

IS TWO ALWAYS BETTER THAN ONE? EXPLORING DIFFERENCES IN RISKY  
SEXUAL BEHAVIOR AMONG AFRICAN AMERICAN ADOLESCENTS BY FAMILY  
STRUCTURE & PARENTING BEHAVIORS

by

MEGAN STEELE

(Under the Direction of Leslie Gordon Simons)

ABSTRACT

Adolescent risky sexual behaviors such as early sexual debut, low rates of condom use, and high rates of partner change are associated with a number of negative health and social outcomes including contracting sexual transmitted infections and unintended pregnancy. Utilizing a sample of 529 African American adolescents, this study examines the contributions of parenting behaviors and family structure as factors associated with engagement in risky sexual behavior. Participants reported few differences in mother's parenting across family structures. While fathers and relatives provided greater responsiveness on average than stepfathers. Variation in parenting fully explained differences in risky sexual behavior for males. Yet family structure differences persisted for females, with females in mother step-father homes continually engaging in greater mean risky sexual behavior than those in mother-father households even after accounting for parental responsiveness and demandingness. Implications for prevention and intervention are discussed.

INDEX WORDS: parenting; adolescents; family structure; risky sex; African Americans

IS TWO ALWAYS BETTER THAN ONE? EXPLORING DIFFERENCES IN RISKY  
SEXUAL BEHAVIOR AMONG AFRICAN AMERICAN ADOLESCENTS BY FAMILY  
STRUCTURE & PARENTING BEHAVIORS

by

MEGAN STEELE

B.A., Furman University, 2015

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment  
of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2017

© 2017

Megan Steele

All Rights Reserved

IS TWO ALWAYS BETTER THAN ONE? EXPLORING DIFFERENCES IN RISKY  
SEXUAL BEHAVIOR AMONG AFRICAN AMERICAN ADOLESCENTS BY FAMILY  
STRUCTURE & PARENTING BEHAVIORS

by

MEGAN STEELE

Major Professor: Leslie Gordon Simons

Committee: Ronald Simons  
Kandauda K.A.S. Wickrama

Electronic Version Approved:

Suzanne Barbour  
Dean of the Graduate School  
The University of Georgia  
December 2017

## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
CHAPTER	
1 INTRODUCTION .....	1
Purpose of the Study .....	3
2 LITERATURE REVIEW .....	5
Statement of the Problem .....	5
Family Structure .....	6
Parenting Behaviors .....	9
Current Study .....	12
3 METHODS .....	14
Sample .....	14
Procedure .....	15
Measures .....	16
Analytical Strategy .....	18
4 RESULTS .....	20
Descriptive Statistics .....	20
Parenting .....	22
Risky Sexual Behavior .....	26

5 DISCUSSION.....	33
REFERENCES .....	37
APPENDICES	
A Measures .....	42

## LIST OF TABLES

	Page
Table 1. Correlations and Descriptive Statistics for Study Variables.....	21
Table 2. Results of ANOVA Comparing Mean Parenting Scores of Mothers and Secondary Caregivers (SC's) in Different Types of Family Structure.....	23
Table 3. Results of ANCOVA Comparing Mean Risky Sexual Behavior Adjusted for Covariates .....	28

## LIST OF FIGURES

	Page
Figure 1. Mean Differences in Adolescent Reports of Parental Responsiveness by Family Structure .....	25
Figure 2. Mean Differences in Adolescent Reports of Parental Demandingness by Family Structure .....	26
Figure 3. Marginal Mean Differences in Risky Sexual Behavior by Family Structure for Females in each of the previously described models .....	31
Figure 4. Marginal Mean Differences in Risky Sexual Behavior by Family Structure for Males in each of the previously described models. ....	32

## CHAPTER 1

### INTRODUCTION

The Center for Disease Control and Prevention [CDC] defines risky sex as any sexual behavior that increases an individual's risk of unintended pregnancy and/or of contracting sexually transmitted infection (STIs), including HIV/AIDS (CDC, 2016). Risky sexual behaviors including early sexual debut, low rates of condom use, and high rates of partner change are of major concern to parents, public policy makers, and researchers alike. Among a national sample of U.S. high school students surveyed in 2015 through the Youth Risk Behavior Surveillance System (YRBSS), 41.2% of high school students had ever had sexual intercourse and 3.9% of students had engaged in sexual intercourse for the first time before the age of 13 (CDC, 2016). Furthermore, 11.5% of high school students report having sexual intercourse with four or more persons during their lifetime. Likewise, of the third (30.1%) of students who reported having sexual intercourse in the previous three months, 43.3% did not use a condom the last time they had sex.

Research demonstrates African American adolescents are at a disproportionately higher risk for engaging in risky sexual behaviors compared to their Caucasian peers. For example, according to the YRBSS, 8.3% of African American adolescents had sex for the first time before age 13, but only 5.0% of Hispanic and 2.5% of White adolescents had sexual intercourse before age 13 (CDC, 2016). Likewise, African American adolescents had significantly greater odds of having four or more sexual partners compared to youth in other racial groups and were the least likely to use a condom (CDC, 2016). Beyond these risk behaviors, Manning,

Longmore, and Giordano (2005) suggest that African American adolescents are more likely to have had sex outside the context of a romantic relationship than White adolescents.

Further, African Americans are at disproportionately higher risk of experiencing a number of negative health outcomes associated with risky sexual behaviors. At some point in their lives, an estimated 1 in 16 African American men and 1 in 32 African American women will be diagnosed with HIV (CDC, 2012). African Americans represent approximately 12% of the US population, but accounted for an estimated 45% of new HIV infections in 2015, and 42% of individuals living with an HIV infection in 2014 (CDC, 2015). Consequently, it remains invaluable to examine factors which may promote safer sexual behaviors among adolescents, more specifically among African Americans.

Family structure and parenting behaviors are both widely acknowledged risk factors for variation in adolescent risky sexual behavior. In particular, parents play a key role in serving as social control and attachment models, providing emotional connections and behavioral constraints, and modeling of relationship processes (Kincaid, Jones, Sterrett & McKee, 2012). As a result of these roles served by caregivers, researchers find parenting behaviors of caregivers to greatly influence the odds of adolescents engaging in risky sexual behavior. Adolescents who report feeling close to and supported by their parents are more likely to delay sexual debut, use a condom during sexual intercourse, and are less likely to have sex under the influence of substances (Shneyderman & Schwartz, 2013). However, additional research finds family structure (i.e. the number and type of relationship between caregivers and youth in the household) also plays a unique role in the odds of adolescents engaging in risky sexual behaviors. Prior research shows adolescents who grow up in two-parent households are less likely to have ever had sex and have significantly fewer sexual partners than adolescents not

raised in two-parent homes (Haglund & Fehring, 2010). Nevertheless, a portion of research suggests the precise relationship between secondary caregivers and adolescents may matter for risky sexual behavior. For instance, in a study of women between the ages of 15 and 25, Brauner-Otto and Axinn (2010) found living with a stepparent during childhood is associated with lower levels of contraceptive use later in life compared to living with two married, biological parents in childhood.

### *Purpose of the Study*

This paper centers on the influence of family structure and parenting behaviors on risky sexual behavior among adolescents in an effort to disentangle the impact of each construct on adolescent outcomes. In particular, I first explore the ways in which adolescent reports of parental responsiveness and demandingness by mothers and secondary caregivers differs in various family structures. Second, I examine variation in mean risky sexual behavior, including age of sexual debut, high rates of partner change, and low rates of condom use, by family structure, accounting for the effect of quality of parenting. Nevertheless, I recognize that a number of other factors, such as religion and economic hardship, may influence the quality and effectiveness of parental responsiveness and management on adolescents' risky sexual behavior. In sum, each of these relationships has significant weight in the prevention of negative health outcomes associated with associated with risky sexual behavior, as well as for how family structure is conceptualized and measured in research focused on adolescent behavioral outcomes. This study will focus on the following research questions:

1. According to adolescent report, how do the parenting behaviors of mothers and secondary caregivers vary based on family structure?

2. How does adolescent risky sexual behavior vary in different types of family structures after accounting for adolescent report of parenting?

## CHAPTER 2

### LITERATURE REVIEW

#### *Statement of the Problem*

Adolescent risky sexual behavior is associated with a number of negative health and social outcomes including contracting sexually transmitted infections (STIs) and experiencing unintended pregnancy. Young people, ages 13 to 24, account for nearly half of the 20 million new STIs reported each year and 22% of all new cases of HIV diagnosed in 2015 (CDC, 2016). Additional research demonstrates 18-year-olds who first had sex at age 13 had more than twice the odds than those who reported first sex at age 17 of having an STI (Kaestle, Halpern, Miller & Ford, 2005). Likewise, more recent research suggests cervical cancers originate mainly from Human Papillomavirus (HPV) infections transmitted sexually in late adolescence and early adulthood (Schiffman, Castle, Jeronimo, Rodriguez & Wacholder, 2007).

Further, researchers have reported that four out of five unintended pregnancies are among women 19 years old and younger (Finer & Zolna, 2011). Moreover, young mothers and their children tend to have worse outcomes than mothers who have their first child later in life. Mollborn and Morningstar (2009) found adolescent mothers were more likely to live in poverty and to had higher levels of psychological distress in comparison to older mothers. Likewise, previous research suggests children born to mothers who begin childbearing at earlier ages are more likely to engage in a number of risk behaviors than those born to older mothers. In particular, one recent study demonstrated that boys born to mothers who began childbearing before age 19 had greater odds of gang membership, drug use, unemployment, and early

parenthood. On the other hand, girls born to young mothers were at elevated risk for early parenthood (Pogarsky, Thornberry & Lizotte, 2006).

