

PARENT-ADOLESCENT RELATIONSHIP QUALITY,
GENDER, AND YOUTH ATTITUDES TOWARD
PREGNANCY

By

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Abstract: Although many studies have focused on teen sexual behavior and predictors of teen pregnancy, few have examined potential predictors of teen attitudes toward pregnancy, particularly attitudes of ambivalence. Using a sample of 501 students from a Midwestern, urban area, this study models the effect of mother- and father-adolescent relationship quality on the likelihood of group membership in one of three attitudinal categories toward teen pregnancy using a series of multinomial regressions. Categories were created by adolescent endorsement of one of three attitudes toward becoming pregnant or of impregnating someone (in the case of males): a negative or anti-pregnancy attitude, a favorable or pro-pregnancy attitude, or an ambivalent attitude, and separate analyses were run by adolescent gender. After controlling for participant age, ethnicity, parent education, mother having been a teen parent, and parental communication about sex, results indicated that increases in mother and father relationship quality significantly decreased the odds of female participants having an ambivalent attitude toward pregnancy when anti-pregnancy attitudes was the reference group. Additionally, mother relationship quality was found to decrease the odds of female participants having pro-pregnancy pregnancy attitudes when anti-pregnancy attitudes was the reference group. No significant predictive relationships between the quality of the parent-adolescent relationship and teen pregnancy attitudes were found for male participants. Implications for future research and clinical application are discussed.

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CHAPTER I

INTRODUCTION

A growing area of research on teen pregnancy is adolescents' attitudes towards sex and pregnancy. Research shows that teens' attitudes toward becoming pregnant or impregnating someone (heretofore referred to as simply attitudes toward pregnancy or pregnancy attitudes) influence a variety of their sexual behaviors including their contraception use, which, in turn, affects their risk of getting pregnant (Afable-Munsuz, Speizer, Magnus, & Kendall, 2006; Brückner, Martin, & Bearman, 2004; Jaccard, Dodge, & Dittus, 2003a; Tanner, et al., 2013). While most teen pregnancies are unwanted, an increasing number of adolescents report ambivalent attitudes towards pregnancy, which is associated with an increased risk of pregnancy (Jaccard et al., 2003a; Sipsma et al., 2011). For this study, I use the definition for ambivalence discussed by Brückner et al. (2004) identifying ambivalence as the lack of a formed opinion regarding one's desire to become pregnant rather than considering ambivalence to be the middle ground of a continuum between pro- and anti-pregnancy attitudes (Biggs et al., 2010; W. B. Miller, 1986; Sipsma et al., 2011). The definition used in this study allows one to view ambivalence as a unique attitude group that stands apart from pro- and anti-pregnancy attitudes. Most research surrounding teen ambivalent pregnancy attitudes has focused on

how these attitudes increase risk for pregnancy, contraception use, or risky sexual behavior; little research has examined what factors influence the adolescents' development of ambivalent attitudes towards pregnancy.

The quality of the parent-adolescent relationship is key to understanding many different behavioral and developmental outcomes in teens. In regards to sexual behavior, a close relationship between parents and adolescents has shown to be related to adolescents' postponement of sexual debut, less frequent sexual intercourse, and fewer sexual partners (Crocket, Raffaelli, & Moilanen, 2003), the reduction of which leads to lower rates of teen pregnancy and sexually transmitted infections (STIs) (Kirby & Lepore, 2007). Although lower parent-adolescent relationship quality has been found to be a predictor of increased risky sexual behavior and rates of teen pregnancy (Meade, Kershaw, & Ickovics, 2008; Wight, Williamson, & Henderson, 2006), no studies were found that examined the association between parent-adolescent relationship quality and teen ambivalence toward pregnancy. Particularly lacking are studies examining the role of fathers in relation to teens' attitudes towards pregnancy as well as research exploring ambivalence in male adolescents.

Theory also suggests that parental relationship quality should affect pregnancy attitudes among teens. For example, decades of research utilizing the Parental Acceptance-Rejection Theory (PARTheory) (Rohner, 1986) highlights the significance of the parent-adolescent relationship in teens' behavioral and developmental outcomes. A primary contribution of PARTheory has been to link adolescent perception of parental relationship quality (what PARTheory calls acceptance or rejection) to personality dispositions and behavior problems among adolescents (Rohner & Britner, 2002).

PARTheory is used as the theoretical reference point of this study to support the notion that parent-adolescent relationship quality is associated with teen ambivalent and other pregnancy attitudes, and will be discussed more thoroughly in chapter two.

Research suggests that influencing attitudes is one of the most direct ways to alter adolescent sexual behavior (Brückner et al., 2004). However, the literature is not clear regarding what factors influence pregnancy attitudes. Most research in the teen pregnancy literature focuses on how the predicting factors either increase or decrease the risk for teen pregnancy, but little research has been done on what influences these predictors. The current study adds to the literature by examining whether the quality of the parent-adolescent relationship is associated with adolescent attitudes toward pregnancy after controlling for important covariates such as participant age, ethnicity, parent education, mother having been a teen parent, and parental communication about sex, and whether this association varies by adolescent and parent gender.

CHAPTER II

REVIEW OF LITERATURE

Despite the continued downward slope in the number of teen pregnancies each year, the U.S. still has one of the highest teen pregnancy rates of any developed country in the world (Sedgh, Finer, Bankole, Eilers, & Singh, 2015). Dropping 10% from the previous year's rate, the most recent birth rate statistics from 2013 reported the teen birth rate in the United States (U.S.) to be 26.5 births per 1,000 teenagers 15 to 19 years (Martin, Hamilton, Osterman, Curtin, & Matthews, 2015). The negative impacts of teen pregnancy, including lower socioeconomic status and lower education, are well recorded throughout the research literature (Hoffman, 2008; Ruedinger & Cox, 2012; Kirby & Lepore, 2007; Tanner et al., 2013). It is these consequences that have led the Center for Disease Control and Prevention (2015) to make teen pregnancy prevention one of their top six priorities in their overarching goal of improving public health nationwide. The importance society has placed on reducing teen pregnancy has brought about decades of research and theory development in search of understanding what influences adolescents' sexual and pregnancy behaviors. Through the application of theories, such as PARTheory, and empirical studies, researchers hope to further understand the

development of teens' pregnancy attitudes in order to increase the effectiveness of current teen pregnancy prevention efforts.

Parental Acceptance-Rejection Theory

The Parental Acceptance-Rejection Theory (PARTheory) is a socialization and development theory used to predict outcomes in adolescent emotional development and behaviors associated with parental acceptance and rejection (Rohner, 1986). PARTheory is based on the principle that the basic need for healthy psychological development in children around the world is acceptance from their parents and/or other attachment figures (Rohner, Khaleque, & Cournoyer, 2005). In PARTheory, the term *parent* is defined as “any person who has more-or-less long-term primary caregiving responsibility for a child” (Rohner et al., 2005, p. 301). This can be any significant role model or attachment figure in the child's life, whether it is the child's biological mother or father, other significant family members, or non-related caregiver (heretofore referred to as parent). Next, PARTheory defines *acceptance* and *rejection* as two ends on a continuum called the Warmth Dimension (Rohner, 1986). On this continuum, *acceptance* is defined as the warmth, affection, and love expressed from a parent to a child, which can be measured on the continuum as physical or verbal. *Rejection* on the other hand is defined as the absence or withdrawal of said warmth, affection, and love, which can be defined on the continuum as the following: hostility/aggression, indifference/neglect, and undifferentiated rejection (Rohner, 1986). PARTheory proposes that everyone can be placed on this continuum because each person has experienced more or less love from someone who was considered a primary caregiver in their childhood, which in effect

defines the quality of the affectional relationship between a child and their caregiver (Rohner, 2004; Rohner et al., 2005).

PARTheory is divided into three subtheories that expand the reach of the theory by focusing on more specific aspects of sociological development. The two lesser researched subtheories are the coping subtheory and the sociocultural systems subtheory. The coping subtheory attempts to answer questions regarding how some children and adults are more fit to emotionally cope with rejection than others, whereas the sociocultural systems subtheory seeks to find an answer to why some parents are warmer and more accepting while others are not (Rohner, 2004). The third and most widely researched is the personality subtheory which attempts to predict how parental acceptance-rejection affects major personality or psychological development and the potential consequences brought about by parental acceptance-rejection regardless of culture, race, gender, language, and other conditions (Rohner, 2004; Rohner & Britner, 2002; Rohner et al., 2005).

