
<tr>
<td>11.</td>
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<td>11a.</td>
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<td>11g.</td>
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Prematurity
Low birthweight/perinatal stress
Adolescent mother
Abuse
Poverty/lack of housing
Prenatal drug exposure
Parental disability (MR, psy., sensory impairment, etc.)
Other

12. Does the adolescent mother have any health or disability problems?

<table>
<thead>
<tr>
<th></th>
<th>1 = no</th>
<th>2 = yes</th>
<th>blank = missing data</th>
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<tbody>
<tr>
<td>12a.</td>
<td></td>
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</tbody>
</table>

Extent to which problem interferes with daily routine:
0, 1, or 2 = not at all
3, 4, or 5 = somewhat
6, 7, or 8 = a great deal
9 = NA

13. Prenatal visits:

<p>| | | | |</p>
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<tbody>
<tr>
<td>1 = three or more prenatal visits</td>
<td>2 = prenatal visits during first trimester</td>
<td>3 = prenatal visits during second trimester</td>
<td>4 = prenatal visits during third trimester</td>
</tr>
<tr>
<td>5 = prenatal visits throughout pregnancy since first trimester</td>
<td>6 = no prenatal care</td>
<td></td>
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LEVEL OF DIFFICULTY, AT ENTRY (use overall evidence)

14. a. Behavioral characteristics of the child:

<p>| | | |</p>
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<tbody>
<tr>
<td>0, 1, or 2 = Easy going, pleasant.</td>
<td>3, 4, or 5 = Average.</td>
<td>6, 7, or 8 = Difficult, irritable, temper tantrums, hyperactivity</td>
</tr>
</tbody>
</table>

15. b. Child-mother interactive behavior rate (based on Chishold, 1983):

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<tbody>
<tr>
<td>0, 1, or 2 = Low; TC is content to be separate from AM, rarely seeks her reassurance or attention, spends as much or more time w/other familiar relatives; very little physical contact or vocalizing.</td>
<td>3, 4, or 5 = Medium; moderate or occasional seeking of attention from AM, especially in presence of strangers, but generally content w/AMs proximity, minimal touching or vocalizing; rarely seeks AMs lap or to be picked up; may find proximity of other familiars almost as or as reassuring.</td>
<td>6, 7, or 8 = High; TC frequently seeks AMs attention or reassurance, demands to be picked up or sit in AMs lap, not satisfied or reassured w/attention from other familiar relatives; frequent touching or vocalizing directed at AM.</td>
</tr>
</tbody>
</table>

16. c. Child’s overall social interaction rate:
<table>
<thead>
<tr>
<th>0, 1, or 2 =</th>
<th>Rarely initiate interactions w/anyone; avoids, frets over, and otherwise shows strong fear of strangers; very low demand for attention from others; solitary.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 4, or 5 =</td>
<td>Sometimes initiates interactions, but may also avoid after initial contact; wary around strangers; low to moderate attention seeking w/familiar relatives.</td>
</tr>
<tr>
<td>6, 7, or 8 =</td>
<td>Frequently initiates interactions; high attention seeking; annoys, interrupts; a real nuisance; is not careful or restrained with strangers.</td>
</tr>
</tbody>
</table>

17. **d. Medical characteristics:**

<table>
<thead>
<tr>
<th>0, 1, or 2 =</th>
<th>No problems; child is healthy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 4, or 5 =</td>
<td>Some problems; chronic ear, sinus infections, child is sickly; requires medication, etc.</td>
</tr>
<tr>
<td>6, 7, or 8 =</td>
<td>Unusual caregiving demands; heart condition, seizures, physical disability, etc.</td>
</tr>
</tbody>
</table>

18. **e. Communication skills (Bemheimer, 1985):**

<table>
<thead>
<tr>
<th>0, 1, or 2 =</th>
<th>Appears to be developing normally; age-appropriate expressive and receptive language.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 4, or 5 =</td>
<td>Some problems; child is difficult to understand; has difficulty understanding.</td>
</tr>
<tr>
<td>6, 7, or 8 =</td>
<td>Nonverbal or extremely limited communication abilities; does not understand others.</td>
</tr>
</tbody>
</table>

19. **Combined CHILD LEVEL OF DIFFICULTY SCORE (add a, b, c, d, e)**

20. **Global rating of parents’ perception of child’s impact on the family’s daily routine:**

<table>
<thead>
<tr>
<th>0, 1, or 2 =</th>
<th>Low impact</th>
</tr>
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<tbody>
<tr>
<td>3, 4, or 5 =</td>
<td>Medium Impact</td>
</tr>
<tr>
<td>6, 7, or 8 =</td>
<td>High impact</td>
</tr>
</tbody>
</table>