Additionally, male adolescents tend to be at higher risk of engaging in risky sexual behavior than adolescent females. For instance, while 5.6% of male youth had sexual intercourse for the first time before age 13, only 2.2% of female youth reported having sexual intercourse for the first time before age 13 (CDC, 2016). Likewise, male adolescents were more likely to have four or more sexual partners during their lifetime than adolescent females. Nevertheless, rates of condom use tend to be higher among male adolescents than female adolescents. Whereas 61.5% of male high school students reported using a condom during last sexual intercourse, only 52.0% of female students reported using a condom (CDC, 2016). However, female adolescents are more likely to have sexual intercourse for the first time within the context of a romantic relationship (Parkes, Henderson, Wight & Nixon, 2011). Therefore, it is pertinent to consider how family structure and parenting behaviors may influence male and female adolescents differently.

### *Family Structure*

There are competing explanations for the effect of family structure on both parenting and youth risk behaviors. In this section, I review the following perspectives: 1) biological, 2) marriage, and 3) two caregiver.

*Biological Perspective.* An evolutionary perspective offers that caregivers are more strongly motivated to invest in children with whom they have a biological relationship. In particular, parents invest most in children who have the greatest amount of shared genetic material. Researchers suggest this is because of a desire to carry their genes forward to future generations or because of the belief that this relationship is more likely to endure (Hofferth & Anderson, 2003). Additional research finds that genetic relatedness between children and both

mothers and fathers had significant positive effect on children's perceived parental care and closeness of the parent-child relationship (Schnettler & Steinbach, 2011). Adolescents living in homes with two biological parents tend to have significantly fewer behavioral problems and lower rates of delinquency than those in other types of family structures even after controlling for maternal and adolescent demographic characteristics (Carlson, 2006). Moreover, Price and Hyde (2009) found living with both biological parents to be associated with significantly lower odds of adolescents engaging in sexual intercourse by age 15. Such findings demonstrate that adolescents may bond more strongly to biological parents than other types of caregivers.

While secondary caregivers who are not biological parents may contribute time and resources to childrearing, they are also less likely to have social control and authority when compared to a biological parent. Social control theory suggests that parental controls explain the relationship between family structure and adolescent risky behaviors, positing that adolescents from biological, two-parent households are at decreased risk of such behaviors because their parents are more effective in controlling children's behaviors than are parents in other types of households. More specifically, the social bonds children form to parents control behavior by encouraging them to consider the reactions of their parents to when they are tempted to engage in deviant acts (Hirschi, 1969). Ultimately, the biological perspective holds that adolescents fare best in households with both biological parents because of greater parental investment and a closer bond between parent and child.

*Marriage Perspective.* The marriage perspective suggests children living with married biological parents or one biological parent and a stepparent should engage in less risk behaviors than those being raised by a single parent or by two non-partnered adults such as a mother and grandmother. Proponents of the marriage perspective argue that quality of parenting is likely to

be higher in married two-parent families because of the encouragement and support spouses provide to each other, increasing the ability of each parent to cope with the stress and demands of parenting. Further, individuals from continuously married families tend to be more committed to marriage, reducing probability of engaging in risky sexual behavior both directly and indirectly through its negative influence on casual sex attitudes (Simons et al. 2013).

In support of the marriage perspective, research finds living in a single or cohabitating households to be particularly problematic for female adolescents and residing in single mother households to be particular problematic for male adolescents. Using data from the National Longitudinal Study of Adolescent to Adult Health, Zito and Coster (2016) found female youth who reside in single-mother households during adolescence were 96% more likely to engage in sexual intercourse by age 14 than those residing in married, biological-parent households. Likewise, female youth living in homes with a parent and cohabiting partner during adolescence also had significantly higher odds of sexual debut before age 14 (84%). However, this association only held for male youth living in single mother households when compared to male youths in married biological households, having greater risk of having sexual intercourse before age 14 (61%). Yet, this study did not provide full support for the marriage perspective as female adolescents residing in stepparent households were 103% more likely than those in married, biological-parent homes to have sex before age 14.

Discrepancies in support for the marriage perspective in step-parent households in particular, may be a product of what Cherlin (1978) labels as an “incomplete institution.” Even as remarriage becomes increasingly normative, step-families still lack clear norms and guidelines for both parents and adolescents. In particular, step-parents may have expectations for adolescent behavior that is inconsistent with those of the biological parent. Likewise, step-parents may lack

legitimacy in the eyes of adolescents. As a result, findings in support of the marriage perspective are somewhat ambiguous when stepparent families are taken into account.

*Two-Caregivers Perspective.* Comparatively, supporters of the two-caregivers' perspective assert that adolescents fair better when raised by any two caregivers rather than one. Regardless of their relationship to the adolescent, secondary caregivers reinforce the authority of the primary caregiver and enact the role of parent when the primary caregiver is not present. In support of the two-caregiver perspective, previous research finds children in mother-grandmother or mother-relative families show no more conduct problems than children in intact nuclear families. Yet, children in stepparent families and single-mother households tend to have greater behavior problems than those in other types of households. (Simons, Chen, Simons, Brody, & Cutrona, 2006). In particular, Haglund and Fehring (2010) found adolescents who continuously lived in a two-parent family, were 14% less likely to have ever had sex and had significantly fewer sexual partners compared to adolescents not raised in two-parent homes. However, in a study of women between the ages of 15 and 25, Brauner-Otto and Axinn (2010) find living in stepparent or single parent homes during childhood to be associated with lower levels of contraceptive use later in life.

Conclusively, theoretical perspectives on family structure contend that both secondary caregiver presence and parenting has an effect on adolescent behavior. However, it remains unclear how closely family structure is tied to adolescents' sexual behavior after taking into consideration the quality of parenting by not only primary, but also secondary caregivers.

### *Parenting Behaviors*

According to the concept of parenting styles (Baumrind, 1971), parenting behaviors involve two dimensions: responsiveness and demandingness. Parental responsiveness toward

adolescents is evident in degrees of warmth, support, involvement, and affection. On the other hand, parental demandingness involves levels of control, monitoring, discipline, and consistency. Maccoby and Martin (1983) suggested parents could be high or low on both responsiveness and demandingness and termed four specific parenting combinations. Authoritative parenting is characterized by high responsiveness and high levels of demandingness. Authoritarian parents are low responsiveness but high in demandingness. Indulgent parenting is associated with high responsiveness and low demandingness. Finally, neglecting parents are low in both responsiveness and demandingness.

Simons and Conger (2007) found having at least one authoritative parent in adolescence was associated with significantly less delinquency, depression, and greater school commitment. Likewise, they asserted that having two uninvolved parents produced the worst child outcomes, but, in cases where only parent was uninvolved, uninvolved mothers resulted in worse outcomes than combinations including an uninvolved father. Nevertheless, few studies have examined the influence of parenting behaviors on risky sexual behavior in adolescence. In the following sections, I will summarize the recent literature on adolescent sexual behavior in relation to parental demandingness and parental responsiveness.

*Parental Demandingness.* Parents who are high in demandingness practice greater monitoring, control, and discipline than parents who are less demanding in an effort to prevent adolescents from engaging in deviant behavior. In particular, Parkes, Henderson, Wight and Nixon (2011) found parental monitoring is associated with greater parental values restricting sexual intercourse. In turn, parental values restricting intercourse were positively associated with adolescent's delayed intercourse, sexual autonomy, and expectations that first sex will occur when they are in love or in a relationship. Likewise, Longmore, Eng, Giordano, and Manning

(2009) found parental control and monitoring reduced odds of adolescent sexual initiation over a year through limitation of adolescents' dating choices.

Additionally, in a study of urban African American youth, parental behavioral control predicted early adolescent sexual behavior but effects were moderated by gender. Early onset of pre-sexual risk behavior such as playing hugging, kissing, or touching games with a friend was more common among male than female youth, but male adolescents were especially at risk in low control/high warmth (i.e., permissive) environments. On the other hand, under higher levels of control and low levels of warmth (i.e. authoritarian) female adolescents were more likely to exhibit high risk pre-sexual behaviors (Kapungu, Holmbeck & Paikoff, 2006).

However, other research suggests that negative forms of parental control, particularly hostile psychological controls, increases the chance that adolescents associate with peers who were more accepting of sex. More specifically, Oudekerk et al., (2014) found high levels of maternal control was associated with greater peer acceptance of sex at age 13 and significantly increased odds of engaging in risky sexual behavior before age 16. Oudekerk and colleagues also found male youth who experienced high levels of hostile paternal psychological control were significantly more likely to engage in risky sexual behavior before 16 regardless of peer acceptance of early sex.

*Parental Responsiveness.* Research shows that parental responsiveness in the form of warmth, support, and involvement to be significantly more influential than parental management and harsh parenting in reducing adolescent risky sexual behavior, however it may be the case that even effective parental management has a reduced impact on adolescents in the context of low quality parent child relationship (Simons, Sutton, Gibbons, Murray, & Simons, 2016; Longmore et al., 2009). Adolescents who reported feeling cared for, close to, and trusted by their

parents are more likely to delay first sex over a year long period regardless of parental monitoring, demographic background, and religiosity (Longmore et al., 2009). Likewise, Shneyderman and Schwartz (2013) found adolescents who reported feeling close to their parents are less likely to initiate sex before age 15; however, this relationship was partially mediated through adolescent's attitudes toward sex. Similarly, parent-adolescent closeness was positively associated with using a condom at last intercourse. Further, parent-adolescent closeness decreased odds of STI diagnosis with self-efficacy for condom use mediating the relationship.

