THE EFFECTS OF PATERNAL INVOLVEMENT ON THE QUALITY OF PARENTING AMONG MEXICAN AMERICAN ADOLESCENT MOTHERS

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DEDICATION

Dedicated to my wife and daughter, with all my love.
ABSTRACT OF THE THESIS

The Effects of Paternal Involvement on the Quality of Parenting Among Mexican American Adolescent Mothers
by
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Master of Public Health
San Diego State University, 2010

Background: Adolescent pregnancy is an ongoing public health and public policy concern in the United States. While the rates have steadily declined, current data may suggest that rates are once again increasing. In the United States, Hispanics currently have the highest teen birth rate, or 83 births per 1,000 teens, more than double the national rate. This teen birth rate has also been the most resistant to decline when compared to women of other racial ethnic groups.

The most essential source of support is the adolescent’s partner yet few studies have detailed the roles of male partners in adolescent mothers’ lives. This study addresses the issues concerning paternal involvement and the effects on an adolescent mother’s parenting.

Methods: The effects of paternal involvement on the quality of maternal parenting were studied in 77 Mexican American adolescent mothers. Multiple linear regression analyses were conducted at 2 different time points; 6 months postpartum and 12 months postpartum to assess whether adolescent mothers who perceive the father of the baby’s involvement as high demonstrate higher quality of parenting that adolescent mothers who perceive low involvement of the baby’s father. Additionally at 12 months postpartum, to test an across-time effect, such that high father involvement at 6 months postpartum is associated with adolescent mothers’ parenting at 12 months postpartum, a regression analysis was conducted incorporating the level of father involvement at 6 months postpartum.

Results: At 6 months postpartum, there was a significant relationship between the predictor, paternal involvement, and quality of maternal parenting, adjusting for all other variables (p= 0.033), however the main effect of paternal involvement is difficult to discern due to the significant interaction between paternal involvement and parenting stress (p= 0.036). At 6 months postpartum, results indicate that the level of quality of maternal parenting varies with level of parenting stress and level of paternal involvement.

At 12 months postpartum the main predictor, was not be significantly associated with maternal parenting (p= 0.067). However, parenting stress and harsh parenting behaviors were significantly associated with quality of maternal parenting (p= 0.010 and p < 0.001, respectively).

In the final regression model, at 12 months postpartum, paternal involvement at 12 months postpartum, parenting stress, and harsh parenting behaviors were all significantly associated with quality of maternal parenting (p= 0.015, p= 0.003, and p= 0.001). In addition, the level of paternal involvement at 6 months postpartum was significantly, but negatively, associated with quality of maternal parenting (p= 0.029).
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CHAPTER 1
INTRODUCTION

BACKGROUND

Adolescent pregnancy is an ongoing public health and public policy concern in the United States. Although the teen pregnancy rate has steadily declined from 1991 through 2005, the birth rate for teenagers between the ages of 15-19 rose 3% in 2006, or from 40.5 per 1,000 to a rate of 41.9 births per 1,000 females (Martin et al., 2006). While teen birth rates appeared to be leveling off in recent years, preliminary data for 2007 suggest that adolescent birth rates are once more increasing (see Figure 1, recreated from Hamilton, Martin, & J., 2009). The long-term decline in live births to teens and the current increase, however, continue to represent relatively high rates as compared to other developed nations (Darroch, Singh, & Frost, 2001).


In 2000, compared to countries such as England and Wales, the United States adolescent pregnancy rate was twice as high, and when compared to the Netherlands and Japan, the United States adolescent pregnancy rate was nine times higher (Singh & Darroch, 2000). With teen pregnancy rates as high as they are, in an attempt to ameliorate the situation, a goal of Healthy People 2010 is to improve pregnancy planning and spacing and
prevent unintended pregnancy (U.S. Department of Health and Human Services, 2000). Specifically, an objective of this goal is to reduce pregnancies among adolescent females. The Healthy People 2010 document states that the ideal number of teen pregnancies should be zero. However, the target for 2010 is 43 pregnancies per 1,000 teens from a baseline of 68 pregnancies per 1,000 females aged 15 to 17 years in 1996. This goal has been met, and pending Healthy People 2020 a new goal may or may not be set.

Currently, Hispanic females have the second highest rate of adolescent pregnancy, or 131 pregnancies per 1,000 compared to 75 pregnancies per 1,000 for the national average (see Figure 2). Hispanic women also have the highest teen birth rate, or 83 births per 1,000 teens, which is more than double the national rate (Martin et al., 2006). Also, this teen birth rate has been most resistant to decline in recent years, when compared to the teen birth rate of women of other racial ethnic groups (Child Trends, 2009).

![Figure 2. Live birth rates per 1,000 women aged 15-19 years, by race and Hispanic ethnicity: United States 2006.](image)

**STATEMENT OF THE PROBLEM**

Teenage childbearing has been an ongoing public health concern for various reasons. From an economic perspective, teenage childbearing can be debilitating to society because of its drain on public aid resources. Hoffman (2006) found the public costs of teenage childbearing in the US to be $9.1 billion annually (Hoffman, 2006).
In addition to the financial burden that adolescent childbearing places on society, it also places additional direct and indirect costs to society. Adolescent childbearing not only affects the mother herself, but also the child or children whom she brings into the world who may be severely affected for an array of reasons. The babies born to adolescent mothers can be affected as early as the prenatal period. Often, teenagers do not receive timely prenatal care and, thus, put their baby at risk for complications such as preeclampsia, premature birth, and low birth weight (MedlinePlus, 2009). Aside from the negative physical effects, adolescent mothers also place their children at an increased risk for other negative outcomes. For example, compared with adult mothers, adolescent mothers have been found to be less verbally interactive and responsive (Barratt & Roach, 1995), less emotionally available (Culp, Culp, Osofsky, & Osofsky, 1991; East, Matthews, & Felice, 1994), and more likely to become hostile and/or overtly restrictive with their children (Berlin, Brady-Smich, & Brooks-Gunn, 2002; East et al., 1994; Osofsky, Osofsky, & Diamond, 1993). Furthermore, Abidin (1995) concluded that during the first three years of life, stress in the family can be detrimental to the child’s emotional and behavioral development (Abidin, 1995). Because adolescent mothers are often from low-income backgrounds, exposure to poverty and maternal depression can put their children at risk for cognitive impairment, social-emotional problems, and early and pervasive school failure (Belle, Doucet, Harris, Miller, & Tan, 2000).

**Purpose of the Study**

The purpose of this study was to assess the relationship between the level of paternal involvement and the quality of maternal parenting among a sample of adolescent Mexican American mothers in San Diego, California.

**Goals/Hypotheses**

The main goal of this study is to extend the current knowledge regarding the effects of paternal involvement on adolescent mothers’ quality of parenting.

H1: A relationship exists between paternal involvement and an adolescent mother’s quality of parenting at 6 months postpartum, such that higher paternal involvement is related to higher quality of maternal parenting. Quality of parenting is operationalized in this study as the teen mother’s felt adequacy for the maternal role.
H2: The relation stated in H1 will hold concurrently at two time points postpartum. Specifically, high father involvement at 12 months postpartum will relate to adolescent mothers’ high quality parenting at 12 months postpartum.

H3: I further hypothesize an across-time effect, such that high father involvement at 6 months postpartum will be associated with adolescent mothers’ parenting at 12 months postpartum.

**THEORETICAL BASIS**

The multidimensional constructs of social support and supportive social networks describe how supportive social relationships can function as resources that can have positive effects on the health and well being of an individual. Thus, social support and social support theory can help explain why paternal involvement in the lives of adolescents is such a fundamental part of an adolescent’s transition to motherhood.

Social support theory describes two separate domains of social support; structural and functional, with four types of support, which can help an adolescent female cope with a stressful event, such as pregnancy and transitioning to parenthood: emotional support, instrumental support, informational support, and appraisal support (House, 1981). Structural support is a more tangible type of support that includes instrumental support (the sharing of services or aid to a person in need) and informational support (the sharing of advice and knowledge). Functional support, on the other hand, relates to emotional support (the sharing of emotional feelings such as love, trust, and empathy) and appraisal support (feedback and constructive criticism). Evidence has shown that individuals with higher levels of social support report higher levels of health-related quality of life (Wortman & Dunkel-Schetter, 1979). Wortman & Dunkel-Schetter (1979) suggest that social support acts as a buffer against stress with functional support being more predictive of positive health than structural support (Queenan, Feldman-Stewart, Brundage, & Groome, 2009).

Social support for adolescent mothers can come from many different sources and can come in many different forms. It can derive from the teen’s mother, the teen’s family, or even the teen’s church group, but an instrumental source of social support can be the male partners or fathers of the baby. Emotional support may be the most important type of support that male partners can provide. By supporting an adolescent mother through an already
difficult time, the father may help keep the teen emotionally stable. The support of both maternal grandmothers and male partners has been associated with adolescent mothers’ overall life satisfaction (Unger & Wandersman, 1988), lower psychological distress (Thompson, 1986; Thompson & Peebles-Wilkins, 1992), and higher levels of self-esteem (Thompson & Peebles-Wilkins, 1992).

Instrumental support, while limited, can still be provided by male partners. If the male partner is employed, then that financial support will be of great benefit for the entire family unit. Though the male partners of the adolescent females are more likely to work in low-wage jobs, the adolescent teen may not need to rely as heavily on other sources and may not need to enter the workforce herself.

Informational and appraisal support may be the weakest type of support that male partners can offer the adolescent teens and vice versa. Because the male partners are likely to be young themselves, they may be too immature to be able to provide this type of support that an older and wiser adult may provide. Through time, however, this type of support can improve from the father of the baby.

