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**RELIGIOUS INVOLVEMENT, RACE/ETHNICITY, FAMILY AND  
ADOLESCENT SEXUAL ACTIVITY**

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**RELIGIOUS INVOLVEMENT, RACE/ETHNICITY, FAMILY AND  
ADOLESCENT SEXUAL ACTIVITY**

by

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## **Dedication**

I would like to dedicate this dissertation to my family and friends.

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RELIGIOUS INVOLVEMENT, RACE/ETHNICITY, FAMILY AND ADOLESCENT  
SEXUAL ACTIVITY

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While previous research has generally shown that religious involvement is associated with delayed and reduced adolescent sexual activity, literature in this area has remained underdeveloped for a number of theoretical and methodological reasons. Further, few scholars have examined how the impact of religious involvement on adolescent sexual activity varies as a function of key social characteristics, namely gender, age, race/ethnicity and family context. Consistent with previous research, religious involvement (particularly adolescent religious salience) appears to delay and reduce multiple forms of adolescent sexual behavior. However, the impact of religion does appear to vary as a function of theoretically relevant characteristics. For example, religion appears to be a much weaker predictor for African American adolescents than for non-Hispanic White teens. Further, although the effects of religious activity on sex appear to be roughly linear for white adolescents, only the highest levels of religious

involvement appear to delay sexual intercourse among African American youth. It also appears that close parent-child relationships and higher levels of parental monitoring may amplify the protective effect of religious involvement on adolescent sexual behavior.

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## CHAPTER 1: INTRODUCTION

Recent estimates indicate that approximately 47 percent of high school students have had sexual intercourse, while 14 percent have had four or more partners during their lifetime. Among sexually active teens, 37 percent did not use a condom during their most recent sexual encounter (Grunbaum et al 2004). These statistics are alarming because teenagers and young adults make-up only a quarter of the sexually active population, yet they account for nearly half of the new cases of sexually transmitted diseases in the United States (Weinstock, Berman and Cates 2004). Teen pregnancy also remains a serious social problem due to the association between early childbearing and low maternal educational attainment, poverty and negative child health outcomes (Hoffman 1998; MacDorman and Atkinson 1999).

While recent reports from the National Center of Health Statistics show declines in adolescent sexual activity between 1995 and 2002, certain groups, such as racial and ethnic minorities remain at greater risk for early sexual behavior, sexually transmitted infections and teen pregnancy than their same age peers (Irwin 2004, Grunbaum et al. 2004). Policy makers argue over whether abstinence only or comprehensive sexual education programs are the most effective method for reducing risky sexual activity and sexual health disparities, however proponents of both approaches note the importance of identifying factors that contribute to the delay of sexual activity (Kirby 2001; Browning, Leventhal and Brooks-Gunn 2005)

Scholars have long noted that religious involvement plays an important role in shaping adolescent sexual attitudes and behaviors, yet research on religion and

adolescent sexual behavior is still considered “nascent... despite the fact that researchers have been conducting studies on the topic for at least four decades” (Whitehead et al. 2001). Researchers have yet to fully understand how religion impacts adolescent sexual behavior primarily due to: 1) limited theoretical development, 2) use of single or composite measures of religious involvement, and 3) incomplete measures of sexual activity.

Further, while studies generally find that religious involvement delays (Brewster et al. 1998; Bearman and Bruckner 2001; Hardy and Reffaelli 2003; Meier 2003) and limits (Miller and Gur 2002; Thornton and Camburn 1989) adolescent sexual behavior; these effects are not uniform across racial and ethnic groups (Day 1992; Bearman and Bruckner 2001). The great paradox for those who study religion and sexual behavior is the relationship between religious involvement and sexual intercourse among African American youths. African Americans are consistently both the most religious and the most sexually active group of American teenagers (Regnerus, Smith and Fritsch 2003; Regnerus 2007).

In addition, religion and family are both recognized sources of social control, capable of preventing problem behaviors during adolescence (Regnerus 2003; Smith 2003; Ream and Savin-Williams 2005). Like religious involvement, close parent-child relationships, parental monitoring and biologically-intact family structure are related to delayed and less frequent adolescent sexual behavior (e.g., Newcomer and Udry 1987; Miller and Moore 1990; Dittus and Jaccard 2000; Lammers et al. 2000; Roche et al. 2005). Although scholars recognize the important role that both religion and family life

play in delaying the onset of sexual activity, the relationship between these two key social institutions in affecting adolescent sexual health remains understudied.

### *Religion and Adolescent Sexual Behavior*

Adolescent religious involvement is generally associated with less adolescent sexual behavior, both in terms of delayed virginity loss (Brewster et al. 1998; Bearman and Bruckner 2001; Hardy and Reffaelli 2003; Meier 2003) and fewer sexual partners (Miller and Gur 2002; Thornton and Camburn 1989), however, many scholars have found significant race and gender variations in religion's impact on sexual activity (Durant and Sanders 1989; Bearman and Bruckner 2001; Day 1992). Specifically, it appears that among African Americans religion is sporadically protective against, or even unrelated to, adolescent sexual behavior (Regnerus 2004).

Despite generally consistent findings, theoretical and empirical reasons for the relationship between religious involvement and adolescent sexual behavior are not well documented. This lack of explanation is particularly glaring given that numerous surveys and public opinion polls show that religion is prevalent in the lives of American adolescents. Estimates from the early 1990s show that 76 percent of adolescents between the ages of 13 and 17 believe in a personal God, while 74 percent pray at least occasionally (Gallup and Bezilla 1992).

Why does religious involvement reduce adolescent sexual activity? Some scholars have argued that religion acts as a source of social control, constraining adolescent sexual behavior (Wilcox et al 2001; Hardy and Raffaelli 2003). According to social control theorists, humans have an innate drive toward deviance that can be

restrained through interactions with others (Durkheim 1897, 1951; Hirschi 1969). Religious institutions, which promote particular sexual ideologies (e.g. abstinence, procreation, celibacy) are able to successfully restrain (or at least delay) adolescent sexual activity (Rostosky, Regnerus and Wright 2003). Part of the basis for understanding religion as a mechanism of social control is that it provides consequences for acts of deviance, such as non-marital sexual activity. Those who violate religious norms regarding sexuality may face guilt, shame, public embarrassment and threat or expectation of divine punishment (Ellison and Levin 1998).

In addition to generating a largely atheoretical literature, few scholars in the area of religion and sexual behavior have examined multiple dimensions of religious involvement (e.g., salience, affiliation, attendance) or various types of sexual activity (e.g. oral sex, virginity loss, sexual touching). Despite some limited evidence of a recent rise in oral sex as a means by which youth can maintain a “technical “ virginity (Lewin 1997; Remez 2000), few scholars have examined religious variations in this behavior (Regnerus 2004).

#### *Racial Variations in Adolescent Sexual Behavior*

Numerous scholars have noted the often dramatic racial and ethnic differences in adolescent sexual behavior (e.g. Furstenburg et al. 1987; Bearman and Brückner 2001; Browning, Leventhal and Brooks-Gunn. 2004). Studies suggest that African Americans, particularly males, tend to have sex earlier than all other racial and ethnic groups (Upchurch et al. 1998). Mott and colleagues (1996) find that early sexual debut is about eight times as likely among Black males compared to non-Hispanic White males.

Similarly, data from the Centers for Disease Control (CDC) indicate that 32 percent of African American boys and seven percent of African American girls have had sexual intercourse by age 13, compared to five percent of White boys and three percent of White girls (CDC 2004).

These racial and ethnic variations in sexual practice are of great importance because they correspond with equally striking variations in sexually transmitted infections (STIs). Using Wave III of the National Longitudinal Study of Adolescent Health, Ford and Colleagues (2005) found that African American adolescents were significantly more likely to test positive for one of three common STIs (chlamydia trachomatis, neisseria gonorrhoeae, or trichomonas vaginalis) than non-Hispanic Whites. In fact, approximately 18.6 percent of African Americans tested positive for an STI compared to 3.2 percent of White adolescents.

Examining racial variations in sexual practice is also important given that African Americans have significantly higher rates of adolescent fertility when compared to non-Hispanic White youths (Hamilton, Sutton and Ventura 2003). Teen pregnancy is associated with a number of adverse child health outcomes including low birth weight, sudden infant death syndrome and infant mortality (Hoffman 1998; MacDorman and Atkinson 1999). Further, adolescent pregnancy often limits the mother's educational attainment, contributing to ongoing economic challenges and negative child health outcomes. Children born to adolescent mothers are more likely to live in poverty, have problems in school and experience abuse and neglect than children born to older



mothers (Hoffman 1998; MacDorman and Atkinson 1999; U.S. Department of Health and Human Services).

While racial variations in sexual activity, infection and pregnancy are commonly acknowledged, and almost taken for granted, theoretical explanations for these differences are much more varied and contested. Literature in the area of race and sexual behavior has identified three primary explanations for Black-White variations in sexual activity. Furstenberg et al. (1987) suggests that racial variations in virginity status may be due to 1) differentials in socioeconomic status, 2) consequences of low socioeconomic position (e.g. higher incidence of female headed households, lower educational aspirations), or 3) differences in subgroup attitudes or norms (i.e. cultural variations). Although other scholars in this area have furthered these reasons for racial differences in sexual behavior, these three basic explanations remain the theoretical foundation of this literature.

Among these explanations, theories related to racial differentials in socioeconomic status and cultural differences have received the most attention. Although earlier studies (e.g. Furstenberg et al. 1987) found little support for SES explanations of Black-White differences in sexual intercourse, more recent work focusing on neighborhood level poverty has provided substantial support for socioeconomic theories. Evidence suggests that neighborhood economic disadvantage accounts for much of the Black-White difference in both sexual attitudes (Brewster 1994; Browning and Burrington 2006) and activity (Browning et al. 2004). Related to the cultural arguments detailed below, Wilson (1996) argues that concentrations of

poverty create certain attitudes formed in response to disadvantage, such as permissive sexual ideologies. Therefore, more permissive sexual attitudes and, subsequently, riskier sexual behavior among young people may not be the result of race per say, but are a function of neighborhood disadvantage (Browning and Burrington 2006).

#### *Family and Adolescent Sexual Behavior*

Numerous researchers have noted the important influence of family environment on adolescent sexual outcomes (e.g. Miller and Moore 1990; Miller et al. 1997; Davis and Friel 2001; Roche et al. 2005). Like religious institutions, families provide a specific perspective on the meaning of sexuality; defining norms for appropriate sexual conduct and enforcing both formal and informal social sanctions when those norms are violated (Miller and Moore 1990). More specifically, scholars have noted the importance of three aspects of family life: family structure, parent-child relationships and parental monitoring.

Teens living in a biologically-intact family structure (e.g. biological parents are married and living together) tend to delay sexual intercourse longer than those adolescents in other family situations (Cooksey et al. 1996; Roche et al. 2005; Regnerus 2007). Girls situated in single-parent families in particular appear to face an elevated risk of early sexual debut when compared to their counterparts in other family environments (Newcomer and Udry 1987; Miller and Moore 1990; Davis and. Friel 2001).

Scholars have also noted the importance of parent-child relationships in predicting adolescent sexual behavior. Research has generally shown that close, warm

and supportive parent-child relationships are associated with lower risk of adolescent problem behaviors, including those related to sexual activity (Miller; 1998; Jaccard and Dittus 2000; Miller 2002; Ream and Savin-Williams 2005). Although the influence that parents have on their children's sexual behavior as they transition to adulthood has been a matter of some debate (Dittus, Jaccard and Gordon 1997), evidence generally suggests that affective attachments between parents and children encourage socialization toward views which support delaying sexual behavior.

Finally, the association between parental monitoring and teen sexual activity has received a great deal of attention. In general, it appears that parental monitoring is associated with delayed and reduced sexual activity (Small and Luster 1994; Miller 1998; Rogers 1999; DiClemente et al. 2001; Browning et al. 2005), reduced risk of testing positive for a sexual transmitted infection (DiClemente et al. 2001), and reduced likelihood of have a teen pregnancy (Miller 2002). Supervision and monitoring may be important for reducing both opportunities and incentives for participating in risk behaviors, including sexual intercourse (Browning et al. 2005). However, some scholars have argued that when parents are too strict, teens are more likely to engage in sexual activity than when parents provide more moderate levels of supervision. (Miller et al. 1986).

### *Aims of the Dissertation*

This dissertation is composed of three analytic chapters, each exploring some aspect of the relationship between religious involvement and adolescent sexual behavior. Chapter 2 provides an overview of the relationship between religion and transitions into

adolescent sexual activity. Chapter 3 examines the relationship between religious involvement, race and adolescent sexual behavior. Chapter 4 explores the relationship between religious activity, family context and adolescent sexual behavior. The specific goals of each of these chapters are as follows:

## **Chapter 2**

### Aim 1

To evaluate the impact of four dimensions of religious involvement (i.e. public religious behavior, private religious behavior, religious beliefs and family religious behavior) on adolescent sexual activity

### Aim 2

To evaluate the impact of religious activity on transitions into three types of adolescent sexual behavior (i.e. sexual touching, oral sexual behavior and sexual intercourse).

### Aim 3

To explore whether the impact of religious involvement on adolescent sexual behavior varies by three key subgroups: race/ethnicity, sex and age.

## **Chapter 3**

### Aim 1

To further develop current theoretical explanations for the associations between religion, race and adolescent sexual behavior.

### Aim 2

To investigate racial variations in the impact of various dimensions of religious involvement on adolescent sexual behavior

### Aim 3

To explore potential nonlinear effects in relationship between religion and adolescent sexual activity by race.

## **Chapter 4**

### Aim 1

To explore the impact of multiple aspects of parental, adolescent and family religious involvement on multiple measures of adolescent sexual activity

### Aim 2

To explore whether the impact of religious involvement on adolescent sexual behavior varies as a function family life.

## CHAPTER 2: RELIGIOUS INVOLVEMENT AND TRANSITIONS INTO ADOLESCENT SEXUAL BEHAVIOR

Research shows that highly religious adolescents initiate sexual activity later (Brewster et al. 1998; Bearman and Bruckner 2001; Hardy and Reffaelli 2003; Meier 2003) and report fewer sexual partners (Miller and Gur 2002; Thornton and Camburn 1989) than their less religious peers. Although this body of literature suggests that religion plays an important role in shaping adolescent sexual attitudes and behaviors, research on religion and adolescent sexual behavior is still considered “nascent” on a number of theoretical and methodological grounds (Whitehead et al. 2001). The slow development of this literature is remarkable given the influential and generally favorable impact religion has on the lives of American adolescents (Smith 2003a; Regnerus 2003).

Prior research on religion and adolescent sexual activity is limited in three general respects. First, although social scientists have long recognized that religiosity is a multidimensional phenomenon (e.g. Stark and Glock 1968; Levin, Taylor and Chatters 1995 Regnerus 2003), numerous studies of religion and adolescent sexual behavior have employed only a single aspect of religious involvement, namely attendance at religious services. When studies do consider multiple dimensions of religious involvement, religion measures are frequently combined into indices. While an improvement, these strategies are still suboptimal, because various aspects of religious involvement may influence adolescent sexual behaviors and attitudes in different ways and thus should be considered separately. Second, prior research on religion and

adolescent sexual activity is also generally limited to the study of sexual intercourse. Direct linkages with the health-related consequences of sexual activity among teens (i.e. teenage pregnancy and sexually transmitted diseases) highlight sexual intercourse as an important area of study; however, other types of sexual activity (e.g., sexual touching and oral sex) may also pose health risks and act as precursors to intercourse (Remez 2000). Finally, it remains unclear whether the effects of religious involvement on adolescent sexual activity vary according to theoretically relevant subgroups such as age, gender, and race/ethnicity.

In an effort to address the limitations of prior research on religion and adolescent sexual activity, this paper investigates several important research questions including: Does religious involvement delay transitions into sexual activity? If so, which dimensions of religious involvement are most salient? Are the effects of religious involvement consistent across a range of adolescent sexual activities? Do the effects of religious involvement vary according to important social characteristics such as race/ethnicity, gender, or age?

The remainder of this chapter has five sections. I begin by discussing previous research on 1) adolescent religious involvement, 2) religious variation in adolescent sexual behavior, and 3) theoretical explanations for the linkages between religion and adolescent sexual activity. I then explore the relationship between religious involvement and adolescent sexual behavior, employing data from the National Study of Youth and Religion (NSYR) a nationally representative survey of adolescents and their parents. Following the presentation of these results, I discuss the implications of

these findings, note the limitations of this study, and identify promising directions for future research in this area.

### *Religion in the Lives of Adolescents*

How religious are US teens? Various data sources indicate that the majority of adolescents belong to a religious group, the overwhelming majority being members of Christian religious organizations. About a quarter of religious youths are Catholics, followed closely by Baptists (mainly Southern Baptists). Other religious affiliations claim small minorities of the total population (Smith et al. 2002). Even among those adolescents with no religious affiliation, atheism is quite rare among American teenagers. Less than one percent of adolescents report never believing in God (Smith and Denton 2005).

Around 40 percent of American youth attend religious services at least once per week, however, this figure varies widely by religious tradition. Using data from the National Longitudinal Study of Adolescent Health (Add Health), Smith and colleagues (2002) found that youth who were members of more conservative religious groups (e.g. southern Baptists, Mormons) and those with larger portions of African Americans (e.g. Jehovah's Witnesses, Pentecostal, and African Methodists) had significantly higher rates of church attendance than all other teens. Youth in mainline denominations (e.g. , Episcopalian, Presbyterian, Lutheran) tended to exhibit moderate rates of religious service attendance, while adolescents in minority religious groups (e.g. Jewish, Quakers, Buddhist) attended church the least.



In addition to affiliation and church attendance, religious beliefs and practices among adolescents have been the subject of research in recent years. Approximately 95 percent of adolescents believe in God, 91 percent believe in heaven, 76 percent believe in hell and 86 percent believe that Jesus Christ is God or the son of God (Gallup and Bezilla 1992). Although a significant minority of youth pray on a regular basis (about 16 percent report praying many times a day, while roughly 22 percent report praying about once a day), few youth report reading the Bible on a regular basis. Only a small minority, about nine percent, reports reading the Bible daily, and an additional 17 percent read the Bible a few times a week; however, the vast majority of Christian teenagers report never or rarely reading the Bible. Approximately one in five adolescents state that religion is “extremely important” in shaping how they live their daily lives, while another 30 percent say that religion is “very important” Although the term “spiritual but not religious” has gained popularity in recent years, the majority of American youth do not classify themselves using this terminology (Smith and Denton 2005; Regnerus 2007).

There are significant race, gender and age variations in religious involvement among American youth. First, the race/ethnicity of adolescents impacts both their religious affiliation and level of religious participation. Due to their numerical majority, non-Hispanic White teens dominate most religious traditions with the exception of Islamic, Adventist, Jehovah’s Witness, Buddhist, Hindu and African Methodist communities. African Methodist, Holiness, Jehovah’s Witness and Baptist faiths, contain higher concentrations of African American youth than other religious groups,

while Catholic, Jehovah's Witness and Adventists traditions have relatively large concentrations of Hispanic adolescents. Likewise, attendance at religious services also varies by race/ethnicity, with African Americans reporting the highest rates of church attendance, followed by non-Hispanic Whites. Youth who are members of other racial and ethnic groups attend church less often on average (Smith et al. 2002).

Second, a large body of literature has established that women are more religious than men at all stages of the life course, and this difference appears to be true not only in the United States but cross-culturally as well (Miller and Stark 2002). This sex disparity holds true for religious affiliation, service attendance and youth group participation among American adolescents (Smith et al. 2002). Third, numerous scholars have noted that religious involvement declines over the course of adolescence (e.g., Potvin, Hoge and Nelson 1976; Benson, Donahue, and Erickson 1989; Regnerus 2003). Although less than 10 percent of 13 year-olds report having no religious affiliation, almost 15 percent of 18 year-olds are unaffiliated. Evidence also suggests a steady decrease in church attendance over the course of adolescence. For example, weekly attendance drops 10 percent over the four years of high school (Smith et al. 2002).

#### *Religious Variation in Adolescent Sexual Behavior*

Although the above research suggests that religion plays a prominent role in the lives of many American teenagers, these findings do not speak directly to the effects of religious involvement on adolescent sexual behavior. In the pages that follow I discuss previous research and introduce theoretical ideas that specifically address the link between

adolescent religious involvement and sexual activity. Generally speaking, results from this scholarship indicate that religious traditions, beliefs and behavior influence at least some forms of sexual behavior among American youth, although many facets of this relationship remain unexplored.

Research on the relationship between religious tradition and adolescent sexual behavior (most often conceptualized as virginity status) has yielded inconsistent results. While some researchers conclude that members of conservative religious groups (e.g. Mormons, evangelicals, fundamentalist) are less likely to have sexual intercourse compared to their mainline affiliated or unaffiliated peers (Beck, Cole and Hammond 1991; Cooksey, Rindfuss and Guilkey 1996; Brewster et al. 1998), others find that Catholics display reduced odds of sexual behavior compared to other teens (Casper 1990). Still other scholars find that mainline or Jewish teens are less likely to engage in sexual intercourse, compared to youth affiliated with evangelical Protestant denominations (Regnerus 2007). While few studies have examined affiliation patterns in oral sexual behavior, one such study found that Black Protestants, Catholics and Mormons displayed reduced odds of oral sexual behavior compared to their evangelical Protestant counterparts (Regnerus 2007).

It is clear that messages from Conservative Protestant leadership emphasizing sexual morality and abstinence do not consistently translate into reduced odds of adolescent sexual behavior. While reasons for this anomaly are varied, Regnerus (2007) argues that evangelical adolescents are increasingly likely to be middle class, suburban, busy and exposed to a variety of permissive sexual norms. They, like other American

adolescents, also enjoy improved access to a variety of reliable birth control options. As a result, evangelical adolescents experience a collision of cultures between traditional sexual norms and new sexual temptations. In such an environment, attitudes about sex may remain unchanged while sexual activity becomes increasingly common. While this explanation may help us understand why evangelical youth display odds of sexual intercourse similar to those of other religious affiliates or those youth with no religious affiliation, this argument does not explain Regenerus' own finding that evangelical youth actually display increased odds of sexual intercourse when compared to mainline Protestant, Mormon and Jewish teens.

Why might evangelical teens have sex earlier than other adolescents? Lower educational aspirations and expectations maybe one reason for the evangelical anomaly regard adolescent sexual activity. Education beyond high school maybe discouraged among some conservative Protestant denominations (particularly fundamentalists denominations) because colleges and universities provide exposure to alternative values and beliefs (Darnell and Sherkat 1997; Sherkat and Darnell 1999). Indeed, some research suggest that conservative religious organizations promote belief systems and sustain communities that direct young affiliates away from secular educational attainment (Darnell and Sherkat, 1997; Glass & Jacobs 2005; Sherkat and Darnell 1999). Secular colleges and universities may be viewed as in direct opposition to religious institutions, promoting scientific knowledge as a way of getting at ultimate truth, rather than relying on explanations provided by religious faith. As a result, conservative Protestant adolescents may be less inclined to value, and aspire to

obtaining, a college education than other teens. Because educational aspirations and expectations are associated with adolescent sexual behavior (Moore, Simms and Betsey 1986; Lauritsen 1994), evangelical teens may be less likely to delay sexual behavior than other teens.

Additionally, youth within conservative Protestant churches may place greater value on personal relationships, particularly romantic relationships, more so than other teens. Conservative Protestant churches often promote family-centered theologies that value traditional family life over career goals and financial aspirations (Abbott et al. 1990; Becker 1991; Pearce 2002). While this focus on interpersonal relationships may lead to improved family life, there may also be negative consequences to family focused doctrines. Instead of concentrating on educational goals, youth within conservative Protestant churches may be more likely than other teens to spend their time seeking out romantic relationships in hopes of meeting a future husband or wife. Getting married and starting a family may be viewed as the primary goal on the path to adulthood, rather than going to college and achieving success through a career. Given that most sexual behavior occurs within committed relationships (rather than one-night stands), it may be that conservative Protestant churches inadvertently create an environment conducive to early relationship formation and as a result, earlier adolescent sexual activity.