Additional research demonstrates parental warmth is a protective factor for adolescent outcomes even amidst other adverse circumstances. Gardner, Martin, and Brooks-Gunn (2012) found that caregiver warmth reduced the odds of early sexual debut and high rates of partner change regardless of neighborhood disadvantage. In comparison, Simons, Burt and Tambling (2013) found young adults with low levels of parental support are more likely to value partner qualities unrelated to closeness, such as sexual compatibility and partner attractiveness, than qualities like partner sensitivity and similarity of values. Further, their results indicated that valuing sensitivity and shared values over physical attractiveness and sexual compatibility reduced sexually permissive attitudes and, consequently, risky sexual behavior.

### *Current Study*

The goal of the current study is to examine the influence of family structure and parenting on risky sexual behavior in adolescence in an effort to disentangle the impact of each construct on adolescent outcomes. In particular, the current study compares the quality of parenting and risky sexual behavior in four types of family structures: mother married to the biological father, mother married to a stepfather, mother living and parenting with a relative, and a single mother living and parenting alone. More specifically, I explore the extent to which

adolescent report of parental responsiveness and demandingness by mothers and secondary caregivers differs across these various types of families. Further, I investigate the ways in which risky sexual behavior differs by adolescent's family structure while taking into consideration each caregiver's parenting behaviors.

**H1. Biological Perspective:** Adolescents will report greater responsiveness and demandingness, on average, by caregivers who are biologically related.

**H2. Marriage Perspective:** Adolescents who have married caregivers in the household will report greater mean responsiveness and demandingness by caregivers.

**H3. Two Caregiver Perspective:** Adolescents who have two caregivers in the household will indicate greater responsiveness and demandingness, on average, by mothers in two parent homes than in single parent families.

**H4.** Adolescents reports of caregiver's responsiveness and demandingness will explain a portion of mean differences in risky sexual behavior by family structure.

## CHAPTER 3

### METHODS

#### *Sample*

The Family and Community Health Study (FACHS) is a multi-site investigation of African American youths, their primary caregivers (PC) and if present, secondary caregivers. Using 1990 census data, block groups were identified in both Georgia and Iowa and included if the proportion of African Americans was 10 percent or higher and the proportion of families with children living below the poverty line was between 10 and 100 percent. Following these requirements, 259 block groups were selected (115 in Georgia and 144 in Iowa). Participants were recruited by obtaining a roster of all fifth-graders from schools zoned in the identified block groups. From these rosters, families were randomly selected and contacted to determine their interest in participating in the study. Within each block group, researchers hired community members to serve as liaisons between the research team and the communities. The majority of families were contacted by telephone, but following repeated attempts to make telephone contact or if the potential participant did not have a telephone, a staff member attempted to make face to face contact. If potential participants no longer resided at the address, staff asked neighbors for information regarding a new address. Those who declined participation were removed from rosters and remaining families were randomly selected until the required number of families from each block group had been recruited, 84% of families agreed to participate in the study.

A primary caregiver (PC) was defined as a person living in the same household and responsible for the majority of the child's care. Most (83.5%) of the PCs at Wave 1 were the

target child's biological mother; 5.5% were the child's father; 5.6% were the child's grandmother; and less than 5% were stepparents, other relatives, or foster or adoptive parents. Approximately 90% of the PCs were female, and their ages ranged from 23 to 80 years (Mean Age = 37.1). The most common level of education for PCs was high school completion (42%) with education ranging from less than high school (18%) to advanced graduate degrees (3%). Household incomes ranged from less than \$10,000 (16%) to greater than \$100,000 (1.4%). The average per capita income for families in the Iowa sample was \$9,536 (SD=\$6,437), and for the Georgia sample it was \$8,242 (SD=\$6,990). The Iowa and Georgia samples did not significantly differ with regard to any of these demographic characteristics.

Consequently, findings from this study are generalizable to African American children living in included census blocks in Georgia and Iowa in 1997 who grew up over the course of the study. As this sample shows proximal similarity to other African American youths from this cohort, findings are partially extendable to the larger group. This paper will utilize data from Waves 3 and 4 collected in 2001-2002 and 2004-2005 when the target youth were on average 15.5 and 18 years old, respectively. The participation rate at Wave 3 was 86% of the original sample was retained (N=767), and at Wave 4 was 80% (N=714). Our final sample included 237 male and 292 female adolescents who participated at both Waves 3 and 4 of data used in the study.

### *Procedure*

Interviews were conducted in the participants' home or, if the family preferred, in a convenient location near their home such a library or school. All interviewers were African American and most lived in the communities where the study took place. Questions were presented using the Computer-Assisted Personal Interview (CAPI) technique. Participants'

compensation was based on the length of interview with PCs receiving \$200, secondary caregivers (SCs) receiving \$50, and target children receiving \$70. Two visits were made within a 7-day period, each lasting approximately 2 hours.

### *Measures*

*Family Structure.* At Wave 3, the respondent's primary caregiver is the person in the home identified by the family as being primarily responsible for the care and supervision of the respondent. Primary caregivers were then asked whether or not there was a second adult in the home who helped with the care and supervision of the target child (respondent). The current study is limited to families where a biological mother is identified as the primary caregiver. Further, family structure is represented by four dummy variables distinguishing between respondents living with a mother and father; respondents living with a mother and a step-father; respondents living with a mother and relative; and respondents living with a single mother. Of the subsample, 23% resided with a mother and father, 16% with a mother and stepfather, 9% with a mother and relative, and 53% resided in a single mother household.

*Parenting.* Parenting measures were designed for the Iowa Youth and Family Project and later used in FACHS. The measures have been validated in numerous studies from both samples and others (Conger & Elder, 1994; Conger et al., 2002). Adolescents report on parenting behaviors indicative of support and vigilance, for mothers and secondary caregivers, if present, separately. As each parenting behavior measure is composed of numerous survey questions this section provides only a brief overview and an appendix is provided with full measure components.

*Parental Responsiveness.* At Wave 3, adolescents reported how often in the past 12 months their mother and secondary caregiver (SC) had engaged in nine different behaviors

indicative of warmth, support, and positive communication such as, “help you do something that was important to you,” and “understand the way you feel about things.” Response categories ranged from 1 (never) to 4 (always). Responses were coded so that higher scores indicated greater responsiveness (Mother:  $\alpha=.907$ ; SC:  $\alpha=.946$ ).

*Parental Demandingness.* At Wave 3, respondents reported on how often their mother and SC engaged in ten different behaviors indicative of parental demandingness using a four-item scale. Respondents indicated how often their caregiver engaged in certain monitoring behaviors or knew things about their lives, such as “know where you are and what you are doing” and “know if you do something wrong.” Further, adolescents reported on consistent discipline by their caregiver including questions such as how often does your caregiver, “punish you for something at one time and then at other times not punish you for the same thing?” and “asks you to do something and you don't do it right away, how often does [HE/SHE] give up.” Response categories ranged from 1 (always) to 4(never). Items were reverse coded to indicate more demanding parenting (Mother:  $\alpha=.732$ ; SC:  $\alpha=.776$ ).

*Controls.* Three control variables were used in the current study given their association with the study variables: respondent age, family financial stress, and mother’s religiosity. More specifically, mothers reported on family financial stress faced in the past year as defined by indicators of unmet material needs (4 items; e.g. inability to afford adequate housing or food), an inability to make ends meet (2 items; e.g. difficulty paying bills during the past 12 months), and financial cutbacks (12 items, e.g. postponement of medical care, etc.) ( $\alpha=.835$  for females,  $\alpha=.831$  for males). Likewise, mothers reported on their religious values using 1 item asking “how important are religious or spiritual beliefs in your day-to-day life.” Response categories ranged from (1) very important to (4) not at all important. Further, mothers reported on religious

involvement using five items oriented at their involvement in religious activities in the past month such as attending church, Sunday school, or classes about religion. Response categories ranged from (1) never to (5) daily. Responses were coded to indicate greater religiosity and standardized and sum to form the measure ( $\alpha=.800$ ).

*Risky Sexual Behavior.* At Wave 4, respondents indicated their involvement in risky sexual behavior using three items. Respondents were asked “How old were you when you first had sex?” Respondents who had not yet had sex or reported having sex for the first time before age 15 were coded as 3; adolescents who reported having sex for the first time between the ages of 15 and 17 were coded 2, and at 18 or older years of age coded 1. Additionally, respondents were asked “With how many people have you had sex?” with a rating scale of 0 (none/virgin) to 5 (7 or more partners.) Finally, respondents were asked, “When you have sex, how often do you use a condom?” with a rating scale of 1 (all of the time) to 4 (never). Adolescents who indicated that they had never had sex were assigned a 0. All risky sexual behavior measures were coded so that higher values indicate riskier behaviors. Items were standardized then summed for a final measure of risky sexual behavior ( $\alpha=.801$  for females,  $\alpha=.726$  for males).

### *Analytical Strategy*

The plan for data analysis is to first examine the research questions using a one-way between groups analysis of variance (ANOVA) to explore the influence of family structure on caregiver parenting. Specifically, models will be run separately by respondent gender to evaluate differences in the responsiveness and demandingness of mothers and secondary caregivers by family structure. Further, post hoc tests will also be conducted to draw multiple comparisons between groups. In particular, post hoc analyses include Least Significant Differences t tests

(LSD), which calculate the smallest significant difference between means as if the test had been run on specifically those two means alone. This allows direct comparisons to be made between two means from two individual groups. A difference larger than the LSD is considered a significant result. Later, a series of analysis of covariance (ANCOVA) are performed to consider how risky sexual behavior varies by family structure controlling for certain covariates, including target age, family financial stress, mother's parenting behaviors, and SC parenting behaviors. Post hoc analyses, including the LSD test, are run again to draw specific comparisons in between family structures.