**PERCEPTION OF ADOLESCENT MOTHER’S STATUS**

**Why Adolescent Mother Decided to Have a Child?**

1 = no

2 = yes, partially

3 = yes

4 = missing data

21. **to get away from dysfunctional home environment**

22. **adolescent mother doesn’t know**

23. **didn’t plan pregnancy (it just happened, lack of birth control)**

24. **wanted to leave school**

25. **a girl becomes a woman by having a baby**

26. **wanted to have own family**

27. **wanted to get own home**
28. ___ show love for boyfriend
29. ___ wanted to get married
30. ___ wanted to have own support (AFDC, food stamps, etc.)
31. ___ other (describe) ____________________________________________________

Cues: ___________________________________________________________

32. ___ EXPECTATIONS FOR FUTURE (CHILD AND AM):
   0, 1, or 2 = Low expectations for future (doesn't see much hope, sees situation as bleak; AM doesn't expect that she will finish school, become financially stable).
   3, 4, or 5 = Medium expectations for future (AM knows she and TC will face struggles but is optimistic; expects that she will return to school, become financially stable at some point).
   6, 7, or 8 = High expectations for future (AM indicates that she is currently attending school, looking forward to college).
   Blank = Missing data

Cues: ___________________________________________________________

GOALS FOR CHILD AND AM:

1 = no 2 = yes 3 = blank

The Child:
33. ___ (1) getting/keeping the child healthy.
34. ___ (2) becoming acquainted with words, books, stories, alphabet, or numbers
35. ___ (3) getting along with others
36. ___ (4) being cooperative (i.e., kind, helpful, happy, and generous) (Lamphere, 1977)
37. ___ (5) finish school
38. ___ (6) maintain harmony and place within family
39. ___ (7) other: _______________________________________________________

Primary goals for the child (code goal # in parentheses):
40. ___ 1st 41. ___ 2nd 42. ___ 3rd

Adolescent mother:
43. ___ (1) being kind, helpful, happy, and generous
44. ___ (2) finishing school
45. ___ (3) maintain harmony and place within the family
106

46. ___ (4) have own home

47. ___ (5) have a relationship with Tcs father

48. ___ (6) get Ams family to help care for the child

49. ___ (7) other: ________________________________

Primary Goals for AM (code goal # in parentheses):

50. ___ 1s 51. ___ 2nd 52. ___ 3rd

GOAL IMPLEMENTATION (overall evidence, not AMs report):

Evidence of implementation of short term goals in daily routine (base on total evidence and describe briefly):

- 0, 1, or 2 = Low or no indication
- 3, 4, or 5 = Some evidence but not a dominant theme
- 6, 7, or 8 = Dominant theme; important to family lifestyle
- blank = missing data

The Child:

53. ___ (1) getting/keeping the child healthy

examples: ________________________________

54. ___ (2) words, books, stories, alphabet, or numbers

examples: ________________________________

55. ___ (3) getting along with others

examples: ________________________________

56. ___ (4) being kind, helpful, happy, and generous

examples: ________________________________

57. ___ (5) finishing school

examples: ________________________________

58. ___ (6) maintain harmony and place within family

examples: ________________________________

59. ___ (7) other: ________________________________
Evidence of implementation of goals in daily routine. Dominant themes (rank order, use #s in parentheses):

60. _____ 1st  62. _____ 2nd  63. _____ 3rd

Adolescent Mother:

64. _____ (1) being kind, helpful, happy, and generous  
   examples: __________________________

65. _____ (2) finishing school  
   examples: __________________________

66. _____ (3) maintain harmony and place within family  
   examples: __________________________

67. _____ (4) have own home  
   examples: __________________________

68. _____ (5) have a relationship with Tcs father  
   examples: __________________________

69. _____ (6) get Ams family to help take care of the child  
   examples: __________________________

70. _____ (7) other: __________________________

Evidence of implementation of goals in daily routine. Dominant themes (rank order, use #s in parentheses):

71. _____ 1st  72. _____ 2nd  73. _____ 3rd

ECONICHE VARIABLES

Family Subsistence - Income Sources

1 = no  2 = yes

74. _____ AM/partner's wage work

75. _____ AM parents' wage work

76. _____ Livestock

77. _____ Farming

78. _____ Arts or crafts (weaving, silversmithing)
79. ___ Child support
80. ___ Other household member’s income
81. ___ Relatives (not living in household)
82. ___ Welfare (including social security, SSI, WIC, Food Stamps, etc.)
83. ___ Other: _______________________________________
84. ___ Total number of income sources
85. ___ Degree of energy expended in subsistence activities:
   0, 1, or 2 = Low; AM unemployed or underemployed; little or no effort to find job
   3, 4, or 5 = Medium; AM employed full-time or underemployed but actively seeking job, or parents’ supplement income with traditional work (e.g., with family livestock or part-time arts or crafts)
   6, 7, or 8 = High; AM employed but lives in separate town for job