Additionally, it is likely that previous research on evangelical sexual activity has suffered from omitted variable bias regarding the measurement of socioeconomic status, both at the individual and contextual level. While previous research on religion and adolescent sexual activity has often accounted for parents' income and educational

attainment, it has not taken into account family wealth, economic hardship, parent's occupation, exact parental degree and other more precise measures of family socioeconomic status. More precise measures of family socioeconomic status are important because conservative Protestants are more likely to be of lower socioeconomic status than members of most other religious affiliations (e.g. mainline Protestants, Catholics, Jews) (Waters, Heath and Watson 1995), and lower socioeconomic status is associated with earlier sexual activity (Lammers et al. 1999; Vesely et al. 2004). Further, few studies if any studies on religious affiliation and adolescent sexual activity account for contextual influences, such as school quality or neighborhood educational attainment. These omissions are of great importance given that conservative Protestants tend to be more heavily concentrated in areas of the country with higher levels of poverty and worse school systems than other religious groups ([www.glenmary.org](http://www.glenmary.org); Waters, Heath and Watson 1995), and these community characteristics are in turn related to earlier sexual behavior (Billy et al. 1994; Brewster 1994).

While effects of religious affiliation are sporadic, other forms of religious involvement have consistently been associated with delayed sexual debut. The clear majority of studies examining the relationship between church attendance and first sex find that church attendance is related to delayed intercourse (e.g. Thornton and Camburn 1989; Beck et al. 1991; Brewster et al. 1998; Lammers et al. 2000; Hardy and Raffaelli 2003; Jones, Darroch and Singh 2005; Regnerus 2007). Some studies in this area have found that the protective effect of service attendance holds true only for

certain racial or gender subgroups (Cvetkovich and Grote 1980; Billy, Brewster and Grady 1994), and a few studies report finding no effect at all (Benda and Corwym 1997), however the most common finding among researchers is that church attendance is associated with delayed sexual intercourse (Regnerus 2007).

Though the relationship between other forms of religious involvement and adolescent sexual behavior remain understudied, limited evidence suggests that religious salience (Regnerus 2007) and general religiosity (Lammers et al. 1999; Hardy and Raffaelli 2003; Meier 2003; Nonnemaker, Neely and Blum 2003) are also associated with reduced odds of sexual intercourse. In general, previous research indicates that religions influence on sexual behavior is best conceptualized by measures of religious belief and behavior, rather than measures of religious affiliation (Regnerus 2007). In other words, when it comes to delaying first sex, what adolescents do in terms of their religious behavior matters more than where they do it.

#### *Theoretical Links between Religious Involvement and Adolescent Sexual Behavior*

While the previous section presents evidence of an association between religion and sexual behavior, this segment provides theoretical explanation for why religious involvement might be related to adolescent sexual experience. As noted earlier, the term religious involvement encompasses a variety of beliefs and behaviors. There is reason to expect that some facets of religious life may directly influence sexual behavior, whereas others may be indirectly related, or even unrelated, to sexual activity. Previous research on other adolescent outcomes suggest that private religiosity (e.g. religious salience) is more apt to impact problem behaviors, such as drug use and delinquency,

while public religious behavior is more likely to influence long term outcomes, such as academic success (Regnerus 2007).

Previous theoretical explanations of the relationship between religion and sexual behavior have often focused on the indirect ways that religion impacts adolescent sexual activity. As Regnerus (2007) notes, some social scientists believe that religion is primarily about networks of social control, supervised peer groups, and organizational participation. However, religion may directly influence sexual decisions by providing a) moral directives, b) coping resources, and c) distinct religious identities.

Smith (2003a) argues that American religions promote specific cultural moral directives of self-control and personal virtue that are grounded in the authority of long standing traditions. Youth internalize these moral orders and use them to guide their day-to-day decision making. Instead of the ideals promoted by mass consumer market capitalism (e.g. greed, individualism, competition, instant gratification), religious institutions, regardless of denomination, provide a counter-balance to these messages, emphasizing principles such as self-control, moderation and obedience toward one's parents. Further, religious institutions often provide direct messages pertaining to the immorality of non-marital sexual behavior. Conservative Protestant and Catholic leadership in particular often stress a traditional view of marriage, sexuality, and family life (Gay, Ellison, & Powers 1996; Hoffmann & Miller 1997; Gallagher 2003). While the extent to which adolescents actually internalize and act upon these religious messages varies, and is itself a subject of much debate, it is clear these ideals could serve to limit adolescent sexual experience.



Second, religion may offer adolescents important psychosocial resources for coping with hardships experienced during this stage of the life course (e.g., physical changes, family disruptions, problems associated with romantic relationships). Religious institutions promote a variety of beliefs and practices that may help affiliates cope with the stress of difficult situations and, as a result, enhance well-being among adults and youth alike (Smith 2003a). Religious practices such as prayer, meditation, and confession may aid youth in relieving stress from dealing with adverse circumstances. Likewise, religious beliefs, may offer emotional comfort to adolescents facing ongoing problems. Religious youth may draw on religious resources rather than utilizing negative coping strategies, such as drugs and alcohol, which are known correlates of risky sexual activity (Stall et al.1986; Desiderato and Crawford 1995; Cooper 2002).

Finally, religion may directly influence adolescent sexual behavior through providing distinct religious identities. As Wallace and Williams (1997) note, for many young people religious socialization, including belonging to particular religious groups, can play a critical role in identity formation. Given that messages from these religious groups often pertain to restricting sexual expression to the bonds of marriage, adolescents with strong religious identities may be less likely to participate in sexual behavior. For example, the pledge movement (which is largely an evangelical Protestant phenomenon) is an identity movement. For adolescents who pledge to abstain from sex until marriage within this context, the pledge movement provides a frame for self-understanding, which is maintained through interactions with likeminded others who

constitute a self-conscious community differentiated from others (Bearman and Bruckner 2001). Essentially, the pledge movement works in part through granting teens a distinct religious identity, which in turns often limits sexual behavior (at least temporarily).

Although this chapter focuses on direct linkages between religious involvement and transitions into adolescent sexual behavior, it is also important to note several indirect pathways through which religion may influence adolescent sexual activity. Specifically, religion may impact sexual behavior through several related, but distinct, mechanisms including: a) increased cultural and social capital, b) network closure, and c) conservative peer networks.

Involvement in religious institutions may increase the cultural and social capital of affiliated youth in several ways. As Smith (2003a) notes, American religious institutions provide opportunities for adolescents to take on leadership roles within the church where they may learn valuable organizational skills that translate into success in secular environments. Religious youths may also have the opportunity to gain other sorts of education, such as singing or playing a musical instrument. Further, religious organizational involvement may increase social capital through interactions with adult members of the communities, linking youth to wider sources of information, resources and opportunities. These networks may aid youth in a variety of ways, such as finding a summer job or helping with college applications. The connection between religious institutions and increased social and cultural capital is important given findings that

these resources are associated with delayed adolescent sexual behavior (Crosby et al. 2003).

In addition to increasing social and cultural capital, religious involvement may also reduce adolescent sexual behavior through increasing network closure. Religious institutions may provide relatively dense networks of relational ties within which youth are embedded. These networks may provide parents with additional resources for monitoring youth activities, which may encourage positive life practices (Smith 2003a, 2003b). Furthermore, the additional monitoring supplied by religious institutions is likely to be provided by adults who share similar cultural moral orders, which may facilitate higher levels of agreement in collective oversight and social control (Smith 2003a). Therefore youth embedded in religious communities may have difficulty carrying on romantic relationships, or other activities, without parental knowledge. Additionally, parents embedded within religious institutions may have greater knowledge of their adolescent's peers, perhaps limiting contact with potential sexual partners.

Finally, religion may influence sexual behavior by embedding youth in conservative peer networks. Religious institutions (especially evangelical and Catholic religious organizations) may place youth in more sexually conservative peer networks, where permissive attitudes toward premarital sexual behavior are frowned upon. Religious youth may witness gossip, ostracism, and other forms of social sanctions against persons suspected of non-marital sexual activity within the church. These informal social sanctions may raise the perceived costs of a sexual relationship, thereby

reducing sexual activity among religious adolescents. Youth with religious peers may also have fewer available sexual partners within their social network (Thornton and Camburn 1989). Therefore, religious youths who wish to have sex may have difficulty finding a willing partner.

Although there is limited empirical evidence, there are several reasons to suppose that the impact of religious involvement on adolescent sexual activity may vary by race/ethnicity, gender and age. For example, some evidence suggests that although the Black church has historically taken a relatively conservative view of sexuality, churches tend to tolerate sex outside of marriage as long as it is done discreetly (Jackson 1983). Other scholars argue that clergy within the African American church often avoid discussing issues of sexuality for a variety of reasons (Regnerus 2007). Indeed, evidence suggests that among African American females, the most religiously involved adolescents, religion is only sporadically protective against sexual activity (McCree et al. 2003; Billy, Brewster and Grady 1994; Murry 1994); and there is little evidence linking religious involvement and delayed sexual behavior among African American boys (Day 1992; Perkins et al. 1998; Billy et al. 1994; Bearman and Bruckner 2001). Conversely, issues of sexual purity are emphasized within some predominately White religious affiliations, such as Southern Baptists and other conservative Protestant churches (Gay, Ellison, & Powers 1996; Hoffmann & Miller 1997). As a result, it may be that religious involvement, especially public measures of religious behavior, may have a greater impact on the sexual behavior of White adolescents than on the sexual behavior of Black or Hispanic youth.

In addition to variations by race/ethnicity, there is reason to expect that the impact of religious involvement on adolescent sexual activity may vary by gender. Many religious denominations tend to be largely patriarchal in nature, emphasizing traditional views of marriage and sexuality. While all members may be encouraged to remain sexually pure, the importance of virginity may be more strongly emphasized for girls. Further, the sexual status of females are often noted within Biblical texts, yet rarely mentioned for male figures (e.g. Leviticus 21:7, Luke 1:34, John 4: 17-19), which may reiterate the importance of sexual purity for adolescent females in particular. Indeed, studies most consistently find that religious involvement reduces sexual activity among White females (Bearman and Bruckner 2001; Rostosky et al. 2003; Regnerus et al. 2003; Rostosky et al. 2004).

Finally, the influence of religion on adolescent sex may vary by the age of the teenager. As youth move through adolescence parents may have less opportunity to monitor sexual activity. As noted above, religious institutions may provide parents with additional sources for monitoring youth activities (Smith 2003a, 2003b). This additional monitoring may be particularly important as youth age, and experience more sexual opportunities. Further, parents may also allow older youth more freedom in choosing their religious behavior (e.g. frequency of church attendance). Therefore, church attendance among older youth may be a more accurate indicator of true religious commitment than for younger teens. For these two reasons, religious involvement (particularly public religious behavior) may have a greater impact in delaying adolescent sexual activity as age increases.

Employing data from the National Survey of Youth and Religion (NSYR), this chapter makes a unique contribution to the literature in this area in three ways. First, I employ multiple measures of religious involvement to evaluate the impact of four dimensions of religion (public religiosity, private religiosity, religious salience and family religiosity) on adolescent sexual activity. Second, I evaluate the impact of religious activity on the transition into three types of adolescent sexual behavior: sexual touching, oral sex and sexual intercourse. Finally, I explore whether the impact of religious involvement on adolescent sexual behavior varies by three subgroups, namely race/ethnicity, sex and age.

## DATA AND METHODS

### *Data*

The National Survey of Youth and Religion (NSYR) is a nationally representative telephone survey of 3,290 U.S. English and Spanish speaking teenagers between the ages of 13 and 17 and their parents. Wave 1 of the NSYR was conducted from July 2002 to April 2003 by researchers at the University of North Carolina, using a random-digit-dial (RDD) telephone survey method, employing a sample of randomly generated telephone numbers of all household telephones in the 50 United States. Eligible households included at least one teenager between the ages of 13 and 17 living in the household for at least six months of the year. In order to randomize responses within households, interviewers asked to conduct the survey with the teenager in the household who had the most recent birthday. Ninety-six percent of parent-complete households also achieved teen-completes. Diagnostic analyses comparing NSYR data with U.S.

census data on comparable households and with comparable adolescent surveys--such as Monitoring the Future and the National Longitudinal Study of Adolescent Health--confirm that the NSYR provides a nationally representative sample without identifiable sampling and non-response biases of U.S. teenagers ages 13-17 and their parents living in households (Smith and Denton 2003). Wave 2 of the telephone survey was conducted from June 2005 to November 2005. Approximately 78 percent of the original youth survey respondents (ages 16-20 at the time) were re-interviewed.

### *Measures*

#### Dependent Variables: Sexual Behavior

The measure of *sexual touching* asked respondents whether they had ever willingly touched another person's private areas or had willingly been touched under their clothes by another person in his or her private areas (1 = experienced sexual touching). The measure of *oral sexual behavior* asked respondents whether or not they had ever engaged in oral sex (1 = had oral sex). The measure of *sexual intercourse* asked respondents whether or not they had ever had sexual intercourse (1 = had sexual intercourse).

#### Independent Variables: Religious Involvement

Following a modified version of the coding scheme developed by Roof and McKinney (1987), *religious affiliation* is measured with six dummy variables. These variables capture conservative Protestants (e.g. Southern Baptists, Pentecostals), mainline Protestants (e.g. Methodists, Presbyterians, Episcopalians), Catholics, other

Christian affiliations (e.g. those who identify as “just Christian”, Friends, Quakers) other religious faiths (e.g. Buddhists, Jews), and non-affiliates.

In addition to religious affiliation, several other measures of religious involvement were included to capture the impact of various dimensions of religious behavior on the odds of sexual activity. Frequency of religious service attendance is measured by asking respondents how often they attend services at their particular religious congregation. Response categories for *church attendance* range from (0) “never attend” to (6) “more than once a week”.

*Religious salience* is measured using a mean index of two standardized items ( $r = 0.79$ ). Respondents were asked, “How important or unimportant is religious faith in shaping (a) “how you live your daily life?” and (b) “your major life decisions?” Response categories for both items ranged from (1) “extremely important” to (5) “not important at all”.

*Private religiosity* is measured using a mean index of two standardized items ( $r = .52$ ). Respondents were asked, “How often, if ever, do you pray by yourself alone?” Respondents were also asked how often they read alone from the primary scripture of their religious affiliation (in most cases the Bible). Response categories for these items ranged from (1) “never” to (7) “many times a day”

*Family religiosity* is also measured using a mean index of two standardized items ( $r = .55$ ). Youths were asked, “Does your family regularly pray to give thanks before or after mealtimes, or not?” Respondents were also asked, “How often, if ever, does your family talk about God, the Scriptures, prayer or other religious or spiritual



things together?” Response categories for this item ranged from (1) “never” to (6) “everyday”.

### Socio-demographic Controls

Numerous socio-demographic characteristics have been identified as significant correlates of adolescent sexual behavior. Previous research suggests being African American, male, older, southern, and in a family of lower socioeconomic status is associated with earlier sexual debut (Furstenberg et al. 1987; Upchurch et al. 1998; Browning et al. 2004; Cubbin et al. 2005). Conversely, being in a biologically-intact family is associated with reduced odds of adolescent sexual activity (Browning et al. 2004; Cubbin et al. 2005). Therefore all subsequent analyses include controls for mother’s level of education (less than a high school education is the reference category), mother’s employment status (1=*mother is employed full-time*, 0=other employment status) *parent’s income* (an 11-point scale ranging from less than \$10,000 to more than \$100,000), *biologically-intact family* (1=biological intact, 0=other family structure), *child’s age* (in years), child’s gender (*male*=1), child’s race/ethnicity (includes dummy variables for *Black* and *Hispanic*, non-Hispanic White is the reference category), and southern residence (1=*southern residence*, 0= other region).

### *Analytic Procedures*

The analytic strategy for this study follows three steps. First, Table 1 provides descriptive statistics for all variables included in the study. All analyses are limited to African American, non-Hispanic White and Latino adolescents because the NSYR does not contain sufficient numbers of adolescent from other racial and ethnic groups to

examine interaction effects. Second, Tables 2-4 employ logistic regression to formally evaluate the net effects of predictor variables at Wave 1 on the odds of sexual touching, oral sexual behavior and sexual intercourse at Wave 2. Those respondents who reported participating in each of these sexual activities at Wave 1 were excluded from the analyses for that particular outcome. For example, those respondents who reported participating in the sexual touching at Wave 1 were not included in the analyses for sexual touching, but may be included in the analyses for oral sex or sexual intercourse if they did not report those behaviors at Wave 1. In Tables 2-4, for each outcome under study, sequential regression models were estimated in which socio-demographic controls (mother's level of education, parental income, family structure, age, gender, race, southern residence) were included in Model 1, followed by religious affiliation in Model 2. Models 3-6 add each of the measures of religious involvement independently. Finally, Model 7 includes all of the measures of religious involvement simultaneously. Table 5 displays significant results from the interaction analyses evaluating whether the effect of religious involvement on sexual activity varies as a function of race/ethnicity, gender, and age. Non-significant interaction results are not shown. These results are also displayed graphically in Figures 1-6.

## RESULTS

### *Sample characteristics*

Table 1 presents descriptive statistics for all variables used in these analyses. Measures of sexual activity are based on reports from Wave 2, while all other measures are reported at Wave 1 (except age). Approximately 72 percent of the sample reported

engaging in sexual touching, while 53 percent reported participating in oral sexual behavior. Roughly 55 percent of respondents reported having had sexual intercourse by Wave 2. Approximately, 37 percent of respondents transitioned to sexual touching between waves, while 31 percent transitioned to oral sexual activity during this time period. Nearly one-third of respondents reported having sexual intercourse for the first time between Waves 1 and 2. Approximately 31 percent of respondents are members of conservative Protestant groups, while 11 percent affiliate with mainline Protestant denominations. The remainder of the sample are Catholic (20%), members of other Christian affiliations (13%), members of other religious faiths (7 %), or report no religion at all (18%).

Table 1: Descriptive Statistics for NSYR Variables (N= 2237)\*

	Mean	S.D.	Range
<b><i>Sexual Behavior Variables</i></b>			
Sexual Touching	.72	-	0-1
Oral Sexual Behavior	.53	-	0-1
Sexual Intercourse	.54	-	0-1
<b><i>Religious Involvement</i></b>			
Conservative Protestant Affiliation	.31	-	0-1
Mainline Protestant Affiliation	.11	-	0-1
Catholic Affiliation	.20	-	0-1
Other Christian Affiliation	.13	-	0-1
Other Religious Affiliation	.07	-	0-1
No Religious Affiliation	.18	-	0-1
Church Attendance	3.13	2.19	0-6
Scale of Religious Salience	.00	.93	-2.13-1.33
Private Religiosity	.00	.87	-1.65-1.93
Family Religiosity	.00	.88	-1.33-1.24
<b><i>Sociodemographic Controls</i></b>			
Mother has Less than High School Education	.08	-	0-1
Mother has High School Education	.25	-	0-1
Mother has Some College	.38	-	0-1
Mother has College Degree	.17	-	0-1
Mother has Graduate Degree	.13	-	0-1
Mother works Full-time	.54	-	0-1
Parent's Income	6.01	2.87	1-11
Biologically-Intact Family	.54	-	0-1
Adolescents' Age at Wave 2	18.13	1.43	15.34-21.29
Adolescent is Male	.50	-	0-1
Adolescent is White	.70	-	0-1
Adolescent is African American	.18	-	0-1
Adolescent is Hispanic	.12	-	0-1
Adolescent is a Southern Resident	.42	-	0-1

\*All analysis is limited to White, African American and Hispanic respondents present at both waves. Measures of sexual activity are based on reports from Wave 2, while all other measures (except age) are reported at Wave 1.

With regard to other sample characteristics, Table 1 indicates that NSYR respondents are overwhelmingly (non-Hispanic) White (70%), with significant numbers of African Americans (18%) and Latinos (12%). The average respondent is approximately 18 years old, lives outside of the south, resides in a biologically-intact family (54%), and has a mother who has a few years of post-secondary education and who is employed full-time (54%). Further, NSYR respondents reside in households averaging between \$50,000 and \$60,000 in annual income. The sample is composed of roughly equal numbers of male and female adolescents.

#### *Multivariate analyses*

Table 2 displays the estimated net effects of religious involvement and covariates on the odds of sexual touching. Although reduced models suggest in that religious affiliation is unrelated to sexual touching, the full model reveals several suppression patterns. In the final model, conservative Protestants, mainline Protestants and Catholics display *increased* odds of sexual touching, compared those respondents with no religious affiliation. Conversely, all other measures of religious involvement are related to *decreased* odds of transitioning to sexual touching, although family religiosity is no longer significant in the final model. For example, each one unit increase in frequency of church attendance is associated with roughly a seven percent reduction in the odds of sexual touching. Likewise, each one-unit increase in the index of private religiosity is associated with an approximate 23 percent decrease in the odds of sexual touching.

Table 2: Odds ratios for Logistic Regression of Sexual Touching on Religious Involvement (N= 1471)\*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	1.436	1.460	1.483	1.492	1.480	1.457	1.495
Mother has Some College	1.105	1.114	1.150	1.147	1.138	1.147	1.166
Mother has College Degree	.938	.921	.955	.956	.914	.964	.955
Mother has Graduate Degree	1.017	.989	1.060	1.014	.987	1.017	1.033
Parent's Income	1.045	1.045	1.045	1.034	1.035	1.039	1.033
Mother works Full-time	1.278*	1.266*	1.248	1.255*	1.224	1.227	1.223
Biologically Intact Family	.668***	.653***	.680**	.673**	.668**	.672**	.690**
Age	1.224***	1.224***	1.235***	1.254***	1.246***	1.225***	1.258***
Male	.944	.960	.918	.875	.873	.972	.849
African American	1.404*	1.488*	1.421*	1.596**	1.599**	1.733**	1.604**
Hispanic	1.000	.989	.988	1.025	1.061	1.020	1.055
Southern Resident	.916	.921	.926	1.015	.961	.937	.996
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		.872	1.770*	1.409	1.428	1.185	2.188**
Mainline Protestant Affiliation		1.076	2.047**	1.597*	1.509	1.381	2.270**
Catholic Affiliation		1.056	1.884**	1.408	1.264	1.232	1.838**
Other Christian Affiliation		.625*	1.165	.896	.879	.816	1.291
Other Religious Affiliation		.848	1.525	1.248	1.162	1.064	1.707
Church Attendance			.852***				.926*
Religious Salience				.664***			.814*
Private Religiosity					.647***		.775**
Family Religiosity						.735***	.955
Constant	-2.958	-2.857	-3.000	-3.479	-3.300	-3.067	-3.541
Likelihood Ratio $\chi^2$	58.959	68.430	89.382***	101.197***	104.424***	87.449***	118.644***
df	12	17	18	18	18	18	21

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\*Analyses is limited to White, African American and Hispanic respondents who did not report sexual touching at Wave 1

Table 3 displays the estimated net effects of religious involvement and covariates on the odds of oral sexual behavior. As with the above table, conservative Protestants, mainline Protestants and Catholics all display increased odds of oral sex, compared those respondents with no religious affiliation. Although all of the measures of religiosity are associated with reduced odds of oral sex when analyzed individually, only religious salience displays a significant protective effect in the final model. Specifically, each one-unit increase in religious salience is associated with an approximate 21 percent decrease in the odds of oral sex, once other measures of religious involvement are taken into account.

Table 3: Odds ratios for Logistic Regression of Oral Sexual Behavior on Religious Involvement (N= 1757)\*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	1.081	1.073	1.071	1.092	1.063	1.075	1.078
Mother has Some College	.734	.736	.755	.761	.744	.763	.770
Mother has College Degree	.715	.712	.728	.736	.693	.746	.736
Mother has Graduate Degree	.640	.637	.664	.637	.621	.659	.649
Parent's Income	1.061**	1.061**	1.060**	1.050*	1.053*	1.054*	1.048*
Mother works Full-time	1.297*	1.273*	1.247*	1.278*	1.239*	1.227	1.236
Biologically Intact Family	.651***	.658***	.682***	.685**	.672***	.681***	.699**
Age	1.344***	1.344***	1.351***	1.362***	1.355***	1.343***	1.361***
Male	1.039	1.037	1.003	.942	.954	1.045	.939
African American	.567***	.594***	.569***	.638**	.625**	.692*	.660**
Hispanic	.586***	.553**	.550**	.575**	.569**	.564**	.576**
Southern Resident	.957	.992	1.011	1.095	1.028	1.017	1.085
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation							
Mainline Protestant Affiliation		.763	1.394	1.243	1.152	1.055	1.720*
Catholic Affiliation		.929	1.619*	1.390	1.238	1.201	1.817*
Other Christian Affiliation		.968	1.606*	1.317	1.155	1.162	1.633*
Other Religious Affiliation		.747	1.257	1.087	.994	.987	1.427
		.643	1.041	.959	.826	.812	1.179
Church Attendance			.868***				.945
Religious Salience				.665*			.786**
Private Religiosity					.690***		.865
Family Religiosity						.719***	.881
Constant	-4.799	-4.633	-4.718	-5.154	-4.929	-4.856	-5.168
Likelihood Ratio $\chi^2$	112.147	119.714	139.192***	158.257***	150.271***	145.324***	171.715***
df	12	17	18	18	18	18	21

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\* Analyses is limited to White, African American and Hispanic respondents who did not report oral sex at Wave 1



Finally, Table 4 displays the estimated net effects of religious involvement and covariates on the odds of sexual debut between Wave 1 and Wave 2. As with the previous two tables, holding a conservative Protestant or mainline Protestant affiliation is associated with increased odds of virginity loss, compared to those teens with no religious affiliation. Like the patterns observed in Table 3, all of the measures of religious activity are related to a decrease in the odds of sexual debut when measured individually, however only church attendance and religious salience are significant predictors of sexual intercourse in the final model, when the impact of all the religiosity indicators are estimated simultaneously. Specifically, each one-unit increase in church attendance is associated with an approximate eight percent reduction in the odds of sexual debut. Similarly, each one-unit increase in religious salience is related to roughly a 27 percent decrease in the odds of sexual intercourse.