**BASIC ASSUMPTIONS AND LIMITATIONS OF THE STUDY**

This study's assumptions and limitations should be considered when interpreting its findings. The major limitation of this study is the small sample size available for analysis. Thus, only 77 first-time pregnant adolescents completed interviews and surveys at the 6 month and 12 month postpartum time points, which are analyzed in this study. Furthermore, as with many of the studies in the literature on the subject, questions regarding paternal involvement relied solely on the adolescent mother’s report. This may introduce a social desirability bias if the teens consciously or subconsciously report more positive paternal involvement than actually exists if they believe that that answer is socially desirable.

**DEFINITION OF TERMS**

The terms used in this thesis are listed below:

*Adolescent Pregnancy* (also called teenage pregnancy): Adolescent pregnancy is pregnancy in girls age 19 or younger (A.D.A.M., 2005).

*Healthy People 2010*: Healthy People 2010 provides a framework for prevention for the Nation. It is a statement of national health objectives designed to identify the most
significant preventable threats to health and to establish national goals to reduce these threats (U.S. Department of Health and Human Services, 2000).

*Postpartum Depression:* Postpartum depression is moderate to severe depression in a woman after she has given birth. It may occur soon after delivery or up to a year later. Most of the time, it occurs within the first 4 weeks after delivery (A.D.A.M., 2005).

*Preeclampsia:* A serious condition developing in late pregnancy that is characterized by a sudden rise in blood pressure, excessive weight gain, generalized edema, proteinuria, severe headache, and visual disturbances and that may result in eclampsia if untreated (A.D.A.M., 2005).

*Primigravida:* a woman who is pregnant for the first time (A.D.A.M., 2005).

*Primiparous:* A female who has given birth for the first time; a woman who has one viable offspring (The Oxford English Dictionary, 1989).

*Social Support:* Social support refers to the various types of support (i.e., assistance or help) that people receive from others. The four types of support are emotional, instrumental, informational, and appraisal support (Malecki & Demaray, 2003).
CHAPTER 2

LITERATURE REVIEW

While the transition to parenthood can be an exciting time, it can also prove to be a daunting time for adolescent females because “at the same time that they are struggling to negotiate their new, maternal roles and responsibilities, they are coping with the physical, emotional, and cognitive challenges of adolescence” (Gee & Rhodes, 2003). Therefore, adolescent mothers must appropriately negotiate the physical, social, biological, and mental health issues that arise during pregnancy and after delivery in order to make a successful transition to motherhood. It is important to note that the physical and social issues that arise may not be mutually exclusive.

Using theory related to parenthood adjustment, Florsheim et al. suggested that how this transition is “experienced and negotiated often sets the stage for future coparental and parent-child relations” (Florsheim, Sumida, McCann, Winstanley, Fukui, Seefeldt, 2003). However, in these relationships, fathers of the babies born to adolescent mothers (referred to as “fathers”), can provide crucial social support that alleviates the postpartum adjustment difficulties. While fathers can provide invaluable support, few studies provide detailed analyses of the roles fathers play in adolescent mothers’ lives, although there is a growing body of literature on this topic (Coll, Hoffman, & Oh, 1987; Gee & Rhodes, 2003).

POOR PARENTING DEFINED

In the recent studies of parenting adolescent couples, parenting challenges have been defined using a broader term called “parental dysfunction” and this dysfunction is described as to encompass parenting stress, child abuse potential, physically punitive behavior, and paternal disengagement.

Moore & Florsheim (2008) in their study of 154 Hispanic and African-American couples, use parental dysfunction to assess parenting, but limit their definition of dysfunction to physically punitive behavior and child abuse potential (Moore & Florsheim, 2008). High rates of physical aggression, manifested in interpartner violence, in this population are known
but are understudied and the subject is important because of the child abuse potential. Findings from Moore & Florsheim (2008) revealed that, interpartner violence prior to childbirth predicted physically punitive parenting behavior for young fathers, but not for mothers. The authors do point out that these results must be interpreted cautiously since there is little research on couples’ behavior and parenting among young ethnic minority couples and there is great uncertainty on how to properly identify dysfunctional conflict that does not involve physical aggression.

Florsheim et al. (2003), on the other hand, in an attempt to identify predictors of parental functioning on their relations with their parents and each other, define parental dysfunction and poor parenting with a much broader definition using several different scales. In their study, the authors also use a broad definition of coparenting, which allowed for a great deal of variability in parental involvement. For example, some fathers shared in the parenting as much as the adolescent mothers and some fathers only saw their child a few times a month. Florsheim and colleagues note that those who experience abnormally high levels of stress are more prone to parental dysfunction and that when a parent is unable to properly cope with the challenges presented at hand, the parent is more likely to engage in abusive or neglectful behaviors (Belsky, 1993; Moore & Florsheim, 2008).

The study by Florsheim et al. (2003) used several scales to measure the various aspects of parental dysfunction. The Quality of Relationships Inventory (Pierce, 1996), for example, was used to assess the participants’ self-reported relationships with those who may provide social support, such as the partner or a family member. The Parenting Stress Index (Abidin, 1990) was used to measure level of parenting stress, and the Child Abuse Potential Inventory (Milner, 1994) evaluated level of risk for dysfunctional parenting attitudes and behavior. To assess a parent’s tendency to engage in physically punitive behavior, part of the Parent Behavior Checklist (Fox, 1990) was used.

Florsheim et al.’s prospective study collected data from 155 African American and Latino couples at three different time points: at 15 weeks prior to childbirth, at 13 months after childbirth, and at 2 years postpartum. The mean age for pregnant adolescents and expectant fathers at 15 weeks prior to childbirth was 16.1 (SD= 1.1 years) and 18.1 (SD=2.1), respectively.
Findings from the Florsheim study revealed that adolescent mothers whose Quality of Relationships Inventory, or QRI, score declined from 15 weeks prior to childbirth and 13 months after childbirth, signifying a drop in their relationship satisfaction, tended to report higher PSI scores, and thus higher parenting stress, at 2 years postpartum. An aim of the Florsheim study was to predict relationship status at 2 years postpartum given the relationship quality at 15 weeks prior to childbirth. However, because the study required that both parents be available to participate in the initial interview at 15 weeks prior to childbirth, the authors point out that they were unable to recruit couples who were already estranged and most likely had serious relationship problems. Also, recruitment for the study focused on expectant parents who were willing to be interviewed in the company of their partners. These two selection biases are important to note as they represent major limitations of the study.

**Adolescent Mothers’ Depression**

While depression can occur in women of all ages, the symptoms of depression have been reported to be higher in adolescent mothers as compared to their non-pregnant or non-parenting counterparts and pregnant or parenting adult counterparts (Schmidt, Wiemann, Rickert, & Smith, 2006). These depressive symptoms have also been shown to endure chronically or intermittently for at least 3 years postpartum (Gee & Rhodes, 2003). In the largest published longitudinal study to report depressive symptoms among three different adolescent mother ethnic groups, Schmidt et al. (2006) found more than half of the mothers to report moderate to severe depressive symptoms over a four year follow-up. Additionally, in this sample of 623 adolescent mothers, Mexican-American young women had the highest risk overall for depressive symptoms as compared to African-American and Caucasian women (Schmidt et al., 2006).

Depressive symptoms for a new parent can negatively interfere with parenting skills. Depressed adolescent mothers have been rated as “less competent” parents (Gee & Rhodes, 2003) and they have also been found to touch their infants in an “intrusive” manner (Malphurs, Raag, Field, Pickens, & Pelaez-Nogueras, 1996). Furthermore, social and behavioral problems have been seen at an increased rate in children born to depressed mothers (Codega, Pasley, & Kreutzer, 1990; Evins & Theofrastous, 1997).
A secondary analysis using data from the National Evaluation of Healthy Steps for Young Children by McLearn, Minkovitz, Strobino, Marks, and Hou (2006) assessed the relationship between maternal depressive symptoms and early parenting practices in infants between the ages of two and four months. The mothers in this sample were mostly between the ages of 20-29 (50.6%) and ≥ 30 years of age (36.2%). The remainder 646 (13.3%) mothers were younger than 20 years old. This national sample found that maternal depressive symptoms were associated with poor parenting practices. For example, mothers with depressive symptoms were less likely (AOR, 0.73, 95% CI 0.61, 0.88) to continue breastfeeding at the two and four month postpartum period than mothers without depressive symptoms. Also, depressed mothers were less likely to play with their infants (AOR, 0.70, 95% CI 0.54, 0.90) than non-depressed mothers. While a major strength of the study lies in the large sample size of 4,874 mothers, two major limitations are described by the researchers: (1) the study relied on self-reported measures rather than with the use of a direct and structured instrument and (2) the same self-reported measures may lead to over-reporting of behaviors that are socially desirable (McLearn et al., 2006). Of additional importance is the notion that despite being at an increased risk for depression and depressive symptoms, low-income women rarely receive mental health services of any kind (Coiro, 2001).

**Adolescent Mother’s Parenting Stress**

Current literature points to the importance of a mother’s prenatal as well as postpartum mental stability in her quality of parenting. An expectant mother must be mentally stable in order to properly care for her newly arriving child. Parenting stress, which can lead to mental ill-being, can arise from a multitude of reasons and has been consistently found to be negatively associated to quality of parenting. However, researchers suggest that these negative stressors can be mitigated by social support (Fagan, Bernd, & Whiteman, 2007; Florsheim et al., 2003; Gee & Rhodes, 2003).

In one prospective study by Fagan et al. (2007), using a sample of 50 adolescent mother-father pairs, the researchers examined several stressors such as parents’ health, sense of social isolation, depression, role restriction, spousal/partner difficulties, lack of competence, and parent-child attachment problems, while suggesting that the effects of the stressors can be additive; that the effect of two or more stressors combined can be more
debilitating than a single stressor by itself. In their research methodology the researchers used the Parenting Stress Index (Abidin, 1990) to assess fathers’ perceived stress and the Parental Childcare Scale (Hossain & Roopnarine, 1994) to assess father involvement in care giving.