For personality subtheory, seven personality dispositions were developed to highlight specific and key areas that are influenced by parental acceptance-rejection. These dispositions are Dependence, Emotional Responsiveness, Hostility and Aggression, Self-Esteem, Self-Adequacy, Worldview, and Emotional Instability (Rohner, 1986). Children and adolescents who perceive rejection from their parents experience the negative end of the continuum of these disposition (e.g., impaired self-esteem, emotional unresponsiveness, and negative worldview) to a greater extent than children who experience more acceptance (Rohner & Britner, 2002). Of these negative disposition outcomes, emotional unresponsiveness, impaired self-esteem, impaired self-adequacy,

and emotional instability could play a role in an adolescent developing ambivalent attitudes toward pregnancy as these negative ends of the disposition continuums are adolescents' responses to a lack of emotional stability in their lives. For example, children who experience impaired self-esteem and self-adequacy form these negative beliefs about themselves due to their perception of being rejected. The negative feelings toward oneself can lead to beliefs of incompetence and worthlessness. PARTheory states that these negative beliefs can lead to children feeling as if they have little control over the significant events and experiences in their lives (Rohner, 1986). If an adolescent were to feel as if he or she did not have much control over their future, they may not consider to or even be able to form an opinion about pregnancy desire leaving them in a state of ambivalence. Therefore, with these dispositions being linked to ambivalent behavior, PARTheory further supports the notion that parent-adolescent relationship quality will be linked to adolescent ambivalence.

In addition to developing and testing their own theories of behavior, PARTheory researchers have examined how parental acceptance-rejection impacts other behaviors and experiences. A significant aspect of their PARTheory research that is applicable to the current study is the examination of how parental acceptance-rejection influences behavior problems in youth. In an extensive review of the literature, Rothbaum and Weisz (1994) identified strong correlations between parental rejection and children's externalizing behaviors. Rohner and Britner (2002) also identified in their review how parental-rejection has appeared to be a major predictor of many different types of behavior problems, including conduct disorders, externalizing behaviors, and delinquency. Although this association has yet to be examined empirically, a teen

expressing an ambivalent or pro-pregnancy attitude may be seen as antisocial and linked with having perceptions of parental rejection due to the negative stigma surrounding teen pregnancy in society. The current study adds to PARTheory by examining the association between the quality of the parent-adolescent relationship and teen pregnancy attitudes.

A major conceptual piece of PARTheory is the emphasis it places on the teen's perception of his or her parents' acceptance-rejection behaviors over the actual parental behaviors (Rohner et al., 2005). Because one's perception is their reality (Watzlawick, Beavin, & Jackson, 1967), PARTheory suggests that it is not parents' actual acceptance-rejection behavior but rather adolescents' perceptions of the parental acceptance-rejection that predicts the different behavioral and developmental outcomes. For example, a parent or an outside observer can view the parent's behavior as accepting, but the teen can perceive or experience a level of rejection that can lead to more negative outcomes. This can also work in reverse, where an outside observer can view parents' rejection behavior, but the adolescent is able to perceive a level of acceptance that allows them to develop in a positive way (Rohner et al., 2005). The power of the adolescents' perception of the parent-adolescent relationship to influence and predict teens' development and behavior outcomes is an important factor for this study as it supports the use of teens' perception of their relationships with their mother- and father-figures for the parent-figure relationship quality variables.

PARTheory places particular emphasis on the importance of father involvement and its relationship to acceptance-rejection. Although most extant research examines the mother-child relationship, Rohner (1986) found that fathers' role in adolescents' perceptions of acceptance-rejection are also important; fathers who are willing to be more

involved in their children's lives increases the likelihood that their children would perceive parental-acceptance rather than rejection. Despite society placing greater emphasis on the importance of mothers' roles in their children's development than fathers', Khaleque and Rohner (2002) found in their meta-analysis of PARTheory research that the effect sizes for mothers' and fathers' accepting-rejecting behaviors were not significantly different, meaning that the influences mothers and fathers have regarding their children's perceptions of acceptance-rejection are similar in their level of effects, albeit often different in their application. These findings underline the importance of including teen's perception of both parents in studies predicting attitudes toward pregnancy. However, the teen pregnancy attitudes literature is significantly lacking regarding their examination of paternal influences.

Gender Factors

An important factor for both the parent-adolescent relationship and attitudes toward pregnancy variables is gender. The associations between gender and the variables in this study will be discussed further in this paper, but it is important to first point out the gaps in the literature regarding gender, specifically related to male parents and teens.

One reading through the research literature on teen pregnancy might assume that males, fathers or male teen partners, are not involved in the teen pregnancy process at all. Many studies examined the quality of teens' relationships with their mothers or their maternal communication, but few examined the relationships with both male and female parents. This is particularly true in the ambivalence research and research on parent-adolescent communication about sex where fathers' influences were not measured or the majority of the sample was mothers (e.g., Jaccard, Dodge, & Dittus, 2003b; Dittus &

Jaccard, 2000; Guilamo-Ramos et al., 2007; Guilamo-Ramos, Jaccard, Dittus, & Collins, 2008; Khurana & Cooksey, 2012).

Adolescent males are not entirely left out of the teen pregnancy literature, but most studies focus solely on adolescent females' teen pregnancy experience and attitudes. This is especially the case regarding ambivalence, for which no studies examining male teenagers' ambivalent attitudes were found. Some studies include male participants in their examination of attitudes towards pregnancy, pregnancy intentions, or role in birth control use (Cuffee, Hallfors, & Waller, 2007; Lewin, Mitchell, Hodgkinson, Gilmore, & Beers, 2014; Smith, Fenwick, Skinner, Merriman, & Hallett, 2011), but none focus on the influences of ambivalent attitudes in male teens. More research needs to be conducted to further our understanding of the factors influencing male attitudes towards pregnancy.

Parent-Adolescent Relationship

The parent-adolescent relationship has long been considered one of the most important protective factors for teen risky sexual and pregnancy behavior. Although not studied directly by PARTheory researchers, others have found connections between the quality of the parental relationship and teen sexual behaviors. In their review of the literature on teen sexual behavior risk and protective factors, Kirby and Lepore (2007) highlight that teens are less likely to engage in unprotected sex, become pregnant, initiate sex at an early age, and have sex more frequently if they have a close relationship with their parents, experience parental support, and feel connected with their parents. Several studies, before and after the 2007 review, found similar findings regarding the impact the parent-adolescent relationship has on teen sexual behavior and pregnancy.

There have been several different ways in which the variables related to the parent-adolescent relationship have been measured in the literature. Often, a single item is used to measure parent-adolescent relationship quality. In two studies, for example, participants were asked to respond on a 5-point agree-disagree scale to the statement, “Overall, I am satisfied with my relationship with my mother” (Dittus & Jaccard, 2000; Jaccard et al., 2003b), and participants in another study were asked to identify how close they felt to their mothers and fathers on a 5-point scale (Kim, Gebremariam, Iwashyna, Dalton, & Lee, 2011). In the study by Kim et al. (2011), close relationships with fathers were statistically significant with decreased rates of adolescent sexual activity. Jaccard et al. (2003b) found higher perceived relationship quality to be associated with more negative pregnancy attitudes in teens, and Dittus and Jaccard (2000) found that adolescents with higher satisfaction with their maternal-relationships were more likely to use contraception during their most recent intercourse. With the findings from Dittus and Jaccard (2000), one might conclude that higher satisfaction of parent-adolescent relationship leading to increased birth control use could be impacting teens’ attitudes toward pregnancy as birth control use is associated with one’s attitude toward pregnancy.

Despite the many significant findings that higher level of parent-child relationship quality is a protective factor against teen pregnancy, some studies found no statistical significance for this relationship. In a study published in 2005, Rose et al. found that neither the parent nor the child’s report of caregiver-child relationship quality had a significant correlation with child sexual and risky behavior outcomes. Furthermore, two systematic reviews of the literature have found that not all studies on the impact that parent-adolescent relationships have on teen sexual behavior and pregnancy found the

relationship to be statistically significant. Buhi and Goodson (2007) identified “greater parental involvement/closeness” and “higher quality of relationship with parents” as common protective factors of teen risky sexual behavior, but that many of these studies either found mixed results or no positive effects on teen sexual behavior. In a more recent, larger review, Markham et al. (2010) reported that while there are many studies that show a positive, protective association between what they defined as family connectedness and adolescent sexual and reproductive health outcomes, the majority of findings (135 of 196 findings from 105 studies) revealed no significant association.

Although little to no association is typically found in a direct relationship between the parent-adolescent relationship and teen sexual behaviors, the association may be mediated by teens’ attitudes. For example, a recent study among 7th grade youth found significant associations between supportive parenting and teens’ attitudes toward sexual activity. Cox, Shreffler, Merten, Gallus, and Dowdy (2015) show that increased supportive parenting decreased the chances of both male and female participants having favorable attitudes toward youth their age engaging in sex. This finding is significant to this study in that it shows that teen perception of the parent-adolescent relationship can have an impact on teens’ sexual attitudes. The study by Jaccard et al. (2003b) mentioned above showed how the parent-adolescent relationship affects teens’ negative attitudes towards teen pregnancy, but did not examine how ambivalent attitudes are affected by the parent-adolescent relationship. The current study furthers the research done by Cox et al. (2015) and Jaccard et al. (2003b) in that it examines the effect of parent-adolescent relationship quality specifically on ambivalent attitudes toward pregnancy.