Table 4: Odds ratios for Logistic Regression of Sexual Intercourse on Religious Involvement (N= 1811)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/</i></b>							
<b><i>Controls</i></b>							
Mother has H S Education	.936	.920	.933	.952	.950	.935	.959
Mother has Some College	.618*	.617*	.637	.641	.638	.644	.655
Mother has College Degree	.400***	.395***	.406**	.406**	.393***	.414**	.412**
Mother has Graduate Degree	.331***	.324***	.339***	.319***	.322***	.338***	.330***
Parent's Income	1.041	1.044	1.041	1.031	1.292	1.036	1.029
Mother works Full-time	1.340**	1.327**	1.300*	1.320**	1.035*	1.294*	1.291*
Biologically Intact Family	.590***	.589***	.615***	.615***	.605***	.615***	.632***
Age	1.479***	1.475***	1.484***	1.505***	1.487***	1.470***	1.502***
Male	.890	.885	.850	.800*	.819	.891	.794*
African American	1.334	1.396*	1.349	1.570**	1.505**	1.669**	1.595**
Hispanic	.744	.735	.735	.784	.774	.764	.789
Southern Resident	.997	1.020	1.044	1.149	1.063	1.046	1.141
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		.701*	1.377	1.192	1.029	.966	1.705*
Mainline Protestant Affiliation		.813	1.525	1.243	1.052	1.046	1.709*
Catholic Affiliation		.817	1.453	1.148	.957	.973	1.503
Other Christian Affiliation		.549**	1.005	.816	.710	.720	1.122
Other Religious Affiliation		.559*	.985	.864	.712	.703	1.122
Church Attendance			.851***				.923*
Religious Salience				.631***			.729***
Private Religiosity					.697***		.907
Family Religiosity						.721***	.915
Constant	-5.722	-5.398	-5.495	-6.049	-5.702	-5.597	-6.029
Likelihood Ratio $\chi^2$	190.270	204.288*	230.521***	253.921***	233.517***	229.280***	265.746***
df	12	17	18	18	18	18	21

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\*Analyses is limited to those respondents who did not report sexual intercourse at Wave 1

### *Interaction analyses*

To this point, I have focused on the estimated net effects of religion variables on adolescent sexual activity. Next I assess the possibility that effect of religious involvement (church attendance, religious salience, private religiosity and family religiosity) on sexual activity varies according to age, sex and race/ethnicity. Table 5 displays the significant interaction effects that emerged with regard to religious activity and gender, race/ethnicity and age in predicting adolescent sexual behavior. These results are also displayed in Figures 1-6.

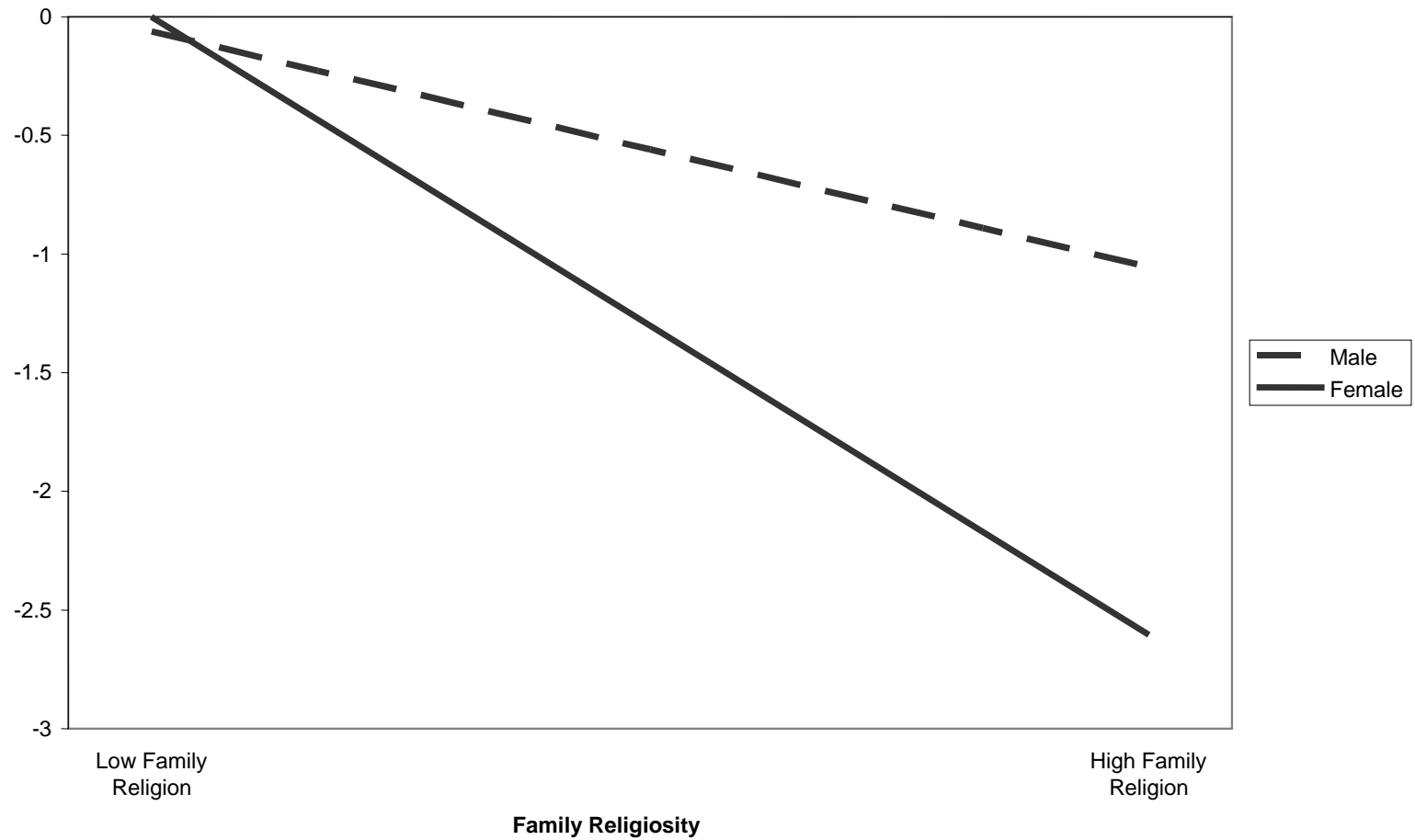
Table 5: Interaction Effects of Religious Involvement and Demographic Characteristics on Sexual Activity

Demographic /Dependent Variable	Main Effects: Family Religiosity	Main Effects: Private Religiosity	Main Effects: Demographic	Interaction Term: Religion $\times$ Demographic
Male /Sexual Touching	-.434***	-	-.061	.268*
Age/ Sexual Touching	-	-.503***	.246***	-.137**
Male/ Oral Sexual Behavior	-.507***	-	.036	.372**
Age/ Oral Sexual Behavior	-	-.388***	.308***	-.098*
Hispanic/ Sexual Intercourse	-.387***	-	-.249	.408*
Age/ Sexual Intercourse	-	-.396***	.411***	-.176***

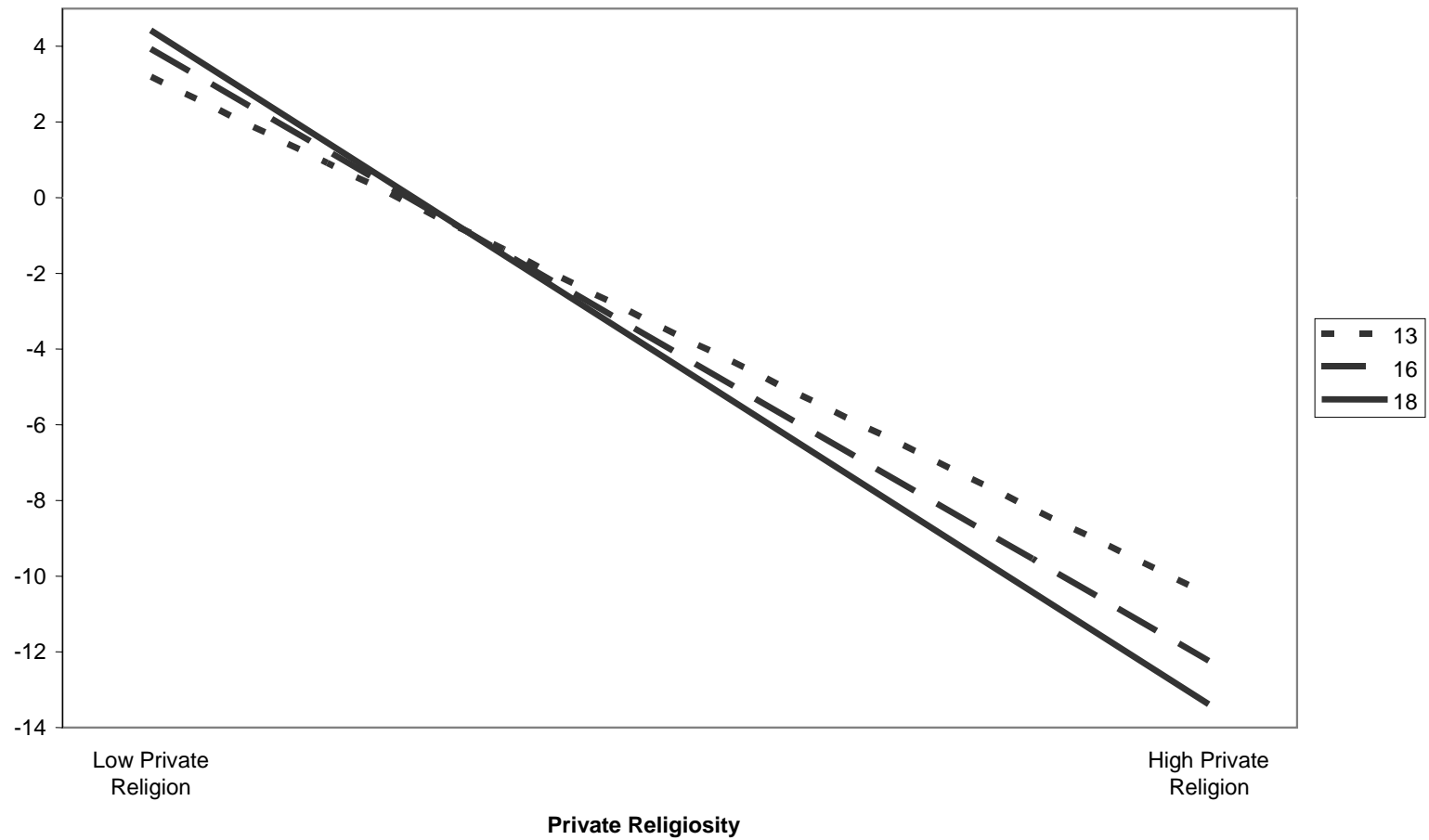
\* $p < .05$     \*\* $p < .01$     \*\*\* $p < .001$

*Note:* Interactive models control for all sociodemographic variables as well as religious affiliation.  
All components of interaction terms are zero-centered, as recommended by Aiken and West (1991).

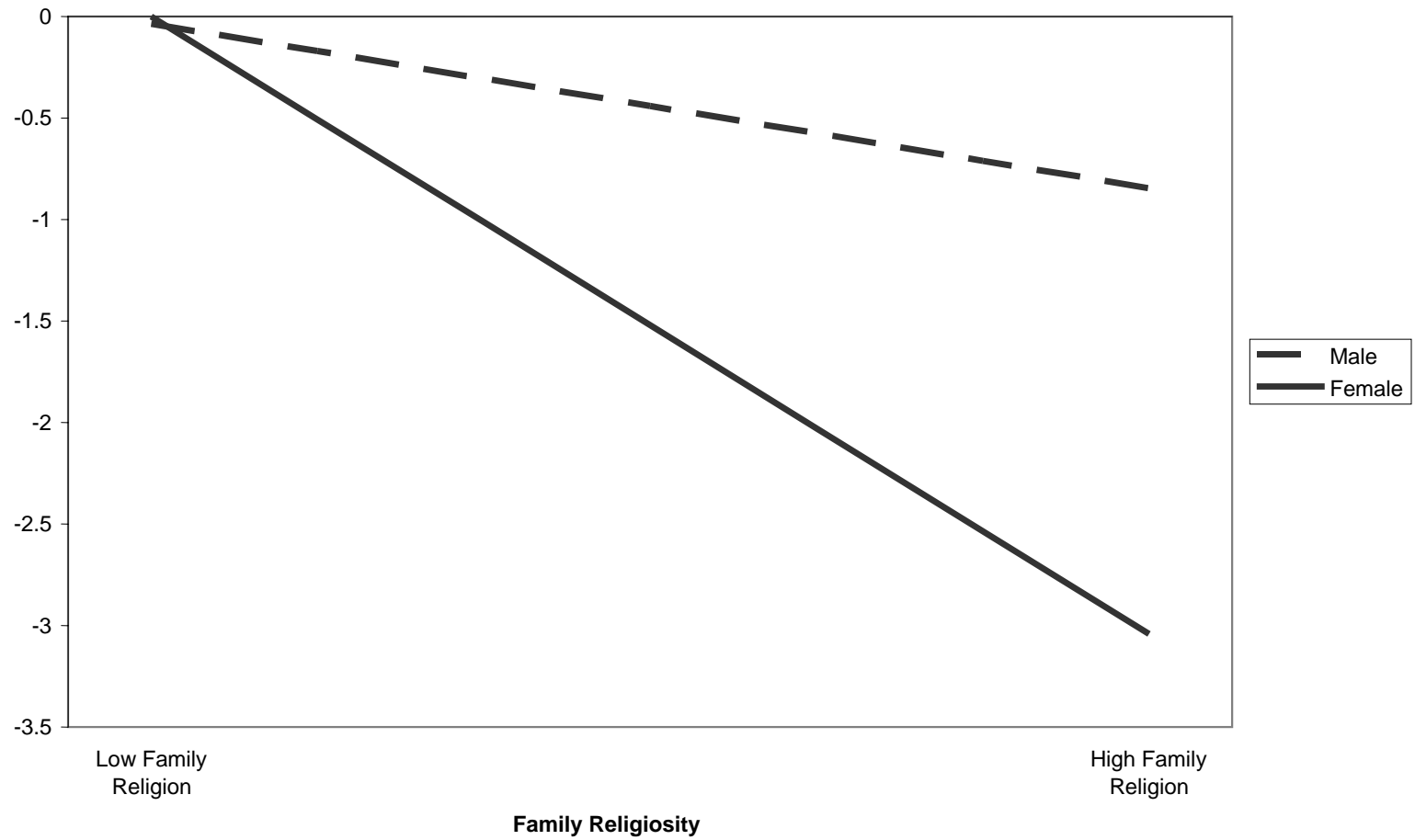
**Figure 1: The Relationship between Family Religiosity and Sexual Touching as a Function of Gender**



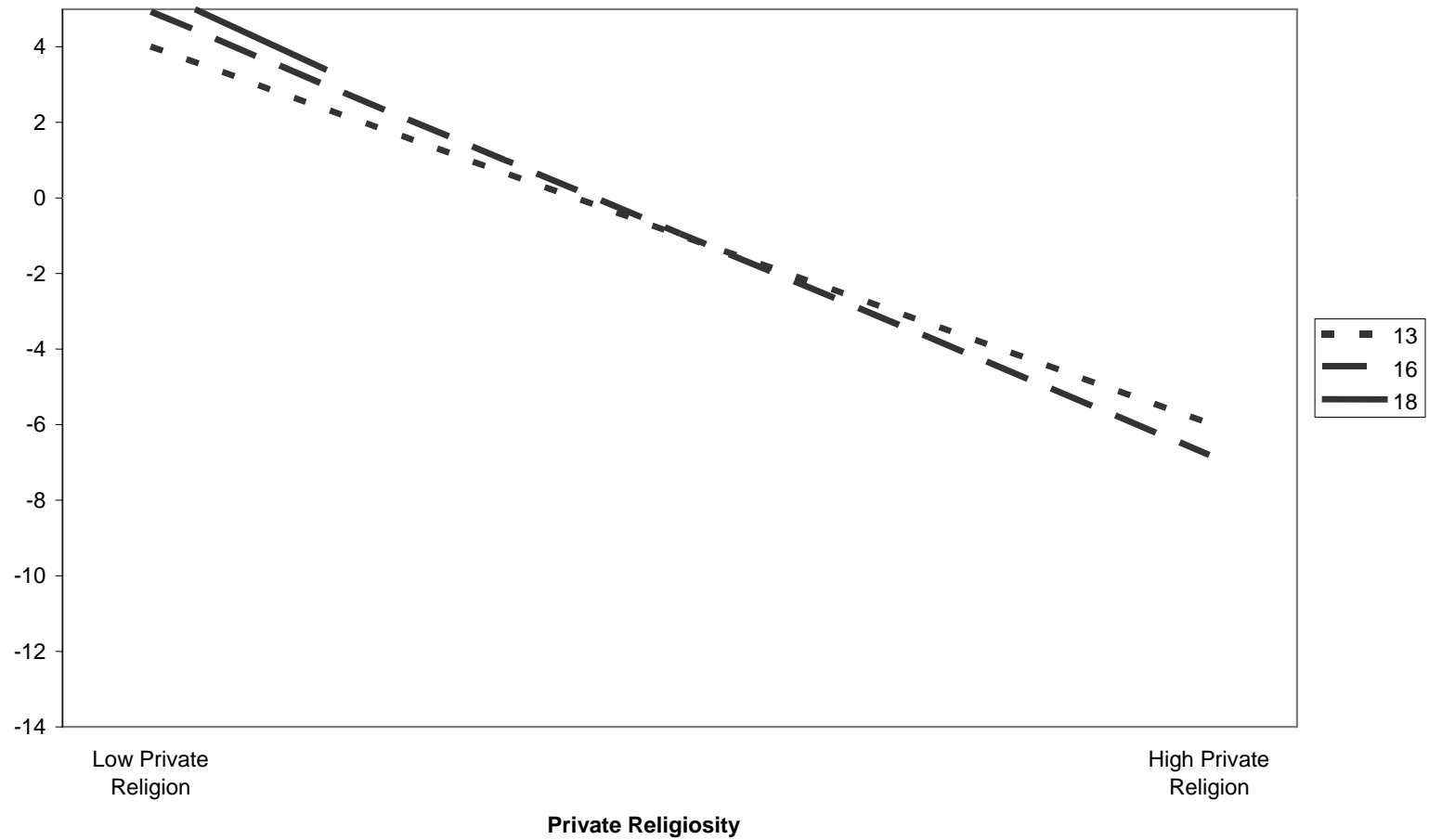
**Figure 2: The Relationship between Private Religiosity and Sexual Touching as a Function of Age**