In a study involving 70 couples from, 35 from Salt Lake City Utah and 35 from Chicago, Florsheim et al. (1999) were the first to conduct a study that assessed the association between parenting stress and father involvement among low-income adolescent parents (Florsheim, Moore, Zollinger, MacDonald, & Sumida, 1999). In their study, one of the main goals was to assess whether the occurrence of antisocial behavior among fathers would predict problems in their partners’ parental functioning. The researchers predicted that more antisocial and more hostile fathers would report more problematic relationships with their partners, and their partners would report more maternal stress, and less maternal nurturance. Regression analysis indicated that Salt Lake City fathers who were more hostile tended to have partners who were less nurturing with their children.

The study by Fagan et al. (2007) is an improvement on Florsheim et al. (1999). The study by Florsheim et al. (1999), while the first on this topic, failed to find a significant bivariate or multivariate relationship between parenting stress and father involvement among low-income adolescent parents. Fagan et al. (2007) improved on the sample size of the Florsheim 1999 study and controlled for prenatal paternal involvement, education, residence, age, and employment. A strength of this study also included that questionnaires regarding the father’s parenting were administered to both the mother and the father in order to test for validity of responses (Florsheim 1999).

While Fagan et al.’s (2007) study was important in supporting current research on parental stress and paternal involvement; several of the findings were inconsistent with current literature. For example, Fagan et al. (2007) found no significant association between support from the maternal grandmother and paternal involvement, while previous research has found grand-maternal support to be as invaluable as paternal involvement itself (Becerra & de Anda, 1984; Colletta, Hadler, & Gregg, 1981; Spieker & Bensley, 1994; Thompson & Peebles-Wilkins, 1992). Also, father’s education level was not found to be related to caregiving involvement while previous research has found this to be the case (Fagan, 2003). As pointed out by Fagan et al. (2007), the sample used was also a non-representative sample which therefore limits the generalizibility of these findings.
A study conducted by Gee & Rhodes (2003) used a sample of 218 low-income, minority adolescent mothers and assessed mothers’ relationships with their children’s biological fathers. Aside from demographic information, data on social support and social strain were collected using the Social Support Network Questionnaire (Rhodes, Meyers, Davis, Ebert, & Gee, 2003) and psychological functioning using depression and anxiety subscales of the Symptom Checklist-90-revised (Derogatis, 1983). At the initial interview during the prenatal period, adolescent mothers reported on average 5.7 individuals in their social networks. Of these individuals, adolescent mothers most frequently reported maternal grandmothers (86%) and their children’s biological fathers (51%). At the follow-up period 3 years postpartum, however, fathers were only described by 27% of participants after best friends (44%) and new male partners (36%). Results from this study revealed that, contrary to the researcher’s hypothesis, there was no main effect for father support on depression (p<0.10) or anxiety (p>0.10), however, father absence was highly associated with depressive symptoms (p<0.01) and anxiety (p<0.01) (Coll et al., 1987). Furthermore, father strain, assessed by the adolescent mother as her self-reported social strain by the Social Support Network Questionnaire (SSNQ) had negative effects on the adolescent mothers’ psychological adjustment but these effects were buffered by support from maternal grandmothers.

The studies conducted by Florsheim et al. (1999), Gee & Rhodes (2003), and Fagan et al. (2007) represent the most current pieces of literature regarding paternal involvement and paternal parenting. Although the works represent important scientific knowledge, no other studies have focused on the effects of paternal involvement on the mother’s quality of parenting. The current study, therefore, will address these issues as best possible.

**MATERNAL SELF-ESTEEM**

Shea and Tronick argue that maternal self-esteem can be viewed as a “psychological common pathway mediating the effects of the biosocial factors that influence a woman’s adaptation to motherhood” (Shea & Tronick, 1988). However, at the time, there was no standard instrument available to assess maternal self-esteem. In response to this need, Shea and Tronick in 1988 were the first to develop and validate a questionnaire for assessing maternal self-esteem in a prospective study. To create this questionnaire, the authors first
identified from the literature factors that they believed described maternal self-esteem. These dimensions were determined to be: maternal caretaking ability, general ability as a mother, acceptance of the baby, expected relationship with the baby, complications during labor and delivery, parental influence, and body image and maternal health. Shea and Tronick point to the relationship between maternal felt adequacy and parenting. They note that a mother’s beliefs about her adequacy have been found to be tied to events such as successful nursing ability and calming a baby (Shea & Tronick, 1988).

The Maternal Self-Report Inventory validated by Shea and Tronick consisted of 100 questions that can be grouped into the 7 aforementioned dimensions. The response options for the 100 questions consisted of 5 options: Completely False, Mainly False, Uncertain or Neither True, Mainly True, and Completely True. In the analysis of these variables, the scoring dimensions were summed to produce total dimension scores or one total score where higher scores indicate higher maternal-self esteem.

**SUMMARY**

The transition to parenthood can prove to be a difficult time for both young mothers and fathers. Current literature is in agreement that the mental well-being of an adolescent is crucial for her successful transition to motherhood. As previously stated, this mental instability can arise from a variety of physical, social, biological, and mental health issues that may arise during this time. While every problem that arises may not be as detrimental in nature as the one before it, the additive effects of more than one stressor can certainly negatively affect a young mother. It is important to note that these effects can be ameliorated by social support. In the case of pregnant adolescents, this support can arise from several sources, but one source that is very important is the baby’s father. By providing financial and emotional support, the father can help a mother successfully cope with the issues that arise and make a successful transition to motherhood. She in turn can be physically and emotionally available for her child.

There is an increasing body of knowledge that addresses the importance of a strong and healthy relationship between an adolescent mother and her partner and the effects of this relationship on the adolescent mothers’ parenting. This study will focus on the effects of paternal involvement on adolescent mothers’ quality of parenting. It is hypothesized that less
paternal involvement will lead to poorer quality parenting in adolescent Hispanic mothers. This issue has been addressed indirectly in studies such as Fagan et al. (2007) and Florsheim et al. (2003) and while these studies provide important evidence to support this hypothesis, they have their limitations.

**PROJECT FIT: FAMILIES IN TRANSITION**

The study population for this study was derived from a cohort of families who participated in the Families in Transition (FIT) Study in 2004, a study designed to better understand the changes and adjustments that families make as pregnant teenagers transition to parenthood. The focus of the original study was on the primiparous pregnant teen, her younger siblings, and their family as they all prepare for and manage the birth of the teen’s baby and the baby’s first year of life. The FIT study hypothesized that many hours of caregiving and frequent interpersonal conflict surrounding caregiving would negatively impact youths’ adjustment. The researchers further hypothesized that caregiving conflict would impact the youths’ adjustment above and beyond effects associated with hours of care, based on numerous studies that have found such unique effects associated with caregiving conflict in adults (Sorensen & Pinquart, 2005; Vitaliano, Zhang, & Scanlan, 2003).

The 97 families of Project FIT were measured at four different time points: when the teenager was in her last trimester of pregnancy, and when her baby was 6 weeks old, 6 months old, and 12 months old and all family members completed in-person interviews and questionnaires.

The following measures were taken at all time points: caregiving hours, caregiving conflict, family conflict, family obligations, family stress, youth’s adjustment, and youth’s school involvement. Also measured in the FIT study were measures on younger sibling’s school grades, the frequency of school absences, and school disciplinary problems.

As predicted by the researcher, many hours of caregiving were related to more frequent school disciplinary problems 6 months later, controlling for prior adjustment and family context factors. Also, frequent conflict surrounding caregiving was associated with increased stress and anxiety and lower school grades 6 months later in the younger siblings of first-time pregnant adolescents. It was found that older girls appear to be selected into caregiving and experience the most problematic outcomes. Finally, in this study strong
family obligations were not protective against caregiving stress. The results of this study are currently in press.
CHAPTER 3

METHODS

SPECIFIC AIMS

The overall goal of this study is to assess the relation between the level of paternal involvement and the quality of maternal parenting at 6 and 12 months postpartum.

The following primary aims were addressed:

Aim 1: Examine the association between paternal involvement and an adolescent mother’s quality of parenting at 6 months postpartum. Quality of parenting is operationalized in this study as the teen mother’s felt adequacy for the maternal role.

Aim 2: Examine whether the relation stated in aim 1 will hold concurrently at two time points postpartum. Specifically, to examine whether high father involvement at 12 months postpartum relates to adolescent mothers’ high quality parenting at 12 months postpartum.

Aim 3: Examine an across-time effect, such that high father involvement at 6 months postpartum will be associated with adolescent mothers’ parenting at 12 months postpartum.

STUDY DESIGN

This study investigated paternal involvement and adolescent parenting. This study compared the relationship between paternal involvement and adolescent mothers’ qualities using paternal involvement as a continuous variable. The study population was derived from a cohort of families who participated in the Families in Transition (FIT) Study, which began in 2004. During their participation in the FIT Study demographic information on participants was collected, such as age, grade in school, number of people in their household, and number of years in the United States. The subcohort used for this study consisted of 77 adolescent primiparous Mexican-American adolescents between the ages of 15 and 19 who completed face-to-face interviews and questionnaires at 6 months and 12 months postpartum. Interviews and self-administered questionnaires assessed information regarding parenting behaviors, paternal involvement, and caring for the baby.
STUDY POPULATION

The adolescent females who were investigated in this study were previous participants of the Families in Transition (FIT) Study conducted at the University of California at San Diego. The FIT study, which employed a longitudinal design, assessed the participants at four different time points: 7 months prenatal (T1), 6 weeks postpartum (T2), 6 months postpartum (T3), and 12 months postpartum (T4). This study uses the time points T3 and T4 of the FIT Study (i.e. 6 months postpartum and 12 months postpartum). The original cohort involved 190 Mexican-American families from the San Diego County area: 97 families with a parenting teenager, and 93 families that have only never-pregnant adolescent children.

Participants of the FIT study were recruited from a variety of locations. These locations included community clinics, high schools, and Women, Infants, and Children (WIC) program centers throughout the San Diego County area. Ninety-seven percent of eligible first-time pregnant teenagers agreed to participate in the study.