## CHAPTER 4

### RESULTS

#### *Descriptive Statistics*

The final sample consists of 529 adolescents (237 males, 292 females). An estimated 85% of adolescents reported having engaged in sexual intercourse by Wave 4. Further, an estimated 47% of adolescents reported not always using a condom when they had sex. Finally, 54% of adolescents reported having 3 or more sexual partners by Wave 4. Table 1 includes the bivariate correlations, means, and standard deviations for all included study variables.

As seen in Table 1, the vast majority of variables were correlated in the expected direction. I first review significant correlations between family structure and parenting behaviors as well as the included control variables, then I summarize significant relationships between parenting behaviors and risky sexual behavior, finally, I highlight which family structures were significantly correlated with risky sexual behavior. First, residing in a home with both biological parents was significantly and positively correlated with targets reporting greater parental demandingness by fathers, less family financial stress, and greater mother religiosity. For females in particular, living with both biological parents was also significantly correlated with greater mother demandingness. Second, living with a mother-stepfather was significantly correlated with lower secondary caregiver (SC) responsiveness. Additionally, for females, residing with a mother-stepfather home was also significantly correlated with lower SC

Table 1  
Correlations and Descriptive Statistics for Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	Mean (SD)
1. Biological Intact	---	-.247**	-.137*	-.598**	.060	.170**	.110	.323**	-.213**	-.105	.171**	-.220**	.23 (.42)
2. Mother & Stepfather	-.211**	---	-.112	-.488**	-.044	-.071	-.207*	-.235**	-.069	.147*	.006	.150*	.17 (.37)
3. Mother & Relative	-.199**	-.153*	---	-.270**	.030	-.051	.140	-.149	-.025	-.172**	.101	-.030	.06 (.23)
4. Single Mother	-.544**	-.418**	-.395**	---	-.032	-.067	.	.	.244**	.059	-.196**	.088	.54 (.50)
5. Mother Responsiveness	.036	-.010	.027	-.041	---	.470**	.567**	.272**	.003	-.028	.047	-.188**	.28.59 (6.34)
6. Mother Demandingness	.061	.017	-.028	-.044	.485**	---	.221**	.499**	-.057	.167**	.180**	-.245**	.1398 (5.43)
7. SC Responsiveness	.185	-.251**	.044	.	.556**	.297	---	.530**	.068	-.052	.053	-.098	.25.33 (7.97)
8. SC Demandingness	.349**	-.081	-.313**	.	.543*	.490**	.549**	---	.030**	.007	-.006	-.148	-.2345 (5.93)
9. Family Financial Stress	-.186**	.023	.052	.102	-.099	-.032	-.163	-.178	---	.040	-.126*	.057	-.0041 (10.09)
10. Target Age	-.050	.083	-.115	.060	-.130*	-.157*	-.125	-.141	.025	---	-.099	.248**	18.80 (.91)
11. Mother Religiosity	.266**	.058	-.042	-.231**	.013	-.118	.022	.052	-.060	-.051	---	-.155**	-.0748 (3.88)
12. Risky Sex	-.175**	.050	-.010	.115	-.030	-.181**	-.097	-.267**	.021	.104	-.099	---	-.3024 (2.62)
Mean (SD)	.22 (.41)	.14 (.35)	.13 (.33)	.52 (.50)	.29.79 (5.25)	-.1722 (5.36)	.26.59 (7.48)	.2627 (5.18)	.0051 (9.46)	18.73 (8.70)	.3925 (4.43)	.3726 (2.35)	

Note: Correlations for females (N=292) presented above diagonal and for males (N=237) below diagonal. \*\*p < .01; \*p < .05.

demandingness. Where as for males, residing with a mother-stepfather was significantly correlated with higher SC demandingness. Third, residing with a mother-relative was only significantly correlated with adolescent reports of lower SC parental demandingness for males. Fourth, living with a single mother was significantly correlated with lower mother religiosity. Further, for females, living with a single mother was also significantly correlated with higher family financial stress.

Overall, mother's greater parental demandingness was significantly and negatively correlated with risky sexual behavior. For males, SC demandingness was also significantly negatively correlated with risky sexual behavior. Where as for females, mother and SC's responsiveness, and younger age were also significantly negatively correlated with risky sexual behavior. Such results support that parental demandingness may be more effective in reducing sexual behavior for males, where as parental responsiveness may be more effective in reducing risky sexual behavior for females.

Ultimately, thus far, bivariate correlations support the biological caregiver perspective with living in a home in both a mother and father being the only family structure to be significantly correlated with less risky sexual behavior for adolescents. Further, for females, residing in a mother-stepfather home was significantly correlated with greater risky sexual behavior, additionally demonstrating the biological perspective.

### *Parenting*

Table 2 provides the results of a series of analysis of variances (ANOVAs) to compare mean parental responsiveness and demandingness of mothers and secondary caregivers in different types of family structures. Overall, results indicate no significant differences in

**Table 2**  
**Results of ANOVA Comparing Mean Parenting Scores of Mothers and Secondary Caregivers (SCs) in Different Types of Family Structures**

	I. Mother-Father		II. Mother-Stepfather		III. Mother-Relative		IV. Single Mother		Significance of ANOVA		Significant Paired Comparisons	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Responsiveness												
Mother	29.29	30.16	27.98	29.67	29.35	30.17	28.41	29.59	p=.648	p=.896	none	none
SC	26.16	28.08	23.15	23.55	28.40	27.14	-	-	p=.038	p=.030	I > II, III > II	I > II
Demandingness												
Mother	1.810	.4542	-.7161	.0596	-.9783	-.5702	-.1934	-.3970	p=.029	p=.770	I>II, IV	none
SC	1.597	2.204	-2.071	-.4175	-2.662	-2.430	-	-	p=.001	p=.000	I > II, III	I>II, III

mother's parental responsiveness on average across family structures (F:  $p=.648$ ; M:  $p=.896$ ).

These findings support the biological perspective (H1), such that regardless of the presence and relationship of the SC in the home, mother's do not engage in significantly different parental responsiveness on average.

Nevertheless, female adolescents do report significant differences in mothers' parental demandingness on average by family structure (F:  $p=.029$ ; M:  $p=.770$ ). Post hoc comparisons using the LSD test reveal female adolescents find mothers to be significantly more demanding in homes with both biological parents than in mother-stepfather and single-mother households ( $p=.013$ ;  $p=.011$ ). In sum, while reports of mother's responsiveness was relatively consistent across family structures, mother's parenting was found to be the most demanding for female adolescents in particular in homes where the mother had the support of the respondent's biological father. Such results evidence partial support for the two caregiver perspective (H2), with female adolescents reporting mothers to be more demanding in homes with fathers, but not with other types of secondary caregivers.

In consideration of secondary caregivers (see table 2), adolescents report significant variation in SC parental responsiveness on average by family structure (F:  $p=.038$ ; M:  $p=.030$ ). In particular, in support of the biological perspective (H1), respondents reported father's to be significantly more responsive than stepfathers (F:  $p=.045$ ; M:  $p=.009$ ). Further, females also reported relatives to be significantly more responsive than stepfathers ( $p=.026$ ). Results also indicated significant variation in adolescent reports of SC parental demandingness by family structure (F:  $p=.001$ ; M:  $p<.001$ ). Adolescents find fathers to be more demanding than both stepfathers and relatives (F:  $p=.001$ ;  $p=.009$ ; M:  $p=.023$ ;  $p<.001$ ), providing partial support for both the biological (H1) and marriage (H2) perspectives.

Figures 1 and 2 additionally depict variation in mean parental responsiveness and demandingness in different types of family structures. As seen in Figure 1, differences in parental responsiveness on average for both mother's and secondary caregivers support the biological perspective (H1) that caregivers are more likely to provide warmth and support to adolescents who are biologically related. Yet, as seen in Figure 2, differences in parental demandingness on average provided support for a combination of the marriage (H2) and biological (H1) perspectives, with adolescents reporting the greatest parental demandingness in homes with their biological mother and father. Finally, figure 2, also highlights gender differences in parental demandingness by family structure with females in mother-stepfather homes reporting much lower SC demandingness on average than males in households with a mother and stepfather.