**Figure 3: The Relationship between Family Religiosity and Oral Sexual Behavior as a Function of Gender**

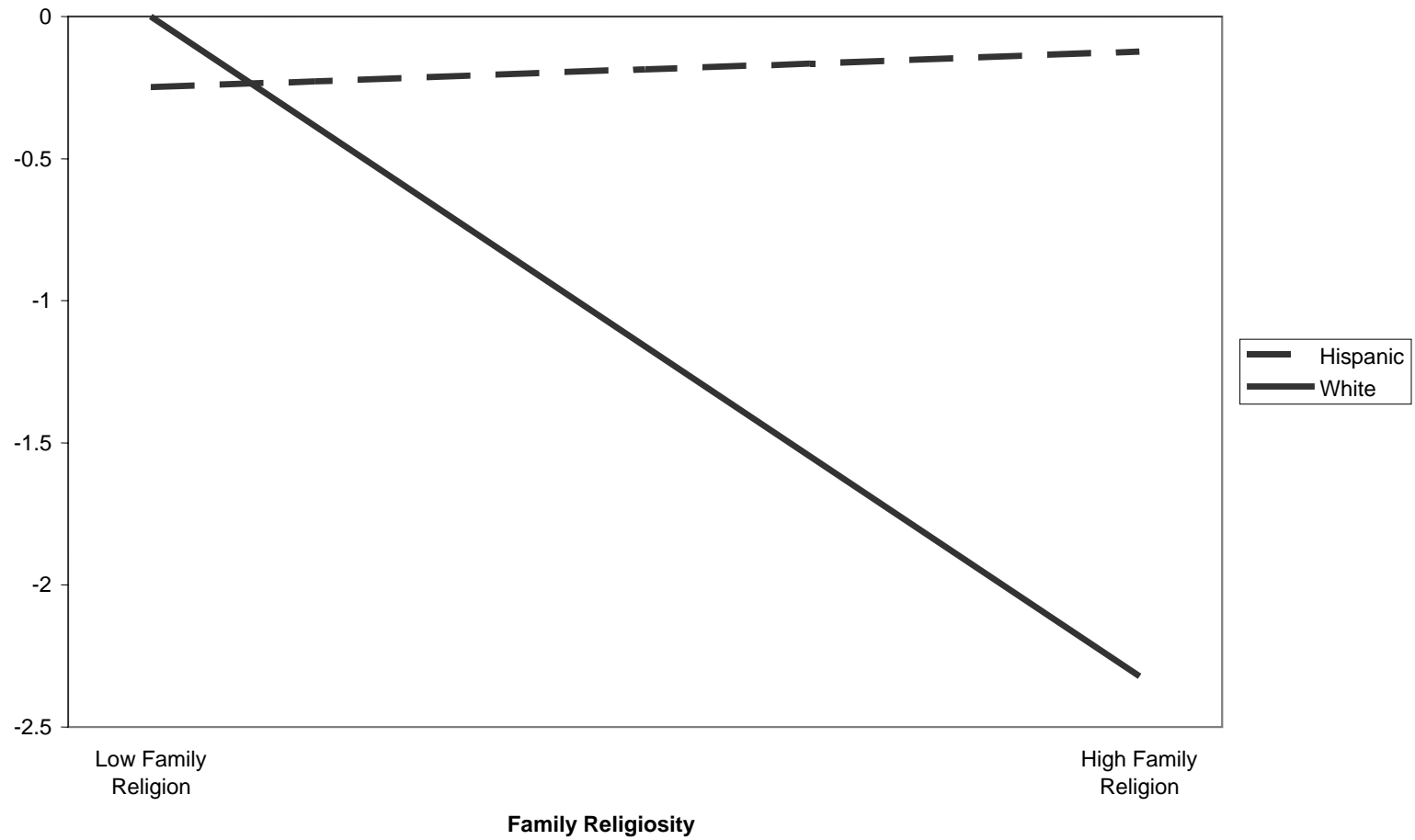


**Figure 4: The Relationship between Private Religiosity and Oral Sexual Behavior as a Function of Age**

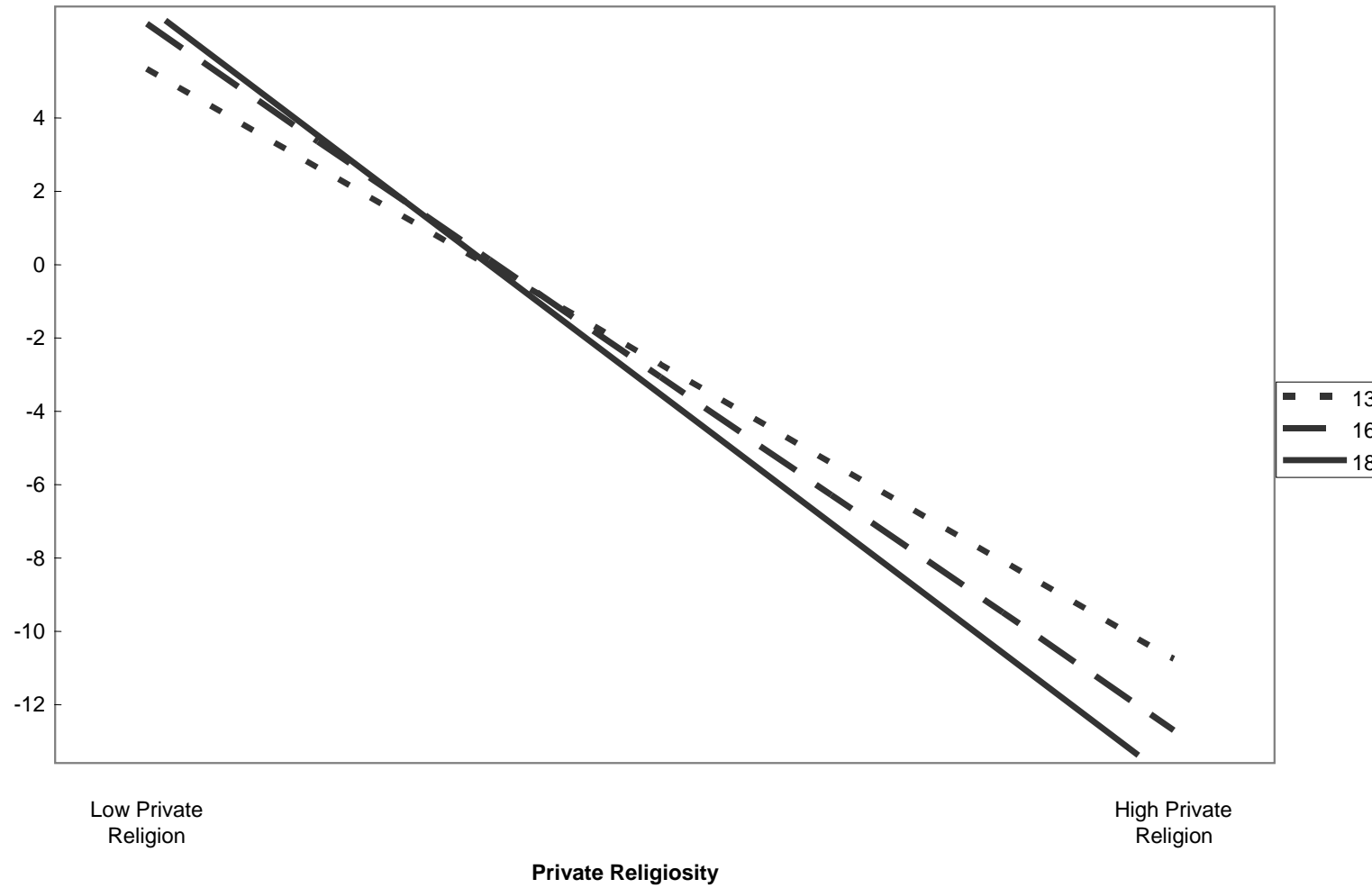




**Figure 5: The Relationship between Family Religiosity and Sexual Intercourse as a Function of Race/Ethnicity**



**Figure 6: The Relationship between Private Religiosity and Sexual Intercourse as a Function of Age**



While family religious behavior appears to reduce the odds of sexual touching and oral sexual behavior for both boys and girls, this relationship appears to be stronger for females than for males for both sexual outcomes ( $b=.268$   $p<.05$ ,  $b=.372$   $p<.01$ ). Additionally, it appears that private religious activities, such as praying and reading the Bible, have a greater impact on sexual touching ( $b=-.137$ ,  $p<.01$ ), oral sexual behavior ( $b=-.098$ ,  $p<.05$ ) and sexual intercourse ( $b=-.176$ ,  $p<.001$ ) as teens move through adolescence. In other words, private religiosity has a greater impact on the sexual behavior of older teens than on the sexual activity of younger adolescents. Finally, although family religiosity appears to reduce the odds of sexual intercourse among White adolescents, it appears to be unrelated to the transition to first sex among Hispanic adolescents. African American adolescents appear to be similar to non-Hispanic White youth in the impact of family religiosity on sexual debut.

## DISCUSSION

While scholars have long noted the impact of religion in delaying adolescent sexual behavior, scholarship in this area has remained underdeveloped for several theoretical and methodological reasons. Previous research has often disregarded the multidimensional nature of religion, instead focusing on one aspect, such as church attendance or religious salience. Furthermore scholars have tended to focus exclusively on sexual intercourse, rather than examining other forms of sexual activity. Finally, it is unclear from previous research whether the effect of religious involvement on sexual activity varies according to key subgroups. This chapter addressed some of the gaps in previous research on religion and adolescent sexual behavior by exploring the impact of

multiple dimensions of adolescent religious involvement (public religiosity, private religiosity, religious salience and family religiosity) on multiple indicators of sexual activity (sexual touching, oral sexual behavior and sexual intercourse). I also explored whether the effect of religious involvement on adolescent sexual activity varies according to age, sex and race/ethnicity.

It appears that different measures of religious involvement impact different forms of sexual activity in different ways. Religious salience appears to be particularly important in the delaying all types of sexual activity. Religious salience may be the most prominent influence among the various aspects of adolescent religious involvement on adolescent for two primary reasons. First, religious salience is perhaps the most proximal influence on adolescent sexual activity, and some other aspects of adolescent religiosity (e.g. church attendance, family religious behavior) may be mediated by adolescent religious salience. Second, religious salience is an aspect of religious involvement that adolescents themselves have a great deal of control over. While some teens may be unable to control how often they attend church or their families' religious behaviors, they can control their perceptions of religion's influence in their daily lives.

Although private religiosity appears to delay only sexual touching, higher levels of church attendance seem to delay both sexual touching and sexual debut but not oral sex, once other measures of religiosity are taken into account. This finding could be due in part to the lack of discussion by religious leadership concerning certain sexual behaviors. While churches may clearly define nonmarital sexual intercourse as immoral,

they may not discuss other forms of sexual behavior, such as oral sex. Therefore, church attendance may have less influence on transitions into oral sexual behavior than sexual intercourse. Why religious behavior appears to have a consistent influence on sexual touching remains unclear, but this aspect of sexual activity may be more heavily influenced by selection effects than other aspects of sexual behavior, given that the overwhelming majority of adolescents have participated in this form of sexual activity. Those who have not transitioned to sexual touching by Wave 2 of the survey may be particularly religious compared to their peers. Family religious behaviors appear to have little impact on adolescent sexual activity, once other measures of religiosity are taken into account. As noted above, it appears family religious behaviors are mediated by other, more proximal, aspects of religious involvement. These findings draw attention to the multidimensional nature of religious involvement, as well as highlighting the dangers associated with employing a single measure of religious activity or multi-item indices of religiosity.

The data also reveal several interesting findings with regard to religious affiliation. Although holding a conservative Protestant, mainline Protestant or Catholic affiliation is most often unrelated to transitioning into sexual behavior in initial models, adolescents holding these affiliations are actually *more* likely to report these behaviors than their unaffiliated counterparts, once other measures of religious involvement are taken into account. Although this finding is somewhat consistent with some previous research on sexual intercourse among Catholic women (Brewster et al. 1998) previous work in this area has not uncovered these patterns among members of other religious

affiliations. Although conservative Protestants sometimes fail to exhibit reduced odds of sexual behavior (Regnerus 2007), I am among the first to show that conservative Protestant affiliation may actually *increase* the odds of sexual activity net of religious involvement itself.

These findings may not be the result of religious affiliation per say, but may be the consequence of omitted variable bias, such as untapped socioeconomic status at the individual and community level. Given that conservative Protestants tend to be located in areas of the country (i.e. the southeastern US) that suffer from lower education attainment, poor school quality and lower overall economic status, what may be viewed as the impact of conservative Protestant affiliation on adolescent sexual behavior may really be a spurious relationship with community socioeconomic status. Future research should also include more precise measures of family SES (e.g. wealth, occupation, debt) when available.

In addition to untapped socioeconomic status, conservative Protestant churches maybe less likely to promote higher education and more likely to focus attention on personal, particularly family, relationships. As a result, conservative Protestant teens may focus more time and energy on romantic relationships, rather than focusing on educational goals and career aspirations. As a result of this focus, they may enter into serious relationships earlier than other teens, viewing this as the path to adulthood. When adolescent sex does occur, it is often within the context of a relationship, rather than a random occurrence. Additionally, unlike Mormon teens, which have notably lower odds of sexual behavior compared to other teens (Regnerus

2007), conservative Protestant adolescents may be discouraged from pursuing higher education by their religious community. Although Mormon theology is similar in its conservative values and focus on familial ties, LDS teens are encouraged to pursue a college education. Therefore, it may not be simply the promotion of traditional family values, such as marriage and childbearing, but the combination of these values with low educational goals and attainment. Given that educational goals and attainment are associated with adolescent sexual activity (Moore, Simms and Betsey 1986; Lauritsen 1994), conservative Protestant churches may inadvertently create an environment conducive to earlier adolescent sexual behavior.

These unusual findings may also be due to the nature of religious affiliation during adolescence. Some teenagers may see their religious identity as involuntary in nature. Teens may have few opportunities to explore or develop a religious identity that is separate from that of their parents. Further, some teens may have little interest in their religious identity, and may not see their religious affiliation as a salient part of their identity. Therefore, some teens who affiliate with a conservative Protestant, Catholic or mainline Protestant religious group may do so because they have had some sort of contact with that group, whether or not this contact was meaningful is another question. For example, teens that are not otherwise religiously involved may still affiliate with a certain group because, a) members of their family are affiliates of that group, b) it is part of their cultural identity, or c) they had some sort of contact with that group during their childhood (e.g. the teen was confirmed or baptized in a certain church). Further, in some areas of the country (e.g. the south), identifying as unaffiliated may be viewed as

non-normative, and therefore youth maybe reluctant to say they have no religious affiliation.

Conversely, unaffiliated adolescents may be socialized to avoid adolescent sexual activity for other, non-religious, reasons. Unaffiliated teens may receive more exposure to public health messages instilling a fear of teen pregnancy and sexually transmitted infections, than religiously affiliated teens. Religiously affiliated teens maybe sheltered from such messages, because religious leadership may view some public health messages as in opposition to religious principles. Religiously unaffiliated teens may also be more receptive to messages from public health officials concerning sexual health than religiously affiliated teens. Perhaps religiously inactive but affiliated adolescents display high levels of sexual activity because they are not receiving moral messages restricting sexual activity from religious institutions, while also lacking exposure and openness to public health information that may guard against sexual activity.

With regard to interaction effects, it appears that private religiosity has a greater impact as teens move through adolescence. It may be that private religious practices are particularly effective in delaying sexual activity as youth move adolescents because prayer and Bible reading may reinforce religious doctrines about morality and sexual restraint at a time in the lifecycle when adolescents are allowed more freedom and are more likely to be involved in romantic relationships. Further, while prayer and Bible reading may be somewhat under parental control in early adolescence, participation in these behaviors in later adolescence may indicate a stronger commitment to religious



principles. Furthermore, it seems that family religiosity has an impact on sexual intercourse for non-Hispanic White and Black youth, but not for Hispanic adolescents. Future research focused on family religious practices and adolescent sexuality among Latinos is needed to understand this interesting finding. While a considerable amount of research exists focusing on religion and family life among African American and non-Hispanic youth, few studies have examined these topics among Hispanics, particularly the influence of these institutions on adolescent sexual behavior.

Consistent with previous research (Bearman and Bruckner 2001; Rostosky et al. 2003; Regnerus et al. 2003; Rostosky et al. 2004), it appears that religious involvement has a greater impact on the sexual activity of females than for males, at least with regard to family religious behavior. This may be due to the emphasis that religious groups, and perhaps religious families, place on female virginity. Due to the patriarchal nature of some religious traditions, church leadership may emphasize the importance of virginity for girls. Further, the Bible often notes the sexual status or history of female characters, yet rarely does so for male (e.g. Leviticus 21:7, Luke 1:34, John 4: 17-19), which may reiterate the importance of virginity status among girls in particular. Likewise, those families that are highly religious may stress the sexual purity of female adolescents in family religious discussions or in more subtle ways. As a result, family religious practices are particularly influential in delaying the sexual activity of adolescent girls.

All research is characterized by limitations, and this is certainly true of the present study. Although examining the transition to sexual behavior is important for

establishing causal ordering, it does introduce bias into the analyses by excluding adolescents who had already engaged in sexual behavior prior to the first round of the study. As a result, I have potentially excluded some of the more disadvantaged teens (and those who would most likely benefit from the protective effects of religious involvement) from the analyses, given that socioeconomic disadvantage is associated with sexual activity (Browning et al. 2004; Cubbin et al. 2005).

In addition to the potential impact of omitted variable bias regarding contextual influences noted above, several other possible selection effects merit brief discussion. Given that religious participation is a choice (although less so among adolescents), some scholars have suggested that an underlying personality factor may explain both religious involvement and certain outcomes like sexual activity. Religious individuals may be conformist, or risk adverse by nature, and comfortable with social control (Ellison 1991; Ellison and Levin 1998). For example, adolescents who are religiously involved maybe less prone to engage in sexual behavior due to fears of pregnancy or sexual transmitted infections. This same “fearfulness” may also keep these adolescents religiously involved, due to fear of damnation or displeasing one’s parents. However, findings from Regnerus and Smith (2005), which examines the influence of a number of personality traits including risk-taking, planfulness and fearfulness, suggest that although measures of religious involvement are subject to selection effects, these effects do not explain the influence of religion on a range of outcomes. In other words, those adolescent who are more risk-adverse or planful may be more likely to be religious,

however these personality traits do not explain the impact of religion on outcomes such as family satisfaction, health or delinquency.

Additionally, scholars are becoming increasingly aware of the important role of biological influences on adolescent health. Scholars have noted the important influence of testosterone levels in motivating sexual activity among boys, as well as the impact of menarche on the sexual behavior of adolescent girls (Udry et al. 1985; Bingham, Miller and Adams 1990; Manlove, Terry-Humen and Ikramullah 2006). Although few studies have explored biological influences on adolescent sexual behavior in connection with religious involvement, one such study found significant additive effects of free testosterone and frequency of attendance at religious service on the transition to first intercourse. Boys with higher levels of testosterone at study entry who never or infrequently attended religious services were the most sexually active. Conversely, those boys with lower levels of testosterone who attended services once a week or more were the least sexually active (Halpern et al. 1994). In addition to biological influences on sexual activity, some scholars have suggested that there is a hormonal or genetic component to religiosity as well (Miller and Stark 2002). Future research in this area should at least consider potentially important connections between biological and social influences on adolescent sexual health outcomes.

Finally, although this chapter offers valuable insights into the relationship between religious involvement and sexual transitions, it does not offer information on other important sexual health outcomes. Therefore, future research in this area should investigate the impact of various facets of religious attitudes and behaviors on other

measures of adolescent sexual activity, such as contraceptive use, method of contraception, and number of sexual partners. It may be that while some aspects of religion have a great impact on transitions to sexual activity, other aspects may be more salient predictors of contraceptive use and choice.

Despite these limitations, the present study makes an important contribution to the study of religion and adolescent sexual behavior by (1) exploring the impact of multiple dimensions of religious involvement on adolescent sexual activity, (2) employing multiple measures of adolescent sexual behavior, and (3) examining variations by race/ethnicity, gender and age in the impact of religious involvement on adolescent sexual behavior.

### CHAPTER 3: RELIGION, RACE AND ADOLESCENT SEXUAL BEHAVIOR

Studies show that religious involvement delays (Brewster et al. 1998; Bearman and Bruckner 2001; Hardy and Reffaelli 2003; Meier 2003) and limits (Miller and Gur 2002; Thornton and Camburn 1989) adolescent sexual behavior; however, these effects are not uniform across racial and ethnic groups (Day 1992; Bearman and Bruckner 2001). The great paradox for those who study religion and sexual behavior is the relationship between religious involvement and sexual intercourse among African American youth. African Americans are consistently both the most religious and the most sexually active group of American teenagers (Regnerus, Smith and Fritsch 2003; Regnerus 2007).

While this paradox is commonly acknowledged, previous research in this area is characterized by several theoretical and methodological limitations. First, theoretical explanations for this paradox have often been incomplete. Some studies on religion and adolescent sexual behavior provide no reasoning for this racial paradox, while others simply suggests cultural differences, providing little or no insight as to what these differences might be or mean. Second, the majority of research in this area has employed a single measure of religious involvement, such as church attendance or general religiosity (e.g. McCree et al. 2003; Steinman and Zimmerman 2004; Jones et al. 2005). Because religion is a complex and multidimensional construct, using a single or composite measure of religious involvement is inadequate. It may be that while certain aspects of religious involvement are associated with delayed sexual behavior, other aspects may be uncorrelated. Further, these constructs may operate differently

among diverse racial and ethnic groups. Finally, the overwhelming majority of studies on religion and sexual behavior assume a linear relationship between religious involvement and sexual activity. Instead, there may be important nonlinear effects that are masked by using ordinal measures of religious behavior. Furthermore, there are important theoretical reasons to believe that these nonlinearities might differ by race/ethnicity.

The remainder of this chapter has five parts. I begin by reviewing prior work on race and adolescent sexual behavior and briefly outlining arguments linking race, religion and adolescent sexual activity. Following the discussion of theoretical connections, I explore the relationship between religious involvement, race and adolescent sexual behavior, employing data from the National Survey of Youth and Religion (NSYR), a nationally representative data set of adolescents and their parents. Given that the NSYR is composed primarily of African American and White youths, I have limited my analysis to these two racial groups. Following the presentation of results, I discuss the implications of these findings, note the limitations of this study, and identify promising directions for future research.

### *Racial Variations in Adolescent Sexual Behavior*

Numerous scholars have noted the often dramatic racial and ethnic differences in adolescent sexual behavior (e.g. Furstenburg et al. 1987; Bearman and Brückner 2001; Browning, Leventhal, and Brooks-Gunn. 2004). Studies suggest that African Americans, particularly males, tend to have sex earlier than all other racial and ethnic groups (Upchurch et al. 1998). Mott and colleagues (1996) find that early sexual debut

is about eight times as likely among Black males compared to non-Hispanic White males. Similarly, data from the Centers for Disease Control (CDC) indicate that 32 percent of African American boys and seven percent of African American girls have had sexual intercourse by age 13, compared to five percent of White boys and three percent of White girls (CDC 2004).

These racial variations in sexual practice are of great importance because they correspond with equally striking variations in sexually transmitted infections (STIs). Using Wave III of the National Longitudinal Study of Adolescent Health, Ford and Colleagues (2005) found that African American adolescents were significantly more likely to test positive for one of three common STIs (*chlamydia trachomatis*, *neisseria gonorrhoeae*, or *trichomonas vaginalis*) than non-Hispanic Whites. In fact, approximately 18.6 percent of African Americans tested positive for an STI compared to 3.2 percent of White adolescents.

Examining racial variations in sexual practice is also key given that African Americans have significantly higher rates of adolescent fertility when compared to non-Hispanic White youth (Hamilton, Sutton, and Ventura 2003). Teen pregnancy is associated with a number of adverse child health outcomes including low birth weight, sudden infant death syndrome and infant mortality (Hoffman 1998; MacDorman and Atkinson 1999). Further, adolescent pregnancy often limits the mother's educational attainment, contributing to ongoing economic challenges and negative child health outcomes. Children born to adolescent mothers are more likely to live in poverty, have problems in school and experience abuse and neglect than children born to older

mothers (Hoffman 1998; MacDorman and Atkinson 1999; U.S. Department of Health and Human Services).

*Race, Religion and Sexual Behavior: The African American Context*

Despite some limited evidence to the contrary (e.g. Durant and Sanders 1989; Billy et al. 1994 Bearman and Bruckner 2001), there is reason to believe that religious institutions may play an important role in delaying sexual activity among African American teens. Specifically, we might expect that religious involvement will have a greater protective influence for African American adolescents than among non-Hispanic White youth in delaying sexual debut for three key reasons including: 1) higher levels of religiosity among African Americans, 2) the historical role of religious institutions in the African American community, 3) previous findings on the relationship between religion, race and health.

As noted earlier, African American adolescents tend to report higher levels of religious involvement than teens of any other racial or ethnic group. Black youth are more likely than non-Hispanic White teens to attend religious services on a regular basis (40 percent versus 29 percent), as well as being significantly more likely to report that religion is very important in their daily lives (55 percent versus 24 percent) (Johnstone, Bachman and O'Malley, 1999). Although these numbers highlight the important role that religion plays in the lives of African American youth, simply being more religious does not mean that the impact of religious involvement on sexual behavior will be greater among this racial group than among non-Hispanic White adolescents.



Religion may also be more important in delaying sexual behavior among African Americans due to the role of the church in the African American community. Throughout American history the Black church has occupied a key position in the African American community for social and political reasons. As one of the few stable and coherent social institutions to emerge from slavery, Black churches were among the first institutions created and controlled by African Americans (Blassingame 1972; Woodson 1972; Frazier and Lincoln 1974). As Lincoln and Mamiya (1990) note “The Black Church has no challenger as the cultural womb of the Black community.” The African American church gave birth to a number of critical social institutions (e.g. schools, colleges and universities, banks, insurance companies), as well as nurturing musical, dramatic and artistic talent. Additionally, the Black Church has provided an arena for political activities, including the Civil Rights movement of the 1960s. Religious institutions continue to play an important role in the African American community, promoting racial identity and awareness, as well as political mobilization (Wilcox and Gomez 1990; Lincoln and Mamiya 1990; Ellison 1991a).

Finally, there is reason to believe that religion may be more effective in delaying the sexual activity of Black youth than other adolescents based on previous research on religion, race, and health among US adults. Some evidence suggests that religion is more closely related to mental and physical well-being among African Americans than other racial/ethnic groups (George and McNamara 1984; Ellison 1991b; Ellison and Levin 1998; Schieman, Pudrovska and Milkie 2005). For example, Thomas and Holmes (1992) find that religion is a more important in producing satisfaction for Black

adults than for non-Hispanic Whites. Similarly, Krause (2005) finds older African Americans report higher levels of God-mediated control than older Whites, and that the relationship between God-mediated control and psychological well-being is stronger for older Blacks than older Whites. Additionally, Hummer and colleagues (1999) find that the impact of church attendance on U.S. adult morality is much greater for Blacks than non-Hispanic Whites. Previous scholarship also suggests that formal programs providing social support and instrumental assistance may be more prevalent in African American congregations, which could in turn increase the benefits of religious involvement among this population, as compared to other racial/ethnic groups (Caldwell, Greene and Billingsley 1992; Chaves and Higgins 1992; Ellison and Levin 1998; Taylor, Chatters and Levin 2004).

Applying the above arguments to the question of adolescent sexual activity would lead us to expect religion to be *more* important in delaying sexual activity among African American youth than among their non-Hispanic White counterparts. There are also, however, reasons to believe that religious involvement may be *less* effective in delaying sexual activity among this population of American teenagers. Three primary explanations for a reduced or insignificant association between religious involvement and adolescent sexual behavior among Black adolescents include: 1) the adaptation of churches to the surrounding environment, 2) church messages regarding sexuality, and 3) the functionality of the African American church.

As Ellingson and colleges (2004) note in their study of sexual behavior in Chicago, churches must operate within the context of the surrounding community. In

other words, the church does not just influence the community; the community also influences the church. As Regnerus (2007) notes, religious leaders are not free to create new sexual norms; they must and do work within the existing constraints of the local external sexual culture. Religious institutions are therefore put in the precarious position of balancing the enforcement of sexual norms while not alienating their main constituency. Consequently, while the Black church has historically taken a relatively conservative view of sexuality, African American churches tend to tolerate sex outside of marriage as long as it is done discreetly, due to more permissive surrounding cultural norms regarding sexuality (Jackson 1983).

Second, messages regarding sexuality may be blurred or de-emphasized within the African American Church. Historically, the Black church has been an inclusive social institution, acting as a shelter in a racist world. Further, the African American church provides a community and an atmosphere where people can be affirmed and accepted as they are, rather than judged based on their social standing (e.g. occupational status, educational attainment, level of income) in the outside world. African Americans oppressed or ignored by society have often sought out the church as a place of sanctuary (Lincoln and Mamiya 1990). Because of the inclusive nature of the Black church, clergy may be hesitant to address issues that could distance affiliates, and potentially jeopardize the role of the church within the African American community.

Additionally, African American theology has historically given greater weight to biblical passages emphasizing the importance of human personhood and equality, rather than scripture focusing on morality (Lincoln and Mamiya 1990). Clergy may continue

to emphasize themes of freedom and justice, rather than messages addressing sexual principles. Indeed, evidence suggests that many Black churches are not addressing sexual issues, at least in terms of social programs. Using data from the Black Church Family Project, Rubin and Billingsley (1994) observed that only roughly five percent of African American churches provide programs addressing HIV or youth health related services in general.