In regards to gender, the few studies examining differential effects by parent gender have found results differ depending upon the gender of the parent and the gender of the relationship. As mentioned above, most studies do not include paternal influences. Those that have included fathers have found that adolescents interact differently with their fathers and respond differently to their influences. For example, Kirby and Lepore (2007) found in the teen pregnancy literature that teens respond more positively to parents' messages regarding sex if the parent is a mother and if the teen is female. Additionally, a qualitative study interviewed both male and female focus groups about their influences regarding their pregnancy attitudes and intentions (Tanner et al., 2013). The messages received from the participants' differed with the female participants receiving message from their parents to abstain from sex and how to avoid becoming pregnant, whereas male participant responses focused more on messages regarding the act and behaviors of sex rather than their responsibility for potential consequences of having sex. This leads to the consideration that a possible reason that female adolescents respond more positively to parents' conversations about sex as reported in Kirby and Lepore (2007) is that male and female adolescents are having two distinct conversations with their parents. It may be that the mixed messages sent by parents create an environment for ambivalent attitudes toward pregnancy to surface as teen couples struggle to make clear and cohesive decisions from the conflicting messages.

Another study that highlighted the differences in sexual communication between parents and adolescents based upon gender found that both male and female participants were more likely to participate in conversations regarding sex with their mothers than their fathers, but males were more likely than their female counterparts to talk with their

fathers about sex (DiIoro, Kelley, & Hockenberry-Eaton, 1999). Interestingly, while the topics of males' conversations with their parents were pretty consistent between mothers and fathers, females' conversations with mothers focused on the menstrual cycle and conversations with fathers focused on sexual abstinence. Together these findings support the need to examine pregnancy attitudes separately by gender.

Attitudes towards Pregnancy

Teen sexual behaviors and attitudes are not static but fluid. Ghosh and Tu (2009) identified that adolescent sexual behaviors evolve nonlinearly overtime and are often influenced by their moods and sexual interest on a day-to-day basis, and suggest the importance of early intervention regarding teen sex education and pregnancy prevention. A teen's attitude toward pregnancy is an intrinsic factor, which develops before sexual activity begins and influences subsequent sexual behavior. The suggestion in Ghosh and Tu (2009) that intervention measures should begin in early adolescence highlights the need to study factors that influence that development of teen attitudes such as ambivalence. The rest of this section is dedicated to identifying how attitudes toward pregnancy, specifically ambivalence, have been defined and measured in the existing literature and how these attitudes influence teen sexual behavior and pregnancy.

Measures of Attitudes toward Pregnancy. Teen attitudes towards pregnancy are most often classified into the three main categories of pro-pregnancy, anti-pregnancy, and ambivalence, with some studies expanding their measures into additional categories (e.g., mainstream attitudes in Bruckner et al., 2004; indifferent in Miller, Barber, and Gatny, 2013). Both pro- and anti-pregnancy attitudes are considered to be formed opinions toward a potential pregnancy outcome, with pro-pregnancy teens desiring pregnancy and

anti-pregnancy teens preferring to remain nonpregnant. Ambivalence is the lack of an opinion to desire or prefer one way or the other, with ambivalent teens not taking a stance towards desiring to become pregnant or to remain nonpregnant. Despite each of these attitudes having unique influences and potential consequences documented throughout the literature, all three are often measured using the same scales and questionnaire in the studies that identify their distinct outcomes and influences.

Pregnancy attitudes are often measured by study participants responding on a five- or seven-point Likert scale (from strongly agree to strongly disagree) to statements such as “Getting pregnant at this time is one of the worst things that could happen to me” and “It would not be all that bad if I got pregnant at this time” (Brückner et al., 2004; Jaccard, Dodge, & Dittus, 2003a; Jaccard et al., 2003b), or “You would like to get pregnant in the next year” (Sipsma, Ickovics, Lewis, Ethier, & Kershaw, 2011). Another study measured attitudes toward pregnancy by asking respondents to answer the question “If you got pregnant now, how would you feel?” with the possible responses of very upset, a little upset, a little pleased, very pleased, or would not care (Lau, Lin, & Flores, 2014). Attitudes toward pregnancy measures have also been gathered retrospectively by asking about their pregnancy intentions before they became pregnant to identify their pregnancy intentions and attitudes that led to their intended or unintended pregnancies (Biggs et al., 2010; Lewin et al., 2014). Some researchers measure attitudes toward pregnancy by asking their study participants about their contraceptive use and their reasons for use or nonuse throughout the time period of the study and have found that this method removes some of the stigmatization surrounding labeling a pregnancy as unwanted (Sheeder, Tocce, & Stevens-Simon, 2009a, 2009b). Other studies have gone

beyond short one or two item measures and have created surveys with numerous items that allow them to measure teen pregnancy attitudes in a way that fits the focus of their research (e.g. Cuffee et al., 2007; Deptula, Henry, Shoeny, and Slavick, 2006; Herrman and Waterhouse, 2011; W. B. Miller, Trent, and Chung, 2014). The intentions behind the uses of all these measures differs depending on the goals of the studies, but in general, they all measure the three main attitudes towards pregnancy: anti-pregnancy, pro-pregnancy, and ambivalence.

It is important to understand that each ambivalent, pro-, and anti-pregnancy attitude is distinct with unique influences and consequences, even though several studies group different attitudes together (e.g. pro-pregnancy and ambivalence in Sipsma et al., 2011; Crosby, DiClemente, Wingood, Davies, and Harrington 2002; and Jaccard et al. 2003a). The purpose of the present study is to assess the three main pregnancy attitudes independently to examine the unique contribution that parent-adolescent relationship quality makes on each.

Anti-Pregnancy and Pro-Pregnancy Attitudes. As is to be expected, teens with anti-pregnancy attitudes were found to be the least likely to become pregnant during a year-long longitudinal study (Jaccard et al., 2003a) and had the most favorable attitudes towards contraceptives (Brückner et al., 2004). An anti-pregnancy attitude was also associated with higher levels of maternal closeness and self-esteem compared to teens holding other attitudes (Brückner et al., 2004). This association with high maternal closeness is of particular interest to this study as this association can be used to begin to hypothesize about how the level of parental quality in this study might be associated to the attitude toward pregnancy outcome variables.

In most studies on teen pregnancy attitudes, researchers found that pro-pregnancy attitudes were the least common attitudes supported by teens with rates from 3% to 15% of the adolescents in the studies having pro-pregnancy attitudes (Brückner et al., 2004; Cavazos-Rehg et al., 2013; Stevens-Simon, Sheeder, & Harter, 2005). Despite these lower percentages, one cannot ignore the impact that pro-pregnancy attitudes have on teens' sexual behaviors and pregnancy outcomes. Research has shown that positive attitudes towards teen pregnancy increases the likelihood of adolescents becoming pregnant regardless of socioeconomic background (Afable-Munsuz, Speizer, Magnus, & Kendall, 2006; Jaccard et al., 2003a). Further research on pro-pregnancy attitudes identified several key associations between teens' pro-pregnancy attitudes and their contextual factors that could be considered influential in regards to predicting the development of pro-pregnancy attitudes. In Brückner et al. (2004), researchers found teens' with pro-pregnancy attitudes to be associated with low maternal education, low cognitive ability, low knowledge of pregnancy avoidance, and low-income; additionally, teens who expressed pro-pregnancy attitudes were more likely to have experienced a previous pregnancy. Sipsma et al. (2011) found that an increase in the age of the participant along with younger sexual debut, involvement in shorter-term relationships, and those experiencing greater distress were found to be associated with increased odds of having pro-pregnancy attitudes. Moreover, these researchers suggest that pro-pregnancy adolescents might use their pro-pregnancy thoughts as a way of coping with stressful environments (Sipsma et al., 2011), which would include the participants' ability to cope with poor family relationships.

Cavazos-Rehg et al. (2013) reported that teens in their study who had not discussed sexual health topics or birth control with their parents were found to be more likely to have pro-pregnancy attitudes. Furthermore, in Biggs et al. (2010), teens who had experienced intended pregnancies also experience parental communication about sex fairly often, even reporting that the conversations about sex went beyond simple parental encouragement of abstinence to discussions surrounding being ready to engage in sexual behaviors and the necessary precautions needed to protect one's self. In this study, pro-pregnancy teens also described their relationships with their parents as close and open more often than ambivalent or anti-pregnancy teens (Biggs et al., 2010). Despite the contradictory information provided by these studies, this information about pro-pregnancy adolescents experiencing positive relationships with their parents leads to the consideration that teens with pro-pregnancy attitudes may have higher parent-adolescent relationship quality than ambivalent teens.

Ambivalent Attitudes. As mentioned above, I am using the definition of ambivalence laid out by Brückner et al. (2004) who defined ambivalence as the “failure to form an opinion rather than the presence of conflicting opinions” (p. 255). Where others have defined ambivalence as the presence of mixed feelings towards pregnancy or the middle ground between two poles on the pregnancy attitudes continuum (Biggs et al., 2010; W. B. Miller, 1986; Sipsma et al., 2011), Brückner et al. (2004) argues ambivalent attitudes are not on the continuum at all because ambivalence represents the lack of a decision or stance toward one particular pregnancy desire.