FOCAL CONCERNS OF THE ADOLESCENT MOTHER

What are the concerns that compete with parenting?
   0, 1, or 2 = Little indication of competition
   3, 4, or 5 = Some indication of competition
   6, 7, or 8 = A great deal of competition
   9 = NA

86. ___ (1) subsistence or career pressures
87. ___ (2) attending school
88. ___ (3) marital/couples situation
89. ___ (4) kinship obligations
90. ___ (5) health or other problems of AM or other household member(s)
91. ___ (6) new house/geographic relocation
92. ___ (7) domestic workload
93. ___ (8) socializing (friends, acquaintances, and so forth)
94. ___ (9) other: _______________________________________
95. ___ Which is more salient?
   1 = parenting
   2 = parenting and these other pressures are equally salient
   3 = the other pressures
DOES ADOLESCENT MOTHER RECEIVE ANY OF THE FOLLOWING SERVICES?

1 = no  2 = yes

96. ____ Day care services
97. ____ Social services/mental health
98. ____ Educational services
99. ____ Financial Assistance (Medicaid, Social Security, SSI, AFDC, WIC, Food Stamps)

What have services done for AM?

1 = helped to complete education
2 = provided parenting skills/training
3 = coping strategies for Ams situation
4 = restored harmony or place within the family
5 = nothing (AM does not use services)
6 = nothing (AM states service(s) has not helped)
7 = has acquired new problems (difficulty w/family, lack of available resources)
8 = other: ________________________________________________________________

Rank the two most salient services from #95 - #98 above:

100. ____ First ______________________________________________________________
101. ____ Second ____________________________________________________________

AM'S INTENSITY OF INVOLVEMENT WITH CHILD RAISING:

0, 1, 2 = not at all
3, 4, 5 = somewhat
6, 7, 8 = very much so

102. ____ Laid-back, indifferent, unconcerned (e.g., socializing is a higher priority, turns over responsibility to parents or others, has given up school).

103. ____ Concerned, wants to do more, but due to circumstances AM "lets others do most of it", has given up school.

104. ____ Active mothering and child-raising, depends on others extensively for respite (e.g. conflict with school, may give up school).

105. ____ Full-time mother, focused on child-raising, little respite (e.g., has given up school, job, socializing with friends).

106. ____ Other: ___________________________________________________________

AM'S WORKLOAD: CHILD CARE TASKS & CHORES (overall rating since TCs birth)

0, 1, 2 = little
3, 4, 5 = some
6, 7, 8 = a great deal

107. ____ a. Degree of complexity/elaborateness of work and schedule
b. Amount of physical effort required by AM

c. Amount of time spent each day transporting and caring for child's needs

d. Child care work score (add a, b, c values together)

e. Amount of help received with transportation, respite, excluding other household members.

f. Amount of help received including other household members.

g. Child care help score (add e and f)

Child care Tasks related to TC (overall rating since birth)

0, 1, 2 = Light to moderate. Child has been easy going, has made few demands on AM so AM is able to study. Or child has been more demanding but relatives and friends have been available for respite care. Or child has spent most of the day in day care or intervention. May even have had transportation provided.

3, 4, 5 = Moderate to heavy. Child status has created additional demands on AM, such as scheduling conflicts with school, study time, etc. Respite care has been unavailable, or AM has been reluctant to be away from child.

6, 7, 8 = Heavy and complex. Child creates heavy demands on AM, she has had to drop out of school or attendance is sporadic because no respite care has been available.