Finally, religious involvement may be less likely to delay the sexual behavior of Black adolescents compared to White youth due to the functionality of the African American church. The important, multifaceted role religious institutions play in the African American community has led some scholars to label the Black church a “semi-involuntary” institution. That is, decisions to participate in congregational life have been shaped to a considerable degree by social norms and expectations (Nelsen, Yokley and Nelsen 1971; Ellison and Sherkat 1995; Ellison and Sherkat 1999). In other words, participation in congregational life is not completely voluntary for African Americans who wish to be active within the surrounding community. Members may attend religious services for both religious and nonreligious reasons, including community norms. Given that high levels of religiosity are normative within the African American community, those who express lower levels of religious behavior and belief may face informal social sanctions (e.g. gossip) as well as being deprived of community resources.

Further, scholars have suggested that relatively few church members make up the core moral community of African American religious institutions, while other

members may not be committed to official church doctrine regarding morality (Ellison and Sherkat 1995; Ellison and Sherkat 1999). Therefore, many adolescents who are not committed to the historical moral teachings of the church, which prohibit non-marital sexual behavior, may nonetheless be quite involved in African American religious institutions. In fact, given that religious institutions are largely homogeneous, bringing together individuals who share many social characteristics and therefore may have much in common (Ellison 1994); religious institutions could potentially serve as an additional venue for meeting potential sexual partners for some African American adolescents. As a result, religiosity, particularly public religious participation, may be less effective in delaying sexual activity among African American youth compared to non-Hispanic White adolescents.

Using data from the National Survey of Youth and Religion, (NSYR) this chapter addresses three significant limitations in previous research on religion, race and adolescent sexual behavior. First, I discussed theoretical linkages between religion, race and adolescent sexual behavior. Second, I employ variables capturing multiple dimensions of religious involvement on sexual behavior. Specifically, I examine the impact of church attendance, religious salience, prayer, and family religious discussion on the odds of sexual intercourse and number of lifetime sexual partners. Finally, I examine potentially important nonlinear effects in the relationship between religious involvement and adolescent sexual behavior by race. Once again, because the National Survey of Youth and Religion is composed primarily of African American and non-Hispanic White youths, I have limited my analysis to these two racial groups.

## DATA AND METHODS

*Data-* See Chapter 2 for complete data description. All analyses are limited to African American and White adolescents present at Wave 1. Although it would have been preferable to include adolescents from other racial/ethnic groups (i.e. Hispanics and Asians), the sample is limited to these two racial groups because the NSYR does not contain adequate numbers of members of other racial/ethnic groups to permit independent analysis. Given that one of the aims of this chapter is to examine potential non-linear effects in the impact of religious involvement on sexual behavior, separate analyses by race/ethnicity is preferable to examining interaction effects. Although it is also possible to examine interaction effects using dummy variables, models using this method do not lend themselves to easy or clear interpretation. Therefore, I determined that conducting separate analyses by race/ethnic was the best option for investigating the impact of religious involvement on adolescent sexual behavior *within* racial/ethnic groups.

Additionally, these analyses are limited to Wave 1 of the NSYR for two reasons. First, a large number of African American adolescents transitioned to sexual intercourse prior to Wave 1. Excluding these youth from the analyses may have led to biased results, especially regarding the relationship between religious involvement and sexual behavior. Second, there are significant racial variations in attrition between waves (analyses not shown), with African Americans being significantly more likely than non-Hispanic white to be missing at Wave 2. As a result of both earlier transition into sexual

intercourse and sample attrition, using both waves of the NSYR would have resulted in cutting the current sample of African American adolescents in half.

### *Measures*

#### Dependent Variable: Sexual Behavior

*Sexual intercourse* was measured by asking the respondent whether or not he or she had ever had sexual intercourse (had sex=1). Those youth who reported having sexual intercourse were asked, “With how many different people have you had sexual intercourse?” Response categories for the measure of *lifetime sexual partners* range from “0= no partners” to “6 or more partners”

#### Independent Variables: Religious Involvement

Frequency of *church attendance* is measured using a series of dummy variables capturing how often the respondent attended religious services in the past year. Response categories include, “more than once a week”, “once a week”, “2-3 times a month”, “once a month”, “many times a year”, “a few times a year” and “never”, with attending church on a weekly basis acting as the reference category.

Adolescent *religious salience* is measured using the question, “How important or unimportant is religious faith in shaping how you live your daily life?” Response categories for this item range from “not important at all” to “extremely important”, and were entered in the model as a series of dummy variables. Because so few African American youth reported that religion was not important at all in shaping their daily lives, these adolescent were combined with those who said that religion was “not very

important” in their lives. The reference category is composed of those youth who reported that religion was “very important” in shaping their daily lives.

Frequency of *private prayer* is measured using a series of dummy variables capturing how often the respondent prayed by themselves alone. Response categories were coded into the following categories: “more than once a day”, “once a day”, “several times a week”, “a few times a month or less” and “never”, with praying on a daily basis acting as the reference category.

*Family religious behavior* is measured using responses from the item, “How often, if ever, does your family talk about God, the Scriptures, prayer or other religious or spiritual things together?” Response categories for this item were recoded to include “once a day”, “once a week or more”, “once a month to a few times a year” and “never”, with discussing religion on a weekly basis acting as the reference category.

#### Socio-demographic Controls

Numerous socio-demographic characteristics have been identified as significant correlates of adolescent sexual behavior. Previous research suggests being male, older, southern and in a family of lower socioeconomic status is associated with earlier sexual debut (Furstenberg et al. 1987; Upchurch et al. 1998; Browning et al. 2004; Cubbin et al. 2005). Conversely, being in a biologically intact family is associated with reduced odds of adolescent sexual activity (Browning et al. 2004; Cubbin et al. 2005). Therefore all subsequent analysis includes controls for mother’s level of education (less than a high school education is the reference category), mother’s employment status (1=*mother is employed full-time*, 0= other employment status) *parent’s income* (scale



ranging from less than \$10,000 to more than \$100,000), *biologically-intact family* (1= biological-intact, 0= other family structure), *child's age* (in years), child's gender (*male*=1), and and southern residence (1=*southern residence*, 0= other region).

## ANALYTIC PROCEDURES

The analytic strategy for this study follows five steps. Table 6 provides descriptive statistics for all variables included in this study for the total sample as well as by race. Table 7 displays racial variations in the relationship between the various measures of religious involvement outlined above and the average level of sexual intercourse for that group. Table 8 presents similar results to Table 7 for number of lifetime sexual partners. Tables 9 and 10 employ logistic regression to formally evaluate the net effects of predictor variables on the odds of sexual intercourse for Black and White adolescents independently. Socio-demographic variables were entered in the first model (mother's level of education, parental income, family structure, age, gender, southern residence) while Models 2-5 include each of the measures of religious involvement entered separately, in order to evaluate the independent effect of each of these variables on adolescent sexual intercourse. Tables 11 and 12 use tobit regression to evaluate the effect of predictor variables on number of lifetime sexual partners for African American and White adolescent separately. The specific models in Tables 11 and 12 are identical to those used to evaluate the impact of religious involvement on sexual intercourse.

It must be noted that unlike most studies examining the effects of religious involvement on various outcomes, I use relatively high levels of religious involvement

as the reference categories. I have chosen these reference categories for two key reasons. First, given the relatively high level of expectation for religious involvement in the African American community, the lowest levels of religious involvement might not be an appropriate reference category. It may be that extremely low levels of religious involvement signify a disconnection with the surrounding community, which may in turn reduce contact with potential sexual partners. The analyses presented below allows for the comparison of categories of religious activity with normative levels of religious involvement. Second, limited evidence suggests that higher levels of religiosity are associated with sexual behavior, at least among African American males (Rostosky, Regnerus and Wright, 2003). Therefore, comparing adolescents with the highest levels of religiosity with those who report the lowest levels of religious activity may actually mask the sexual behavior of those youths who are at least somewhat involved in religious life.

## RESULTS

### *Sample Characteristics*

Table 6 presents descriptive statistics for all variables used in these analyses. As noted above, the sample is limited to African American (20%) and White adolescents (80%). Although the majority of the youths in this study are virgins, approximately 21 percent of NSYR respondents have had sexual intercourse. While 20 percent of non-Hispanic White adolescents have had sex, 28 percent of African American respondents are no longer virgins. On average, African American report more lifetime sexual partners than their White counterparts. Consistent with previous research, Black youth report higher

levels of all of the measures of religiosity than White teens. Racial variations in the religiosity are particularly glaring for private prayer and family religious discussion.

Table 6: Mean Levels of NSYR Variables by Race at Wave 1\*

	Total (N=2519)	Black (N=505)	White (N=2014)
<i>Sexual Behavior</i>			
Sexual Intercourse	.21	.28	.20***
Lifetime Sexual Partners	.51	.78	.44***
<i>Religious Involvement</i>			
Church Attendance	3.14	3.22	3.12
Religious Salience	2.54	2.94	2.44***
Private Prayer	3.03	3.50	2.92***
Family Religious Discussion	2.70	3.41	2.52***
<i>Sociodemographic Controls</i>			
Mother has Less than High School Education	.05	.09	.05***
Mother has High School Education	.24	.24	.24
Mother has Some College	.38	.48	.36***
Mother has College Degree	.18	.11	.20***
Mother has Graduate Degree	.14	.08	.15***
Mother is employed Full-time	.55	.62	.53***
Parent's Income	6.20	4.72	6.58***
Biologically Intact Family	.55	.28	.62****
Southern Residence	.42	.56	.39***
Child's Age	15.53	15.49	15.54
Child is Male	.50	.48	.51
Child is White	.80	-	-
Child is Black	.20	-	-

\*p < .05    \*\*p < .01    \*\*\*p < .001

\*Sample is limited to African American and White respondents present at Wave 1. The sample is limited to these two racial groups because the NSYR does not contain adequate numbers of members of other racial/ethnic groups to permit independent analysis.

With regard to socio-demographic characteristics, the majority these youths have mothers with at least some college education, although approximately five percent have mothers with less than a high school education. White youth are more likely to have a mother with a college or graduate degree than their African American counterparts. Conversely, African American youth are more likely than White youth to have a mother with less than a high school education. The majority of NSYR adolescents from both racial groups have a mother that is employed full-time, although African American adolescents are more likely than White youth to have a mother that works full-time. On average, these adolescents come from household averaging between \$50,000 and \$60,000 in annual household income, although this figure is significantly lower for Black youth. Although 62 percent of White adolescents are situated within biologically-intact families, only 28 percent of Black youth are in this type of family structure. The majority of African American youth live in the south (56%), while the majority of White teens live outside of this region.

#### *Racial Variations in Sexual Behavior by Religious Involvement*

Table 7 shows racial variations in virginity status by each measure of religious involvement. While few racial differences exists at lower levels of church attendance (with the exception of attending church a few times a year), significant racial variations are present at the higher levels of service attendance. Perhaps most striking is the relatively high level of sexual activity among African American youth who attend church on a weekly basis. While approximately 15 percent of White adolescents who

attend church on a weekly basis have had sexual intercourse, roughly 35 percent of Black adolescents in this same category have had sex.

Table 7: Percent of Respondents who reported Sexual Intercourse by Race\*

	Sexual Intercourse		
	Total (N=2519)	Black (N=505)	White (N=2014)
<i>Church Attendance</i>			
More Than Once a Week	12.9	19.0	11.0
Once a Week	17.7	34.9	14.7
2-3 Times a Month	23.3	32.0	20.8
Once a month	25.3	26.9	25.0
Several Times a Year	22.5	20.5	24.0
A Few Times a Year	23.1	37.3	20.3
Never	29.3	28.9	29.4
<i>Religious Salience</i>			
Extremely Important	15.2	24.8	11.1
Very Important	19.9	24.5	18.4
Somewhat Important	25.1	36.2	22.8
Not Very or Not at All Important	25.6	28.1	25.5
<i>Private Prayer</i>			
Many Times a Day	16.8	18.6	15.8
Everyday	20.2	33.9	16.7
Several Times a Week	22.0	28.0	20.3
Few Times a Month or Less	20.3	32.3	18.5
Never	29.2	35.3	28.6
<i>Family Religious Discussion</i>			
Daily	15.2	21.3	11.3
Several Times a Week	18.3	29.6	13.8
Weekly	22.1	27.0	20.4
Once a Month to Several Times a Year	22.9	31.0	22.0
Never	25.8	36.0	25.0

\*Sample is limited to African American and non-Hispanic White respondents present at Wave 1

While I observe a clear linear relationship between level of religious salience and the percentage of youths who have had sexual intercourse, this relationship is less constant among Black respondents. Only those Black adolescents who report that religion is “somewhat important” in their daily lives seem to be distinct in their elevated levels of sexual behavior. The relationship between private prayer and sexual intercourse also appears to be roughly linear for White adolescents, while only high or very high levels of private prayer appear to be protective for Black adolescents. In general, the relationship between family religious discussion and adolescent sexual intercourse appears to be linear for both racial categories.

Table 8 shows racial variations in lifetime sexual partners by each measure of religious involvement. The general patterns for religion and lifetime sex partners appear very similar to those observed for religion and virginity status. The relationship between each of the measures of religious involvement and number of lifetime sexual partners seems to be generally linear for white adolescents, with those who display higher levels of religious involvement having fewer partners. However, the association between religion and lifetime sexual partners is less consistent for Black teens. Those African American teens who report the highest levels of church attendance and prayer appear to be distinct in terms of their sexual behavior from those Black teens that report lower levels of these behaviors. However, patterns for both family religious discussion and religious salience and number of sexual partners are less apparent among African American adolescents.



Table 8: Number of Lifetime Sexual Partners by Race\*

	Lifetime Sexual Partners		
	Total (N=2532)	Black (N=505)	White (N=2027)
<i>Church Attendance</i>			
More Than Once a Week	.22	.39	.18
Once a Week	.37	.96	.27
2-3 Times a Month	.51	.66	.48
Once a month	.51	.69	.49
Several Times a Year	.52	.55	.51
A Few Times a Year	.68	1.59	.51
Never	.76	.69	.78
<i>Religious Salience</i>			
Extremely Important	.35	.62	.35
Very Important	.43	.62	.43
Somewhat Important	.58	1.03	.58
Not Very or Not at All Important	.70	1.12	.70
<i>Private Prayer</i>			
Many Times a Day	.34	.40	.34
Everyday	.46	.87	.46
Several Times a Week	.51	.93	.51
Few Times a Month or Less	.48	.87	.48
Never	.78	.85	.78
<i>Family Religious Discussion</i>			
Daily	.44	.69	.44
Several Times a Week	.43	.73	.43
Weekly	.51	.63	.51
Once a Month to Several Times a Year	.51	.82	.51
Never	.61	1.11	.61

\*Sample is limited to African American and non-Hispanic White respondents present at Wave 1

### *Multivariate Results*

Table 9 shows the estimated net effects of religious involvement and covariates on the odds of having sexual intercourse for White adolescents. Model 1 (the baseline model) includes non-religious predictors, such as sociodemographic factors and other key variables. Models 2-5 add each of the measures of religious activity independently. These results suggest important religious differentials in adolescent sexual intercourse. Specifically, all four dimensions of religious involvement appear to have a generally linear relationship with sexual intercourse for White adolescents. Those adolescents who report the lowest levels of church attendance, private prayer and family religious discussion are all at least twice as likely to have had sexual intercourse as those youth who report high levels of religiosity. Likewise, reporting moderate versus high levels church attendance, religious salience and family religious discussion is associated with an increased risk of sexual debut. Additionally, reporting that religion is “extremely important” in one’s daily life is associated with a 46 percent decrease in the odds of sexual intercourse compared to reporting that religion is “very important” in one’s daily life.

Table 9: Odds ratios for Logistic Regression of Sexual Intercourse on Select Predictors- -White Only(N=2009)\*

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Sociodemographics/ Controls</i>					
Mother has H S Education	.913	1.022	.879	.915	.922
Mother has Some College	.802	.893	.790	.815	.850
Mother has College Degree	.552+	.611	.549	.558+	.575+
Mother has Graduate Degree	.394**	.438*	.374**	.398**	.409*
Mother is employed Full-time	1.070	1.063	1.057	1.058	1.004
Parent's Income	.971	.980	.965	.966	.962
Biologically Intact Family	.692**	.741*	.736*	.720*	.743*
Southern Residence	1.415**	1.600***	1.680***	1.577***	1.587***
Child's Age	2.455***	2.431***	2.469***	2.466***	2.477***
Child is Male	1.174	1.131	1.062	1.064	1.214
<i>Frequency of Church Attendance</i>					
More than Once a Week		.703			
2-3 Times a Month		1.549			
Once a Month		1.675+			
Many Times a Year		1.738*			
Few Times a Year		1.383*			
Never		2.222***			
<i>Religious Salience</i>					
Extremely Important			.538**		
Somewhat Important			1.486*		
Not Very or Not at All Important			1.808**		
<i>Private Prayer</i>					
Many Times a Day				.872	
Several Times a Week				1.227	
Few Times a Month				1.320	
Never				2.136***	
<i>Family Religious Discussion</i>					
Daily					.792
Weekly					1.720*
Several Times a Year					1.930**
Never					2.348***
Constant	-15.295	-15.681	-15.547	-15.603	-16.014
Likelihood Ratio $\chi^2$	404.39	437.75***	441.81***	423.44***	433.04***
df	10	16	13	14	14
+p<. 10    *p < .05    **p < .01    ***p<.001					

\*Sample is limited respondents present at Wave 1

Table 10 shows the estimated net effects of religious involvement and covariates on the odds of having sexual intercourse for African American adolescents. Perhaps most striking is the generally poor job religion does of predicting adolescent sexual behavior for Black adolescents as compared to non-Hispanic White adolescents. Nonetheless, these results suggest important religious differentials in adolescent sexual intercourse for African American adolescents as well. For White adolescents, few differences exist between those youth who report the highest levels of religious involvement and those who report high levels of religious participation. This is clearly not the case for African American teens. For example, attending church more than once a week is associated with a 55 percent reduction in the odds of ever having sexual intercourse, compared to attending religious services on a weekly basis. Likewise, praying more than once a day is related to a reduction of 56 percent in the odds of sexual activity, compared to praying daily. However, unlike White youth, there appears to be little variation in those African American adolescents who report relatively high levels of church attendance, religious salience, prayer, and family religious discussion and those who report the lowest levels of these religious beliefs and behaviors. Additional analyses (not shown) comparing coefficients *across* racial groups confirms that there are significant variations between African American and White adolescents in the effect of church attendance, prayer and family religious discussion on virginity status. However, the effect of religious salience on sexual intercourse was not significantly different across racial groups.

Table 10: Odds ratios for Logistic Regression of Sexual Intercourse on Select Predictors--Black Only (N=504)\*

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Sociodemographics/ Controls</i>					
Mother has H S Education	1.200	1.301	1.297	1.292	1.191
Mother has Some College	.919	.978	.952	.955	.966
Mother has College Degree	.839	.888	.899	.879	.852
Mother has Graduate Degree	.670	.709	.783	.637	.625
Mother is employed Full-time	.927	.907	.939	.921	.880
Parent's Income	.946	.937	.945	.948	.955
Biologically Intact Family	.452**	.445**	.454**	.467**	.406**
Southern Residence	.951	.960	.957	1.006	1.079
Child's Age	2.334***	2.357***	2.381***	2.363***	2.374***
Child is Male	2.084**	2.082**	2.091**	1.934**	2.094**
<i>Frequency of Church Attendance</i>					
More than Once a Week		.446*			
2-3 Times a Month		1.074			
Once a Month		.401			
Many Times a Year		.509+			
Few Times a Year		.941			
Never		.663			
<i>Religious Salience</i>					
Extremely Important			.865		
Somewhat Important			1.562		
Not Very or Not At All Important			.626		
<i>Private Prayer</i>					
Many Times a Day				.437*	
Several Times a Week				.791	
Few Times a Month				1.100	
Never				.789	
<i>Family Religious Discussion</i>					
Daily					.498*
Weekly					1.136
Several Times a Year					.914
Never					1.437
Constant	-14.194	-14.002	-14.624	-14.161	-14.385
Likelihood Ratio $\chi^2$	130.37	139.62	135.84	138.56	138.37
df	10	16	13	14	14
+p<. 10    *p< .05    **p< .01    ***p<.001					

\*Sample is limited respondents present at Wave 1

Table 11 displays the estimated net effects of religion variables and covariates on lifetime sexual partners at Wave 1 for non-Hispanic White respondents only. As with the analyses predicting the odds of sexual intercourse, all four dimensions of religious involvement appear to have a generally linear relationship with regard to number of lifetime sexual partners for White adolescents. Those adolescents who report lower levels of religious involvement report significantly more sexual partners than those youth with high levels of religious involvement. Conversely, those who report that religion is “extremely important” in their daily lives report having an average of one less sexual partner compared to those who report that religion is “very important” in their daily life.

Table 11: Estimated Net Effects of Religious Variables and Covariates on Lifetime Sexual Partners  
(Tobit Regression Estimates N=2027)- White Only\*

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Sociodemographics/ Controls</i>					
Mother has H S Education	-.423	-.244	-.0510	-.452	-.422
Mother has Some College	-.664	-.486	-.742	-.664	-.601
Mother has College Degree	-1.026	-.833	-1.053	-1.033	-.955
Mother has Graduate Degree	-1.653*	-1.476*	-1.794*	-1.651*	-1.575*
Mother is employed Full-time	-.051	-.032	-.058	-.055	-.164
Parent's Income	-.082	-.058	-.092+	-.092+	-.098+
Biologically Intact Family	-1.208***	-1.035***	-1.064***	-1.090***	-1.077***
Southern Residence	.607*	.894**	.966***	.849**	.812**
Child's Age	1.799***	1.735***	1.759***	1.779***	1.791***
Child is Male	.535*	.443+	.339	.306	.619*
<i>Frequency of Church Attendance</i>					
More than Once a Week		-.818+			
2-3 Times a Month		1.138*			
Once a Month		.904+			
Many Times a Year		.741			
Few Times a Year		1.009*			
Never		1.753***			
<i>Religious Salience</i>					
Extremely Important			-1.037*		
Somewhat Important			.817*		
Not Very or Not At All Important			1.442***		
<i>Private Prayer</i>					
Many Times a Day				-.209	
Several Times a Week				.299	
Few Times a Month				.640	
Never				1.828***	
<i>Family Religious Discussion</i>					
Daily					-.661
Weekly					.928+
Several Times a Year					1.078**
Never					1.482***
Constant	-30.812	-30.915	-30.543	-30.963	-31.610
Log Likelihood	-1391.35	-1372.29	-1372.72	-1378.16	-1380.26
+p<. 10    *p < .05    **p < .01    ***p<.001					

\*Sample is limited respondents present at Wave 1

Table 12 displays the estimated net effects of religion variables and covariates on lifetime sexual partners at Wave 1 for African American adolescents. Much like the analyses predicting the odds of sexual intercourse, only the highest levels of religious involvement appear to be protective in reducing the number of lifetime sexual partners of African American youth. On average, those adolescents who attend church more than once a week report almost two fewer sexual partners than those who attend church on a weekly basis. Likewise, praying many times a day is associated with having significantly fewer sexual partners, compared to praying on a daily basis.