The rates of ambivalent attitudes toward pregnancy vary across the literature depending on which measures for ambivalence were used, with some studies using more

specific, multiple item measures (W. B. Miller, Barber, & Gatny, 2013), measures that identified ambivalent and non-ambivalent rather than all three main pregnancy attitudes (Crosby et al., 2002; Sheeder, Teal, Crane, & Stevens-Simon, 2010), and others combining pro- and ambivalent attitudes together (Jaccard et al., 2003a; Sipsma et al., 2011). Within these different measures, rates of ambivalence ranged from 2% in W. B. Miller et al. (2013) to 29.4% - 49.4% in Sheeder et al. (2010) depending on which measure and scale in their study they used, with rates of ambivalence being 14%, 16%, and 30% in Brückner et al. (2004) and Jaccard et al. (2003a, 2003b) respectively.

The results of not forming an opinion toward a particular pregnancy desire have been well documented throughout the research literature, with the most important association to ambivalence being an increased rate of pregnancy and a decreased rate of consistent contraception use (Biggs et al., 2010; Brückner et al., 2004; Cavazos-Rehg et al., 2013; Jaccard et al., 2003a; Sheeder et al., 2010). One study found that adolescents with ambivalent pregnancy attitudes are more likely to delay their contraception decisions, leaving their pregnancy outcomes up to chance (Pinquart, Stotzka, & Silbereisen, 2008). Ambivalent attitudes lead to more risky sexual behaviors in teens, increasing their risk for acquiring STIs and becoming pregnant. Because lacking an opinion or stance towards pregnancy is increasingly risky for teens, Brückner et al. (2004) argue that motivating teens to form an opinion in either direction will lead society forward in the fight against teen pregnancy by lowering the percentage of ambivalent teens leading to increased consistent contraception use and lower teen pregnancy risk.

A factor that often influences teen attitudes towards pregnancy is the pregnancy attitudes of their romantic partners. Pinquart et al. (2008) found that teens trying to

overcome their ambivalence about pregnancy often talk with their partner, and Zabin, Astone, and Emerson (1993) found that teen girls often feel ambivalent about becoming pregnant because they are unaware of their partners' pregnancy desires. Additionally, teens' contraception use is often determined by their partners' acceptance or dismissal of contraception (Kirby & Lepore, 2007). This suggests that teens' attitudes toward pregnancy are often influenced by their partners' (i.e., one male, one female) attitudes and emphasizes the importance of examining both genders' pregnancy attitudes. Further understanding regarding the development of male and female adolescents' pregnancy attitudes may fill a gap in the literature left by studies that only seek to understand one gender's pregnancy attitude development.

In regards to positively influencing adolescents' ambivalent attitudes toward pregnancy, Brückner et al. (2004) suggest working to encourage ambivalent adolescents to form an opinion toward a pro- or anti-pregnancy attitude in order to prepare them to take the necessary actions to bring about their desired outcomes. This may be difficult as ambivalent teens are more likely to come from chaotic families and have fewer conversations with their parents regarding sex than their peers (Biggs et al., 2010). However, B. C. Miller (1998) found in his review of the literature on influences on adolescent pregnancy that teens are more likely to internalize the values of their parents if the teens are experiencing a positive and close relationship with their parents. Therefore, it seems reasonable to hypothesize that the quality of the parent-adolescent relationship is associated with an ambivalent pregnancy attitude.

Current Study

With the teen pregnancy rates in the U.S. continuing to be relatively high when compared with other developed nations, understanding the different influences on teen pregnancy remains an important aspect of teen pregnancy prevention. Two factors from the empirical research that have been found to influence teen pregnancy are the quality of the parent-adolescent relationship and an ambivalent pregnancy attitude. Research also suggests that gender of the parent is an important consideration in the formation of pregnancy attitudes. Finally, PARTheory demonstrates a strong association between parental acceptance-rejection and children's personality development and behavioral outcomes. Together this body of work suggests an association exists between the quality of the parent-figure relationship and teen ambivalent attitudes toward pregnancy. To examine these associations the current study proposes the following two research questions and tests eight directional hypotheses:

Research Question 1: Does mother-figure relationship quality or father-figure relationship quality influence the odds of female and male adolescents reporting ambivalent attitudes toward pregnancy?

Hypothesis 1: An increase in mother-figure relationship quality will decrease the likelihood of female participants reporting ambivalent attitudes toward pregnancy.

Hypothesis 2: An increase in mother-figure relationship quality will decrease the likelihood of male participants reporting ambivalent attitudes toward pregnancy.

Hypothesis 3: An increase in father-figure relationship quality will decrease the likelihood of female participants reporting ambivalent attitudes toward pregnancy.

Hypothesis 4: An increase in father-figure relationship quality will decrease the likelihood of male participants reporting ambivalent attitudes toward pregnancy.

Research Question 2: Does mother-figure relationship quality or father-figure relationship quality influence the odds of female and male adolescents reporting pro-pregnancy attitudes?

Hypothesis 5: An increase in mother-figure relationship quality will decrease the likelihood of female participants reporting pro-pregnancy attitudes.

Hypothesis 6: An increase in mother-figure relationship quality will decrease the likelihood of male participants reporting pro-pregnancy attitudes.

Hypothesis 7: An increase in father-figure relationship quality will decrease the likelihood of female participants reporting pro-pregnancy attitudes.

Hypothesis 8: An increase in mother-figure relationship quality will decrease the likelihood of male participants reporting pro-pregnancy attitudes.

CHAPTER III

METHODOLOGY

Participants

The data used for this study is comprised of 501 teens from a Midwestern urban area who were enrolled in the local school district during the year of data collection (2012). The sample for this paper is restricted to 475 teens who have never been pregnant nor fathered a pregnancy. The participants are 59.4% female and 40.6% male; the breakdown of the ethnicity of the 475 participants is the following: 45.9% White, 37.9% African American, 4.8% Mixed Race, 14.3% Hispanic, 13.7% Native American, 2.9% Asian, and 1.5% Unsure. The ages of respondents were calculated by the teens' birth year subtracted from the year of the data collection, giving a range from 13 to 20 years old with the mean age being 15.67 years ($SD = 1.68$).

General Procedures

Data were collected by a team of faculty members at Oklahoma State University as part of a larger study on the predictors of teen pregnancy. Permission to conduct the study was granted by the OSU Institutional Review Board (IRB) and the IRB of the local school district in which data were collected. Participants were recruited by form letters sent to a random sample of 8,000 parents and teens grade 7 through 11 in the participating school district. Of the original 8,000 approximately 22% ($n = 1,760$) of the letters were returned to sender with undeliverable addresses. Of the 6,240 letters that were not returned to sender, 501 teens responded with complete data for a response rate of 8%. Only teens with active parental consent were allowed to participate, which contributed to the response rate. Teens completed the survey online and were incentivized with their name being placed in a drawing for one of five iPads once they completed the survey. The survey consisted of 84 questions regarding teen sexual health, behaviors, family relationships, sex education, and demographic information.

Participants were divided into two groups by gender for the analyses to observe any potential difference in the associations between parent-adolescent relationships and pregnancy attitudes for male and female participants. Additionally, participants who reported experiencing a previous pregnancy or getting someone pregnant ($n = 26$) were eliminated from the analyses to remove any potential bias toward pregnancy attitudes due to having already experienced a pregnancy.

Measures

All measures were derived from the adolescent participants' self-report. Lists of all measures used in the study, including measures for the control variables, can be found in Appendices A and B.

Attitudes toward Pregnancy. Teen attitudes toward pregnancy is the dependent variable of this study which was measured through one question in the survey and coded as a categorical variable. Respondents were asked to complete the following statement endorsing one of three options: "*Having a child would: a) make my life worse, b) not change my life much, c) make my life better.*" With the range of specific definitions and measures of ambivalence throughout the literature, W. B. Miller et al. (2013) identified six different approaches used to measure ambivalence throughout the literature that ambivalence is measured throughout the literature (Crosby et al., 2002; Jaccard et al., 2003a; Sheeder et al., 2010; Sipsma et al., 2011). An additional measure of interest was used by Zabin et al. (1993) where patterns of inconsistent responses to items regarding having a baby categorized participants as ambivalent. The measure of ambivalence in this current study is similar to the measure used in Jaccard et al. (2003a, 2003b) as the language in our measure item is similar to the language in their two measure items the participants responded to using a five point agree-disagree scale. The following are the items used to measure pregnancy attitudes in Jaccard et al. (2003a, 2003b): "Getting pregnant at this time in my life is one of the worst things that could happen to me," and "It would not be all that bad if I got pregnant at this time in my life." Additionally, the use of a one item measure for pregnancy attitudes in this study is supported by Crosby et al. (2002), but analyses will treat ambivalent responses as a separate category instead of

combining the results with the pro-pregnancy as was done in their study. With the varied percentages of teens reporting ambivalence seemingly dependent upon which measure and scale was used in the study as discussed in the previous chapter, it is important for this study to use a single-item measure to reduce possible misinterpretation of participants' pregnancy attitude responses. In this study, respondents completing the statement with option A were placed into the Anti-pregnancy group, respondents answering with option B were placed into the Ambivalent towards pregnancy group, and respondents choosing option C were placed into the Pro-pregnancy group.