Cues: ________________________________

FAMILY SUPPORT

Father Availability (Tcs)

1 = father unknown, dead, or unacknowledged
2 = father lives far away, off reservation
3 = father lives on distant part of reservation
4 = father lives nearby (same or neighboring community)
5 = father part of household
   blank = missing information

Father Support (Tcs)

1 = father has no contact with AM/TC
2 = father offers little help
3 = intermittent help; AM is responsible
4 = supportive, but AM is more responsible
5 = co-equal in care, or nearly so
   blank = missing info (we cannot judge)

Cues: ________________________________
117. ___ Grandmothers' Availability (AM and/or TC Father's Mother)
1 = both grandmothers are dead or otherwise completely out of the family picture
2 = both grandmothers live far away, either off or on a distant part of the reservation
3 = one grandmother lives nearby (same or neighboring community)
4 = both grandmothers live nearby (same or neighboring community)
blank = missing info

Cues: ______________________________________________________

118. ___ Grandmothers' Support
1 = neither grandmother has contact with AM/TC
2 = grandmothers offer little help
3 = intermittent help from one grandmother
4 = intermittent help from both grandmothers
5 = one grandmother provides regular support to AM
6 = both grandmothers provide regular support to AM
7 = primary caretaker is a grandmother
8 = NA (both grandmothers are dead)
blank = missing info (we cannot judge)

Cues (specify references to maternal or paternal grandmother): ______________________

Support from Other Family and Friends For AM (support may be emotional and/or instrumental)
0 = no mention
1 = no, little involvement with AM, definitely mentioned as not providing support
2 = no, involved with AM but not helpful or supportive
3 = yes, support is infrequent or occasional, does not include child care
4 = yes, support is regular and frequent
5 = nearly co-equal in care
8 = NA

119. ___ AM father
120. ___ Father's father
121. ___ AM sibling(s)
122. ___ Father's sibling(s)
123. ___ Friends
124. ___ Others: _____________________________________________

Availability of Family and Friends (who is available to provide support to AM)
1 = lives at distant location
2 = lives in extended family camp or nearby
3 = lives in household
9 = NA, not mentioned as providing support or is AM or AM's partner
125. ___ AM father
126. ____ Father's mother
127. ____ Father's father
128. ____ AM's siblings
129. ____ Father's siblings
130. ____ Friends
131. ____ Others (cues):

PARTNER/COUPLES ROLES:

132. ____ Effect of child's status on couples relationship.
   0 = no noticeable effect
   1 = truly negative
   2 = somewhat negative
   3 = mixed negative and positive
   4 = somewhat positive
   5 = truly positive
   9 = NA
   blank = missing data

Cues:

133. ____ Level of AM enmeshment in family (inclusion in family activities)
   6 = companionate, AM is included
   5 = companionate, AM is somewhat included, but is excluded from certain activities because of status
   4 = companionate, AM is included principally in activities with siblings and/or other peers; some distancing from her mother
   3 = AM and her mother bond, but AM has little interaction with other family members
   2 = AM and father or other family member bond but little interaction with remaining family members
   1 = autonomous, little interaction between any family members
   blank = missing data

FAMILY FUNCTIONING (Bloom)
Level of Family Cohesion

0, 1, 2 = Separated. Family does not do things together, does not keep track of what other family members are doing. Family members seem to avoid contact with each other. Low emotional bonding between family members. They are extremely independent.

3, 4, 5 = Connected. A sense of togetherness and group identity in the family. Family members really help and support one another; they get along well with each other, but respect each other's autonomy. High emotional bonding between family members, but also high individuality.

6, 7, 8 = Enmeshed. High emotional bonding and limited individual autonomy in family. Family members feel pressured to spend free time together and
to devote much of the time and energy to meeting family needs. It is difficult for family members to be alone.

134. ___ Nuclear family

135. ___ Extended family

**Type of Family Adaptability**

<table>
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<tr>
<th>Score</th>
<th>Description</th>
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<tbody>
<tr>
<td>0, 1, 2</td>
<td>not at all</td>
</tr>
<tr>
<td>3, 4, 5</td>
<td>somewhat</td>
</tr>
<tr>
<td>6, 7, 8</td>
<td>very much so</td>
</tr>
<tr>
<td>9</td>
<td>NA</td>
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</table>

136. ___ Chaotic. Family activities and the household are pretty disorganized. Family members do not know what to expect of each other, or it is hard to know what is expected of them because it always changes. Family members pay little attention to traditional kinship obligations and expectations.

137. ___ Flexible. Family is relaxed about chores and schedules. Family members work out solutions to problems together; usually feel good about solutions. There are few explicit rules in this family. Nobody orders anyone around. Kinship obligations are voluntarily met without prodding from others.

138. ___ Structured. A well-ordered, planful schedule is important to this family. There is strong (can be conjoint) leadership in this family. Family members have clearly defined duties. While there may be little actual punishment, children are often reprimanded for doing anything wrong. Organized.

139. ___ Democratic. Shared rule and decision-making in family. Family operates through consensus.