At each assessment period, adolescents were visited in their homes by a bilingual female research assistant. During each time, all adolescents completed a short interview followed by a self-administered questionnaire. Participants were made aware that responses were completely confidential. The completion time for both the interview and the questionnaire was about 1 hour and participants were paid $10 for completion of each assessment.

The average age for the pregnant teens at intake was 17.3 years (SD = 1.22) and ranged from 14.5 years to 19.7 years. Additionally, pregnant teens were on average in the 11th grade (SD = 1.13) and ranged from 8th grade through college. Of the 77 girls who participated in the current study at times 3 and 4, 11 had dropped out of school. The average family income for the pregnant-to-parenting families was $18,525, with 66% of families receiving some sort of governmental financial aid at intake.

INFORMED CONSENT

At the time of enrollment into the FIT study, study requirements were explained and written consent was obtained. At this time, participants were also given a copy of UCSD’s Experimental Subject’s Bill of Rights. This present master’s thesis used the existing FIT
Study data and, thus, involved no contact with subjects. Furthermore, the adolescents were not identified by name or any other personal identifying information on any data analyzed. Because of this, consent was not obtained from the study participants. Rather, written permission from the FIT investigator was obtained by the author (H. Parada) and submitted for approval to the San Diego State University Institutional Review Board.

**INCLUSION CRITERIA**

Eligible adolescents in this study were required to meet the following criteria:

1. English Speaking
2. Unmarried
3. First-time pregnant Latina (Mexican-American)
4. Between 15 and 19 years of age at intake, whose
5. Pregnancy (and subsequent childbearing) was the first to occur within their family (no other brother or sister had had or caused a teenage pregnancy) and
6. Living with family of origin during pregnancy and planned to live with family after baby's birth.

**EXCLUSION CRITERIA**

Adolescents were excluded from the data analyzed in this report if one or more of the following criteria were met:

1. They did not complete the interview or self-administered questionnaire at 6 months or 12 months postpartum.

**STUDY PROCEDURES**

To assess the effects of paternal involvement on the quality of parenting of the adolescents in this study, three cross-sectional designs were employed. Because the FIT study only assessed questions regarding paternal involvement at 6 months and 12 months postpartum, only these two time points were included for analysis in this study. However, the third aim of this study addresses paternal involvement at 12 months postpartum adjusting for paternal involvement at 6 months postpartum.
**DEFINITION OF PATERNAL INVOLVEMENT**

Father involvement was assessed using 10 Likert-scale questions that captured this information on a questionnaire given to each adolescent mother (See Appendix Table A1). For analysis, questions 9 and 10 were first reversed and then the 10 items were summed at 6 months postpartum and again at 12 months postpartum to create two continuous variables representing paternal involvement. All items are rated on a 5-point Likert-scale. Most of the items range from “strongly disagree (1)” to “strongly agree (5)” except for one question which ranges from “don’t see him at all/don’t have a relationship with him (1)” to “very good (5).” The possible scores range from 10 to 50 with higher scores indicating higher paternal involvement. Scores of paternal involvement actually ranged from 14 to 50 at 6 months postpartum and 11 to 50 at 12 months postpartum. The Cronbach alpha of the 10 items was 0.90 at 6 months postpartum and 0.95 at 12 months postpartum.

**DEFINITION OF QUALITY OF MATERNAL PARENTING**

The main outcome assessed in this study is adolescent mothers’ qualities of parenting. Because a mother’s beliefs about her felt adequacy for the maternal role have been found to be tied to events such as successful nursing ability and calming a baby (Shea & Tronick, 1988), 11 items were used from the Maternal Self-Report Inventory corresponding to the domain assessing caretaking ability (See Appendix Table A2). Example questions include: “I feel like I know enough about raising children to be a good mother” and “I feel confident at being able to know what my baby wants.” All items in the MSI are Likert-scale type questions with the following response options: Completely False, Mainly False, Uncertain or Neither True, Mainly True, and Completely True. As instructed by the authors of the MSI, all scales were first changed to have scores run into positive scores indicating higher self-esteem and thus, higher quality in maternal parenting. Answers that were “completely false” are given a score of 1 while questions that are “mainly true” and “completely true” are given a score of 4 and 5, respectively. Additionally, the 11 item scores were summed to create a total dimension score with a possibility of scores ranging from 11 to 55. Scores actually ranged from 25 to 55 at 6 months postpartum and 30 to 55 at 12 months postpartum. The Cronbach Alpha of the 11 items was 0.787 at 6 months postpartum and 0.765 at 12 months postpartum.
COVARIATES

The following variables are of interest as covariates:

*Parenting stress:* Parenting stress was assessed using the 20 items of the Parenting Daily Hassles measure (PDH; (Crnic & Greenberg, 1990) that asks questions on parenting stress derived from parenting duties as well as parenting stress derived from baby’s behaviors. Examples of duties that could invoke parenting stress are: Baby getting dirty and needing to have clothes changed, having to run extra errands just for the baby, and difficulty getting baby ready for outings. Examples of parenting stress derived from baby’s behaviors include: Baby whining or fussing, baby demanding to be entertained or played with all the time, baby resisting or struggling over bedtime. Response options for questions on parenting stress range from “Not a hassle at all (1)” to “It’s a very big hassle (5).” As with felt adequacy for the maternal role, the 20 items were summed for each participant for a possibility of scores ranging from 20 to 100, with higher scores indicating more parenting stress. At 6 months postpartum scores ranged from 20 to 67 and at 12 months postpartum they ranged from 20 to 82. The Cronbach Alpha of the 20 items was 0.952 at 6 months postpartum and 0.972 at 12 months postpartum.

*Teen mother’s harsh parenting behavior:* Harsh parenting behavior was assessed using 4 items relating to psychological punitive parenting and 2 items relating to physically punitive parenting. Examples of questions assessing psychological punitive parenting and physically punitive parenting, respectively, are: “I push my child away when he or she gets too clingy (Straus & Field, 2003)” and “I get so angry with my child, I spank him or her on the bottom” (Bavolek, 1984). Response options for the 6 items on harsh parenting behaviors range from “Never (1)” to “Always (5)”. Responses to the 6 items were summed for a possibility of scores ranging from 6 to 30, with higher scores indicating higher frequency of harsh parenting behaviors. Scores ranged from 6 to 19 at 6 months postpartum and 6 to 30 at 12 months postpartum. The Cronbach Alpha of the 6 items was 0.747 at 6 months postpartum and 0.925 at 12 months postpartum.

*Teen mother’s anxiety:* The teen mother’s anxiety was assessed using 3 questions, which included “In the past month, how often have you worried a lot of the time” with responses ranging from “Never (1)” to “Very often (5);” (Reynolds & Richmond, 1979). Responses to the 3 questions were summed for a possibility of scores ranging from 3 to 15;
where higher scores indicate higher levels of general anxiety. Anxiety scores ranged from 3 to 15 at both 6 months postpartum and 12 months postpartum. The Cronbach Alpha of the 3 items was 0.857 at 6 months postpartum and 0.906 at 12 months postpartum.

Teen mother’s depression: The teen mother’s depression was assessed using 5 items of the CES-D scale (Radloff, 1977). Response options range from “Never (1)” to “Very Often (5)”. Responses to the 5 questions were summed for a possibility of scores ranging from 5 to 25 with higher scores indicating higher levels of depression. At 6 months postpartum and 12 months postpartum depression scores ranged from 5 to 25. The Cronbach alpha of the 3 items was 0.92 at 6 months postpartum and 0.91 at 12 months postpartum.

DATA COLLECTION

This study utilized existing data. The data for this study were collected from approximately the fall of 2003 through 2007. The data have been organized into 3 files, one for 6 months postpartum with all items, one for 12 months postpartum with all items, and one for both 6 and 12 months postpartum with the generated variables.

BASELINE DATA

Data were collected at enrollment as well as during the follow-up by face-to-face interviews and a self-administered questionnaire that had an approximate 3rd-grade reading level, as ascertained by the Flesch-Kincaid readability method.

DEMOGRAPHIC VARIABLES

Demographic measures and variables of interest include, age (continuous), marital status (categorical; Coded: 0=Not married, 1=Married), education level (categorical; Coded 1=In school, 2=Completed HS, 3=College/Vocational School, 99=Dropped Out), employment status (categorical; Coded 0=Not employed, and 1=Employed).

STATISTICAL ANALYSES

Data management and statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) Version 17.0 and Statistical Analysis Software (SAS) version 9.2. Data were first examined for descriptive univariate analysis and Cronbach Alpha reliability of scales. Next bivariate analyses were conducted followed by multivariate analyses. All significance tests use an alpha level of 0.05.
*Aim 1:* This aim examined the association between paternal involvement and an adolescent mother’s quality of parenting at 6 months postpartum. Quality of parenting is operationalized in this study as the teen mother’s felt adequacy for the maternal role.

A multiple linear regression model modeling “quality in maternal parenting” as the outcome and “paternal involvement” will be used to analyze this aim.

*Aim 2:* To examine whether the relation stated in aim 1 will hold concurrently at two time points postpartum. Specifically, to examine whether high father involvement at 12 months postpartum relates to adolescent mothers’ high quality parenting at 12 months postpartum. The multiple linear regression analysis stated for aim 1 will be repeated twice to analyze this study cross-sectionally at two time periods, at 6 months postpartum and at 12 months postpartum.

*Aim 3:* Examine an across-time effect, such that high father involvement at 6 months postpartum will be associated with adolescent mothers’ parenting at 12 months postpartum.