Table 12: Estimated Net Effects of Religious Variables and Covariates on Lifetime Sexual Partners  
(Tobit Regression Estimates N=505)- Black Only\*

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Sociodemographics/ Controls</i>					
Mother has H S Education	-.014	.171	.123	-.069	-.035
Mother has Some College	-.335	-.109	-.259	-.368	-.248
Mother has College Degree	-.216	.046	.005	-.304	-.205
Mother has Graduate Degree	-1.094	-.679	-.870	-1.305	-1.161
Mother is employed Full-time	-.222	-.227	-.243	-.239	-.305
Parent's Income	-.134	-.179	-.127	-.126	-.120
Biologically Intact Family	-1.391*	-1.150+	-1.380*	-1.334*	-1.512*
Southern Residence	.025	.165	.093	.087	.225
Child's Age	2.000***	1.921***	1.979	2.008***	1.995***
Child is Male	2.031***	1.949***	1.987***	1.920***	2.035***
<i>Frequency of Church Attendance</i>					
More than Once a Week		-1.853*			
2-3 Times a Month		-.075			
Once a Month		-.080			
Many Times a Year		-1.035			
Few Times a Year		1.103			
Never		-.748			
<i>Religious Salience</i>					
Extremely Important			-.268		
Somewhat Important			.941		
Not Very or Not At All Important			.139		
<i>Private Prayer</i>					
Many Times a Day				-1.593*	
Several Times a Week				.107	
Few Times a Month				.428	
Never				-1.424	
<i>Family Religious Discussion</i>					
Daily					
Weekly					-.693
Several Times a Year					.130
Never					-.062
					1.253
Constant	-33.943	-32.208	-33.935	-33.604	-33.926
Log Likelihood	-458.41	-451.13	-456.31	-452.77	-456.27
+p<. 10	*p < .05	**p < .01	***p<.001		

\*Sample is limited respondents present at Wave 1

Before discussing the ancillary analysis, several socio-demographic variations in adolescent sexual activity deserve brief attention. Consistent with a wealth of prior research, age and family structure are the most stable predictors of adolescent sexual behavior, regardless of race. For every year increase in age, the odds of sexual intercourse more than doubles. Conversely, being in a biologically-intact family consistently reduces the odds of sexual intercourse and number of sexual partners. For White adolescents, being in a biologically- intact family is related to an approximate 30 percent reduction in the odds of sex, while for African American adolescents this reduction is even greater - over a 50 percent, reduction when compared to those adolescents in different family situations. For White youths, being a southern resident is related to an increase in both the odds of sexual behavior and number of sexual partners, compared to living in another region. For Blacks, being male is related to an increase in the odds of sex, although this is not the case for Whites. However being male is related to an increase in the number of lifetime sexual partners for both races.

#### *Ancillary Analysis*

In addition to the main analysis presented above, I also conducted a series of ancillary analyses (not shown) to evaluate whether the effect of religious involvement on sexual behavior varies by regional residence or gender. These two variables are examined for two different reasons. First, some research indicates that religious involvement may only impact the sexual behavior of females. Therefore, it is important to investigate whether these findings hold for both genders. Second, previous research suggesting that the African American church functions as a semi-involuntary has focused on the

southern United States. Therefore, this analysis investigates whether the impact of religion on sexual behavior varies by southern residence, for both Black and White adolescents. Although it would be preferable to explore rural-urban differences as well, reliable population information for NSYR respondents is not available at this time. The association between religious involvement and adolescent sexual behavior did not consistently vary by gender or regional residence for either Black or Whites.

## DISCUSSION

Studies suggest that African Americans are consistently both the most religious and the most sexually active group of American adolescents (Regnerus, Smith and Fritsch 2003; Regnerus 2007). While scholars have acknowledged this paradox, much of the research in this area has remained theoretically and methodologically underdeveloped. This chapter addresses some of the gaps in previous literature by: 1) offering competing arguments concerning the impact of religious involvement on African American adolescent sexual behavior, 2) examining the impact of multiple dimensions of religious involvement on sexual intercourse, and 3) exploring racial variations in potential nonlinear relationships between religious activity and sexual behavior.

These findings suggest that religion does indeed function differently for White and Black adolescents. Religious involvement appears to be *less* effective in both delaying sexual intercourse as well as reducing the number of sexual partners for African American teens as compared to non-Hispanic white adolescents. Further, although the effects of religious activity on sexual behavior appear to be roughly linear for White adolescents, this is not the case for Black adolescents. Only the highest levels

of church attendance, private prayer and family religious discussion appear to delay sexual intercourse and reduce the number of sexual partners among African American youth. Conversely, relatively high levels of religious beliefs and behaviors appear to yield few protective effects for African American teens. For example, Black youth who attend church on a weekly basis display odds of sexual intercourse and average numbers of sexual partners similar to those who never attend religious services. This finding lends some support to the idea that religion functions as a semi-involuntary institution within the African American community. Those African Americans adolescents with high or moderately high levels of religious activity (e.g. attending church on a weekly basis, praying daily) may be yielding to community standards of religious behavior, rather than being committed to official church doctrines. Therefore, many African Americans with relatively high levels church attendance may also be sexually active. However, those youth who attend more than the normative level within the African American community may be truly committed to official church doctrines, including teachings regarding sexual morality, and therefore exhibit lower odds of sexual behavior.

Religion may function as a completely different institution for African Americans, as compared to non-Hispanic Whites, and as a result have a different impact on adolescent sexual activity. In many ways, the African American church has not had the luxury that predominately White churches have had of being able to focus energy and resources on regulating sexual morality. Instead, the African American church has had to serve as the heart of the community, often providing social services as well as

playing an important political role (e.g. the Civil Rights Movement). Due to its vital role in the African American community, the Black church has become a more inclusive institution than predominately White churches; an institution where non-marital sexual conduct is not advocated but perhaps often ignored. Given the high rates of nonmarital births within the Black community (62 percent) (Dye 2005), active adult members of the African American religious community themselves have likely given birth or fathered children outside of marriage. Therefore, young sexually active African American may not feel morally conflicted about non-marital sexual behavior. To take this line of reasoning one step further, African American churches may even serve as venues for meeting additional sexual partners. As noted earlier, churches often bring together individuals who are not only religiously, but socially similar. If many of the adolescents who are active within African American religious institutions are not committed to teachings prohibiting non-marital sexual conduct, churches could be another opportunity for meeting sexual partners.

It is also interesting that religious salience, quite possibly the most important aspect of religious involvement for White teens in delaying and reducing sexual behavior, has little impact on the sexual activity of African American adolescents. This finding further indicates that religion and religious institutions play a more diverse role in the lives of African American youth as compared to non-Hispanic White adolescents. Due to the versatile role churches play within the African American context, stating that religion is important in one's life may indicate a connection to religion as a social and political institution, rather than a commitment to religion as an institution solely

committed to moral and spiritual guidance. In other words, for African Americans, religious salience may really be an indication of a connection and commitment to the African American community. Conversely, for white adolescents, religious salience may indicate a commitment to specific religious principles.

In addition to addressing theoretical concerns, this study also speaks to two methodological issues. First, unlike previous studies, this paper employs a series of dummy variables to investigate the impact of religious involvement on adolescent sexual behavior. Using dummy variables allows for the observation of potentially important nonlinear or threshold effects. Evidence from this study suggests that accounting for threshold effects may be particularly important when studying religious activity among African American youths. Second, in addition to assuming a linear relationship between religious involvement and sexual behavior, many studies combine weekly and more than weekly church attendance into one category. Combining these categories no doubt masks the protective effect for more than weekly attendance among African American adolescents. In fact, by combining weekly attendees with those who attend more than weekly, scholars may be combining those adolescent who are least sexually activity with those who report the highest level of sexual behavior. These two methodological misspecifications may partially explain the null findings for some scholars (e.g. Durant and Sanders 1989; Bearman and Bruckner 2001) examining the relationship between religion and adolescent sexual behavior among African American adolescents.

All research is characterized by limitations, and this is certainly true of the present study. Three such limitations merit brief discussion. First, perhaps most importantly, is the cross-sectional nature of the data. Employing cross-sectional data calls into question the direction of the association between religion and sexual behavior. However, recent evidence suggests that association between religiosity and sexual involvement are not bi-directional in nature. While longitudinal evidence suggests that religion influences sexual activity, it does not appear that adolescent sexual activity influences later religious involvement (Hardy and Raffaelli 2003; Meier 2003). These studies lend some confidence to the above findings. Nonetheless, it will be desirable for future studies to explore these relationships using longitudinal data. Second, while the NSYR sample provides adequate numbers of non-Hispanic White and African American adolescents, it does not include sufficient numbers of other racial and ethnic groups for meaningful independent analyses. Future research should examine these relationships among Asian and Latino adolescents, as well as youths of other racial and ethnic minorities. Given that both Latino and Asian adolescents are distinct from other racial and ethnic groups in both their levels of religious involvement and sexual behavior, examining these relationships is particularly important. Third, as noted earlier, it would be preferable to explore rural/urban variations in the relationships between religion and sexual behavior, for African American adolescents in particular. This analysis would allow for a more direct investigation of the semi-involuntary institution theoretical framework, given that the most recent application of this theory focuses on African Americans in the rural south (Ellison and Sherkat 1995; Ellison and

Sherkat1999). Unfortunately, the NSYR does not contain reliable information on population size of the respondent's community at this time. Further, research should incorporate population information, as well as other contextual variations.

These limitations notwithstanding, this study makes a worthwhile contribution to the literature on religion and adolescent sexual behavior by: 1) addressing theoretical shortcomings in the literature on race, religion and adolescent sexual activity; 2) employing multiple measures of religion in examining Black-White variations in the association between religious involvement and sexual intercourse; 3) examining potential nonlinear effects in the relationship between religion and sexual behavior for both African American and White adolescents.



## CHAPTER 4: RELIGION, FAMILY CONTEXT AND ADOLESCENT SEXUAL BEHAVIOR

Scholars have long noted the potentially negative consequences of adolescent sexual activity. Almost half of high school students report being sexual active, and 16 percent report having had four or more sexual partners. Only half of sexually activity youth report using a condom at their most recent sexual encounter (CDC1998). As a result, teenagers and young adults account for nearly half of the new cases of sexual transmitted diseases in the United States, despite making up only a quarter of the sexually active population (Weinstock, Berman and Cates 2004). Particularly alarming is the fact that persons under 24 account for a large percentage of new cases of HIV (CDC 1997). In addition to sexually transmitted infections, roughly 1 million teenagers become pregnant each year (Alan Guttmacher Institute 1994).

Religion and family are both recognized sources of social control, capable of preventing problem behaviors during adolescence (Regnerus 2003; Smith 2003; Ream and Savin-Williams 2005). In general, adolescent religious involvement is associated with delayed and reduced sexual activity (e.g. Brewster et al.1998; Lammers et al 2000; Ball and Austin 2003). Likewise, close parent-child relationships, parental monitoring and biologically-intact family structure are related to delayed and less frequent adolescent sexual behavior (e.g. Newcomer and Udry 1987; Miller and Moore 1990; Dittus and Jaccard 2000; Lammers et al. 2000; Roche et al. 2005). Although scholars recognize the important role that both religion and family life play in reducing

adolescent sexual behavior, the relationship between these two key social institutions remains understudied.

Despite the fact that connections between religion and family have not received adequate attention in relation to adolescent health (Wallace and Williams 1997), limited evidence does suggest that parental religious involvement and family religious activities are related to later sexual initiation (e.g. Whitbeck et al. 1999; Manlove et al. 2006). However, it is unclear whether these results hold true once the adolescent's own religious activity is taken into account, or across a broad range of sexual outcomes. Scholars also have yet to explore whether the impact of parental and adolescent religious involvement on adolescent sexual activity varies as a function of family context. It may be that religious activity is more or less effective in delaying sexual activity depending on the family environment in which it occurs.

In an effort to address the limitations of prior research on religion, family and adolescent sexual activity, this paper investigates several important research questions including: 1) Which (if any) aspects of parental, adolescent and family religious involvement are linked with adolescent sexual behavior?, 2) Which dimensions of religious involvement are most salient?, 3) Are the effects of religious involvement consistent across a range of adolescent sexual activities?, and finally, 4) Do the effects of religious involvement vary according to important aspects of family context, such as family structure, parent-child relationship and parental monitoring?

The remainder of this chapter has five parts. I begin by briefly outlining arguments linking religion and adolescent sexual activity, and by reviewing prior work

on family context and adolescent sexual behavior. Following the discussion of theoretical connections, I explore the relationship between religious involvement, family context and adolescent sexual behavior, employing data from the National Survey of Youth and Religion (NSYR), a nationally representative data set of adolescents and their parents. Following the presentation of results, I discuss the implications of these findings, note the limitations of this study, and identify promising directions for future research in this area.

### *Religious Variation in Adolescent Sexual Behavior*

As noted above, research suggests that highly religious adolescents initiate sexual activity later (Brewster et al. 1998; Hardy and Reffaelli 2003; Meier 2003) and report few sexual partners (Miller and Gur 2002; Thornton and Camburn 1989) than their less religious peers. Research focusing on religion and contraception is less supportive of the notion that religion is protective against negative sexual health outcomes. Some research finds no relationship between religious activity and contraceptive use (e.g. Jones, Darroch and Singh 2005; Manlove et. al. 2006), while other studies find that teens who are more religiously conservative or report higher levels of religious activity are less likely to use contraception (Studer and Thornton 1987; Cooksey, Rindfuss and Guilkey 1996; Brewster et al. 1998; Miller and Gur 2002).

Research centering on the relationship between religious affiliation and adolescent sexual behavior has yielded inconsistent results. While some researchers conclude that members of conservative religious groups (e.g. Mormons, evangelical Protestants, fundamentalists) are less likely to have sexual intercourse compared to their

mainline affiliated or unaffiliated peers (Beck, Cole and Hammond 1991; Cooksey et al. 1996; Brewster et al. 1998), others find that Catholics display reduced odds of sexual behavior compared to other teens (Casper 1990). Still others find that mainline or Jewish teens are less likely to participate in sexual intercourse, compared to youth affiliated with evangelical Protestant denominations. While few studies have examined affiliation patterns in oral sexual behavior, one such study found that Black Protestants, Catholics and Mormons displayed reduced odds of oral sexual behavior compared to their evangelical Protestant counterparts (Regnerus 2007).

While protective effects for religious affiliation are sporadic, other forms of religious involvement are more consistent in reducing sexual activity. The clear majority of studies examining the relationship between church attendance and first sex find that church attendance is related to delayed intercourse (e.g. Thornton and Camburn 1989; Beck et al. 1991; Brewster et al. 1998; Lammers et al. 2000; Hardy and Raffaelli 2003; Jones, Darroch and Singh 2005; Regnerus 2007). Although some studies find an effect for religious attendance only among certain racial or gender subgroups (Cvetkovich and Grote 1980; Billy, Brewster and Grady 1994), or no effect at all (Benda and Corwym 1997), the most common finding among researchers of religion and adolescent sexual behavior is that church attendance is associated with delayed sexual intercourse (Regnerus 2007). Though the relationship between other forms of religious involvement and adolescent sexual behavior remain understudied, some evidence suggests that religious salience (Regnerus 2007) and general religiosity

(Lammers et al. 1999; Hardy and Raffaelli 2003; Meier 2003; Nonnemaker, Neely and Blum 2003) are also associated with reduced odds of sexual intercourse.

### *The Role of Family Context*

Numerous researchers have noted the important influence of family environment on adolescent sexual outcomes (e.g. Miller and Moore 1990; Miller et al. 1997; Davis and Friel 2001; Roche et al. 2005). Like religious institutions, families provide a specific perspective on the meaning of sexuality, defining norms for appropriate sexual conduct and enforcing both formal and informal social sanctions when those norms are violated (Miller and Moore 1990). More specifically, scholars have noted the importance of three aspects of family life: family structure, parent-child relationships and parental monitoring. In the pages that follow, I discuss the influence of these three facets of family life on adolescent sexual activity.

Scholars have long noted the influence of family structure on adolescent sexual activity. Teens living in a biologically-intact family structure (e.g., biological parents are married and living together) tend to delay sexual intercourse longer than those adolescents in other family situations (Cooksey et al. 1996; Roche et al. 2005; Regnerus 2007). Girls in single-parent families appear to face a particularly elevated risk of early sexual debut compared to their counterparts in other family environments (Newcomer and Udry 1987; Miller and Moore 1990; Davis and Friel 2001). Scholars have offered several explanations as to why adolescents living in two-parent families tend to have better sexual health outcomes compared to teens in other family structures. First, two-parent families may provide more stability and guidance, which are indirectly related to

the transmission of more traditional sexual values (Young et al., 1991). Second, two-parent families are often able to provide more parental supervision and involvement than single parent families, due to time constraints placed on single parents (Thorton 1991). Single parents often must work long hours outside of the home, frequently leaving adolescent children unsupervised, thereby increasing the opportunity for sexual behavior. Third, single parents may have less time to spend with their children, thereby potentially reducing parent-child relationship quality, which is in turn related to sexual activity. Forth, evidence suggests that single mothers have more permissive attitudes regarding sexuality than those who are married, particularly following divorce (Thorton 1991). Related, single parents may themselves be dating and engaging in nonmarital sexual conduct, which may in turn undermine attempts at controlling their adolescent children's sexual activity.

In addition to family structure, scholars have noted the importance of parent-child relationships in delaying adolescent sexual behavior. Research has generally shown that close, warm and supportive parent-child relationships are associated with lower risk of adolescent problem behaviors, including those related to sexual activity (Miller 1998; Jaccard and Dittus 2000; Miller 2002; Ream and Savin-Williams 2005). Although the influence that parents have on their children's sexual behavior as they transition to adulthood has been a matter of some debate (Dittus, Jaccard and Gordon 1997), evidence generally suggests that affective attachments between parents and children encourage socialization toward views which support delaying sexual behavior. Further, positive parent-child relationships raise the cost of participating in risk

behaviors, including early or unprotected sexual intercourse (Small and Luster 1994; Browning et al. 2005). Close parent-child relationships may also encourage adolescent disclosure of romantic relationships, which may aid in parental monitoring and other control efforts (Stattin and Kerr 2000).

Finally, the association between parental monitoring and teen sexual activity has received a great deal of attention. In general, parental monitoring is associated with delayed and reduced sexual activity (Small and Luster 1994; Miller 1998; Rogers 1999; DiClemente et al. 2001; Browning et al. 2005), reduced risk of testing positive for a sexual transmitted infection (DiClemente et al. 2001), and reduced likelihood of have a teen pregnancy (Miller 2002). However, some scholars have argued that when parents are too strict teens are *more* likely to engage in sexual activity than when parents hold more moderate attitudes about adolescent supervision (Miller et al. 1986). Supervision and monitoring are important for reducing both opportunities and incentives for participating in risk behaviors, such as sexual intercourse (Browning et al. 2005). Parental supervision and control might also reduce teen sexual behavior (particularly risky sexual activity) indirectly by reducing associations with high risk peers, as well as lowering teen alcohol and drug use (Miller 2002), both of which are associated with early sexual activity.

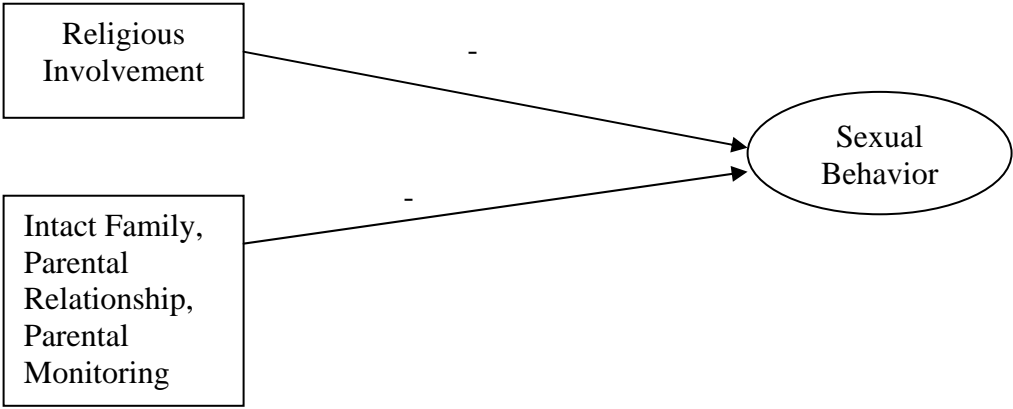
### *Religion, Family and Adolescent Sexual Behavior*

Based on the theory and research reviewed to this point, I propose three possible conceptual models of the way(s) in which religion and family may be linked with adolescent sexual activity. First, it may be that biologically intact family structure, close

parent-child relationships, parental monitoring and religious involvement each have independent main effects on adolescent sexual activity. As noted above, prior research shows that religiously active adolescents are more likely to delay and limit their sexual activity in comparison to their less religious peers (Brewster et al. 1998; Bearman and Bruckner 2001; Hardy and Reffaelli 2003; Meier 2003). Likewise, teens situated in biologically-intact families, those with close parental relationships, and those whose activities are monitored by their parents are more likely to delay sexual intercourse than adolescents in non-biologically-intact families, those with poor parental relationships and those with low levels of parental monitoring (Small and Luster 1994; Cooksey et al. 1996; Browning, Leventhal and Brooks-Gunn 2005). This simple, additive model of religious and family influences is depicted in Figure 7.



Figure 7: Additive Model



Two alternative models suggest a more complex or interactive relationship between religious involvement and family life. It may be that religious and family background factors may reinforce one another, and they may have multiplicative -- rather than merely additive-- effects on adolescent sexual behavior. The nuclear family is often considered a sacred structure within religious groups; idealized particularly among more conservative Protestants and Catholics. The biologically-intact family is often imbued with a divinely-ordained character within American religion, and promoting the ideal of family and healthy familial relationships is the subject of numerous books and broadcast radio programs (Bartkowski and Wilcox 2000; Wilcox 1998). Given that most religious institutions promote the nuclear family structure as the ideal venue for sexual relations and procreation, adolescents from biologically-intact family may feel most comfortable with messages that mirror their own family environment. Further, teens from biologically-intact families may find religious messages promoting the nuclear family as the ideal family environment more convincing than teens in other family structures. Conversely, teenagers who are members of non-intact families may find religious messages regarding abstaining from sex until marriage as unrealistic, given their own family situations. Youth in non-biologically-intact families also may feel that religious institutions discriminate against non-nuclear families, and thus maybe less open to religious doctrines regarding marriage, family and sexual morality. As a result, involvement within religious institutions may be particularly protective in delaying and reducing adolescent sexual

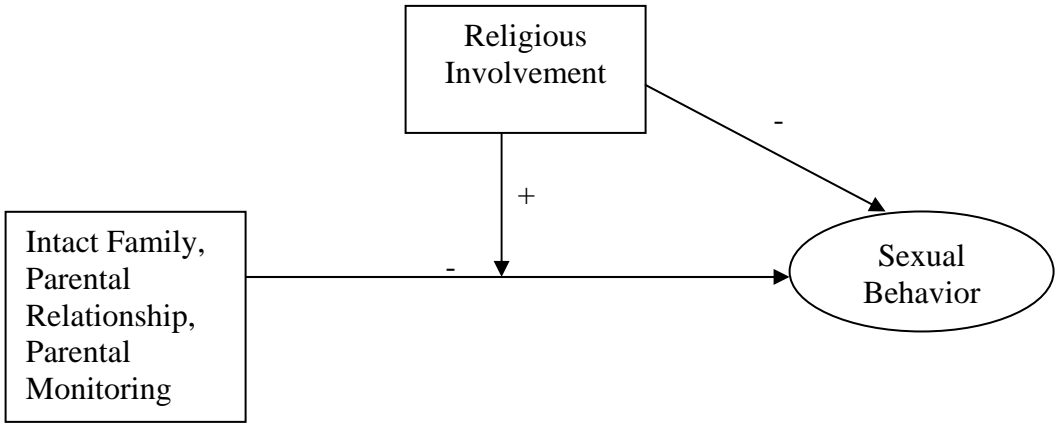
activity among those youths situated in biologically-intact families compared to their counterparts in other family structures.

As with family structure, it may be that religious involvement, particularly parental religious activity, has a greater influence in households characterized by close parent-child relationships. Adolescents may be more willing to adopt parental religious beliefs regarding sexuality when parental ties are strong. When teens feel they are understood, loved and accepted by their parents, they are likely to be more receptive to parental moral and spiritual messages than when parental ties are weak. Those teens who report close relationships with their parents may also be more enthusiastic about family religious behaviors, such as attending church or discussing religion, and as a result these behaviors may have a greater impact on sexual activity. Conversely, those youth who have poor relationships with their parents may rebel against parental values, including those related to religious beliefs and practices. As a result, parental religious involvement, family religious behaviors and even adolescent religious involvement (given that at least certain aspects may be under parental control -e.g. church attendance) may have a reduced impact on sexual behavior. This line of argument suggests that religious involvement may be particularly effective in delaying and reducing adolescent sexual activity among those youths who report close relationships with their parents compared to those with more distant parental relationships.

Why might the influence of religion on adolescent sexual behavior be greater when adolescents are more closely monitored? It may be that those adolescents who are exposed to messages of sexual restraint (such as those offered by religious institutions),

plus have few opportunities for sexual activity (due to their parents vigilance), are particularly unlikely to initiate sexual behavior. Religious messages may reduce the desire to participate in sexual activity, whereas parental monitoring may eliminate sexual opportunities. While these youth may be less inclined to seek out sexual opportunities, high levels of parental monitoring may prevent them from finding themselves in sexually tempting circumstances. Further, religious youth who are given less control over their outside influences may have reduced exposure to competing messages about sexual morality than youth who are less subject to parental controls. In contrast, religious behaviors may have a reduced impact when adolescents are given more freedom. Teens that enjoy greater autonomy in choosing their outside influences, such as movies and music, may be more likely to receive messages supporting permissive sexual values than their more regulated peers. These outside influences may in turn reduce the impact of religious messages on adolescent sexual decision making. Therefore, involvement within religious institutions may be particularly effective in delaying and reducing adolescent sexual activity among those youths with high levels of parental monitoring compared to those teens with lower levels of parental control. This amplification model is displayed in Figure 8.