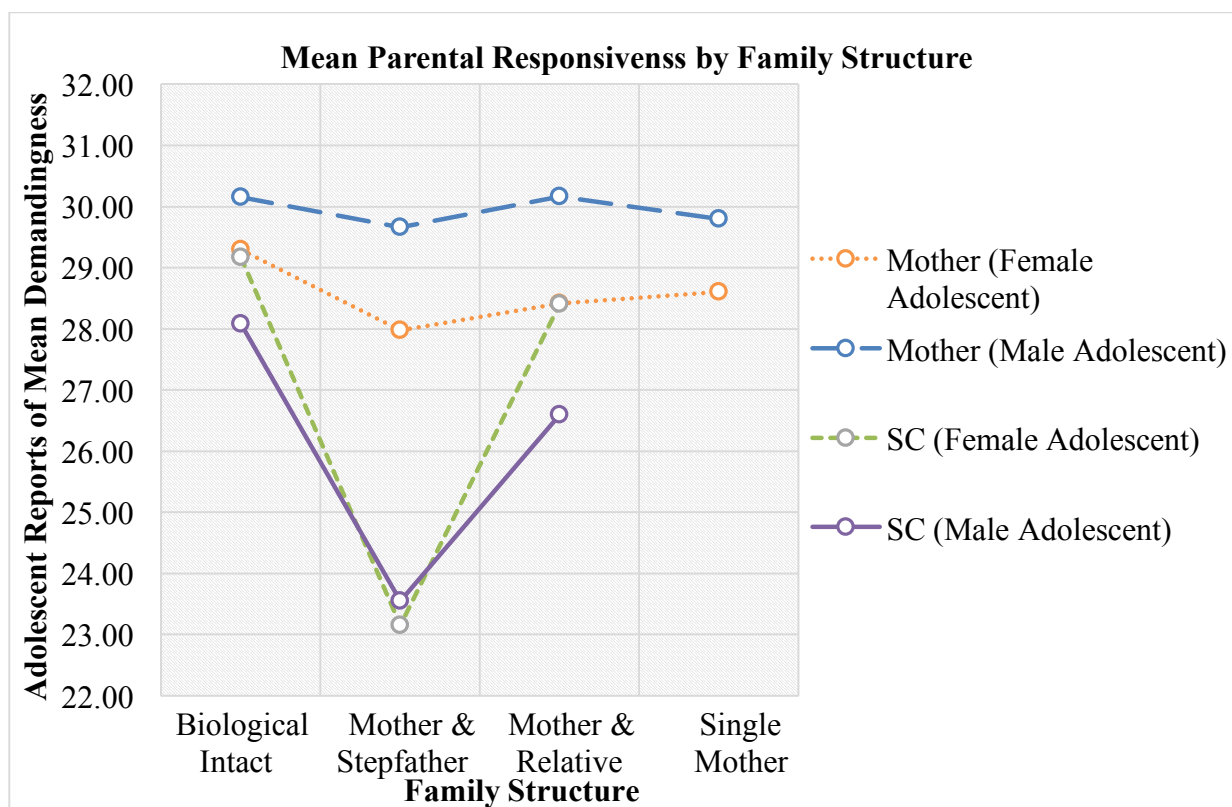


Figure 1. Mean Differences in Adolescent Reports of Parental Responsiveness by Family Structure

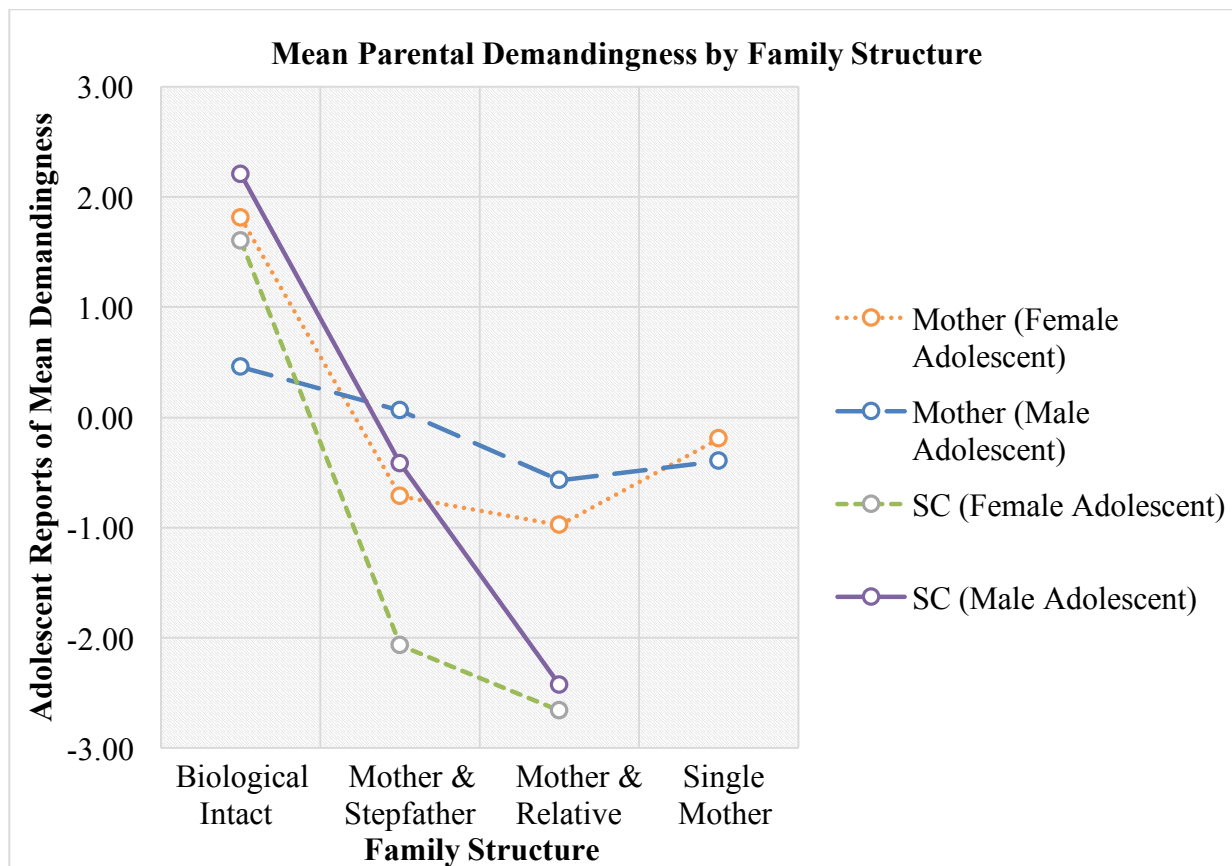


Figure 2. Mean Differences in Adolescent Reports of Parental Demandingness by Family Structure

### *Risky Sexual Behavior*

Table 3 presents the results of using a series of analysis of covariance's (ANCOVAs), comparing mean adolescent risky sexual behavior by family structure adjusted for covariates. Model 1 includes only the control variables: respondent age, family financial stress, and mother's reports of religiosity. Overall, mean risky sexual behavior significantly varied for females across family structures, but did not significantly differ for males ( $F: p=.002$ ;  $M: p=.073$ ). Nevertheless, post hoc analyses performed using an LSD test indicate both female and male adolescents in mother-stepfather and single mother families engaged in significantly greater risky sexual behavior, on average, than those in homes with both biological parents ( $F: p<.001$ ;  $p=.005$ ;  $M: p=.045$ ;  $p=.012$ ). These results partially support the two caregiver perspective (H3)

with adolescents engaging in lower mean risky sexual behavior in homes with a mother and father when compared those in a single mother home. Yet, such findings also partially uphold the biological perspective (H1) with adolescents in mother-stepfather households partaking in more risky sexual behavior on average than those in mother-father households.

Model 2 introduces respondent report's of mother's responsiveness. As earlier analysis evidenced that adolescent reports of mother's responsiveness did not significantly vary by family structure, findings are expected to be largely similar to the control only model. Results, also included in Table 3, indicate that controlling for mother's responsive parenting has nearly no effect on the relationship between family structure and mean risky sexual behavior. In particular, females again engaged in significantly different mean sexual behavior by family structure overall, where as males did not (F:  $p=.003$ ; M:  $p=.075$ ). Likewise, post hoc analyses report similar significant differences between specific family structures as in the control only model, as female and male adolescents in mother-stepfather and single mother families report significantly greater risky sexual behavior on average than those in homes with both biological parents (F:  $p<.001$ ;  $p=.007$ ; M:  $p=.046$ ;  $p=.013$ ). Such findings again demonstrate only partial support for the biological (H1), marriage (H2), and two caregiver (H3), perspectives.

Comparatively, Model 3 adds mother's demandingness. Results, presented in Table 3, continue to uphold significant differences in average risky sexual behavior for females by family structure ( $p=.007$ ). Post hoc analyses again show that females in mother-stepfather and single mother families engage in greater mean risky sexual behavior that those in biological intact households, even after controlling for respondent reports of mother's demandingness ( $p=.001$ ;  $p=.013$ ). Taken together, results indicate that regardless of mother's parental support (Model 2) or demandingness (Model 3), females are at higher risk for engaging in risky sexual behavior in

**Table 3**  
**Results of ANCOVA Comparing Mean Risky Sexual Behavior Adjusted for Covariates**

	I. Mother-Father		II. Mother-Stepfather		III. Mother-Relative		IV. Single Mother		Significance of ANOVA		Significant Paired Comparisons	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Model 1: age, family financial stress, mother's religiosity	-1.259	-.394	.570	.661	-.372	.276	-.154	.636	p=.002	p=.073	II > I, IV > I	II > I, IV > I
Model 2: age, family financial stress, mother's religiosity, mother's responsiveness	-1.211	-.392	.530	.661	-.342	.279	-.165	.635	p=.003	p=.075	II > I, IV > I	II > I, IV > I
Model 3: age, family financial stress, mother's religiosity, mother's demandingness	-1.127	-.315	.492	.690	-.544	.243	-.168	.604	p=.007	p=.113	II > I, IV > I	IV > I
Model 4: age, family financial stress, mother's religiosity, mother's responsiveness, SC responsiveness	-1.394	-.418	.574	.404	-.822	.307	-	-	p<.001	p=.319	II > I	none
Model 5: age, family financial stress, mother's religiosity, mother's demandingness, SC demandingness	-1.350	-.254	.536	.399	-.897	.025	-	-	p=.001	p=.539	II > I	none

mother-stepfather and single mother families when compared those in mother-father families. These results provide partial support for the two caregiver (H3) perspectives offering that mother's parenting is more effective in reducing female adolescent's sexual risk behavior when adolescents live with both their mother and father.