Parent-Figure Relationship Quality. Two 17-item scales, one for each parent (or parent-figure), were used to measure parent-figure relationship quality. Participants were prompted with the statement "*To what extent are the following statements true about your relationship with your mother (or mother figure such as a grandmother or other female in your life if you don't have a mother)*" and were asked to respond with 1) *Not at all*, 2) *Sometimes*, or 3) *Always*, to the statements that followed (see Figure 1 for list of the statements). The language in each scale was modified for the gender of the parent. Only one of the items was reversed scored. Scores ranged from 1 to 3 with higher scores indicating higher quality of perceived parent-adolescent relationship and lower scores indicating lower quality of perceived parent-adolescent relationship. Cronbach's alpha for the mother- and father-figure relationship quality scales are .88 and .94 respectively.

PARTheory uses the Parental Acceptance-Rejection Questionnaire (PARQ) to measure the participants perceived level of parental acceptance-rejection that they have experienced (Rohner & Khaleque, 2005). The outcomes of this measure are used as the

baseline when identifying how parental acceptance-rejection impacts individuals psychological development in PARTheory research. The PARQ is also split into mother and father scales and utilizes a very similar response system to the one used for this study as it asks for users to respond to each statement about their parent-figure with one of the following options: Almost Always True, Sometimes True, Rarely True, Almost Never True (Rohner & Khaleque, 2005). Additionally, several of the items listed in Figure 1 are quite similar to items on the PARQ. For example, the PARQ's statement "*Makes it easy for me to tell her things that are important to me*" is similar to the "*She knows how I think or feel regarding things that are important to me*" and "*I am open about sharing my feelings and telling her about how things are going*" items in this study's scale (Rohner & Khaleque, 2005). Additionally, the PARQ's item "*Likes to spend time with me*" is similar to the following items in survey used for the current study: "*We do fun things together,*" "*We eat meals together,*" and "*We do household chores together.*" The similarities between the scales and the empirical evidence backing the PARQ and PARTheory increases the confidence in the measure used for this study as an accurate measure for parent-adolescent relationship quality.

Control Factors. The following variables were controlled for in order to increase the internal validity of the parameter estimates in this study: age, ethnicity, parental education, maternal history of teen pregnancy, and parental communication about sex. List of measure items used in the survey is in Appendix B. These variables were controlled for as opposed to others that were measured within the survey as there is clear evidence in the research literature regarding their associations to teen pregnancy attitudes. In regards to teen demographic factors, age has been shown to be associated with

pregnancy attitudes as Jaccard et al. (2003a) found that older participants demonstrated more positive attitudes toward pregnancy than younger participants. Additionally, African-American and Hispanic/Latino ethnic groups have shown increased pregnancy rates in a longitudinal study about the pregnancy attitudes' influence on pregnancy outcomes (Brückner et al., 2004) and were found to report more positive pregnancy attitudes than White and Asian American participants (Jaccard et al., 2003a). In Cavazos-Rehg et al. (2013), adolescents whose parents experienced lower levels of education, a sign of lower socioeconomic status, were more likely to have a favorable attitude toward teen pregnancy. Meade et al. (2008) found that having a mother who was a teen parent increased the risk of adolescent females becoming pregnant. Participants whose mothers were teen parents were significantly more likely to become pregnant than those whose mothers were older when they became mothers. Lastly, parental communication about sex has been found to have a number of different impacts on teen pregnancy attitudes and behaviors depending on the gender of the parent and the adolescent and the topics and factors of the communication (i.e., acceptance, disapproval, frequency, specific topics) (Khurana & Cooksey, 2012).

All control variables were coded dichotomously as “Yes” = 1 and “No” = 0. Ethnicity outcomes were coded as “*non-white*” with each participant who selected a minority race/ethnicity were coded as “1” and each participant who selected “*white*” were coded as “0” to control for influences of minority races/ethnicities. Those responding “*unsure*” to race ($n = 7$) were coded as “1” and included in the nonwhite group as no specification for white or minority was selected. Since so few respondents selected this option, it was believed that it would not alter the outcome of controlling for participants’

ethnicity. Parental education was measured for both mother and father. Outcomes to these measures were labeled as “*Low Maternal/Paternal Education.*” Participants’ responses of their parents completing “*8th grade or less*” or “*Some high school*” were coded as “1” to identify low levels of parental education attainment, with “*Graduated high school*” coded as “0.” Responses of “*Don’t know*” were coded as “0” so that only clear responses to parental low education attainment contributed to the “*Low Maternal/Paternal Education*” variable. The same coding procedure was used for “*I don’t know*” responses on the “*Maternal Teen Pregnancy History*” variable with “*Yes*” and “*No*” responses coded as “1” and “0” respectively. Participants responded to the “*Parental Communication about Sex*” variable with “*None,*” “*A little,*” or “*A lot*” regarding how much information about sex they received from their parents or parent-figure. Responses of “*A little*” or “*A lot*” were coded as “1” to measure whether or not the participant had experienced “*Parental Communication about Sex.*”

Plan of Analysis

There were three steps conducted in the analytic plan. The first was a bivariate correlation, followed by a multinomial logistics regression with anti-pregnancy as the referent group, and then an addition multinomial logistics regression run as a sensitivity analysis with ambivalence as the referent group. Tables 1a and 1b are the bivariate correlations for females and males respectively. A table of bivariate correlations is provided as a standard descriptive statistic to show the zero order correlations among all study variables. One variable (“*paternal teen pregnancy history*”) was found to have no significant associations with the dependent variables for males or females and was not included in the multinomial logistics regression.

To examine the associations for male and female adolescents separately the data were first divided by gender of the adolescent. Because attitude toward pregnancy is a nominal variable, it was modeled using a multinomial logistic regression to determine the likelihood of group membership compared to a reference group. For the covariates, the multinomial regression predicts the likelihood of group membership for each one unit increase in the covariate.

Four separate models of the multinomial logistics regression were conducted. In the first model, mother- and father-figure relationship quality were each analyzed independently from the control variables with anti-pregnancy as the referent group to identify the simple associations. Mother and father variables were run separately to avoid one parent controlling for the other and because this study does not examine the unique contributions of each. The second model included participant sociodemographic variables (i.e., age, ethnicity, and parental education) to identify how the participants' factors influenced the association between the independent and dependent variables. In the third model, the participant sociodemographic variables were removed and the parent factors were included (i.e., mother-teen parenthood and parental communication about sex) to examine how the association between the parent-adolescent relationship and pregnancy attitudes held up after controlling for the parent factors. The fourth and included all of the variables from the three previous models with anti-pregnancy as the referent group. Finally, a sensitivity analysis was performed following the above steps but replacing the anti-pregnancy group with the ambivalence group as the referent group.

Missing Values. Two mechanisms were used to manage missing values. First the scaled independent variables were calculated using the mean of the available data in each

model using 75% as the criteria, otherwise listwise deletion was used. Second, listwise deletion was used to manage all other missing values.

CHAPTER IV

RESULTS

To identify the association between quality of the mother- and father-adolescent relationship and likelihood of membership in one of the pregnancy attitude groups for male and female adolescents, a series of multinomial logistics regression models were conducted. Results are displayed for mothers in Tables 3a-3d, and for fathers in Tables 4a-4d for male and female adolescents separately. For the multinomial logistics regression, the anti-pregnancy group was used as the reference group for the ambivalent and pro-pregnancy groups. The decision to use anti-pregnancy as the reference group was based on the majority of participants falling in this group. The sensitivity analysis was run to identify any significance between the ambivalent and anti-pregnancy groups. No statistically significant differences between ambivalent and anti-pregnancy groups were found. Results of this sensitivity analysis are included in Table 5a-5d. Only hypotheses 1, 3, and 5 were supported by the findings of multinomial logistics regression. The assumptions made in the other five hypotheses were not supported by any of the analyses in this study.

Hypothesis 1

Hypothesis 1 states: “An increase in mother-figure relationship quality will decrease the likelihood of female participants reporting ambivalent attitudes toward pregnancy.” Results for Hypothesis 1 can be found in Table 3a. The odds ratios (*ORs*) were statistically significant ($p < .05$) across all four models. Model-1 suggests that a one unit increase of mother-figure relationship quality decreases the likelihood of female teens endorsing an ambivalent pregnancy attitude compared to the anti-pregnancy referent group by 74%, by 73.5% when controlling for participant demographic variables, 71.6% when controlling for parental variables, and 68.8% when controlling for both demographic and parental controls.

Hypothesis 3

Hypothesis 3 states: “An increase in father-figure relationship quality will decrease the likelihood of female participants reporting ambivalent attitudes toward pregnancy.” Results for Hypothesis 2 can be found in Table 4a. The *ORs* were statistically significant ($p < .05$) across all four models. Model-1 suggests that a one unit increase of father-figure relationship quality decreases the likelihood of female teens endorsing an ambivalent pregnancy attitude compared to the anti-pregnancy referent group by 63.6%, by 56.8% when controlling for participant demographic variables, 63% when controlling for parental variables, and 56.8% when controlling for both demographic and parental controls.