Figure 8: Amplification Model



In addition to the previous conceptual models, there is also reason to believe that religious beliefs and practices may play a compensatory role, having a stronger influence on sexual behavior among adolescent from non-biologically-intact families, as compared with others. As noted above, some evidence suggests that single and/or divorced parents have more permissive sexual attitudes and behaviors than their married counterparts (Thorton 1991), and teens in these households may be less likely to view marriage as necessary for sexual activity (Resnick et al. 1997). Therefore, while adolescents within biologically-intact families may already be receiving conservative messages about sexuality, religious institutions may provide a unique viewpoint for those teens in other family environments. Religious moral messages may be particularly important for delaying adolescent sexual behavior for teens in non-intact families, because they are less likely to receive similar messages at home. Further, religious institutions may provide access to adult role models who are married, providing adolescents from non-intact families an alternative view to their own family situation. Teens may want to emulate these role models, and may therefore adopt religious principles, including abstaining from sexual relations until marriage. Based on this line of reasoning, religious institutions may be more effective in delaying and reducing adolescent sexual activity among those youths in non-biologically-intact families than those in biologically-intact families.

Similarly, it may that religious involvement is particularly important in delaying sexual activity among those adolescents with weak parental ties, as compared to those with stronger parent-child relationships. Distant parent-child relationships may indicate

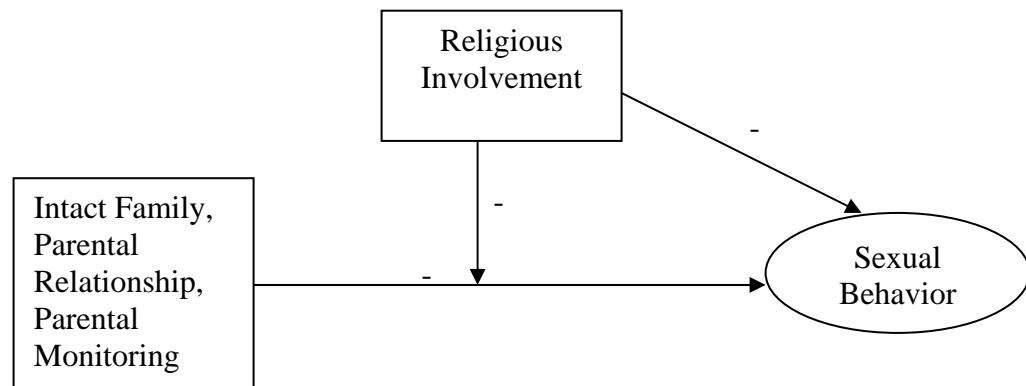
a generally disruptive, cold and non-supportive home-life. Those adolescents who characterize their relationship with their parents as poor may generally benefit more from involvement with religious institutions as a source of emotional support, than those with close parental bonds. Religious teens with close parental ties may turn to their parents for help when problems arise. However, those adolescents that feel they are not loved or accepted by their parents may be more likely to turn to religious leaders, and other adults in the church, as a source of guidance and support than teens that report positive relationships with their parents. As a result, religious institutions may have more influence over the decision-making of teens with poor parental relationships and, thus, be more effective in delaying and reducing adolescent their sexual activity than among those youth in more positive family contexts.

Finally, there is also reason to believe that adolescent and parental religious involvement may be more effective in delaying adolescent sexual behavior among those teens with low levels of parental monitoring, as compared to those teens receiving higher levels of parental control. Browning et al. (2005) finds that neighborhood efficacy only reduces the sexual activity among those youth with low levels of parental monitoring. It may be that outside sources of social control are particularly important when teens are given greater freedom. Religious institutions may provide a similar source of social control in several different ways including: a) adult supervision of youth during church activities, b) access to conservative peer networks that discourage nonmarital sexual conduct, and c) moral messages prohibiting sex outside of marriage.

This source of social control may be particularly important in delaying and reducing the sexual behavior of those youth with greater latitude in decision making. Based on this line of reasoning, religious institutions may be more effective in delaying adolescent sexual activity among those youths with lower levels of parental monitoring compared to those teens with more parental control. This compensatory model is depicted in Figure 9.



Figure 9: Compensatory Model



## DATA AND METHODS

*Data-* See Chapter 2 for full data description.

### *Measures*

#### Dependent Variables: Sexual Behavior

*Sexual touching* is measured by asking respondents whether they had ever willingly touched another person's private areas or had willingly been touched under their clothes by another person in his or her private areas (1 = experienced sexual touching). *Oral sex* is measured by asking respondents whether or not they had ever engaged in oral sex (1 = had oral sex). Respondents were also asked about their *lifetime oral sexual partners* using the question, "With how many people have you ever had oral sex?" Response categories for this item range from "0= no partners" to "6 or more partners" *Sexual intercourse* is measured by asking respondents whether or not they had ever had sexual intercourse (1 = had sexual intercourse). Those youth who reported having sexual intercourse were asked, "With how many different people have you had sexual intercourse?" Response categories for the measure of *lifetime sexual partners* range from "0= no partners" to "6 or more partners"

#### Independent Variables: Religious Involvement

Following a modified version of the coding scheme developed by Roof and McKinney (1987), *religious affiliation* is measured with five dummy variables. These variables capture conservative Protestants (e.g. Southern Baptists, Pentecostals), mainline Protestants (e.g. Methodists, Presbyterians, Episcopalians), Catholics, other

Christian affiliations (e.g. those who identify as “just Christian”, Friends, Quakers) other religious faiths (e.g. Buddhists, Jews), and non-affiliates.

In addition to religious affiliation, several other measures of religious involvement were included to capture the impact of various dimensions of religious behavior on adolescent sexual activity. *Family religiosity* is operationalized using a mean index of two standardized items ( $r = .55$ ). Youths were asked, “Does your family regularly pray to give thanks before or after mealtimes, or not?” Respondents were also asked, “How often, if ever, does your family talk about God, the Scriptures, prayer or other religious or spiritual things together?” Response categories for these items range from (1) “never” to (6) “everyday”.

*Parental church attendance* was tapped by asking the parental respondent, “In the past 12 months, how often have you been attending religious services, not including weddings, baptisms, and funerals?” Response categories for this item range from (1) “never attend” to (7) “more than once a week”.

*Parental religious salience* is measured by asking parental respondents, “How important is your religious faith in providing guidance in your own day-to-day living?” Response categories for this item range from (1) “not important at all” to (6) “extremely important”.

Frequency of religious service attendance is measured by asking respondents how often they attend services at their particular religious group. Response categories for *church attendance* range from (0) “never attend” to (6) “more than once a week”.

Adolescent *religious salience* is measured using the question, “How important or unimportant is religious faith in shaping how you live your daily life?” Response categories for this item range from (1) “not important at all” to (5) “extremely important”. Respondents were also asked whether or not they attend religious services with at least one of their parents (1 = *attends church with parent*).

#### Independent Variables: Family Context

Family structure was assessed by asking the parental respondent about both their relationship to the teen respondent, as well as their spouse’s relationship to the adolescent (1= *biological-intact family*, 0= other family structure).

*Parent-child relationship* is tapped using the mean score of the following items: “In general, how much do you feel that your parents... (1) understand you?; (2) love and accept you for who you are?; (3) pay enough attention to you?.” Response categories for these items ranged from (1) “A lot” to (4) “none”. Responses were reverse coded so that higher values indicate closer parent-child relationships ( $\alpha = .72$ ).

*Parental monitoring* is gauged using the mean responses to the following three items: “How often do your parents monitor your music, television, and movie watching?”; “How often do your parents monitor who you hang out with?”; and, “In general, how often do your parents know what you are actually doing when you are not at home?” Response categories for these items range from (1) “always” to (5) “never”. These items were also reverse coded so that higher values indicate more parental monitoring ( $\alpha = .58$ ).

### Socio-demographic Controls

Numerous socio-demographic characteristics have been identified as significant correlates of adolescent sexual behavior. Previous research suggests being African American, male, older, southern, and in a family of lower socioeconomic status is associated with earlier sexual debut (Furstenberg et al. 1987; Upchurch et al. 1998; Browning et al. 2004; Cubbin et al. 2005). Therefore all subsequent analyses include controls for mother's level of education (less than a high school education is the reference category), mother's employment status (1=*mother is employed full-time*, 0= other employment status) *parent's income* (scale ranging from less than \$10,000 to more than \$100,000), *child's age* (in years), child's gender (*male*=1), child's race/ethnicity (includes dummy variables for *Black* and *Hispanic*, non-Hispanic White is the reference category), and southern residence (1=*southern residence*, 0= other region).

### *Analytic Procedures*

The analytic strategy for this chapter is as follows. Table 13 provides descriptive statistics for all variables included in the study. Tables 14, 15 and 17 employ logistic regression to formally evaluate the net effects of predictor variables at Wave 1 on the odds of sexual touching, oral sexual behavior and sexual intercourse at Wave 2. Those respondents who reported participating in each of these sexual activities at Wave 1 were excluded from the analyses for that particular outcome. For example, if a respondent reported participating in sexual touching at Wave 1 they were excluded from the analyses for sexual touching, but they may be present in the analyses for oral sex or

sexual intercourse if they did not report those behaviors at Wave 1. Tables 16 and 18 use tobit regression to estimate the net effects of religious variables and covariates on lifetime oral sexual partners and lifetime sexual intercourse partners. Finally, Table 19 displays significant results from the interaction analyses evaluating whether the effect of religious involvement on sexual activity varies as a function of family structure, parental relationship, and parental monitoring. Non-significant interaction results are not shown.

## RESULTS

### *Sample characteristics*

Table 13 presents descriptive statistics for all variables used in these analyses. Approximately 72 percent of NSYR respondents reported engaging in sexual touching, while 53 percent reported engaging in oral sex. NSYR respondents reported an average of 1.39 lifetime oral sexual partners. Roughly 54 percent of respondents reported having had sexual intercourse by Wave 2, with an average of 1.62 total lifetime sexual partners.

Table 13: Descriptive Statistics for all Variables

	Mean	S.D.	Range
<b><i>Sexual Behavior Variables</i></b>			
Sexual Touching	.72	-	0-1
Oral Sexual Behavior	.53	-	0-1
Lifetime Oral Sexual Partners	1.39	1.86	0-6
Sexual Intercourse	.54	-	0-1
Lifetime Sexual Partners	1.62	2.11	0-6
<b><i>Religious Involvement</i></b>			
Conservative Protestant Affiliation	.31	-	0-1
Mainline Protestant Affiliation	.11	-	0-1
Catholic Affiliation	.20	-	0-1
Other Christian Affiliation	.13	-	0-1
Other Religious Affiliation	.08	-	0-1
No Religious Affiliation	.19	-	0-1
Family Religious Behavior	.00	.88	-1.33-1.24
Parental Church Attendance	4.33	2.18	1-7
Parental Religious Salience	5.00	1.26	1-6
Church Attendance	3.13	2.19	0-6
Religious Salience	3.45	1.14	1-5
Adolescent Attends Church with Parent	.66	-	0-1
<b><i>Family Variables</i></b>			
Biologically Intact Family	.54	-	0-1
Parental Relationship Scale	3.54	.53	1-5
Parental Monitoring Scale	3.61	.88	1-5
<b><i>Sociodemographic Controls</i></b>			
Mother has Less than High School Education	.08	-	0-1
Mother has High School Education	.24	-	0-1
Mother has Some College	.37	-	0-1
Mother has College Degree	.17	-	0-1
Mother has Graduate Degree	.13	-	0-1
Mother works Full-time	.55	-	0-1
Parent's Income	6.01	2.86	1-11
Adolescents' Age at Wave 2	18.13	1.43	15.34-21.29
Child is Male	.50	-	0-1
Child is White	.67	-	0-1
Child is Black	.17	-	0-1
Child is Hispanic	.11	-	0-1
Child is Another Race/Ethnicity	.05	-	0-1
Child is a Southern Resident	.41	-	0-1

\*All analysis is limited to respondents present at both waves. Measures of sexual activity are based on reports from Wave 2, while all other measures (except age) are reported at Wave 1.

Approximately 31 percent of respondents are members of conservative Protestant groups, while 11 percent affiliate with mainline Protestant denominations. The remainder of NSYR respondents are Catholic (20%), members of other Christian affiliations (13%), members of other religious faiths (7 %), or report no religion at all (19%). On average, parental respondents report that religion is “very important” in how they live their daily lives, and report attending church slightly more than once a month. Adolescent respondents also report attending church on roughly a monthly basis, and the majority attends religious services with at least one of their parents (66%). In general, NSYR teens report that religion is “somewhat important” in how they live their daily life.

The majority of NSYR respondents live in biologically-intact families (54%), although a sizable minority lives in other family structures. Adolescents generally report close relationships with their parents (3.54 on a four-point scale), with moderate levels of parental monitoring (3.61 on a five-point scale).

With regard to other sample characteristics, Table 1 indicates that NSYR respondents are overwhelmingly (non-Hispanic) White (67%), with significant numbers of African Americans (17%) and Latinos (11%). The average respondent is approximately 18 years old at Wave 2, lives outside of the south, and has a mother who has a few years of post-secondary education and who is employed full-time (55%). Further, NSYR respondents reside in households averaging between \$50,000 and \$60,000 in annual income. The sample is composed of roughly equal numbers of male and female adolescents.



### *Multivariate analyses*

Table 14 displays the estimated net effects of religious involvement and covariates on the odds of sexual touching. Several patterns merit discussion. First, intact family structure (i.e., parents are married and living together) and higher levels of parental monitoring are both associated with reduced odds of sexual touching. Although reduced models suggest that close parental relationships are associated with a decreased risk of sexual touching, this effect appears to be mediated by adolescent religious involvement. Second, while all measures of adolescent and parental religious involvement appear to be associated with adolescent sexual touching when assessed individually, only parental church attendance (OR=.895,  $p<.01$ ) and adolescent religious salience (OR=.823,  $p<.01$ ) retain a significant protective effect in the final model. Further, although reduced models suggest in that religious affiliation is unrelated to sexual touching, the full model reveals several suppression patterns. In the final model, net of these other dimensions of religiosity, conservative Protestants, mainline Protestants and Catholics all display *increased* odds of sexual touching, compared those respondents with no religious affiliation. Likewise, parental religious salience is associated with a slightly increased risk of adolescent sexual touching in model 7 (OR=1.142,  $p<.05$ ).

Table 14: Odds ratios for Logistic Regression of Sexual Touching on Select Predictors (N=1502 )\*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	1.445	1.458	1.476	1.471	1.512	1.462	1.518
Mother has Some College	1.301	1.302	1.323	1.323	1.367	1.310	1.357
Mother has College Degree	1.095	1.050	1.096	1.081	1.110	1.051	1.109
Mother has Graduate Degree	1.123	1.076	1.101	1.137	1.143	1.099	1.161
Parent's Income	1.023	1.025	1.022	1.029	1.021	1.026	1.027
Mother works Full-time	1.339**	1.291*	1.267*	1.247*	1.270*	1.294*	1.254*
Child's Age	1.148***	1.155***	1.158***	1.177***	1.182***	1.158***	1.190***
Child is Male	.863	.882	.897	.896	.827	.883	.842
Child is Black	1.316	1.393	1.517*	1.547*	1.427*	1.400	1.525*
Child is Hispanic	1.055	1.077	1.108	1.158	1.095	1.114	1.155
Child is Another Race/Ethnicity	.596*	.605*	.612*	.609*	.600*	.608*	.597*
Child is a Southern Resident	.916	.885	.898	.888	.933	.885	.933
<b><i>Family Variables</i></b>							
Biologically Intact Family	.666***	.626***	.640***	.672**	.641***	.649***	.672**
Parental Relationship Scale	.765*	.751*	.764*	.737*	.782	.757*	.779
Parental Monitoring Scale	.758***	.773***	.800**	.788**	.818**	.779***	.821**
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		.975	1.166	1.346	1.846*	1.355	1.899*
Mainline Protestant Affiliation		1.273	1.465	1.711*	2.215**	1.802*	2.315**
Catholic Affiliation		1.100	1.205	1.468	1.782*	1.519	1.872*
Other Christian Affiliation		.601**	.703	.810	1.034	.819	1.079
Other Religious Affiliation		.710	.869	.983	1.309	.994	1.385
Family Religious Behavior			.825**				.976
Parental Church Attendance				.862***			.895**
Parental Religious Salience				1.087			1.142*
Church Attendance					.917*		.955
Religious Salience					.825**		.823**
Adolescent Attends with Parent						.684*	.947
Constant	0.036	0.048	-.324	-.333	-.154	-.083	-.620
Likelihood Ratio $\chi^2$	83.96	101.47**	108.88*	120.38***	123.77***	105.76	133.85***
df	15	20	21	22	22	21	26

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\*\*Analyses is limited to those respondents who did not report sexual touching at Wave 1

Table 15 displays the estimated net effects of religious involvement and covariates on the odds of oral sexual behavior. Close parent-child relationships (OR=.660,  $p<.001$ ), parental monitoring (OR=.869,  $p<.05$ ) and biologically-intact family structure (OR=.717,  $p<.01$ ) are all associated with decreased odds of oral sexual activity. Conversely, only two measures of religious involvement, family religiosity and adolescent religious salience, appear to reduce the likelihood of having oral sex. For every one-unit increase in the family religiosity scale, there is a decrease of roughly 17 percent in the odds of reporting having had oral sex. Likewise, every one-unit increase in religious salience is associated with an approximate 14 percent decrease in the odds of oral sexual activity.

Table 15: Odds ratios for Logistic Regression of Oral Sexual Behavior on Select Predictors (N=1709)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	.945	.933	.940	.931	.957	.934	.958
Mother has Some College	.801	.805	.815	.817	.836	.808	.829
Mother has College Degree	.784	.763	.798	.781	.796	.764	.808
Mother has Graduate Degree	.627	.602	.617	.621	.615	.607	.621
Parent's Income	1.061**	1.064**	1.061**	1.064**	1.059**	1.064**	1.060**
Mother works Full-time	1.209	1.161	1.125	1.132	1.151	1.161	1.132
Child's Age	1.260***	1.264***	1.269***	1.273***	1.280***	1.265***	1.278***
Child is Male	.983	.996	1.012	1.009	.950	.995	.973
Child is Black	.551***	.573***	.642**	.602**	.594**	.574***	.638**
Child is Hispanic	.650*	.631*	.650*	.653*	.636*	.639*	.649*
Child is Another Race/Ethnicity	.425***	.427***	.418***	.432***	.408***	.428***	.403***
Child is a Southern Resident	.933	.932	.950	.943	.979	.934	.983
<b><i>Family Variables</i></b>							
Biologically Intact Family	.705**	.692**	.713**	.716**	.706**	.703**	.717**
Parental Relationship Scale	.646***	.636***	.649***	.630***	.656***	.637***	.660***
Parental Monitoring Scale	.797***	.818**	.854*	.825**	.855*	.820**	.869*
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		.809	1.032	.954	1.232	.905	1.210
Mainline Protestant Affiliation		1.009	1.211	1.162	1.427	1.136	1.379
Catholic Affiliation		.943	1.084	1.086	1.281	1.055	1.223
Other Christian Affiliation		.657*	.807	.762	.933	.703	.922
Other Religious Affiliation		.510**	.665	.602*	.774	.575*	.778
Family Religious Behavior			.770***				.829*
Parental Church Attendance				.944			.979
Parental Religious Salience				.998			1.053
Church Attendance					.959		.985
Religious Salience					.833**		.862*
Adolescent Attends with Parent						.874	1.030
Constant	-1.402	-1.304	-1.772	-1.305	-1.290	-1.345	-1.751
Likelihood Ratio $\chi^2$	134.81	149.65*	165.48***	154.35	166.22***	150.35	173.10***
df	15	20	21	22	22	21	26

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\*Analyses is limited to those respondents who did not report oral sex at Wave 1

Table 16 displays the estimated net effects of various dimensions of religiosity and key covariates on lifetime oral sex partners. As with the previous table, all of the family variables are associated with less oral sexual activity. Net of religiosity per se, conservative and mainline Protestant affiliations are both associated with increases in the average number of oral sexual partners, compared those respondents with no religious affiliation. While family religious activity, parental religious service attendance, adolescent church attendance, adolescent religious salience and parent-child church attendance are all associated with decreases in the average number of oral sexual partners, only adolescent religious salience is a significant predictor of oral sexual behavior in the final model (Model 7).

Table 16: Estimated Net Effects of Religious Variables and Covariates on Lifetime Oral Sex Partners (Tobit Regression Estimates N= 2278)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	-.732*	-.710*	-.723*	-.669*	-.668*	-.655*	-.647*
Mother has Some College	-.810**	-.763*	-.762*	-.683*	-.681*	-.692*	-.664*
Mother has College Degree	-1.089**	-1.060**	-1.017**	-.950**	-.962**	-.987**	-.916**
Mother has Graduate Degree	-1.333***	-1.330***	-1.308***	-1.197***	-1.275***	-1.225***	-1.213***
Parent's Income	.114***	.114***	.108***	.112***	.106***	.114***	.108***
Mother works Full-time	.102	.079	.053	.011	.062	.062	.040
Child's Age	.622***	.619***	.618***	.630***	.626***	.614***	.624***
Child is Male	.754***	.760***	.807***	.792***	.689***	.740***	.723***
Child is Black	-1.245***	-1.182***	-.982***	-1.043***	-1.091***	-1.142***	-.966***
Child is Hispanic	-.874***	-.859***	-.811***	-.784***	-.822***	-.811***	-.767**
Child is Another Race/Ethnicity	-1.185***	-1.102***	-1.113***	-1.077***	-1.129***	-1.098***	-1.144***
Child is a Southern Resident	-.024	-.021	-.003	.016	.064	-.010	.072
<b><i>Family Variables</i></b>							
Biologically Intact Family	-.884***	-.893***	-.832***	-.811***	-.840***	-.818***	-.784***
Parental Relationship Scale	-.769***	-.776***	-.744***	-.813***	-.695***	-.770***	-.695***
Parental Monitoring Scale	-.493***	-.462***	-.396***	-.432***	-.369***	-.443***	-.349***
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		-.371	-.032	.004	.498	.107	.630*
Mainline Protestant Affiliation		-.066	.176	.274	.700*	.471	.817*
Catholic Affiliation		-.259	-.065	.095	.429	.251	.567
Other Christian Affiliation		-.660**	-.372	-.303	.081	-.201	.223
Other Religious Affiliation		-.880**	-.514	-.505	-.096	-.371	.101
Family Religious Behavior			-.387***				-.176
Parental Church Attendance				-.157***			-.079
Parental Religious Salience				.016			.091
Church Attendance					-.120**		-.058
Religious Salience					-.303***		-.267***
Adolescent Attends with Parent						-.626**	-.246
Constant	-4.424	-4.166	-4.791	-4.132	-4.133	-4.275	-4.678
Log Likelihood	-3615.16	-3607.89	-3597.72	-3598.30	-3589.48	-3602.83	-3584.28

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

Table 17 displays the estimated net effects of religious involvement and covariates on the odds of sexual intercourse. Close parent-child relationships (OR=.649,  $p<.001$ ), and biologically-intact family structure (OR=.635,  $p<.001$ ) are both associated with decreased odds of sexual intercourse. Although parental monitoring is also related to a decrease in the odds of sexual debut in the reduced models, it is no longer a significant predictor of sexual intercourse in the final model (model 7). Similarly, while family religious behavior, parental church attendance, adolescent church attendance, adolescent religious salience, and attending church with one's parents are all associated with reduced odds of sexual debut, only parental church attendance and adolescent religious salience are significant in the final model. For every one-unit increase in adolescent religious salience, there is a decrease of roughly 15 percent in the odds of sexual debut. Likewise, every one-unit increase in parental church attendance is associated with approximately a 10 percent decrease in the odds of first sex. In the final model, conservative Protestants, mainline Protestants and Catholics all display *increased* odds of sexual debut, compared those respondents with no religious affiliation.