On the other hand, for males, controlling for adolescent reports of mother's demandingness (Model 3), finds male adolescents in mother-stepfather households to no longer engage in significantly more mean risky sexual behavior than those in homes with both biological parents when compared to control only model (1) and the mother responsiveness model (3). Findings support that differences in risky sexual behavior for males in homes with both biological parents compared to those in mother-stepfather homes may be accounted for by mother's reduced demandingness in stepparent households. Nevertheless, differences in mean risky sexual behavior for males in homes with only a single mother when compared households with both biological parents persisted even after controlling for reports of mother responsiveness (Model 2) and demandingness (Model 3;  $p=.024$ ). Together, these results again, follow a two caregiver perspective (H3), supporting the idea that having a second parent in the household may make mother's parenting more effective and provide additional vigilance and support.

Model 4, also presented in Table 3, considers differences in mean risky sexual behavior by family structure, while taking into consideration both mother and secondary caregiver's responsiveness. For males, post hoc analyses indicate no remaining significant differences in average risky sexual behavior by family structure. Such findings evidence that SC responsiveness largely accounts for differences in male adolescent's risky sexual behavior between biological and stepparent households further backing the biological perspective (H1), with fathers being more responsive than stepfathers and this variation explaining differences in

male's risky sexual behavior. Yet, for females, significant variation in risky sexual behavior for female adolescents in mother-stepfather homes compared to those in households with both their mother and father remain even after controlling for reports of both mother's and SC's responsiveness ( $p < .001$ ). These results indicate there is something unique to the environment in mother-stepfather households for female adolescents even after accounting for differences in parental responsiveness.

Model 5, introducing controls for mother's and SC's parental demandingness finds nearly identical results to Model 4 (see table 3). For males, post hoc analyses again find no significant variation in risky sexual behavior by family structure after accounting for adolescent reports of mothers and SC's parental demandingness. These results further demonstrate the biological perspective (H1) with biological fathers being more vigilant and consistent in their parenting than stepfathers, and consequently protecting male adolescents against engaging in greater sexual risk behavior. For females, differences in mean risky sexual behavior for those in mother-stepfather households when compared to homes with both parents persists even after controls for parental demandingness have been introduced ( $p < .001$ ). Such findings indicate that the responsive and vigilant parenting of mother's and stepfather's in stepparent families is somehow less effective in protecting females from engaging in risky sexual behavior than parenting in homes with both parents.

Finally, Figures 3 and 4 include the average differences in risky sexual behavior by family structure with all other included covariates held at their mean, for each of the previously discussed models for females and males, respectively. Ultimately, upholding the biological perspective (H1), regardless of parental responsiveness and demandingness, adolescents in mother-stepfather households continue to engage in more risky sexual behavior on average than

those in other types of households. For males, these results follow closely with average risky sexual behavior in single mother households when all other covariates are held at their means. For females, while the gap in average risky sexual behavior between mother-stepfather and single mother families is consistently larger than it is for males, adolescents in single mother families still persist at the second highest level of mean risky sexual behavior. Such findings indicate partial support for the two caregiver perspective (H3) with adolescents in mother-relative homes and in mother-father homes engaging in consistently less risky sexual behavior on average than those in single mother homes. Lastly, adolescents in mother-father homes repeatedly partake in the least risky sexual behavior on average, regardless of adolescent reports of parental responsiveness and demandingness.

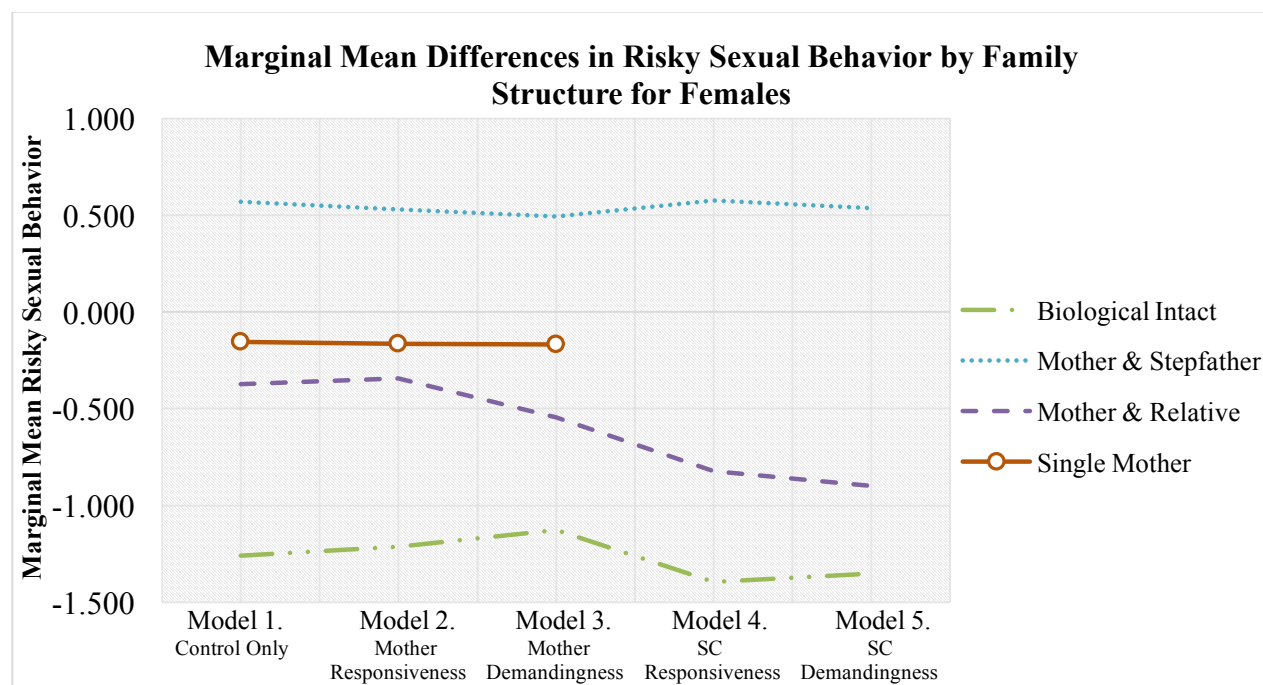


Figure 3. Marginal Mean Differences in Risky Sexual Behavior by Family Structure for Females in each of the previously described models.

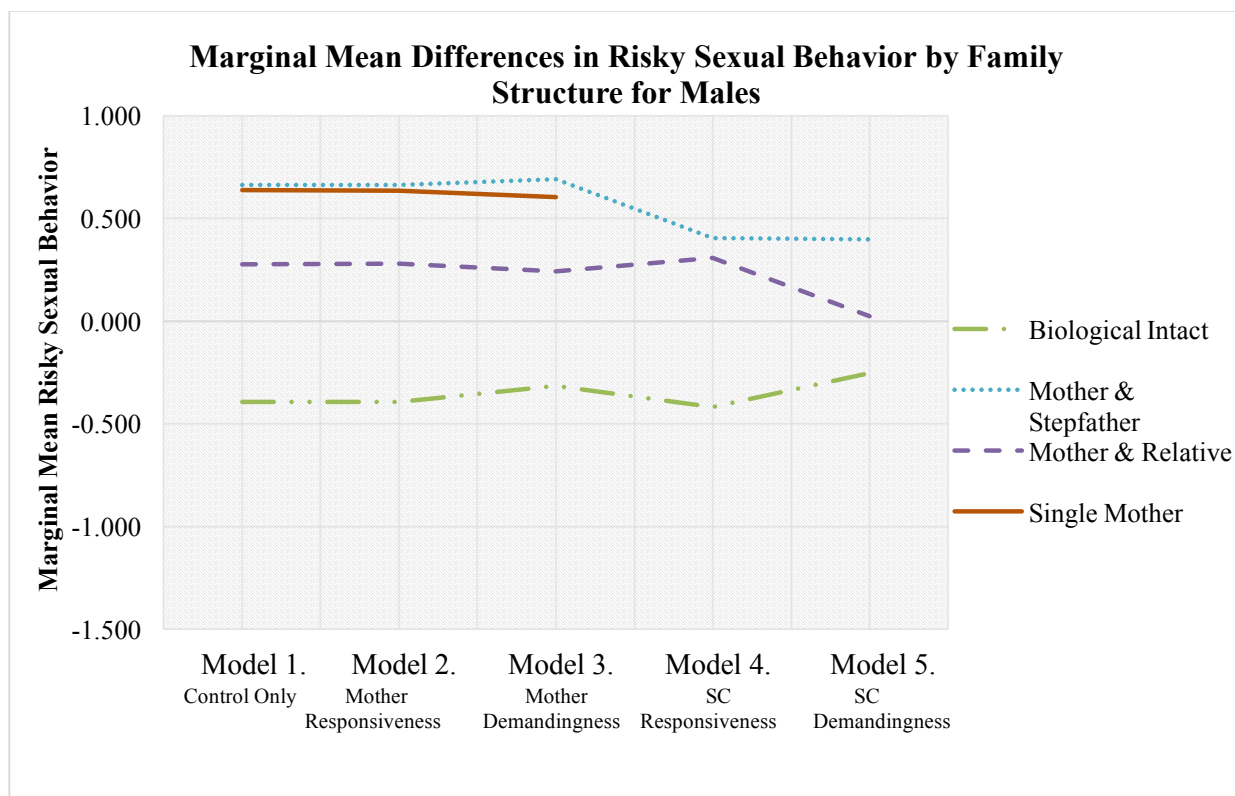


Figure 4. Marginal Mean Differences in Risky Sexual Behavior by Family Structure for Males in each of the previously described models.