Cues: __________________________________________

140. Overall effect of AM's status on family, including relatives, if available:

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<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>no noticeable effect</td>
</tr>
<tr>
<td>1</td>
<td>truly negative</td>
</tr>
<tr>
<td>2</td>
<td>somewhat negative</td>
</tr>
<tr>
<td>3</td>
<td>mixed negative and positive</td>
</tr>
<tr>
<td>4, 5, 6, 7, 8</td>
<td>somewhat positive</td>
</tr>
<tr>
<td>9</td>
<td>truly positive</td>
</tr>
<tr>
<td>9</td>
<td>NA</td>
</tr>
<tr>
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<td>missing data</td>
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Cues: __________________________________________

**RELIGIOSITY**

Religion provides which of the following:

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<tr>
<th>Score</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>0, 1, 2</td>
<td>not evident</td>
</tr>
<tr>
<td>3, 4, 5</td>
<td>some evidence</td>
</tr>
<tr>
<td>6, 7, 8</td>
<td>dominant theme</td>
</tr>
<tr>
<td>9</td>
<td>NA</td>
</tr>
</tbody>
</table>

141. ___ Healing, cures, therapeutic help; specify whether traditional Navajo, peyote religion, and/or Christian faith healer.

142. ___ Meaningfulness/peace of mind/hozho

143. ___ Social and/or material support
144. ___ Moral conviction re: decisions relating to having TC

Cues: ____________________________

145. ___ AM's degree of religiosity:

0, 1, 2 = Low. No or very low church involvement or participation in traditional ceremonies, AND no/very low sense of inner spirituality, AND no/very low support from church, and may express negative feelings about religion.

3, 4, 5 = Medium. Some church involvement and/or participation in Navajo ceremonies and/or use of traditional healers OR sense of inner spirituality. May receive support from church. May attend Navajo ceremonies primarily for social reasons or because of kin obligations. May use religion as an affective tool.

6, 7, 8 = High. Regular church involvement/attendance and/or participation in Navajo ceremonies and/or use of traditional healers AND/OR strong sense of inner spirituality AND may receive some kind of support from church/religious involvement AND religion used as affective tool in daily life.

ACCOMMODATIONS

ACCOMMODATIONS RE: ECONICHE VARIABLES (Related to child raising; changes made from normal functioning of family, or steps taken, or decisions made—or any deliberately NOT done—that are at least partially related to raising a child):

0, 1, 2 = little or no evidence of accommodation to TC
3, 4, 5 = some evidence; not a dominant theme
6, 7, 8 = dominant theme (not necessarily positive)

146. ___ (1) Family subsistence base. (Employment of adolescent mother; reliance on relatives for subsistence support; sources of income).
Examples _______________________

147. ___ (2) Accessibility of educational services. (Hassle in getting AM to educational services, location of residence; access to transportation; AM moving to relatives home to be closer to school).
Examples _______________________

148. ___ (3) Home/neighborhood. (Location of residence or alterations in residence for convenience of AM; AM's residence has changed now that she is an adolescent mother; resides separate from parents).
Examples _______________________

(4) Domestic workload, excluding care of TC. (Increased expectation to take role in domestic workload; shares less of the domestic workload so greater attention is given to TC; number of children; number of helpers; time or effort expended; reliance on relatives to help maintain household, obtain firewood, etc.)

Examples


(5) Child care tasks. (Did AM have care responsibilities before having TC (e.g., care for siblings; increased or decreased responsibility for child care, number of tasks; number of helpers; involvement of relatives; time or effort expended; degree to which how much of the child care responsibility AM turns over to others; sharing of child care tasks).

Examples


(6) Child play groups. (Decisions AM makes directly in her role as a mother; e.g.: is it a concern for her who TC plays with; age, sex, and kinship category of playmates; is socialization of TC a critical issue).

Examples


(7) Couple role relationships. (Between Am and father/partner; who makes decisions re: TC; has TC affected the relationship between AM/father or partner; nature of quality of couple roles).

Examples


(8) Instrumental and/or emotional support for parents. (From church; community; parent groups; individuals; kin, excluding father/spouse and TC’s siblings; friends, and neighbors; other sources).

Examples


(9) Role of father/partner. (Has TC redefined the relationship and changed his role; how well does the father/partner accommodate to the presence of TC; how much does/does not the father/partner get involved in parenting e.g. babysitting, child-care tasks, domestic workload, transportation of TC; emotional support to mother).

Examples


(10) Sources of child influence. (Does AM accommodate to presence of child by taking educative and instructional role, making sure that other influences are involved, e.g. TV, games, toys; cultural activities, exposure of child to traditional culture or other cultural models; involvement of strangers in TC's life).

Examples ________________________________

(11) Sources of information re: parenting goals for AM. (How much AM seeks out general information about parenting, e.g. books, lectures, training, courses, parent groups, friends, parents, family for advice, traditional sources of information).