Hypothesis 5

Hypothesis 5 states: “An increase in mother-figure relationship quality will decrease the likelihood of female participants reporting pro-pregnancy attitudes.” Results

for Hypothesis 5 can be found in Table 3b. The ORs were statistically significant ($p < .05$) across all four models. Model-1 suggests that a one unit increase of mother-figure relationship quality decreases the likelihood of female teens endorsing a pro-pregnancy attitude compared to the anti-pregnancy referent group by 69.9%, by 74.6% when controlling for participant demographic variables, 72.2% when controlling for parental variables, and 78.4% when controlling for both demographic and parental controls.

CHAPTER V

DISCUSSION

The results from the multinomial logistics regression showed that mother- and father-figure relationship quality are negatively associated with female participants' ambivalent attitudes toward pregnancy. Additionally, mother-figure relationship quality is negatively associated with female participants' pro-pregnancy attitudes toward pregnancy. Each of these negative associations holds its significance after controlling for participant demographics and parent factors. No other significant findings were discovered for father-figure relationship quality and females pro-pregnancy attitudes or for mother- and father-figure relationship quality and any of the male participant's pregnancy attitudes.

Results and Future Research Implications

The quality of the mother-figure relationship has a significant role in predicting female adolescent ambivalent and pro-pregnancy. The negatively associated relationship found between higher quality of mother-figure relationship and female pro-pregnancy attitudes is consistent with the previous findings. Jaccard et al. (2003b) found the quality of mother-daughter relationship was negatively related to negative pregnancy attitudes (i.e., pro-pregnancy). The negative associations found in this study between father-figure relationship quality and teen ambivalent pregnancy attitudes are unique from other studies reviewed. The negative relationship between mother-figure relationship quality and ambivalence can possibly be attributed to the same impact that mother-figure relationships have on pro-pregnancy attitudes with several studies supporting this or similar relationships (Jaccard et al., 2003b; Dittus & Jaccard, 2000; Cox et al., 2015; Biggs et al., 2010).

The negative association between father-figure relationship quality and ambivalence is of particular interest as previously no other studies have shown a similar relationship between father-daughter relationship and ambivalence. This association is made even more intriguing because no significant associations between father-daughter relationship quality and pro-pregnancy attitudes were found in the current study. The association between the quality of father-daughter relationship and ambivalence may indicate a level of stability in the life adolescent female participants provided by the father-daughter relationship. A study on fathers' family involvement and family structure suggested that father involvement partially mediates the effect family structure has on adolescent behavioral outcomes (Carlson, 2006). For clarification, Carlson (2006)

identifies family structure as the description of the type of parenting system in the home (i.e., biological parents married all years; biological parents married at birth, then divorced, mother never remarried; biological parents married at birth, then divorced, mother remarried a stepfather; etc.). Carlson (2006) found that father involvement reduced the impact of nearly all of the family structure effects on adolescent behavior. The mediating role of father involvement found by Carlson (2006) suggests that increases in father-daughter relationship quality may influence the female teens' sense of stability and safety in the home. This, in turn, may explain the mechanism through which father-daughter relationship quality influences ambivalent pregnancy attitudes. Further research is needed to fully understand this association between father-daughter relationship quality and ambivalence and to understand why father-daughter relationship quality was found to be significant for ambivalent but not for pro-pregnancy attitudes.

With both mother- and father-figure relationship quality associated with female participants' ambivalent attitudes, the significant association between low parent-adolescent relationship quality and ambivalence may be a sign of increased levels of family distress experienced by ambivalent teens that teens with other pregnancy attitudes are not exposed to. According to previous research on PARTheory, perceived parental rejection can lead to negative teen behavior outcomes (Rohner & Britner, 2002). With ambivalence being associated with lower parent-adolescent relationship quality, ambivalent pregnancy attitudes in teens can be used as a potential indicator of increased family distress in teens. This possible association will be discussed further in the Clinical Application section as a point of intervention for mental health clinicians.

Additionally, regression analyses found that the association between parent-adolescent relationship quality and adolescent pregnancy attitudes was only significant for female participants. This finding seems to contradict PARTheory, which suggests father and mother closeness have similar effects regardless of child gender (Khaleque & Rohner, 2002). However, more recent findings that female and male adolescents receive different messages regarding sexual behaviors and pregnancy outcomes (Tanner et al., 2013), may help explain these findings. Future research may need to alter the definitions of pregnancy attitudes for males or explore other predictors of male pregnancy attitudes. Since male adolescents' sexuality is treated differently by parents, researchers may need to consider measures of male pregnancy attitudes that capture how society has defined male sexuality rather than using the same definitions and measures used for female sexuality. One possible adjustment might be: "If you were to get someone pregnant," "If you were to father a child," or "If you were to be a teen father." The language used in the current measure ("*Having a child would*") might inadvertently remove some of the responsibility from the male participants as they are not the ones giving birth or "having" the child. Measures that use language emphasizing male adolescents' role in impregnating someone and teen fatherhood could address their male pregnancy attitudes more directly. Additionally, researchers should examine how peer influences mediate the association between parent-relationship quality and pregnancy attitudes for males. Several studies have found peer influence significantly predicts sexual behaviors and pregnancy outcomes (Meade et al., 2008; Tanner et al., 2013). To further understand how males' pregnancy attitudes are developed, future research could also consider exploring

the mediating role peer influence plays in the association between parent-relationship quality and teen pregnancy attitudes.

Clinical Application

The primary focus of most teen pregnancy prevention programs is to reduce negative adolescent reproductive health outcomes such as pregnancy, child-bearing, sexually transmitted infections, sexual activity, number of sexual partners, condom and other contraceptive use among teens (Manlove, Fish, & Moore, 2015). The findings from the current study suggest that involving parents in the prevention process would enhance the effectiveness of prevention programs looking to reduce the above teen sexual behaviors. Yet, most sexual and reproductive health programs in the U.S. focus teen pregnancy prevention efforts toward changing adolescent sex and contraceptive behaviors without the involvement of parents. In 2015, Manlove et al. reviewed 103 evaluation studies of 85 teen sexual and reproductive health programs (some evaluated multiple times) and found that only 11 focused on the parent-adolescent relationship. The other types of programs reviewed were abstinence-based education programs, comprehensive sex-education programs, clinic-based programs, and youth-development programs. The researchers labeled each program as effective if the evaluation study of the program showed significant or mixed results in reducing one of the above risky sexual behaviors or outcomes. Of the five types of programs examined, parent-adolescent relationship programs were found to be the most effective followed by clinic-based programs (Manlove et al. 2015). These findings are further supported by the results of the current study that parent-adolescent relationship quality is significantly associated to adolescent females' pregnancy attitude development. Additionally, the discovery in

Manlove et al. (2015) that both parent-adolescent relationship and clinic-based programs were most effective leads to the consideration that clinicians such as marriage and family therapists (MFTs) might be able to apply the findings from the current study in an effort to provide a different avenue for teen pregnancy prevention.

No studies examining clinic-based teen pregnancy prevention programs by or for MFTs were found. However, typical family therapy models can be adjusted to work with families to prevent teen pregnancy. A common model of family therapy that I believe would work well these families is the Contextual Therapy model. One of the key goals of the contextual model is to view one's clients as a human beings dealing with difficult life experiences rather than a diagnosis or a theory (Boszormenyi-Nagy, Grunebaum, & Ulrich, 1991). A contextual therapist acknowledges clients presenting problems but works with clients to see their problems as a result of skewed beliefs or negative patterns. In regards to the findings of this study, a MFT practicing from the Contextual Therapy model working with an ambivalent teen and/or his or her parents might explore any external factors that might be influencing the quality of the parent-adolescent relationship. A core concept of the contextual model is that there are always three generations influencing each family system at any given moment (Boszormenyi-Nagy et al., 1991). Therefore, a MFT might start by examining the relationship the parents have/had with the teen's grandparents. The clinician and the parents might be able to find intergenerational patterns that could be influencing the current relationship between the parents and the adolescent. A contextual therapist would be very curious about any history of teen pregnancy in the family as well, which has been shown to be predictor of teen pregnancy (Meade et al., 2008). Additionally, contextual concepts such as invisible

loyalties and destructive entitlement (Boszormenyi-Nagy et al., 1991) could play negative roles in the process of developing quality parent-adolescent relationships. For example, the parents could experience a sense of entitlement that their children are supposed to seek out a relationship with them, causing the parents to wait for their children to desire a relationship instead of reaching out to their children. A contextual therapist would work with the parents to understand where the destructive entitlement originated and help parents acknowledge the pattern in their life so they can work to avoid falling back into the negative patterns, eventually working toward the parents reaching out to their children to increase the quality of the relationship. Furthermore, a MFT can encourage parents through the findings of this study and those of B. C. Miller (1998) that increasing the quality of the parent-adolescent relationship can lead to the parents transmitting their anti-pregnancy attitudes to their teens, resulting in decreased ambivalence. Additionally, this will develop a closer relationship between the parents and adolescents where the positive values of the parent might be more easily accepted by the teen.

In some clinical settings, such as school or youth based services, where the adolescent presents individually for treatment. The findings of this study would encourage a MFT working from the contextual model to assess for the quality of the relationships the teen has with his or her parents as well as with other influential parent-figures such as a teacher or coach. Identifying potentially troubling relationships in the teen's life as the focus of treatment can be done to increase the parent-figure relationship quality for the teen. The same work that is done with parents and teens together to identify negative patterns or external factors that are hindering the development of a close relationship can be done in individual therapy settings where only the adolescent is

present. The current findings suggest that work focused on increasing the quality of the parent-relationship can lead to decreasing ambivalent pregnancy attitudes in teens and potentially lowering their risk of becoming pregnant as a teen.