## CHAPTER 5

### DISCUSSION

While prior research has clearly documented the independent influences of family structure and parenting on risky sexual behavior in adolescence, less is known about how they may work together to impact adolescent outcomes. The current study contributes to the literature by beginning to close this gap using longitudinal data from a large sample of African American adolescents. Foremost, I considered the primary perspectives used to explain adolescent risky sexual behavior by the type of relationship the primary and secondary caregivers have with the adolescent. The biological perspective (H1) suggested caregivers would be more strongly motivated to invest in children with whom they have a biological relationship because of a desire to carry their genes forward to future generations or because of the belief that this relationship is more likely to last (Hofferth & Anderson, 2003). Further, this motivation should carry over into biological caregivers practicing greater parental responsiveness and demandingness to ultimately reduce adolescent risky sexual behavior. Comparatively, the marriage perspective (H2) asserts that quality of parenting is likely to be higher in married two-parent families because of the support spouses provide to each other, increasing the ability of each parent to cope with the stress of parenting. As such, the marriage perspective suggests that adolescents in married caregiver families should partake in less risky sexual behavior on average than those in homes where caregivers are not married because married caregivers should be able to be more responsive and demanding with each others' love and support. Finally, the two-caregiver perspective argues that regardless of their relationship to the adolescent, having a secondary

caregiver in the home reinforces the authority of the primary caregiver and provides an additional party who can enact the role of parent when the mother is not present. In other words, any home with a second caregiver rather than a single mother should reduce adolescent sexual risk behavior through greater parental responsiveness and demandingness.

I then began to evaluate each of these perspectives using a series of analysis of variances (ANOVAs) examining variation in respondent's reports of caregivers' responsiveness and demandingness by family structure. Findings largely demonstrated the biological perspective (H1) with adolescents reporting no significant differences in mother's responsiveness, across family structures, and fathers and relatives providing greater responsiveness on average than stepfathers. Likewise, providing partial support for both the biological (H1) and marriage (H2), perspectives, male and female adolescents also reported fathers to be the most demanding in homes with a mother compared to all other types of households. Finally, evidencing partial support for the two-caregiver perspective (H3) and biological perspective (H1), female adolescents reported mother's to be the more demanding on average in homes with a biological father than in households with a stepfather or only a single mother (H2).

With this in mind, I ran an additional set of analyses comparing mean differences in risky sexual behavior by family structure to see if differences in parenting might account for differences in risky sexual behavior in adolescence while controlling for a number of covariates. For males, overall differences in risky sexual behavior behavior on average were not significantly different by family structure. Only in post hoc analyses did results evidence significant differences with males in mother-stepfather and single mother homes engaging in significantly more risky sexual behavior on average than those in mother-father homes. However, when variation in mother's demandingness was accounted for, differences in mean

risky sexual behavior for males in mother-stepfather versus those in mother-father families disappeared. Likewise, in models accounting for secondary caregiver responsiveness and later demandingness, post hoc analyses showed no differences in male's risky sexual behavior on average by family structure. Such findings emphasize the importance of mother's and secondary caregivers' demandingness, and secondary caregiver responsiveness in reducing variation in male adolescent's risky sexual behavior by family structure.

For females, overall significant differences in risky sexual behavior by family structure persisted, regardless of the included covariates. In particular, females in mother-stepfather homes continually engaged in greater mean risky sexual behavior on average than those in mother-father households, even after accounting for parental responsiveness and demandingness. Such findings support Cherlin's (1978) work which identified step-families as an "incomplete institution," where step-families lack clear norms for parents and adolescents. In particular, step-parents may have expectations for adolescent behavior that are inconsistent with those of the biological parent and further, may lack legitimacy in the eyes of adolescents.

While prior research has not clearly examined why this relationship may be unique to female adolescents and stepfathers, these findings speak earlier research finding paternal responsiveness to be particularly influential on daughter's odds of engaging in risky sexual behavior. For example, females between the ages of 15 and 19 from homes with both biological parents, were less likely to engage in first sex over a twelve-month period if they reported having a close relationship with their father (Regnerus & Luchies, 2006). However, this relationship did not persist among males or in the context of mother-son or mother-daughter closeness. As step-father's responsiveness may not be perceived by female adolescents to be as legitimate, it may be less effective in reducing risky sexual behavior than the responsiveness of a biological father.

Despite significant findings, the study does have some limitations. While FACHS participants presently live in more than 30 states across the U.S., the initial sample was limited to African American families living in Iowa or Georgia at the time of study recruitment. Further, as the sample is exclusively African American, further research is needed to replicate findings with other ethnicities. Finally, as the study sample was constrained to families where the mother was the primary caregiver within four specific family structures, additional research including adolescents who grew up in different family forms, such as biological father-stepmother families, is necessary.

Beyond these limitations, the current study uniquely contributes to broader research on adolescent risky sexual behavior by more closely examining the context of the family in reducing risk behavior. As African Americans are at disproportionately higher risk of experiencing a number of negative health outcomes associated with risky sexual behaviors, it remains invaluable to examine factors which may promote safer sexual behaviors among African American adolescents. In light of the current study, interventions aimed at reducing risky sexual behavior in adolescence through the family must focus not only on effective teaching caregivers parenting practices, but also on building stronger bonds between caregivers and adolescents. In particular, interventional strategies should further aim to enhance step-parents' legitimacy as caregivers in the eyes of adolescents.

## REFERENCES

- Baumrind, D. (1971). Current patterns of parental authority. *Developmental psychology*, 4(1p2), 1.
- Bowlby, J. (1973). Attachment and loss: Separation: Anxiety and anger (Vol. 2).
- Bogaert, A. F., & Sadava, S. (2002). Adult attachment and sexual behavior. *Personal Relationships*, 9(2), 191-204
- Brauner-Otto, S. R., & Axinn, W. G. (2010). Parental Family Experiences the Timing of First Sex and Contraception. *Social Science Research*, 39(6), 875-893.
- Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.
- Carlson, M. J. (2006). Family structure, father involvement, and adolescent behavioral outcomes. *Journal of Marriage and Family*, 68(1), 137-154.
- Centers for Disease Control and Prevention (2016). Youth risk behavior surveillance— United States, 2015. *MMWR*, 65 (No. 6).
- Centers for Disease Control and Prevention (2016). Diagnoses of HIV infection and AIDS in the United States and dependent areas, 2015. *HIV Surveillance Report*, 27.
- Conger, R., Ge, X., Elder, G., Lorenz, F., & Simons, R. (1994). Economic stress, coercive family process, and developmental problems of adolescents. *Child Development*, 65, 541-561.
- Conger, R., Wallace, L., Sun, Y., Simons, R., McLoyd, V., & Brody, G. (2002). Economic pressure in African American families. *Developmental Psychology*, 38, 179-193.  
doi:10.1037//0012-1649.38.2.179

- Finer, L. B., & Zolna, M. R. (2011). Unintended pregnancy in the United States: Incidence and disparities, 2006. *Contraception*, *84*, 478–485. doi:10.1016/j.contraception.2011.07.013
- Gardner, M., Martin, A., & Brooks-Gunn, J. (2012). Exploring the link between caregiver affect and adolescent sexual behavior: Does neighborhood disadvantage matter?. *Journal of Research on Adolescence*, *22*(1), 135-149.
- Haglund, K. A., & Fehring, R. J. (2010). The association of religiosity, sexual education, and parental factors with risky sexual behaviors among adolescents and young adults. *Journal of religion and health*, *49*(4), 460-472.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of personality and social psychology*, *52*(3), 511.
- Hirschi, T. (1969). A control theory of delinquency. *Criminology theory: Selected classic readings*, 289-305.
- Hofferth, S. L., & Anderson, K. G. (2003). Are all dads equal? Biology versus marriage as a basis for paternal investment. *Journal of Marriage and Family*, *65*(1), 213-232.
- Kaestle, C. E., Halpern, C. T., Miller, W. C., & Ford, C. A. (2005). Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults. *American Journal of Epidemiology*, *161*(8), 774-780.
- Kapungu, C. T., Holmbeck, G. N., & Paikoff, R. L. (2006). Longitudinal association between parenting practices and early sexual risk behaviors among urban African American adolescents: The moderating role of gender. *Journal of Youth and Adolescence*, *35*(5), 783-794.

- Kincaid, C., Jones, D. J., Sterrett, E., & McKee, L. (2012). A review of parenting and adolescent sexual behavior: The moderating role of gender. *Clinical psychology review*, 32(3), 177-188.
- Lansford, J.E., Yu, T., Erath, S.A., Pettit, G.S., Bates, J.E, & Dodge, K.A. (2010). Developmental precursors of number of sexual partners from age 16 to 22. *Journal of Research on Adolescence*, 20, 651-677. doi:10.1111/j.1532-7795.2010.00654.x
- Longmore, M. A., Eng, A. L., Giordano, P. C., & Manning, W. D. (2009). Parenting and adolescents' sexual initiation. *Journal of Marriage and Family*, 71(4), 969-982.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. *Handbook of child psychology: formerly Carmichael's Manual of child psychology/Paul H. Mussen, editor*.
- Manning, W. D., & Brown, S. (2006). Children's economic well-being in married and cohabiting parent families. *Journal of Marriage and Family*, 68(2), 345-362.
- Manning, W. D., Longmore, M. A., & Giordano, P. C. (2005). Adolescents' involvement in non-romantic sexual activity. *Social Science Research*, 34(2), 384-407.
- Mollborn, S., & Morningstar, E. (2009). Investigating the relationship between teenage childbearing and psychological distress using longitudinal evidence. *Journal of Health and Social Behavior*, 50(3), 310-326.
- Oudekerk, B. A., Allen, J. P., Hafen, C. A., Hessel, E. T., Szwedo, D. E., & Spilker, A. (2014). Maternal and paternal psychological control as moderators of the link between peer attitudes and adolescents' risky sexual behavior. *The Journal of early adolescence*, 34(4), 413-435.