Examples ________________________________

(12) Community heterogeneity. (Ethnic, cultural, class, and/or educational diversity in family's world; contact with strangers; variety of social and cultural views, behavior, and attitudes toward adolescent pregnancy).

Examples ________________________________

Total number of niche variables with low accommodation efforts (sum # of variables with values 0 through 2).

Total number of niche variables with moderate accommodation efforts (sum # of variables with values 3 through 5).

Total number of niche variables with high accommodation efforts (sum # of variables with values 6 through 8).

Total number of niche variables with moderate and high accommodation efforts (sum # of variables with values 3 through 8).

Evidence of active accommodation efforts in niche variables. (Rank order niche variables in parentheses #1-#12).

1st
2nd
3rd

AMs MENTION OF LOSSES RELATED TO ACCOMMODATION EFFORTS

1 = no  2 = yes

Loss of freedom or independence

Reduced money or possessions
167. _____ Social withdrawal
168. _____ Reduced ability to assist/support relatives
169. _____ Withdrawal from school
170. _____ Loss of options
171. _____ Loss of friends
172. _____ Limited time
173. _____ Grown apart from partner and/or relatives
174. _____ Loss of job
175. _____ Other: (describe) __________________________________________________________

Examples_________________________________________________________

176. _____ TO WHAT EXTENT DOES AM ACCOMMODATE TO THE CHILD?

0, 1 or 2 = AM has many concerns unrelated to TC and TC must accommodate to the priorities and patterns of AM.
3, 4 or 5 = AM accommodates to TC but also maintains concerns to which TC must accommodate somewhat.
6, 7 or 8 = TC is AM's primary or sole focus, to which she is constantly accommodating.

Cues: ________________________________________________________________

AM’S EMOTIONAL RESPONSE TO CURRENT ACCOMMODATION

AM’S Satisfaction With Current Accommodation.

0, 1 or 2 = satisfied
3, 4 or 5 = mixed or neutral feelings
6, 7 or 8 = dissatisfied
9 = NA

177. _____ Daily routine
178. _____ Amount of partner's support
179. _____ Amount of parents' support
180. _____ Amount of support from relatives
181. _____ Total amount of help with and respite from daily burdens
182. _____ AM’s educational and/or employment status
183. AM’s emotional response to own accommodation efforts. (How satisfied is AM with her role and what she is doing). Use overall evidence, including field notes, observations, and AM’s own report.

1 = Positive. AM feels good about own accommodation efforts. AM is fairly satisfied with the daily tasks involving TC. She receives respite care regularly and looks healthy/sturdy and in good spirits. Family is supportive; shared caretaking offers relief. She may look healthy in spite of little help and be resourceful in getting more support for her accommodation efforts. AM is satisfied with child care, workload and family routine.

2 = Ambivalent. AM has mixed feelings about her accommodation efforts, is visibly under some emotional and/or physical strain and could use more support, feels torn between child’s needs and her own needs (education, employment, etc.).

3 = Negative. AM has low sense of self-efficacy, feels that her accommodation efforts do not bear anticipated results because child and/or environment seem nonresponsive and/or because AM doubts self. There is little or no reliable relief in time of crisis, or respite care and support care are not actively sought after when available. AM is resentful, feels stuck, is visibly drained, even depressed, feels physically burdened with unusual child care demands and few resources. Relief is difficult for impossible to obtain. Relatives are not available or are unwilling to render support; they may add to burden. Overall, AM has negative feelings about own accommodation efforts.

Examples: __________________________________________________________

AM’s BELIEFS RE: HER OWN STATUS AS AN ADOLESCENT MOTHER

1 = no 3 = not applicable
2 = yes  Blank = missing data

184. (1) Being a mother is more important, it doesn’t matter what age

184a. (It is preferable to wait until a certain age to have a child

185. (2) Education is important, having a child should be put off until school is completed.

185a. Education is not as important, having a child does not have to be put off until school is completed.

186. (3) AM can still do as many things as before having TC

186a. AM has constraints placed on her now that she has TC
SELF-CONCEPT (Jim Turner) PARENT REPORT

187. ____ Does AM recognize any differences between herself and other Ams?
   1 = no  2 = yes  9 = NA
   If yes, explain: ____________________________________________
   ____________________________________________

188. ____ Does AM see herself as an adequate parent?
   1 = no  2 = yes  9 = NA
   If no, give reasons: ____________________________________________
   ____________________________________________

CHILD PROBLEMS (AM report, problems other people told AM that TC has)

   1 = no  2 = yes

189. ____ (1) emotional
190. ____ (2) behavioral
191. ____ (3) medical
192. ____ (4) no problems
193. ____ (5) Other: ____________________________________________

194. ____ Total number of child problems reported (add all non-zero items).