Limitations

A limitation of this study is that the sample was limited to one city and was not a true representative sample. Results of this study may vary in other communities or contexts. Further, it is unclear how nonresponse bias might have affected results; it is unknown whether teens whose parents consented for their children to participate in this study might differ from parents who did not grant consent. Parents' willingness to consent for their child(ren) to participate in the study could be considered a sign of increased parental involvement. Additionally, parents who are less involved, and potentially not present in the home, might be less likely to give consent for their child(ren). Therefore, parental relationship quality rates may be higher in this study due to having parents involved enough to grant permission to participate than parents who did not. Future analysis of the data set used for this study could seek to identify whether adolescents' key characteristics and parental relationships differ from other parents and adolescents in the Midwestern urban area from where the data were collected.

Another limitation of the study surrounds the measures for the primary independent variable of parent-child relationship quality. One aspect is the inclusion of non-biological parents in the measure: teens were asked to respond to the quality of their relationships with mother-figures and father-figures. Although this may be a strength that the measure may capture some social parents who would otherwise be absent from the study, it would have been helpful if the teens could have noted whether they were

responding about their biological mothers and fathers versus mother- and father-figures. Further, the measure wording was problematic for participants with same-sex parents to respond for both parents. The questions used in the survey limited the participants' to respond about one mother-figure and one father-figure only, not giving participants a second same-sex parent option. Given that identifying any difference between parents based upon gender was a core goal of this study, this is not seen as a major limitation. However, a small but growing number of teens have same-sex parents, and it is important that future studies of parent-adolescent relationship quality not continue to neglect these families.

The usual limitations to any cross-sectional study apply here. The data do not permit testing whether ambivalent pregnancy attitudes among teens impacts parental relationship quality. Therefore a definitive causal inference cannot be made with any degree of certainty. The possibility of other unexamined variables, such as peer influences, contributing to the probability of group membership is a limitation to the current study. Future research should examine peer influences and particularly partner influences on ambivalent pregnancy attitudes. Finally, the variables were all based upon self-report which opens the study to single-source bias. Despite the importance PARTheory places on the adolescent's perspective to measure acceptance-rejection, there is a chance that the adolescent is responding in a socially acceptable manner which cannot be examined for reliability if there is not paired, second-party or follow-up responses (Rohner et al., 2005).

Notwithstanding the mentioned limitations, the results of this study are a solid first step in identifying how parental relationship quality may influence teen pregnancy

rates through the promotion of attitude formation. If replicated in future studies, the findings have strong implications for prevention strategies needed to continue the reduction of teen pregnancy rates.

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APPENDICES

Table 1a

Bivariate correlations and descriptive statistics (Females, n = 282)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ambivalent Attitudes _a		-.670***	-.184**	-.151*	-.182**	.044	.060	.083	.000	.075	.121*	.154*
2. Anti-Pregnancy Attitudes _a			-.606***	.208***	.190**	-.065	-.101†	-.109†	-.088	-.148*	-.124*	-.118†
3. Pro-Pregnancy Attitudes _a				-.114†	-.056	.040	.069	.054	.120†	.116†	.034	-.009
4. Quality of Mother-Figure Relationship					.399***	-.019	-.239***	-.186**	-.005	-.231***	-.108†	-.076
5. Quality of Father-Figure Relationship						-.099	-.169**	-.203**	-.063	-.094	-.154*	-.083
6. Age							.077	.117†	.179**	.049	-.052	.017
7. Mother-Teen Parent _a								.555***	.049	.188**	.135*	.047
8. Father-Teen Parent _a									.033	.070	.101†	.072
9. Parental Sex Comm. _a										-.024	-.097	-.018
10. Low Maternal Education _a											.493***	.142*
11. Low Paternal Education _a												.119*
12. Non-white Ethnicity _a												
<i>N</i>	266	266	266	281	268	275	282	282	264	282	282	282
<i>M</i>	.169	.688	.143	2.48	2.16	15.53	.309	.227	.86	.17	.206	.575
<i>SD</i>	.376	.464	.351	.346	.513	1.6	.463	.42	.348	.376	.405	.495

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; _a = coded 0 and 1, with 1 = “Yes” for each variable (e.g., Mother-Teen Parent, 1 = “Yes” and 0 = “No”)

Table 1b

Bivariate correlations and descriptive statistics (Males, n = 193)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ambivalent Attitudes _a		-.664***	-.185*	-.130†	-.148*	-.058	.144*	.130†	.036	.063	.063	.167*
2. Anti-Pregnancy Attitudes _a			-.612***	.117	.067	-.031	-.131†	-.031	.004	-.091	-.030	-.151*
3. Pro-Pregnancy Attitudes _a				-.017	.072	.103	.019	-.096	-.046	.054	-.027	.022
4. Quality of Mother-Figure Relationship					.351***	-.187**	-.196**	-.079	-.010	-.081	-.001	-.066
5. Quality of Father-Figure Relationship						-.117	-.129†	-.145*	.011	.060	-.151*	-.256***
6. Age							.109	.122†	.014	.042	.086	.019
7. Mother Teen Parent _a								.616***	.097	.306***	.183*	.161*
8. Father Teen Parent _a									-.004	.183*	.251***	.098
9. Parental Sex Comm. _a										.090	.048	.084
10. Low Maternal Education _a											.488***	.158*
11. Low Paternal Education _a												.186**
12. Non-white Ethnicity _a												
<i>N</i>	185	185	185	193	184	191	193	193	186	193	193	193
<i>M</i>	.168	.687	.146	2.46	2.15	15.65	.275	.202	.871	.171	.171	.492
<i>SD</i>	.375	.465	.354	.371	.582	1.67	.447	.403	.336	.377	.377	.501

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; _a = coded 0 and 1, with 1 = “Yes” for each variable (e.g., Mother-Teen Parent, 1 = “Yes” and 0 = “N”)

Table 2

Mean Scores of Quality of Mother- and Father-Figure Relationship Scales

	<i>N</i>	Mean Mother-Figure Score	<i>SD</i>
Females' Attitudes			
Anti-Pregnancy	183	2.52	.320
Ambivalent	45	2.36	.350
Pro-Pregnancy	38	2.38	.423
Males' Attitudes			
Anti-Pregnancy	127	2.48	.332
Ambivalent	31	2.34	.427
Pro-Pregnancy	27	2.43	.472
Females	281	2.48	.346
Males	193	2.46	.371
Mean Father-Figure Score			
	<i>N</i>	Mean Father-Figure Score	<i>SD</i>
Females' Attitudes			
Anti-Pregnancy	175	2.22	.480
Ambivalent	44	1.95	.543
Pro-Pregnancy	36	2.09	.583
Males' Attitudes			
Anti-Pregnancy	122	2.18	.553
Ambivalent	31	1.97	.642
Pro-Pregnancy	25	2.25	.564
Females	268	2.16	.513
Males	184	2.15	.582

Table 3a

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Females)

Variable	Ambivalent							
	Model 1 (n = 266)		Model 2 (n = 261)		Model 3 (n = 250)		Model 4 (n = 245)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	.260**	.472	.265**	.504	.284*	.500	.292*	.530
Sociodemographics								
Age			1.094	.109			1.089	.112
Non-white			2.398*	.389			2.273*	.393
Low maternal ed.			.932	.511			1.031	.528
Low paternal ed.			1.937	.466			1.872	.478
Parental factors								
Mother-teen parent					1.332	.369	1.270	.378
Parental Sex Comm.					1.141	.495	1.094	.516
Intercepts	6.573†	1.145	.734	2.111	4.500*	1.314	.575	2.137

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Anti-Pregnancy

Table 3b

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Females)

Variable	Pro-Pregnancy							
	Model 1 (n = 266)		Model 2 (n = 261)		Model 3 (n = 250)		Model 4 (n = 245)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	.301*	.504	.254*	.548	.278*	.558	.216*	.613
Sociodemographics								
Age			1.087	.120			1.075	.132
Non-white			.790	.390			.610	.431
Low maternal ed.			1.887	.525			2.465	.566
Low paternal ed.			1.036	.532			.843	.592
Parental factors								
Mother-teen parent					1.152	.420	1.201	.460
Parental Sex Comm.					5.843†	1.040	4.978	1.059
Intercepts	3.959	1.228	1.390	2.296	.820	1.706	.518	2.584

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Anti-Pregnancy

Table 3c

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Males)

Variable	Ambivalent							
	Model 1 (n = 185)		Model 2 (n = 183)		Model 3 (n = 179)		Model 4 (n = 177)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	.399†	.505	.366†	.540	.480	.519	.417	.548
Sociodemographics								
Age			.898	.125			.883	.126
Non-white			2.448*	.439			2.411*	.445
Low maternal ed.			1.308	.605			1.137	.621
Low paternal ed.			1.098	.599			1.067	.598
Parental factors								
Mother-teen parent					1.977	.431	1.625	.467
Parental Sex Comm.					1.191	.677	1.106	.689
Intercepts	2.246	1.219	9.339	2.529	1.013	1.414	6.666	2.598