- Parkes, A., Henderson, M., Wight, D., & Nixon, C. (2011). Is parenting associated with teenagers' early sexual risk-taking, autonomy and relationship with sexual partners? *Perspectives on Sexual and Reproductive Health*, 43, 30-40. doi:s10.1363/4303011
- Pogarsky, G., Thornberry, T. P., & Lizotte, A. J. (2006). Developmental outcomes for children of young mothers. *Journal of Marriage and Family*, 68(2), 332-344.
- Price, M. N., & Hyde, J. S. (2009). When two isn't better than one: predictors of early sexual activity in adolescence using a cumulative risk model. *Journal of Youth and Adolescence*, 38(8), 1059-1071.
- Regnerus, M. D., & Luchies, L. B. (2006). The parent-child relationship and opportunities for adolescents' first sex. *Journal of Family Issues*, 27(2), 159-183.
- Roberts, M. E., Gibbons, F. X., Gerrard, M., Weng, C. Y., Murry, V. M., Simons, L. G., ... & Lorenz, F. O. (2012). From racial discrimination to risky sex: prospective relations involving peers and parents. *Developmental Psychology*, 48, 89-102.  
doi:10.1037/a0025430
- Schiffman, M., Castle, P. E., Jeronimo, J., Rodriguez, A. C., & Wacholder, S. (2007). Human papillomavirus and cervical cancer. *The Lancet*, 370(9590), 890-907.
- Schnettler, S., & Steinbach, A. (2011). How do biological and social kinship play out within families in the US? An evolutionary perspective on perceived parental care and closeness in adolescents. *Zeitschrift für Familienforschung-Journal of Family Research*, 23(2).
- Shneyderman, Y., & Schwartz, S. J. (2013). Contextual and intrapersonal predictors of adolescent risky sexual behavior and outcomes. *Health Education & Behavior*, 40(4), 400-414.

- Simons, L. G., Burt, C. H., & Tambling, R. B. (2013). Identifying mediators of the influence of family factors on risky sexual behavior. *Journal of child and family studies*, 22(4), 460-470.
- Simons, L. G., Chen, Y. F., Simons, R. L., Brody, G., & Cutrona, C. (2006). Parenting Practices and Child Adjustment in Different Types of Households A Study of African American Families. *Journal of Family Issues*, 27(6), 803-825.
- Simons, L. G., & Conger, R. D. (2007). Linking mother–father differences in parenting to a typology of family parenting styles and adolescent outcomes. *Journal of Family Issues*, 28(2), 212-241.
- Simons, L. G., Sutton, T. E., Simons, R. L., Gibbons, F. X., & Murry, V. M. (2016). Mechanisms That Link Parenting Practices to Adolescents' Risky Sexual Behavior: A Test of Six Competing Theories. *Journal of Youth and Adolescence*, 45(2), 255-270.
- Van Schaick, K., & Stolberg, A. L. (2001). The impact of paternal involvement and parental divorce on young adults' intimate relationships. *Journal of divorce & remarriage*, 36(1-2), 99-121.
- Zito, R. C., & De Coster, S. (2016). Family Structure, Maternal Dating, and Sexual Debut: Extending the Conceptualization of Instability. *Journal of youth and adolescence*, 1-17.

## APPENDIX A

## MEASURES

Mother(PC)/SC Responsiveness

Reference: Conger, R. D. Developed for Iowa Youth and Families Project

Answer Choices: (1) always (2) often (3) sometimes (4) never

- 1 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Help you do something that was important to you? Was it...
- 2 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Let you know [HE/SHE] really cares about you? Was it...
- 3 During the past 12 months, how often did your [PC/SC PC RELATIONSHIP]...Listen carefully to your point of view? Was it...
- 4 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Act supportive and understanding toward you? Was it...
- 5 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Act loving and affectionate toward you? Was it...
- 6 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Have a good laugh with you about something that was funny? Was it...
- 7 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Let you know that [HE/SHE] appreciates you, your ideas or the things you do? Was it...
- 8 During the past 12 months, how often did your [PC/SC RELATIONSHIP]...Tell you [HE/SHE] loves you? Was it...
- 9 During the past 12 months, how often did your [PC/SC RELATIONSHIP]... Understand the way you feel about things? Was it...

Mother(PC)/SC DemandingnessMonitoring

Reference: Thornberry, T., Huzinga, D., & Loeber R. (1989). Thornberry personal communication adapted from measures developed for multisite study on causes and correlates of delinquency sponsored by the Office of Juvenile Justice and Delinquency Prevention.

Answer Choices: (1) always (2) often (3) sometimes (4) never

- 1 How often does your [PC/SC RELATIONSHIP] know what you do after school? Is it...
- 2 How often does your [PC/SC RELATIONSHIP] know where you are and what you are doing? Is it...
- 3 How often does your [PC/SC RELATIONSHIP] know how well you are doing in school? Is it...
- 4 How often does your [PC/SC RELATIONSHIP] know if you do something wrong? Is it...
- 5 How often can you do whatever you want after school without your [PC/SC RELATIONSHIP] knowing what you are doing? Is it...

Consistent Discipline

Reference: Thornberry, T., Huzinga, D., & Loeber R. (1989). Thornberry personal communication adapted from measures developed for multisite study on causes and correlates of delinquency sponsored by the Office of Juvenile Justice and Delinquency Prevention.

Answer Choices: (1) always (2) often (3) sometimes (4) never

- 1 How often would you be disciplined at home if your [PC/SC RELATIONSHIP] knew you broke a school rule? Is it...
- 2 When your [PC/SC PC RELATIONSHIP] asks you to do something and you don't do it right away, how often does [HE/SHE] give up? Is it...
- 3 When your [PC/SC RELATIONSHIP] tells you to stop doing something and you don't stop, how often does [HE/SHE] discipline you? Is it...
- 4 When you do something wrong and your [PC/SC RELATIONSHIP] decides on a type of discipline, how often can you get out of it? Is it...
- 5 How often does your [PC/SC RELATIONSHIP] discipline you for something at one time, and then at other times not discipline you for the same thing? Is it...
- 6 When your [PC/SC RELATIONSHIP] disciplines you, how often does the type of discipline you get depend on [HIS/HER] mood? Is it...

### Risky Sex

Reference: Developed by F. X. Gibbons & M. Gerrard for FACHS

- 1 How old were you when you first had sex?  
[open numeric]
- 2 When you have sex, how often do you use a condom?  
(1) never (2) sometimes (3) most of the times (4) all of the time
- 3 With how many people have you had sex?  
(1) none (2) one (3) two (4) 3 or 4 (5) 5 or 6 (6) 7 or more

### Family Financial Stress

Reference: Conger, R. D., & Elder, G. H., Jr. (1994). Families in troubled times. New York: Aldine De Gruyter.

#### *Unmet Material Needs*

Answer Choices: (1) strongly agree (2) agree (3) disagree (4) strongly disagree

- 1 My family has enough money to afford the kind of home we need. Do you...
- 2 We have enough money to afford the kind of clothing we need. Do you...
- 3 We have enough money to afford the kind of food we need. Do you...
- 4 We have enough money to afford the kind of medical care we need. Do you...

#### *Can't Make Ends Meet*

- 1 During the past 12 months, how much difficulty have you had paying your bills? Would you say...  
(1) a great deal of difficulty (2) quite a bit of difficulty (3) some difficulty (4) a little difficulty (5) no difficulty at all
- 2 Think again over the past 12 months. Generally, at the end of each month did you end up with...  
(1) more than enough money left over (2) some money left over (3) just enough to make ends meet (4) almost enough to make ends meet (5) not enough to make ends meet

#### *Financial Cutbacks*

Answer Choices: (1) yes (2) no

- 1 In the past 12 months...has your family postponed major household purchase(s) because of financial need?
- 2 In the past 12 months...has your family changed residences to save money?
- 3 In the past 12 months...has your family reduced or let life insurance lapse because of financial need?
- 4 In the past 12 months...has your family reduced or eliminated medical insurance because of financial need?
- 5 In the past 12 months...has your family reduced or eliminated auto or household insurance because of financial need?
- 6 In the past 12 months...has your family changed food shopping or eating habits to save money?
- 7 In the past 12 months...has your family reduced driving the car to save money?
- 8 In the past 12 months...has your family reduced household utility use to save money?
- 9 In the past 12 months...has your family postponed medical or dental care to save money?
- 10 In the past 12 months...has your family taken bankruptcy?
- 11 In the past 12 months...has your family considered taking bankruptcy?
- 12 In the past 12 months...has your family postponed or delayed paying property tax?

### Mother Religiosity

REFERENCE: Developed for FACHS

#### *Religious Importance*

Answer Choices: (1) very important (2) fairly important (3) not too important (4) not at all important

- 1 In general, how important are religious or spiritual beliefs in your day-to-day life? Are they...

#### *Religious Involvement*

Answer Choices (1) never (2) once or twice (3) 3 to 4 times (4) more than once a week (5) daily

- 2 How often in the past month did you...attend church services?
- 3 How often in the past month did you...attend social events with other members of your church?
- 4 How often in the past month did you...lead a religious service?
- 5 How often in the past month did you...teach Sunday school or a class on religion?
- 6 How often in the past month did you...attend a class or discussion group on religion?