195. ____ Focal concern (AM report; enter number from parentheses above).

PRIMARY CARETAKER OF THE CHILD

   1 = Adolescent mother
   2 = The child's father
   3 = Maternal grandmother
   4 = Paternal grandmother
   5 = Adolescent mother's siblings
   6 = Father's siblings
   7 = Adolescent mother's other extended family members
   8 = Father's other extended family members
   9 = Friends
   Blank = Missing data

196. ____ Who is the primary caretaker of the child?

197. ____ Who is the secondary caretaker of the child?
Appendix B

Informed Consent
Informed Consent Agreement

The purpose of this study is to investigate the role of social support in the decision of a Navajo adolescent mother to remain in school or drop out of school. Additionally, this study will investigate how social support effects the health status of infants/children born to Navajo adolescent females.

As a participant in this study you will be asked to do the following:

1. Participate in an interview that will be given in two or three parts. This interview focuses on you telling your story about your baby/child and about being an adolescent mother.

2. You will be asked to complete two questionnaires which will take about 15-20 minutes total:
   a. A Family Resource Scale - this questionnaire will provide the investigator with information about which different types of resources are adequate in households with young children.
   b. A Family Support Scale - this questionnaire will provide the investigator with information about which different sources of support have been helpful to mothers' families raising young children.

3. Your baby/child will be administered the Bayley Scales of Infant Development. This is an assessment instrument to determine your baby/child's current developmental progress. You will receive a briefing on the results of the assessment.

I understand the nature of this research study and hereby agree voluntarily to participate in it. I understand that I can withdraw from the study at any time, and that I will not be penalized or suffer any other harm because of such withdrawal. I understand that the research records will be treated in strict confidence by the investigator and no one will be able to identify me from any material written or presented.


Signature Date

Witness Date
VITA

Jessiline Anderson

ADDRESS

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EDUCATION

Ph.D. Utah State University, Logan, UT 1999
Major: Professional-Scientific (Clinical Psychology)
Major Professor: Dr. Richard N. Roberts

Dissertation Title: Navajo Adolescent Pregnancy: Identifying Ecocultural Factors Among Adolescent Mothers and their Infants

M.S. Creighton University, Omaha, NE 1983
Major: Counseling

B.A. Creighton University, Omaha, NE 1976
Major: Psychology

PROFESSIONAL EXPERIENCE

8-1997 to Present: Guidance and Development Center, Macy, NE. Supervisor: Rudi L. Mitchell, Director. Position: Mental Health Therapist. Individual, marital, family, and group psychotherapy in an outpatient mental health clinic, with particular emphasis on Native American clientele. Assessment and evaluation of adults and children, community outreach, case management, case consultation, program consultation, in-service training, and research development.

09/97 - Present: Wayne State College, Wayne, NE. Supervisor: Jean Karlen, Ph.D. Position: Part-time Faculty. Teaching experience at the undergraduate and graduate level, with an emphasis on general education and psychological assessment. Responsible for teaching strategies focusing on theory and applied experience methods, introduction of various cultural perspectives on mental health, and appropriate examinations/quizzes.

01/97 - 08/98: Nebraska Indian Community College, Macy, NE. Supervisor: Omaha Tribe of Nebraska. Position: Chairperson, Board of Trustees. Overall fiduciary responsibility for tribal college in conjunction with college president and other board members.
09/96 - 05/98  
Nebraska Indian Community College, Macy, NE. Supervisor: Carolyn K. Fiscus, Academic Dean. Position: Adjunct Faculty. Teaching experience with Native American students from the Omaha Indian Reservation and non-Indian students from the surrounding areas. Responsible for teaching strategies which focus on theory and applied experience methods, appropriate examinations/quizzes, introduction of culture-specific information where applicable, and appropriate referral to student services when necessary. Responsible for implementing Human Services program component focusing on course work in the psychology and sociology fields. Specific courses taught include General Psychology, Abnormal Psychology, Introduction to Counseling Techniques, Introduction to Group Dynamics, Multicultural Counseling, Sociology of Native American Women, Documentation and Case Management Techniques, and Internship.