To examine an across-time effect of father involvement on adolescent parenting, a third multiple linear regression analysis will be conducted at time 4. In this last regression analysis, the variable representing father involvement at time 3 will be included in the model and tested for significance.
CHAPTER 4

RESULTS

STUDY SUBJECTS

The population eligible for this study consisted of 77 adolescent females who completed the interview and self-administered questionnaire at 6 months or 12 months postpartum. The mean age for the adolescents at the 6 months postpartum time point was 17.97 years (s.d.=1.23) with a range of 15.2 to 20.4 while the mean age for the adolescents 12 months postpartum was 18.31 years (s.d. =1.21) with a range of 15.7 to 20.7. At both time points, the majority of the adolescents were unmarried (6 months postpartum = 89.6% and 12 months postpartum = 88.3%), unemployed (6 months postpartum =71.4% and 12 months postpartum =70.1%), and in school (6 months postpartum = 63% and 12 months postpartum = 53.2%). Maternal demographic information is presented in Table 1 and Table 2.

AIM 1: BIVARIATE ANALYSES

Aim 1: This aim examined the association between paternal involvement and an adolescent mother’s quality of parenting at 6 months postpartum. Higher quality of parenting is operationalized in this study as the teen mother’s felt adequacy for the maternal role.

Intercorrelations of variables at 6 months postpartum showed teen mother’s parenting stress (Pearson correlation coefficient= -0.316, p= 0.005), teen mother’s harsh parenting behaviors (Pearson correlation coefficient= -0.315, p= 0.005), teen mother’s anxiety (Pearson correlation coefficient= -0.270, p= 0.018), and teen mother’s employment status (Pearson correlation coefficient = 0.231, p= 0.045), to be significantly related to the teen mother’s felt adequacy for the maternal role (Table 3). Paternal involvement negatively correlated the teen mother’s felt adequacy for the maternal role, however, this relationship was not statistically significant (Pearson correlation coefficient= -0.020, p= 0.862).
### Table 1. Maternal Demographic Information at 6 Months Postpartum

<table>
<thead>
<tr>
<th>Variable (items)</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teen mother's felt adequacy for the maternal role (11)</td>
<td>77</td>
<td>44.36</td>
<td>6.94</td>
<td>11.0 - 55.0</td>
<td>25.0 - 55.0</td>
<td>0.79</td>
</tr>
<tr>
<td>Paternal Involvement (10)</td>
<td>77</td>
<td>36.65</td>
<td>10.7</td>
<td>10.0 - 50.0</td>
<td>14.0 - 50.0</td>
<td>0.90</td>
</tr>
<tr>
<td>Teen mother's parenting Stress (20)</td>
<td>77</td>
<td>30.09</td>
<td>11.3</td>
<td>20.0 - 100.0</td>
<td>20.0 - 67.0</td>
<td>0.95</td>
</tr>
<tr>
<td>Teen mother's harsh parenting behaviors (6)</td>
<td>77</td>
<td>6.84</td>
<td>2.33</td>
<td>6.0 - 30.0</td>
<td>6.0 - 19.0</td>
<td>0.75</td>
</tr>
<tr>
<td>Teen mother's anxiety (3)</td>
<td>76</td>
<td>8.17</td>
<td>3.36</td>
<td>3.0 - 15.0</td>
<td>3.0 - 15.0</td>
<td>0.86</td>
</tr>
<tr>
<td>Teen mother's depression (5)</td>
<td>76</td>
<td>11.66</td>
<td>5.32</td>
<td>5.0 - 25.0</td>
<td>5.0 - 25.0</td>
<td>0.92</td>
</tr>
</tbody>
</table>
### Table 2. Maternal Demographic Information at 12 Months Postpartum

<table>
<thead>
<tr>
<th>Variable (items)</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teen mother’s felt adequacy for the maternal role (11)</td>
<td>77</td>
<td>44.7</td>
<td>6.95</td>
<td>11.0 - 55.0</td>
<td>30.0 - 55.0</td>
<td>0.77</td>
</tr>
<tr>
<td>Paternal Involvement (10)</td>
<td>77</td>
<td>35.58</td>
<td>12.7</td>
<td>10.0 - 50.0</td>
<td>11.0 - 50.0</td>
<td>0.95</td>
</tr>
<tr>
<td>Teen mother’s parenting Stress (20)</td>
<td>76</td>
<td>33.33</td>
<td>14.7</td>
<td>20.0 - 100.0</td>
<td>20.0 - 82.0</td>
<td>0.97</td>
</tr>
<tr>
<td>Teen mother's harsh parenting behaviors (6)</td>
<td>77</td>
<td>7.96</td>
<td>4.35</td>
<td>6.0 - 30.0</td>
<td>6.0 - 30.0</td>
<td>0.93</td>
</tr>
<tr>
<td>Teen mother's anxiety (3)</td>
<td>77</td>
<td>8.65</td>
<td>3.86</td>
<td>3.0 - 15.0</td>
<td>3.0 - 15.0</td>
<td>0.93</td>
</tr>
<tr>
<td>Teen mother's depression (5)</td>
<td>77</td>
<td>12.81</td>
<td>5.96</td>
<td>5.0 - 25.0</td>
<td>5.0 - 25.0</td>
<td>0.92</td>
</tr>
</tbody>
</table>
Table 3. Intercorrelations of Variables at 6 Months Postpartum (N=77)

<table>
<thead>
<tr>
<th>6 months postpartum</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teen mother's felt adequacy for maternal role</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Paternal Involvement</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Teen mother's parenting stress</td>
<td>-0.32**</td>
<td>-0.13</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Teen mother's harsh parenting behaviors</td>
<td>-0.32**</td>
<td>0.16</td>
<td>0.25*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Teen mother's anxiety</td>
<td>-0.27*</td>
<td>-0.15</td>
<td>0.34**</td>
<td>0.17</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Teen mother's depression</td>
<td>-0.22</td>
<td>-0.22</td>
<td>0.274*</td>
<td>0.13</td>
<td>0.84**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Teen mother's age</td>
<td>0.20</td>
<td>-0.14</td>
<td>0.059</td>
<td>0.09</td>
<td>0.04</td>
<td>0.10</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Teen mother's marital status</td>
<td>-0.12</td>
<td>0.11</td>
<td>-0.06</td>
<td>0.10</td>
<td>-0.03</td>
<td>0.01</td>
<td>0.17</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Teen mother's employment status</td>
<td>0.23*</td>
<td>0.06</td>
<td>0.009</td>
<td>-0.10</td>
<td>0.06</td>
<td>-0.02</td>
<td>0.26*</td>
<td>-0.20</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>10. Teen mother's level of education</td>
<td>-0.14</td>
<td>0.10</td>
<td>-0.12</td>
<td>-0.13</td>
<td>-0.09</td>
<td>-0.03</td>
<td>0.028*</td>
<td>0.12</td>
<td>0.05</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**. Pearson correlation is significant at the 0.01 level (2-tailed).

*. Pearson correlation is significant at the 0.05 level (2-tailed).
The mean of the score for teen mother’s felt adequacy was stratified by the categorical demographic variables of interest (marital status, employment status, and education level) and tested for differences (Table 4). At 6 months postpartum, the average score for felt adequacy for the maternal role was 47.05 and 43.51, for employed and unemployed adolescents, respectively. Furthermore, an independent-samples T-test showed these mean scores to be significantly different (Levene Statistic 0.780 with p-value 0.509, Equal variances assumed; p = 0.045). There were no other statistically significant differences present when comparing the mean score for the felt adequacy for the maternal role stratifying by marital status or education level.

Table 4. Predictor Variables on Felt Adequacy for the Maternal Role at 6 Months Postpartum

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>42.00</td>
<td>7.93</td>
</tr>
<tr>
<td>Unmarried</td>
<td>44.64</td>
<td>6.83</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>47.05</td>
<td>6.85</td>
</tr>
<tr>
<td>Unemployed</td>
<td>43.51</td>
<td>6.72</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In school</td>
<td>43.90</td>
<td>6.64</td>
</tr>
<tr>
<td>HS completed</td>
<td>47.33</td>
<td>6.29</td>
</tr>
<tr>
<td>College/Voc</td>
<td>46.60</td>
<td>7.89</td>
</tr>
<tr>
<td>Dropped out</td>
<td>41.90</td>
<td>8.25</td>
</tr>
</tbody>
</table>

a. Indicates Independent-samples T test is significant, p < 0.05

**AIM 1: MULTIVARIATE ANALYSIS**

The independent relationship between paternal involvement and maternal quality of parenting was assessed in a multiple linear regression analysis. Based on the bivariate analyses, the following variables were included as possible confounders in the multiple linear regression analysis: teen mother’s parenting stress, teen mother’s harsh parenting behaviors, and employment status. The following covariates were also included in the model and tested for significance: teen mother’s anxiety, teen mother’s depression, age, marital status, and education. Of the variables entered in the model, only teen mother’s parenting stress and teen
mother’s harsh parenting behaviors had a statistically significant accompanying GLH Test to be retained in the model.

The results of the stepwise regression model building are summarized on Table 5. In a model of only paternal involvement and quality of maternal parenting (model 1) this relationship was not found to be statistically significant (p= 0.9869). The significant addition of parenting stress to model 1 (p= 0.0046) yielded model 2. In model 3, the interaction between paternal involvement and parenting stress was added. The GLH tests showed this addition to be significant (p= 0.0302), therefore this interaction and the variables it is composed of were retained in the model. In model 4, the teen mother’s harsh parenting behaviors variable was added. The GLH test also showed this addition to be statistically significant (p=0.0325) and so the harsh parenting behaviors variable was also retained in the model. Furthermore, the multiple regression analyses yielded the following significant fitted regression equation (p= 0.0016) which explains 17% (adjusted r-square = 0.1683) of the variability in quality of maternal parenting:

\[
\text{Quality of Maternal Parenting} = 70.110 – 0.435(\text{Paternal}) – 0.654(\text{Parenting Stress}) – 0.704(\text{Harsh Parenting}) + 0.014(\text{Paternal x Parenting Stress})
\]

Table 5. Final Multiple Linear Regression Model for Paternal Involvement and Felt Adequacy for the Maternal Role at 6 Months Postpartum

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>70.110</td>
<td>7.810</td>
<td>54.542, 85.678</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Paternal Involvement</td>
<td>-0.435</td>
<td>0.200</td>
<td>-0.833, -0.037</td>
<td>0.033</td>
</tr>
<tr>
<td>Parenting Stress</td>
<td>-0.654</td>
<td>0.240</td>
<td>-1.132, -0.176</td>
<td>0.008</td>
</tr>
<tr>
<td>Harsh Parenting Behaviors</td>
<td>-0.704</td>
<td>0.323</td>
<td>-1.347, -0.060</td>
<td>0.033</td>
</tr>
<tr>
<td>Paternal Involvement x parenting stress</td>
<td>0.014</td>
<td>0.006</td>
<td>0.001, 0.026</td>
<td>0.036</td>
</tr>
</tbody>
</table>

**AIM 1: REGRESSION DIAGNOSTICS**

Normality Assumptions: Based on a Kolmogorov-Smirnov “D” statistic of 0.111, and a p-value of 0.020, the null hypothesis is rejected. We cannot assume that normality is valid; however, the normal probability plot appears to be normally distributed. In addition, the data were not transformed to avoid complications in interpreting the results.