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; the reference category is Anti-Pregnancy

Table 3d

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Males)

Variable	Pro-Pregnancy							
	Model 1 (n = 185)		Model 2 (n = 183)		Model 3 (n = 179)		Model 4 (n = 177)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	.714	.571	.870	.585	.699	.591	.862	.609
Sociodemographics								
Age			1.197	.137			1.238	.143
Non-white			1.242	.445			1.288	.467
Low maternal ed.			2.063	.655			2.382	.693
Low paternal ed.			.386	.762			.400	.774
Parental factors								
Mother-teen parent					1.166	.504	1.016	.549
Parental Sex Comm.					.718	.615	.627	.631
Intercepts	.486	1.412	.015	2.868	.625	1.564	.012	3.025

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; the reference category is Anti-Pregnancy

Table 4a

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Females)

Variable	Ambivalent							
	Model 1 (n = 255)		Model 2 (n = 250)		Model 3 (n = 240)		Model 4 (n = 235)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	.364**	.329	.432*	.347	.370**	.338	.432*	.353
Sociodemographics								
Age			1.056	.110			1.054	.113
Non-white			2.269*	.391			2.111†	.397
Low maternal ed.			1.317	.523			1.343	.541
Low paternal ed.			1.380	.482			1.425	.494
Parental factors								
Mother-teen parent					1.433	.370	1.359	.378
Parental Sex Comm.					1.041	.499	1.042	.516
Intercepts	2.073	.685	.319	1.977	1.779	.875	.306	1.986

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Anti-Pregnancy

Table 4b

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Females)

Variable	Pro-Pregnancy							
	Model 1 (n = 255)		Model 2 (n = 250)		Model 3 (n = 240)		Model 4 (n = 235)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	.590	.356	.696	.384	.679	.378	.811	.417
Sociodemographics								
Age			1.069	.124			1.051	.134
Non-white			.845	.402			.639	.445
Low maternal ed.			3.255*	.533			4.300*	.573
Low paternal ed.			.811	.559			.718	.620
Parental factors								
Mother-teen parent					1.288	.422	1.406	.462
Parental Sex Comm.					5.564†	1.040	5.012	.129
Intercepts	.642	.774	.126	2.169	.083†	1.331	.024	2.503

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Anti-Pregnancy

Table 4c

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Males)

Variable	Ambivalent							
	Model 1 (n = 178)		Model 2 (n = 176)		Model 3 (n = 172)		Model 4 (n = 170)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	.539†	.344	.601	.275	.590	.346	.650	.373
Sociodemographics								
Age			.929	.128			.906	.130
Non-white			2.117†	.455			2.136†	.458
Low maternal ed.			1.668	.753			1.402	.661
Low paternal ed.			.469	.806			.847	.625
Parental factors								
Mother-teen parent					2.057†	.429	1.768	.464
Parental Sex Comm.					1.102	.684	.993	.696
Intercepts	.915	.722	1.404	2.207	.566	.964	1.589	2.274

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; the reference category is Anti-Pregnancy

Table 4d

Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Males)

Variable	Pro-Pregnancy							
	Model 1 (n = 178)		Model 2 (n = 176)		Model 3 (n = 172)		Model 4 (n = 170)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	1.281	.404	1.406	.441	1.285	.423	1.447	.465
Sociodemographics								
Age			1.240	.148			1.298†	1.54
Non-white			1.320	.485			1.427	.519
Low maternal ed.			1.668	.753			2.097	.796
Low paternal ed.			.469	.806			.480	.829
Parental factors								
Mother-teen parent					.898	.553	.772	.591
Parental Sex Comm.					.578	.627	.497	.649
Intercepts	.118*	.932	.003*	2.682	.184	1.082	.002*	2.836

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; the reference category is Anti-Pregnancy

Table 5a

Sensitivity Analysis Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Females)

Variable	Pro-Pregnancy							
	Model 1 (n = 266)		Model 2 (n = 261)		Model 3 (n = 250)		Model 4 (n = 245)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	1.154	.600	.959	.655	.980	.654	.740	.721
Sociodemographics								
Age			.993	.145			.988	.155
Non-white			.329*	.498			.268*	.529
Low maternal ed.			2.025	.638			2.391	.672
Low paternal ed.			.535	.622			.450	.670
Parental factors								
Mother-teen parent					.865	.495	.946	.536
Parental Sex Comm.					5.123	1.108	4.552	1.128
Intercepts	.602	1.438	1.893	2.774	.182	1.930	.901	3.020

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Ambivalence

Table 5b

Sensitivity Analysis Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Mother-Figure Relationship Quality (Males)

Variable	Pro-Pregnancy							
	Model 1 (n = 185)		Model 2 (n = 183)		Model 3 (n = 179)		Model 4 (n = 177)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Mother-figure	1.792	.669	2.374	.702	1.455	.692	2.069	.724
Sociodemographics								
Age			1.333†	.168			1.401†	.173
Non-white			.507	.567			.534	.586
Low maternal ed.			1.577	.781			2.094	.815
Low paternal ed.			.352	.878			.375	.885
Parental factors								
Mother-teen parent					.590	.589	.625	.643
Parental Sex Comm.					.603	.822	.567	.845
Intercepts	.216	1.624	.002†	3.455	.617	1.854	.002†	3.617

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Ambivalence

Table 5c

Sensitivity Analysis Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Females)

Variable	Pro-Pregnancy							
	Model 1 (n = 255)		Model 2 (n = 250)		Model 3 (n = 240)		Model 4 (n = 235)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	1.618	.429	1.611	.461	1.836	.449	1.878	.490
Sociodemographics								
Age			1.012	.148			.998	.158
Non-white			.372†	.510			.303*	.544
Low maternal ed.			2.472	.649			3.201†	.685
Low paternal ed.			.588	.654			.504	.706
Parental factors								
Mother-teen parent					.899	.499	1.034	.539
Parental Sex Comm.					5.347	1.112	4.812	1.131
Intercepts	.310	.897	.396	2.636	.047*	1.477	.077	2.914

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Ambivalence

Table 5d

Sensitivity Analysis Multinomial Logistics Regression Examining Predictors of Pregnancy Attitude Group Membership w/ Father-Figure Relationship Quality (Males)

Variable	Pro-Pregnancy							
	Model 1 (n = 178)		Model 2 (n = 176)		Model 3 (n = 172)		Model 4 (n = 170)	
	OR	SE	OR	SE	OR	SE	OR	SE
Parental rel. quality								
Father-figure	2.376†	.481	2.339	.527	2.177	.498	2.226	.545
Sociodemographics								
Age			1.334	.178			1.433†	.185
Non-white			.623	.607			.668	.635
Low maternal ed.			.972	.878			1.496	.921
Low paternal ed.			.548	.925			.567	.944
Parental factors								
Mother-teen parent					.437	.632	.437	.678
Parental Sex Comm.					.525	.832	.500	.857
Intercepts	.130†	1.065	.002†	3.176	.325	1.309	.001*	3.337

Note: ***p < .001, **p < .01, *p < .05, †p < .1 ; the reference category is Ambivalence

Appendix A

Quality of Mother-Figure Relationship Measures

To what extent are the following statements true about your relationship with your mother (or mother figure such as a grandmother or other female in your life if you don't have a mother):

(1=Not at all; 2=Sometimes; 3=Most of the times)

1. If I were upset about something, I would talk with her about it.
2. I like telling her about myself and what's going on in my life.
3. We often have arguments that end in fights.
4. I feel that I am important to her.
5. I am open about sharing feelings and telling her about how things are going.
6. She knows how I think or feel regarding things that are really important to me.
7. She sets clear rules about what I can and cannot do.
8. We do fun things together.
9. We eat meals together.
10. We do household chores together.
11. She knows where I am after school/what I do during my free time and where I go in the evenings.
12. She checks to make sure I do my homework.
13. She asks me about my grades and what I'm studying in school.
14. She encourages me to go to college.
15. I trust her to do what is best for me.
16. I respect her and look up to her.
17. Even when we disagree we can usually find a solution that everyone can live with.

Note: The same scale with masculine pronouns related to father-figures was used to measure father-figure relationship quality

Appendix B

Measures for Control Factors

Ethnicity

What is your race/ethnicity?

- a. White
- b. Black/African American
- c. American Indian/Alaskan Native
- d. Asian or Pacific Islander
- e. Hispanic/Latino
- f. Don't know/not sure

Age

Age was calculated by subtracting participants' year of birth from the year the survey was administered.

Parental Education

How much education has your mother completed? (Same measure was used for paternal education)

- a. 8th grade or less
- b. Some high school
- c. Graduated high school
- d. Completed some college
- e. Graduated college
- f. Don't know

Maternal Teen Pregnancy History

Was your mother a teen parent?

- Yes
- No
- I don't know

Parental Communication about Sex

How much of the information that you know about sexual topics did you receive from parents, guardians, or trusted adults?

- None
- A little
- A lot

VITA

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