04/95 - 07/96  
Omaha Tribe of Nebraska, 7 Clans of the Omaha Nation Social Services, Macy, Nebraska. Supervisor: Clyde Tyndall, Acting Chief of Tribal Operations Position: Commissioner of Social Services. Administration of Tribal Social Service Programs; fiscal management; supervision, training and evaluation of staff persons; developing and implementing new social service programs; grant proposal writing; developing and maintaining at various levels (local, state and federal) interagency communication and networking; advise local tribal government on status of programs; initiate and maintain Memorandums of Agreement; meet with management, Tribal Council, and other agencies and/or governments to solve mutual problems; delegate authority concerning allocation and use of resources; evaluate current plans and operations of each subordinate unit within the department to determine efficiency; assist staff through individual and group conferences in analysis of case problems; improve diagnostic and helping skills of staff; responsible for monitoring the case plan management model; and direct services to tribal community.

09/93 - 08/94  
Norfolk Regional Center, Norfolk, NE. Supervisor John J. Curran, Ph.D. Position: Clinical Psychology Intern. Psychological and neuropsychological evaluations for psychiatric inpatients, outpatients, and geriatric patients; individual psychotherapy with psychiatric inpatients and outpatients; Co-facilitator of group comprised of chemically dependent persons and codependent family members; child and adolescent psychotherapy; consultation to hospital staff, outpatient mental health center staff, and alcohol/substance abuse treatment team; behavior management consultation to hospital wards; case management; diagnostic staffing; developing comprehensive treatment plans; and in-service training to hospital staff.

01/93 - 08/93  
Omaha Tribe of Nebraska, Macy, NE. Supervisor: Rosalie Thomas, M.S.W. Director. Position: Certified Professional Counselor. Individual, couples, marital, family, and group psychotherapy to Native Americans in a rural community tribal outpatient mental health center on a reservation; outpatient program management; consultation to community agencies; and supervision of outpatient mental health staff.

06/91 - 12/92  
USU Psychology Clinic, Logan, UT. Supervisor: Elwin Nielsen, Ph.D., Associate Professor. Advanced clinician conducting individual
psychotherapy in a university clinical setting. Psychological evaluations and consultation.

06/91 - 12/92 USU Early Intervention Research Institute, Logan UT. Supervisor: Richard N. Roberts, Ph.D., Associate Professor. Graduate Assistant experience in developmental social assessment; implementation of early intervention services (birth to three); coordinating demonstration projects on the Navajo Reservation; and in-service training to paraprofessional home visitors.

06/91 - 06/92 Private Practice, Logan, UT. Supervisor: Carolyn Barcus, Ed.D. Student co-facilitator of Adults Molested as Children (AMAC) group; group work with clients experiencing anxiety, major depression, and multiple personality disorders; assessment, treatment and consultation to sexual abuse victims.

06/91 - 05/92 USU Psychology Clinic, Logan, UT. Supervisor Jay R. Skidmore, Ph.D., Assistant professor. Advanced doctoral-level practicum in a university clinical setting; experience in individual, couples, group, and family psychotherapy; psychological evaluations and consultation; supervised first-year graduate students in clinical practicum.

03/90 - 09/90 Cache County School District, River Heights, UT. Supervisor: Kathleen Kennedy, Ph.D. Doctoral-level practicum in a school district setting; experience in developmental, learning, and school related problems; appropriate assessment (intelligence, developmental, visual-perceptual) and consultation with teachers, administrators, parents, and other related individuals.

06/89 - 08/90 USU Psychology Clinic, Logan, UT. Supervisor: Jay R. Skidmore, Ph.D., Assistant Professor Doctoral level practicum in a university clinical setting; experience in individual and family psychotherapy; psychological assessment and consultation.

08/86 - 06/88 Winnebago Counseling Center, Winnebago, NE. Supervisor: Rosalie B. St. Cyr, M.S.W. Individual, marital, and group counseling in a tribal outpatient community mental health center.

PROFESSIONAL PUBLICATIONS

Anderson, J., Fiscus, C. K., & Wadena, D. (Unpublished manuscript). Survey of Native American college students preference for counselor versus traditional spiritual healer at Colorado State University. A research analysis focusing on Native American college students preference for counselor or traditional spiritual healer based on variables such as race, gender, cultural identification, and type of problem.
PROFESSIONAL PRESENTATIONS


Anderson, J. (1994, February). Native American Culture. Paper presented at the Norfolk Regional Center, State of Nebraska Department of Public Institutions, Norfolk, NE.


WORKSHOPS


MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Psychological Association
Association for the Advancement of Behavior Therapy

HONORS AND AWARDS

American Psychological Association, Minority Fellow
Office of Indian Education, Indian Education Fellow
Who's Who in Human Service Professionals (1992)
United States Achievement Academy, National Collegiate Award - All American Scholar
Utah State University, Women's Resource Center Award