Linearity Assumptions: Standardized residuals are centered around 0; therefore the linearity assumption is met.
Constant Variance Assumptions: The band of standardized residuals has a constant width; therefore the assumption of constant variance is met.

Outliers:

Jacknife Residuals: No studentized residuals are less than -3 or greater than +3. No Jacknife residuals were found.

Leverages: Looking at the plot of leverages versus predicted values, two observations appear to be outliers. These values are extreme on X but are not influential alone.

Cook’s Distances: The plot of Cook’s distances shows the largest value to be less than 0.12. No values are greater than 1; therefore, no observations appear to be outliers.

Collinearity: There are two highly correlated dependant variables as shown by the correlation matrix. However, this was expected due to the inclusion of an interaction term and the variables it is composed of.

**AIM 2: BIVARIATE ANALYSES**

Aim 2: Examine whether the relation stated in aim 1 will hold concurrently at two time points postpartum. Specifically, this aim examines whether high father involvement at 12 months postpartum relates to adolescent mothers’ high quality parenting at 12 months postpartum.

Intercorrelations of variables at 12 months postpartum showed teen mother’s parenting stress (Pearson correlation coefficient= -0.414, p<0.001), teen mother’s harsh parenting behaviors (Pearson correlation coefficient= -0.489, p< 0.001), teen mother’s anxiety (Pearson correlation coefficient= -0.234, p= 0.040), and teen mother’s depression (Pearson correlation coefficient= -0.359, p= 0.001) to be significantly related to the teen mother’s felt adequacy for the maternal role (Table 6). Additionally, paternal involvement was significantly positively correlated to felt adequacy for the maternal role (Pearson correlation coefficient= 0.225, p= 0.049).

The mean of the score for teen mother’s felt adequacy was stratified by demographic categorical variables and tested for differences as was done at 6 months postpartum (Table 7). At 12 months postpartum, the average score for felt adequacy for the maternal role was 44.48 and 44.80, for employed and unemployed adolescents, respectively; however this
Table 6. Intercorrelations of Variables at 12 Months Postpartum (N=77)

<table>
<thead>
<tr>
<th>12 months postpartum</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teen mother's felt adequacy for maternal role</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Paternal Involvement</td>
<td>0.23*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Teen mother's parenting stress</td>
<td>-0.41**</td>
<td>-0.30</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Teen mother's harsh parenting behaviors</td>
<td>-0.49**</td>
<td>-0.39</td>
<td>0.31**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Teen mother's anxiety</td>
<td>-0.23*</td>
<td>-0.85</td>
<td>0.20</td>
<td>0.35**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Teen mother's depression</td>
<td>-0.36**</td>
<td>-0.16</td>
<td>0.19</td>
<td>0.31**</td>
<td>0.89**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Teen mother's age</td>
<td>-0.10</td>
<td>-0.56**</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.19</td>
<td>0.24*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Teen mother's marital status</td>
<td>-0.01</td>
<td>0.58</td>
<td>-0.58</td>
<td>-0.04</td>
<td>-0.17</td>
<td>-0.16</td>
<td>0.03</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Teen mother's employment status</td>
<td>-0.21</td>
<td>0.47</td>
<td>-0.29</td>
<td>0.00</td>
<td>0.13</td>
<td>0.31</td>
<td>0.11</td>
<td>-0.06</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>10. Teen mother's level of education</td>
<td>0.59</td>
<td>0.07</td>
<td>-0.09</td>
<td>-0.13</td>
<td>0.10</td>
<td>0.69</td>
<td>0.315**</td>
<td>0.02</td>
<td>-0.10</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**. Pearson correlation is significant at the 0.01 level (2-tailed).

*. Pearson correlation is significant at the 0.05 level (2-tailed).
Table 7. Predictor Variables on Felt Adequacy for the Maternal Role at 12 Months Postpartum

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>44.56</td>
<td>6.80</td>
</tr>
<tr>
<td>Unmarried</td>
<td>44.72</td>
<td>7.02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>44.48</td>
<td>7.43</td>
</tr>
<tr>
<td>Unemployed</td>
<td>44.80</td>
<td>6.81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>In school</td>
<td>44.46</td>
<td>7.11</td>
</tr>
<tr>
<td>HS completed</td>
<td>45.17</td>
<td>6.82</td>
</tr>
<tr>
<td>College/Voc</td>
<td>44.00</td>
<td>8.11</td>
</tr>
<tr>
<td>Dropped out</td>
<td>46.00</td>
<td>5.42</td>
</tr>
</tbody>
</table>

difference was not statistically significant. There were no statistically significant differences present when stratifying by marital status, employment status, or education level.

**AIM 2: MULTIVARIATE ANALYSIS**

The independent relationship between paternal involvement and maternal quality of parenting was assessed in a multiple linear regression analysis. Based on the bivariate analyses, the following variables were included as possible confounders in the multiple linear regression analysis: teen mother’s parenting stress, teen mother’s harsh parenting behaviors, and the interaction between paternal involvement and parenting stress that was found to be significant at 6 months postpartum. The covariates teen mother’s anxiety, teen mother’s depression, age, marital status, employment status, and education were not included in model building since the bivariate analysis did not show them to be significantly correlated to the outcome. Furthermore, these covariates were not significant when entered into the model at 6 months postpartum as assessed by the GLH tests. The results of the regression model building are summarized on Table 8.

Modeling paternal involvement and quality of maternal parenting only (model 1) showed this relationship to be marginally significant (p= 0.0491). However, when teen mother’s relationship was entered into the model, this relationship did not reach significance (p=0.1003). Testing the interaction between paternal involvement and parenting stress
resulted in this interaction being insignificant ($p= 0.1347$), although significant at 6 months postpartum. Entering teen mother’s harsh parenting behaviors into the model was significant and was, thus, kept in the final model ($p< 0.001$). In the final model, the main predictor was not found to be significantly related to quality of maternal parenting although it was significant at the 0.10 level ($p=0.0671$). The multiple regression analyses yielded the following significant fitted regression equation ($p< 0.001$) which explains 32% (adjusted $r$-square = 0.3207) of the variability in quality of maternal parenting:

$$\text{Quality of Maternal Parenting} = 50.593 + 0.098(\text{Paternal}) – 0.128(\text{Parenting Stress}) – 0.642(\text{Harsh Parenting})$$

**AIM 2: REGRESSION DIAGNOSTICS**

Normality Assumptions: Based on a Kolmogorov-Smirnov “D” statistic of 0.094, and a $p$-value of 0.096, the null hypothesis is not rejected. Normality can be assumed.

Linearity Assumptions: Standardized residuals are centered around 0; therefore the linearity assumption is met.

Constant Variance Assumptions: The band of standardized residuals has a constant width; therefore the assumption of constant variance is met.

Outliers:

Jacknife Residuals: No studentized residuals are less than -3 or greater than +3. No Jacknife residuals were found.

Leverages: Looking at the plot of leverages versus predicted values, one observation appears to be an outlier; however, this observation is not influential alone

Cook’s Distances: The plot of Cook’s distances show the largest value to be less than 0.20. No values are greater than 1; therefore, no observations appear to be outliers.

Table 8. Final multiple linear regression model for paternal involvement and felt adequacy for the maternal role at 12 months postpartum

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>50.593</td>
<td>2.759</td>
<td>45.092, 56.094</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Paternal Involvement</td>
<td>0.098</td>
<td>0.053</td>
<td>-0.007, 0.204</td>
<td>0.067</td>
</tr>
<tr>
<td>Parenting Stress</td>
<td>-0.128</td>
<td>0.048</td>
<td>-0.223, -0.032</td>
<td>0.010</td>
</tr>
<tr>
<td>Harsh Parenting Behaviors</td>
<td>-0.642</td>
<td>0.160</td>
<td>-0.961, -0.323</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
Collinearity: There are no two highly correlated dependent variables shown by the correlation matrix. Also, there is no collinearity among more than two variables as no tolerance values are less than 0.10. There appear to be no collinearity issues.

**AIM 3: MULTIVARIATE ANALYSIS**

*Aim 3:* Examine an across-time effect, such that high father involvement at 6 months postpartum will be associated with adolescent mothers’ parenting at 12 months postpartum.

The independent relationship between paternal involvement and maternal quality of parenting was assessed in a multiple linear regression analysis. However, in this third regression analysis, the variable representing paternal involvement at 6 months postpartum was included in the stepwise regression model building. The results of the regression model building are summarized on Table 9.

**Table 9. Final Multiple Linear Regression Model for Paternal Involvement and Felt Adequacy for the Maternal Role at 12 Months Postpartum, Adjusting for Paternal Involvement at 6 Months Postpartum**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>54.594</td>
<td>3.260</td>
<td>48.079, 61.110</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Paternal Involvement at 12 mos pp</td>
<td>0.159</td>
<td>0.063</td>
<td>0.033, 0.286</td>
<td>0.015</td>
</tr>
<tr>
<td>Parenting Stress</td>
<td>-0.154</td>
<td>0.050</td>
<td>-0.253, -0.054</td>
<td>0.003</td>
</tr>
<tr>
<td>Harsh Parenting Behaviors</td>
<td>-0.549</td>
<td>0.156</td>
<td>-0.860, -0.238</td>
<td>0.001</td>
</tr>
<tr>
<td>Paternal Involvement at 6 mos pp</td>
<td>-0.165</td>
<td>0.074</td>
<td>-0.313, -0.017</td>
<td>0.029</td>
</tr>
</tbody>
</table>

The final model of aim 2 was used as the starting model for aim 3. The addition of paternal involvement to model 1 to create model 2 had an accompanying GLH test that was statistically significant (p= 0.0294). Paternal involvement at 6 months postpartum was therefore retained in the model. A third model was attempted including the interaction term between paternal involvement and parenting stress. The addition of this interaction term was not statistically significant as assessed by the accompanying GLH Test (p= 0.0672) and was therefore removed from the model to yield model 2 as the final model. The multiple regression analysis yielded the following significant fitted regression equation (p< 0.001) which explains 37% (adjusted r-square = 0.3690) of the variability in quality of maternal parenting:
Quality of Maternal Parenting = 54.594 + 0.1594(Paternal 12 mos pp) – 
0.154(Parenting Stress) – 0.549(Harsh Parenting) – 0.165(Paternal at 6 mos pp)

**AIM 3: REGRESSION DIAGNOSTICS**

Normality Assumptions: Based on a Kolmogorov-Smirnov “D” statistic of 0.095, and a p-value of 0.128, the null hypothesis is not rejected. Valid normality can be assumed.

Linearity Assumptions: Standardized residuals are centered around 0; therefore the linearity assumption is met.

Constant Variance Assumptions: The band of standardized residuals has a constant width; therefore the assumption of constant variance is met.

Outliers:
- Jacknife Residuals: No studentized residuals are less than -3 or greater than +3. No Jacknife residuals were found.
- Leverages: Looking at the plot of leverages versus predicted values, one observation appears to be an outlier. This observation is not influential alone.
- Cook’s Distances: The plot of Cook’s distances show the largest value to be less than 0.20. No values are greater than 1; therefore, no observations appear to be outliers.
- Collinearity: There are no two highly correlated dependant variables shown by the correlation matrix. Also, there is no collinearity among more than two variables as no tolerance values are less than 0.10. There appear to be no problems with collinearity.

In summary, at 6 months postpartum, paternal involvement, teen mother’s parenting stress, and teen mother’s harsh parenting behaviors were found to be significantly and negatively associated with teen mother’s quality in parenting. However, the regression analysis also revealed a significant interaction between paternal involvement and teen mother’s perceived parenting stress. The covariates, anxiety and depression were not found to be related to teen mother’s quality in parenting and neither were demographic covariates.

At 12 months postpartum, teen mother’s parenting stress and teen mother’s harsh parenting behaviors were found to be statistically and negatively associated with teen mother’s quality in parenting. At this time point, paternal involvement was positively associated with quality of maternal parenting; however, this association was marginally
insignificant. The interaction between paternal involvement and teen mother’s parenting stress that was significant at 6 months postpartum was insignificant at 12 months postpartum.

The third aim examining an across-time effect to test the notion that favorable subsequent changes in mothers’ parenting are a function of earlier high father involvement revealed a significant association between paternal involvement at 12 months postpartum, teen mother’s parenting stress, teen mother’s harsh parenting behaviors, and paternal involvement at 6 months postpartum. It is interesting to note that paternal involvement at 12 months postpartum is positively associated with maternal quality of parenting, but paternal involvement at 6 months postpartum is negatively associated with quality of maternal parenting.

In a post hoc analysis, the variables of interest were assessed to characterize the change in the mean scores of the variables. The results of the paired samples statistics are summarized on Table 10. It is evident that from 6 months postpartum to 12 months postpartum teen mother’s parenting stress, teen mother’s harsh parenting behaviors, and teen mother’s depression scores significantly increase (p= 0.04, p= 0.02, and p= 0.02, respectively). Also, paternal involvement seems to decrease from 6 months postpartum to 12 months postpartum, while felt adequacy for the maternal role and teen mother’s anxiety increase, however these changes are not statistically significant (p= 0.19, p= 0.81, p= 0.06 respectively).

| Table 10. Paired Sample Statistics for Variables |
|-----------------|--------|--------|
| N Pairs | Mean difference 12 – 6 months postpartum | t | df | p |
| 68 | 0.176 | -2.24 | 67 | 0.19 |
| 68 | -1.838 | 1.33 | 67 | 0.04 |
| 68 | 3.118 | -2.66 | 67 | 0.02 |
| 68 | 1.235 | 2.46 | 67 | 0.02 |
| 67 | 0.881 | -1.88 | 66 | 0.06 |
| 67 | 1.612 | -2.45 | 66 | 0.02 |
CHAPTER 5

DISCUSSION AND CONCLUSIONS

DISCUSSION

This study examined the independent association between paternal involvement and quality of maternal parenting in three different cross-sectional analyses. This relationship was examined once at 6 months postpartum and twice at 12 months postpartum. At the 12 month postpartum period, one analysis was carried out adjusting for paternal involvement at the 6 month postpartum time point.

6 MONTHS POSTPARTUM

While the final model showed a significant relationship between the predictor variable paternal involvement and quality of maternal parenting adjusting for all other variables, the main effect of paternal involvement is difficult to discern due to the significant interaction between paternal involvement and parenting stress. However, it can be concluded that the level of quality of maternal parenting varies with level of parenting stress and level of paternal involvement.

A visual representation of this interaction is portrayed on Figure 3. This figure graphically plots the fitted regression equation using the 5th, 50th, and 95th percentile scores as low, median, and high values, respectively, of paternal involvement and parenting stress. In addition, the median harsh parenting score was used in the regression equation. For lower levels of paternal involvement, it is apparent that adolescents who perceive themselves as having low parenting stress demonstrate higher quality of parenting than adolescents with high parenting stress, adjusting for the teen’s harsh parenting behaviors. In addition, at higher levels of paternal involvement, as perceived by adolescent mothers, adolescent mothers with high parenting stress demonstrate higher quality parenting than their counterparts with low parenting stress.
For lower levels of paternal involvement it is intuitive to think that adolescents who have low parenting stress will also have higher quality of maternal parenting. These adolescents would represent those who successfully transitioned to motherhood despite the obstacles at hand. At high levels of paternal involvement, however, it appears that adolescents with high parenting stress have higher quality of maternal parenting than adolescents who have low parenting stress. However, the difference may not be significant. In this case, high paternal involvement may actually help buffer the negative effects of parenting stress resulting in high quality of maternal parenting.

12 MONTHS POSTPARTUM

At 12 months postpartum the main predictor, paternal involvement, was not found to be significantly associated with quality of maternal parenting. However, parenting stress and harsh parenting behaviors were significantly associated with quality of maternal parenting. For every 1 point increase in parenting stress score, quality of maternal parenting decreases by a factor of 0.13. That is, for every 1 point decrease in parenting stress score, quality of maternal parenting increases by a factor of 7.7. Furthermore, for every 1 point increase in the teen mother’s harsh parenting behaviors, quality of maternal parenting decreases by a factor of 0.64. In other words, for every 1 point decrease in teen mother’s harsh parenting behaviors, quality of maternal parenting increases by a factor of 1.56.
A visual representation of the relationship between paternal involvement and maternal quality of parenting, adjusting for teen mother’s parenting stress and teen mother’s harsh parenting behaviors, is portrayed on Figure 4. This figure graphically plots the fitted regression equation using the 5th, 50th, and 95th percentile scores as low, median, and high values, respectively, of paternal involvement. In addition, the median scores of harsh parenting and parenting stress were used in the regression equation. This figure illustrates that as paternal involvement increases, so does quality of maternal parenting.

![Figure 4. Paternal involvement versus maternal quality of parenting at 12 months postpartum.](image)

At both time points, 6 months postpartum and 12 months postpartum, teen mother’s parenting stress was significantly and negatively related to the teen mother’s felt adequacy for the maternal role. In turn, teen mother’s qualities of parenting decrease as parenting stress increases. This finding is in agreement with Fagan et al.’s 2007 study on father’s care-giving where parenting stress was found to be negatively related to father’s care-giving. In Fagan’s study, social support from both adolescent partners’ parents was found to buffer the negative influence of parenting stress on father’s involvement with the baby. Florsheim et al. 2003 found that the quality of a teen mother’s relationship with her own parent was the best predictor of her adjustment to parenthood. It is possible that this current study failed to appropriately measure this possible confounder. While the two main sources of support
available to the parenting teens of this study are the teen’s partner and the teen’s mother, only information regarding paternal support were captured.

Moore & Florsheim 2008 found interpartner violence before childbirth to predict physically punitive parenting behaviors in fathers but not mothers. However, this study did not measure information regarding interpartner violence at any point in the study. Another important finding by Moore & Florsheim is that among adolescent couples, those observed to be more warmly engaged with each other during their pre-birth couple interactions reported lower levels of physically punitive parenting behaviors with their children at a later follow-up period. While this study did not assess paternal involvement pre-birth, it did find that to some extent harsh parenting behaviors are present at both 6 months and 12 months postpartum and that the teen mother’s harsh parenting behaviors significantly increase from 6 months to 12 months postpartum.

Gee & Rhodes 2003 interestingly found that while father support was not significantly associated with adolescent mothers’ psychological adjustment, father absence and father strain had negative associations with psychological adjustment. It would be interesting to analyze these data using a dichotomous predictor of no paternal involvement versus any paternal involvement or a categorical predictor with varying levels of paternal involvement to test the relationship between paternal involvement and maternal quality in parenting.

**12 MONTHS POSTPARTUM, ADJUSTING FOR PATERNAL INVOLVEMENT AT 6 MONTHS POSTPARTUM**

At 12 months postpartum, paternal involvement at 12 months postpartum, parenting stress, and harsh parenting behaviors were all significantly and associated with quality of maternal parenting. In addition, paternal involvement at 6 months postpartum was significantly, but negatively, associated with quality of maternal parenting.

A visual representation of this relationship is portrayed on Figure 5. This figure graphically plots the fitted regression equation using the 5th, 50th, and 95th percentile scores as low, median, and high values, respectively, of paternal involvement. In addition, the median scores of harsh parenting and parenting stress were used in the regression equation. This figure illustrates that at 12 months postpartum, the relationship between paternal involvement and quality of maternal parenting is positive both for those mothers with high and low
paternal involvement at 6 months postpartum. However, the relationship is stronger at 12 months postpartum for those mothers who had low paternal involvement at 6 months postpartum.

A possible explanation of this result is that parenting adolescents that have low support from their partners shortly after the birth of their baby find the support they need from other sources. As stated previously, there are many places that support can be found such as the adolescent’s church group, or the adolescent’s family. Specifically, adolescents with low involvement from their partners at 6 months postpartum may be finding the support they need from their own mothers and while paternal involvement decreases through time, those who initially had low support from their partner will not suffer as much as those who initially had high partner support.

**STRENGTHS**

During participation in the FIT Study, extensive data were collected using standardized forms and interviews by bilingual staff trained to collect data as objectively as possible. Furthermore, this study utilized a well established and validated scale, the Maternal
Self-Report Inventory, to operationalize the outcome and covariate variables with high internal reliability. The Cronbach alphas for all variables were above 0.75.

LIMITATIONS

This study's limitations should be considered when interpreting its findings. The major limitation of this study is the small sample size available for analysis. Because the primary focus of the original FIT study was on the family unit, only 77 first-time pregnant adolescents completed interviews and surveys at the 6 month and 12 month postpartum time point, which are analyzed in this study. In addition, at 6 months postpartum the sample size of 77 corresponds to a power of only 60.3%. For 80% power, a sample size of 122 was needed. At 12 months postpartum, the regression analysis had 76 cases available, which corresponds to a power of 47.0%. At this time point, 166 cases were needed for 80% power. At 12 months postpartum adjusting for paternal involvement at 6 months postpartum, the sample available for regression analysis dropped to 68 cases, however, the power was highest at 73.0%. For 80% power in this case, a sample size of 81 was needed.

Furthermore, as with many of the studies in the literature on the subject, questions regarding paternal involvement relied solely on the adolescent mother’s report. This may introduce a social desirability bias if the adolescents consciously or subconsciously report more positive paternal involvement than actually exists if they believe that that answer is socially desirable.

The findings of this study may not be generalizable to other groups of Latinos or even to the general population due to the restrictive eligibility criteria. The very specific subsample examined in this study consisted only of adolescents of Mexican-American descent. As shown by the demographic characteristics (Table 1), most of these adolescents were unmarried, unemployed, primiparous teens from San Diego, California. The fact that this sample was not a diverse sample may limit the findings of this study to only very similar populations. Furthermore, this subsample of teens and fathers are already different from other couples at the outset, because they are not and do not plan to live together.

As previously mentioned, Hispanic adolescents was the only group targeted for this study since they exhibit the highest teen birth rate in the United States, 83 births per 1,000 teens, and also this teen birth rate has been most resistant to decline in recent years, when
compared to the teen birth rate of women from other racial ethnic groups. Further studies are needed comparing adolescent groups of different races and even comparing Hispanic subgroups.

Lastly, the cross-sectional nature of this study limits the interpretation of the results. These results describe paternal involvement and maternal quality of parenting at two time points, 6 months postpartum and 12 months postpartum. A future study should focus on a longitudinal design aimed at measuring paternal involvement which assesses possible changes through time.

**CONCLUSIONS**

A myriad of problems arise for adolescents who become pregnant during an already difficult time. Furthermore, these problems affect not only her, but the child or children she brings in the world. Amid the transition to parenthood, an adolescent must be able to effectively manage the issues that arise in order to successfully transition to parenthood.

This study argues that social support from the adolescent’s partner can be the most essential source of support that helps an adolescent effectively transition to motherhood. Because partners can provide emotional, instrumental, informational, and appraisal support, adolescents who have partners that are highly involved should, theoretically, be able to more effectively transition to parenthood and become better mothers. This study showed that there is a strong relationship between paternal involvement and a mother’s felt adequacy for the maternal role. However, these results vary from 6 months postpartum to 12 months postpartum. At 12 months postpartum, this study found a strong negative, statistically significant, relationship between paternal involvement and felt adequacy for the maternal role. This may point to the reality that not all high father involvement is necessarily a good thing. The father may be involved in gangs, violence, drugs, and so his involvement may not be a good thing for an adolescent mother already struggling with so many other issues. At 6 months postpartum, it was also found that there is a strong interaction between paternal involvement and parenting stress so that the relationship between paternal involvement and felt adequacy for the maternal role is difficult to discern.

At 12 months postpartum, this study found a strong positive, although insignificant, relationship between paternal involvement and felt adequacy for the maternal role. At 12
months postpartum, however, it was found that parenting stress and harsh maternal parenting behaviors are significantly related to felt adequacy for the maternal role.

To test for the association between paternal involvement and felt adequacy for the maternal role as a result of earlier paternal involvement, a regression analysis at 12 months was carried out including paternal involvement at 6 months postpartum. This analysis showed a significant positive relationship between paternal involvement at 12 months postpartum and felt adequacy for the maternal role. It is interesting to note that earlier paternal involvement was significantly and negatively associated with felt adequacy for the maternal role.

This study showed that there is a strong relationship between paternal involvement at a mother’s felt adequacy for the maternal role. Whether that relationship is a positive or a negative relationship varies with time, at least in this study. In this study, the final regression analysis revealed that adolescents with low paternal involvement at 6 months postpartum had a higher felt adequacy for the maternal role at 12 months postpartum. A possible explanation of this result is that adolescents with low paternal involvement at crucial periods in her life are finding social support from other areas so as to compensate for the lack of paternal involvement. As found in previous literature, a source of social support that adolescents have readily available is the adolescent’s own mother. Whatever the source may be that the adolescents are tapping into, it is clear that paternal involvement may not be as important for the effective transition to motherhood if the adolescents can find a substitute to provide that support. This is important in cases where the adolescent’s partner is not available to be involved even if he was able and willing. Further studies are necessary to explore the many possible sources of social support that may be available to adolescent mothers.
REFERENCES


APPENDIX

SCALES
Table A1. Questions Assessing Paternal Involvement

<table>
<thead>
<tr>
<th>Question</th>
<th>1. How involved is the baby's father in your baby's care?</th>
<th>6. How much do you want to continue in your relationship with him?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 not involved at all</td>
<td>1 not at all</td>
</tr>
<tr>
<td></td>
<td>2 involved only a little</td>
<td>2 a little</td>
</tr>
<tr>
<td></td>
<td>3 somewhat involved</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>4 pretty involved</td>
<td>4 a lot</td>
</tr>
<tr>
<td></td>
<td>5 very involved</td>
<td>5 very much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>2. How often does the baby's father see your baby?</th>
<th>7. How committed do you feel toward your relationship with him?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 not at all</td>
<td>1 not at all</td>
</tr>
<tr>
<td></td>
<td>2 only once in a while</td>
<td>2 a little</td>
</tr>
<tr>
<td></td>
<td>3 occasionally</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>4 somewhat often</td>
<td>4 a lot</td>
</tr>
<tr>
<td></td>
<td>5 a lot</td>
<td>5 very much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>3. How often do YOU see your baby's father?</th>
<th>8. To what extent do you love him at this time?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 not at all</td>
<td>1 not at all</td>
</tr>
<tr>
<td></td>
<td>2 only once in a while</td>
<td>2 a little</td>
</tr>
<tr>
<td></td>
<td>3 occasionally</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>4 somewhat often</td>
<td>4 a lot</td>
</tr>
<tr>
<td></td>
<td>5 a lot</td>
<td>5 very much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>4. In general, how is your relationship with the baby's father?</th>
<th>9. How often do you and your baby's father argue with one another?*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 don't have a relationship with him</td>
<td>1 not at all</td>
</tr>
<tr>
<td></td>
<td>2 very bad</td>
<td>2 a little</td>
</tr>
<tr>
<td></td>
<td>3 pretty bad</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>4 pretty good</td>
<td>4 a lot</td>
</tr>
<tr>
<td></td>
<td>5 very good</td>
<td>5 very much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>5. How attached do you feel toward him?</th>
<th>10. How often do you feel angry or resentful toward him?*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 not at all</td>
<td>1 not at all</td>
</tr>
<tr>
<td></td>
<td>2 a little</td>
<td>2 a little</td>
</tr>
<tr>
<td></td>
<td>3 somewhat</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>4 a lot</td>
<td>4 a lot</td>
</tr>
<tr>
<td></td>
<td>5 very much</td>
<td>5 very much</td>
</tr>
</tbody>
</table>

*Indicates item should be reverse scored before computing scale total
Table A2. Questions Assessing Felt Aceduality for the Maternal Role

1. I think I am a good mother.
2. I feel inadequate as a parent.*
3. I am confident that I am able to work out any normal problems with my baby.
4. I feel like I know enough about raising children to be a good mother.
5. I feel like I know enough about raising children for my child to be well adjusted.
6. I feel confident about being able to teach my child new things.
7. I do not find being a mother to be as fulfilling an experience as I thought it would be.*
8. I have mixed feelings about being a mother.*
9. I feel like I’m not emotionally ready enough to take good care of a baby.*
10. Being a parent is harder than I thought it would be.*
11. I enjoy being a parent.

*Indicates item should be reverse scored before computing scale total