Table 17: Odds ratios for Logistic Regression of Sexual Intercourse on Select Predictors (N= 1842)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	.776	.753	.775	.774	.789	.769	.801
Mother has Some College	.626*	.611*	.626*	.644	.651	.630	.664
Mother has College Degree	.356***	.336***	.354***	.361***	.355***	.343***	.369***
Mother has Graduate Degree	.350***	.324***	.336***	.355***	.335***	.341***	.356***
Parent's Income	1.008	1.011	1.006	1.008	1.005	1.011	1.005
Mother works Full-time	1.410***	1.388**	1.350**	1.297*	1.353**	1.375**	1.306*
Child's Age	1.405***	1.407***	1.411***	1.441***	1.442***	1.412***	1.452***
Child is Male	.857	.863	.882	.884	.813*	.852	.846
Child is Black	1.151	1.230	1.429*	1.495*	1.294	1.276	1.516*
Child is Hispanic	.807	.778	.809	.851	.805	.814	.867
Child is Another Race/Ethnicity	.452***	.451***	.450***	.471**	.439***	.461**	.453***
Child is a Southern Resident	.995	1.015	1.037	1.053	1.074	1.025	1.094
<b><i>Family Variables</i></b>							
Biologically Intact Family	.601***	.576***	.599***	.628***	.591***	.619***	.635***
Parental Relationship Scale	.644***	.631***	.644***	.612***	.661***	.635***	.649***
Parental Monitoring Scale	.779***	.808**	.853*	.835**	.860*	.825**	.875
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		.686*	.902	1.096	1.399	1.173	1.630*
Mainline Protestant Affiliation		.921	1.130	1.404	1.715*	1.650*	2.022**
Catholic Affiliation		.910	1.064	1.376	1.613*	1.566*	1.887**
Other Christian Affiliation		.483***	.607**	.733	.88	.791	1.026
Other Religious Affiliation		.576*	.782	.946	1.165	1.023	1.426
Family Religious Behavior			.740***				.919
Parental Church Attendance				.851***			.896**
Parental Religious Salience				.977			1.024
Church Attendance					.899**		.965
Religious Salience					.810***		.851**
Adolescent Attends with Parent						.520***	.808
Constant	-2.200	-1.968	-2.512	-1.989	-2.194	-2.202	-2.429
Likelihood Ratio $\chi^2$	233.34	256.53***	277.35***	296.12***	291.83***	273.32***	311.46***
df	15	20	21	22	22	21	26

\*p &lt; .05    \*\*p &lt; .01    \*\*\*p &lt; .001

\*Analyses is limited to those respondents who did not report sexual intercourse at Wave 1



Table 18 displays the estimated net effects of religion variables and covariates on lifetime sexual partners. Close parent-child relationships, parental monitoring and biologically-intact family structure are all associated with having fewer sexual partners. For example, being in a biologically-intact family is related to an average of almost one less sexual partner, compared to those adolescents in other family situations. Given that the majority of sexually active adolescents have had only one or two sexual partners, this difference is quite remarkable. With the exception of parental religious salience, all of the measures of religious involvement are associated with having fewer sexual partners, however only parental church attendance ( $b = -.162, p < .01$ ), adolescent religious salience ( $b = -.354, p < .001$ ) and attending church with a parent ( $b = -.520, p < .05$ ), remain significant in the final model. In the final model, conservative Protestant, mainline Protestant and Catholic affiliations are all associated with reporting a greater number of sexual partners, compared to their unaffiliated counterparts.

Table 18: Estimated Net Effects of Religious Variables and Covariates on Lifetime Sexual Partners (Tobit Regression Estimates N= 2269)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b><i>Sociodemographics/ Controls</i></b>							
Mother has H S Education	-.940**	-.918**	-.924**	-.846*	-.846*	-.821*	-.781*
Mother has Some College	-1.029**	-.985**	-.979**	-.828*	-.862**	-.867**	-.781*
Mother has College Degree	-1.794***	-1.758***	-1.688***	-1.547***	-1.619***	-1.637***	-1.489***
Mother has Graduate Degree	-1.941***	-1.930***	-1.896***	-1.675***	-1.844***	-1.748***	-1.680***
Parent's Income	.003	.005	-.003	.001	-.006	.005	-.006
Mother works Full-time	.411**	.400**	.371*	.287	.379*	.376*	.326*
Child's Age	.914***	.910***	.911***	.930***	.917***	.900***	.921***
Child is Male	.351*	.346*	.391**	.398**	.240	.309*	.295*
Child is Black	.517*	.564*	.848***	.826**	.694**	.632**	.915***
Child is Hispanic	-.433	-.427	-.329	-.260	-.357	-.323	-.217
Child is Another Race/Ethnicity	-1.031**	-.978**	-.979**	-.907**	-1.005**	-.979**	-.996**
Child is a Southern Resident	.106	.138	.173	.209	.267	.157	.293
<b><i>Family Variables</i></b>							
Biologically Intact Family	-1.170***	-1.174***	-1.092***	-1.022***	-1.095***	-1.023***	-.970***
Parental Relationship Scale	-.938***	-.932***	-.884***	-1.003***	.821***	-.918***	-.853***
Parental Monitoring Scale	-.573***	-.538***	-.450***	-.480***	-.412***	-.502***	-.381***
<b><i>Religious Involvement</i></b>							
Conservative Protestant Affiliation		-.483*	-.052	.179	.711*	.414	.997**
Mainline Protestant Affiliation		-.307	.009	.290	.723*	.696*	1.060**
Catholic Affiliation		-.350	-.103	.265	.604*	.599*	.937**
Other Christian Affiliation		-.705**	-.339	-.108	.309	.134	.593
Other Religious Affiliation		-.859**	-.376	-.195	.236	.095	.619
Family Religious Behavior			-.518***				-.155
Parental Church Attendance				-.261***			-.162**
Parental Religious Salience				-.029			.067
Church Attendance					-.173***		-.055
Religious Salience					-.417***		-.354***
Adolescent Attends with Parent						-1.173	-.520*
Constant	-7.135	-6.873	-7.761	-6.615	-6.779	-7.061	-7.183
Log Likelihood	-3614.42	-3609.01	-3594.54	-3583.72	-3580.15	-3594.05	-3565.73

\*p < .05    \*\*p < .01    \*\*\*p < .001

Before presenting the interaction analyses, several socio-demographic variations in adolescent sexual activity merit brief attention. Age appears to be the most stable predictor of adolescent sexual behavior, regardless of specific sexual outcome. For every year increase in age transitions into sexual behavior and the number of sexual partners increase dramatically. Other sociodemographic measures are less consistent in their relationship to adolescent sexual activity. While being African American is related to both sexual debut and number of sexual partners, Black teens display reduced odds of oral sexual behavior and fewer oral sex partners than their non-Hispanic White counterparts. Further, those teens with highly educated mothers display lower odds of sexual debut, as well as fewer oral and sexual intercourse partners, than those adolescents with less educated mothers. However, mother's educational attainment appears to have little relationship to teens' transitions into sexual touching or oral sexual behavior. Having a mother that is employed full-time appears to increase the odds of sexual touching and sexual debut, but not oral sex, compared to having a mother who does not work outside of the home full-time. Finally, parental income has a positive association with transitioning to oral sex and with the number of oral sexual partners, but not other forms of adolescent sexual behavior.

### *Interaction analyses*

To this point, I have focused on the estimated net effects of religion and family life on adolescent sexual activity. Next I assess the possibility that effect of religious involvement on sexual activity varies according to key aspects of family life. Table 19 displays the significant interaction effects that emerged with regard to religious activity

and family structure, parent-child relationships and parental monitoring in predicting adolescent sexual behavior. In general, it appears that the impact of religious involvement on adolescent sexual behavior is greater for those adolescent with close parental relationships and among those who report higher levels of parental monitoring. In other words, the protective effect of religious participation is amplified by close parent-child relationships and parental monitoring. For example, the negative relationship between adolescent salience and number of sexual partners is incrementally larger at increasing levels of parental monitoring. The impact of religious involvement (i.e., adolescent religious salience) only varied by family structure in relation to sexual debut.

Table 19: Interaction Effects of Religious Involvement and Family Variables on Adolescent Sexual Behavior

Moderator/Dependent Variable	Main Effects: Family Religion	Main Effects: Parental Attendance	Main Effects: Parental Salience	Main Effects: Attendance	Main Effects: Salience	Main Effects: Attends with parent	Main Effects: Moderator	Interaction Term: Religion × Moderator
Parental Relationship/Sexual Touching	-	-	-	-.117**	-	-	-.250	-.117*
Parental Relationship/Sexual Touching	-	-.110***	-	-	-	-	-.268*	-.157**
Parental Relationship/Sexual Touching	-	-	-	-	-	-.353	-.247	-.779**
Parental Monitoring/Sexual Touching	-	-	-.032	-	-	-	-.236**	-.164**
Parental Monitoring/Sexual Touching	-	-	-	-	-	-.094**	-.209**	-.124***
Parental Relationship/Oral Sex	-	-	-	-.075*	-	-	-.437***	-.111*
Parental Relationship/Oral Sex	-	-.057*	-	-	-	-	-.447***	-.105*
Parental Relationship/Oral Sex	-	-	-	-	-	-.136	-.021	-.655**
Parental Monitoring /Oral Sex	-	-	-	-	-.210***	-	-.153*	-.111*
Parental Monitoring /Oral Sex	-	-	-.057	-	-	-	-.189**	-.154**
Parental Monitoring /Oral Sex	-	-.051	-	-	-	-	-.180**	-.085**
Biologically Intact/ Sexual Intercourse	-	-	-	-	-.140	-	-.542***	-.202*
Parental Relationship/Sexual Intercourse	-	-.483***	-	-	-	-	-.483***	-.128**
Parental Monitoring/Sexual Intercourse	-	-	-.171***	-	-	-	-.190**	-.117*
Parental Monitoring /Sexual Partners	-.025	-	-	-	-	-	-.079***	-.051*
Parental Monitoring /Sexual Partners	-	-	-	-	-.062***	-	-.071***	-.050**
Parental Monitoring /Sexual Partners	-	-.022*	-	-	-	-	-.076***	-.023**
Parental Monitoring /Sexual Partners	-	-	-	-	-	-.093*	.003	-.125**

\*p < .05    \*\*p < .01    \*\*\*p < .001

*Note:* Interactive models include controls for all sociodemographic characteristics, religious affiliation and family variables. All components of interaction terms are zero-centered, as recommended by Aiken and West (1991).

### *Ancillary Analysis*

Additional analyses (not shown) explore the idea that family contextual variables may mediate the relationship between parental, adolescent and family religious involvement and adolescent sexual behavior. Given that previous research indicates that religious involvement (particularly adolescent religious involvement) is associated with closer parent-child relationships (Pearce and Axinn 1998; Regnerus and Burdette 2006), and that close parental relationships are associated with delayed sexual behavior (Miller; 1998; Ream and Savin-Williams, 2005), it may be that religion improves family relationships, which in turn delays and reduces teen sex. Further, it is also possible that parental and family religious behaviors are associated with increased parental monitoring, which in turn reduces adolescent sexual activity. The data provided little support of these theoretical connections. In some cases, the inclusion of parent-child relationship and parental monitoring in the models slightly reduced the coefficients for religious involvement, however these variables clearly did not explain the relationship between religious involvement and adolescent sexual activity.

## DISCUSSION

Although scholars have noted the important impact of both religious involvement and family in influencing adolescent health behaviors, few studies have considered the connections between these key social institutions in affecting adolescent sexual activity. Further, previous scholarship has not explored how the impact of parental and adolescent religious involvement on adolescent sexual activity varies as a function of family context. This chapter addressed some of these limitations of prior

research on religion, family and adolescent sexual activity by exploring the influence of several measures of adolescent, parental and family religious involvement on a wide range of adolescent sexual behaviors. Additionally, this chapter examined whether the effects of religious involvement vary according to important aspects of family context (i.e. family structure, parent-child relationship, and parental monitoring).

It appears that different measures of religious involvement impact different forms of sexual activity in different ways. Adolescent religious salience appears to be particularly important in the delaying all types of sexual activity, as well as decreasing the number of sexual partners. Religious salience may be the most prominent influence among the various aspects of religious involvement on adolescent sexual activity for two primary reasons. First, religious salience is perhaps the most proximal influence on adolescent sexual activity, and some other aspects of religiosity (e.g. church attendance, family religious behavior) may be mediated by adolescent religious salience. Second, religious salience is an aspect of religious involvement that adolescents themselves have a great deal of control over. While some teens may be unable to control how often they attend church or their families' religious behaviors, they can control their perceptions of religion's influence in their daily lives.

Parental church attendance also appears to play an important role in delaying and reducing adolescent sexual behavior, at least with regard to sexual touching and sexual intercourse. Parental church attendance may reduce adolescent sexual behavior for three primary reasons. First, parents who attend church may offer adolescents concrete examples of church doctrines regarding marriage and family life. Like other

role models within the church, parents may provide flesh and blood examples of what religious institutions consider appropriate behavior, including behavior regarding sexual morality. Adolescents may want to emulate these examples, which may include waiting until marriage to have sex. Second, parental church attendance may be an indicator of the overall religiosity of the adolescents' family life. While parental religious salience and family religious practices may also be important indicators of family religious life, parental church attendance indicates a connection with an outside religious organization, and requires more effort for involvement, which could indicate a greater commitment to religious doctrines. This increased commitment to religion at the family level may in turn reduce adolescent sexual activity. Finally, parental church attendance may indicate family embeddedness within a religious institution. Being deeply rooted within a religious institution may allow parents an additional source of monitoring, as well as encouraging teens to take religious commitments more seriously, which may in turn reduce and delay teen sexual behavior.

Other forms of religious involvement, like family religious behavior and attending with one's parents, are less consistent in their impact on teen sexual behavior, and these variables are often not significant in the final models. This is likely due to the fact that more distant measures of religious activity are mediated by more proximal measures of religious involvement, like adolescent religious salience. Interestingly, parental religious salience does not appear to reduce or delay adolescent sexual activity. While this is consistent with previous research on this topic (Manlove et al. 2006), scholars have yet to offer theoretical reasons for this relationship. It may be that strong



parental religious beliefs have little impact on adolescent sexual behavior when they occur outside of a religious institution. When parents hold strong religious beliefs, but are not attending church on a regular basis, they may have a harder time transmitting religious doctrine and values. Further, adolescents may receive non-verbal cues that religion is not important when parents are not involved in religious communities, despite what their parents may say about the importance of religion. In general, the above findings draw attention to the multidimensional nature of religious involvement, as well as highlighting the dangers associated with only considering adolescent religious involvement when predicting adolescent sexual behavior.

The data also reveal several interesting findings with regard to religious affiliation. Although holding a conservative Protestant, mainline Protestant or Catholic affiliation is most often unrelated to transitioning to sexual behavior in initial models, adolescents holding these affiliations are actually *more* likely to report these behaviors than their unaffiliated counterparts, once other measures of religious involvement are taken into account. Although this finding is somewhat consistent with some previous research on sexual intercourse among Catholic women (Brewster et al. 1998) previous work in this area has not uncovered these patterns among members of other religious affiliations. Although conservative Protestants sometimes fail to exhibit reduced odds of sexual behavior (Regnerus 2007), I am among the first to show that conservative Protestant affiliation may actually *increase* the odds of sexual activity net of religious involvement itself.

These findings may not be the result of religious affiliation per say, but may be the consequence of omitted variable bias, such as untapped socioeconomic status at the individual and community level. Given that conservative Protestants tend to be located in areas of the country (i.e. the southeastern US) that suffer from lower education attainment, poor school quality and lower overall economic status, what may be viewed as the impact of conservative Protestant affiliation on adolescent sexual behavior may really be a spurious relationship with community socioeconomic status. In addition to providing measures of socioeconomic status at the community level, future research should also include more precise measures of family SES (e.g. wealth, occupation, debt) when available.

In addition to untapped socioeconomic status, conservative Protestant churches may be less likely to promote higher education and more likely to focus attention on personal, particularly family, relationships. Conservative Protestant teens may focus more time and energy on romantic relationships than other teens, rather than focusing on educational goals and career aspirations. They may enter into serious relationships earlier than other teens, viewing this as the appropriate path to adulthood. When adolescent sex does occur, it is often within the context of a relationship, rather than a random occurrence. Additionally, unlike Mormon teens, which have notably lower odds of sexual behavior compared to other teens (Regnerus 2007), conservative Protestant adolescents may be discouraged from pursuing higher education. Although Mormon theology is similar in its conservative values and focus on familial ties, LDS teens are encouraged to pursue a college education. Therefore, it may not be simply the

promotion of traditional family values, such as marriage and childbearing, but the combination of these values with low educational goals and attainment. Given that educational goals and attainment are associated with adolescent sexual activity (Moore, Simms and Betsey 1986; Lauritsen 1994), it may be that conservative Protestant churches inadvertently create an environment conducive to earlier sexual activity.

Conversely, unaffiliated adolescents may be socialized to avoid adolescent sexual activity for other, non-religious, reasons. Unaffiliated teens may receive more exposure to public health messages instilling a fear of teen pregnancy and sexually transmitted infections, than religiously affiliated teens. Religiously affiliated teens maybe sheltered from such messages, because religious leadership may view some public health messages as in opposition to religious principles. Religiously unaffiliated teens may also be more receptive to messages from public health officials concerning sexual health than religiously affiliated teens. Perhaps religiously inactive but affiliated adolescents display high levels of sexual activity because they are not receiving moral messages restricting sexual activity from religious institutions, while also lacking exposure and openness to public health information that may guard against sexual activity.

With regard to interaction effects, data offer support for both the additive and amplification models. In many cases (e.g. all models predicting number of oral sex partners) both religious involvement and family variables display independent effects in delaying adolescent sexual behavior and reduce the number of sexual partners that teens have had during their lifetime. When interaction effects did appear, they provided

support for the amplification model, rather than the compensatory model. With the exception of the interaction between biologically-intact family structure and adolescent religious salience on sexual debut, findings suggested that the effects of religious involvement on sexual behavior often vary as a function of parental relationships and monitoring.

More specifically, it appears that close parent-child relationships may amplify the protective effects of religious service attendance (e.g. adolescent attendance, parental attendance, attending with one's parents) on adolescent sexual transitions (touching, oral sex, intercourse). It may be that parents that already have strong relationships with their children have less difficulty instilling religious beliefs and values regarding sexual morality. When adolescents feel their parents appreciate and accepted them as they are, they are more likely to accept moral and spiritual messages than when they feel unloved and misunderstood. Further, those teens who report close relationships with their parents may be more enthusiastic about attending church, as well as other family activities, and therefore may be more receptive to the messages they receive from religious leaders. On the other hand, youth that have poor relationships with their parents may rebel against parental values, including those related to religious beliefs and practices, and therefore church attendance may be less effective in delaying transitions into sexual behavior among these teens.

Additionally, the influence of various forms of religious involvement (e.g. adolescent salience, parental attendance, attending with parents) appears to have a greater impact when coupled with higher levels of parental monitoring. While religious

doctrines may increase the perceived cost of participating in sexual activity, parental monitoring may reduce the opportunity to engage in sexual behaviors. Religiously involved youth may be less inclined to seek out sexual opportunities, and high levels of parental monitoring may prevent them from being exposed to sexual opportunities. As a result, highly monitored youth may be particularly unlikely to engage in sexual activity. On the other hand, religious behaviors may have less impact when adolescents are given a great deal of latitude in their behaviors. Teens who enjoy greater freedom in their outside influences (e.g., movies, music, peers), may be more likely to receive messages espousing permissive sexual values than their more regulated peers. These influences may in turn reduce the impact of religious messages on adolescent sexual decision making.

All research is characterized by limitations, and this is certainly true of the present study. Although examining transitions into sexual behavior is important for establishing causal ordering, it does introduce bias into the analyses by excluding adolescents who had already engaged in sexual behavior prior to the first round of the study. As a result, I have potentially excluded some of the more disadvantaged teens from the analyses. Further, although this paper offers valuable insights into the relationship between religious involvement and sexual activity, it does not offer information on other important sexual health outcomes. Therefore, future research in this area should investigate the impact of religious attitudes and behaviors on other measures of adolescent sexual health, such as contraceptive use and method of contraception.

Despite these limitations, the present study makes an important contribution to the study of religion, family and adolescent sexual behavior by (1) exploring the impact of multiple dimensions of parental, adolescent and family religious involvement on adolescent sexual activity, (2) employing multiple measures of adolescent sexual behavior, and (3) examining variations by family context in the impact of religious involvement on adolescent sexual behavior.

## CHAPTER 5: CONCLUSIONS

This dissertation examines the relationships between religion, race, family and adolescent sexual behavior, asking such questions as: Does religious involvement delay transitions into sexual activity? If so, which dimensions of religious involvement are most salient? Are the effects of religious involvement consistent across a range of adolescent sexual activities? Do the effects of religious involvement vary according to important social characteristics such as race/ethnicity, gender, age, or family context? Through asking these questions, this study has yielded three primary conclusions.

**First, religion is generally associated with delayed and reduced sexual behavior; however some aspects of religious involvement are more protective against adolescent sexual activity than others.** Religious salience may be the most prominent influence among the various aspects of religious involvement on adolescent sexual activity for two primary reasons. First, religious salience is perhaps the most proximal influence on adolescent sexual activity, and some other aspects of adolescent religiosity (e.g. church attendance, family religious behavior) may be mediated by adolescent religious salience. Second, religious salience is an aspect of religious involvement that adolescents themselves have a great deal of control over. While some teens may be unable to control how often they attend church or their families' religious behaviors, they can control their own perceptions of religion's influence in their daily lives.

Other forms of religious behavior also emerged as important indicators of adolescent sexual behavior. Parental church attendance and private religious behaviors

(i.e., prayer and Bible reading) both appear to be associated with delayed sexual experience. Parental church attendance may reduce adolescent sexual behavior for three primary reasons. First, parents who attend church may offer adolescents concrete examples of church doctrines regarding marriage and family life. Second, parental church attendance may be an indicator of the overall religiosity of the adolescents' family life. Finally, parental church attendance may indicate family embeddedness within a religious institution. Being deeply rooted within a religious institution may allow parents an additional source of monitoring, as well as encouraging teens to take religious commitments more seriously, which may in turn reduce and delay teen sexual behavior. Like religious salience, participating in private religious behaviors may be largely up to the discretion of the adolescent, and therefore may be more important predictors of adolescent sexual activity than more public or family forms of religious participation, which may be obligatory, especially for younger teens.

Conversely, some aspects of religious involvement (e.g., family religiosity and parental religious salience) yielded few protective effects against adolescent sexual activity, once other measures of religious behavior were taken into account. As noted above, family religious behaviors, like talking about religion and spirituality, or saying grace at mealtime, may be largely out of the control of the adolescent, and therefore may be less effective in directly delaying and reducing adolescent sexual activity. Further, it is likely that some forms of religious involvement (e.g. family religiosity) are mediated by more proximal indicators of adolescent religious commitment in their impact on adolescent sexual behavior.



**Second, the effects of religious involvement on adolescent sexual vary according to theoretically relevant social characteristics.** Consistent with previous research (Bearman and Bruckner 2001; Rostosky et al. 2003; Regnerus et al. 2003; Rostosky et al. 2004), it appears that religious involvement has a greater impact on the sexual activity of females than for males, at least with regard to family religious behavior. This may be due to the emphasis that religious groups, and perhaps religious families, place on female virginity status. Due to the patriarchal nature of some religious traditions, church leadership may emphasize the importance of virginity for girls. Further, the Bible often notes the sexual status or history of female characters, yet rarely does so for male (e.g. Leviticus 21:7, Luke 1:34, John 4: 17-19), which may reiterate the importance of virginity status among girls in particular. Likewise, those families that are highly religious may stress the sexual purity of female adolescents in family religious discussions or in more subtle ways. As a result, family religious practices are particularly influential in delaying the sexual activity of adolescent girls.

Further, religious involvement appears to be *less* effective in both delaying sexual intercourse as well as reducing the number of sexual partners for African American teens as compared to non-Hispanic white adolescents. Further, although the effects of religious activity on sexual intercourse appear to be roughly linear for White adolescents, this is not the case for Black adolescents. Only the highest levels of church attendance, private prayer and family religious discussion appear to delay sexual intercourse and reduce the number of sexual partners among African American youth. Conversely, relatively high levels of religious beliefs and behaviors appear to yield few

protective effects for African American youth. For example, Black youth who attend church on a weekly basis display odds of sexual intercourse and average numbers of sexual partners similar to those who never attend religious services. This finding lends some support to the idea that religion functions as a semi-involuntary institution within the African American community. Those African Americans youths with high or moderately high levels of religious activity (e.g. attending church on a weekly basis, praying daily) may be yielding to community standards of religious behavior, rather than being committed to official church doctrines. Therefore, many African Americans with relatively high levels church attendance may also be sexually active. However, those youth who attend more than the normative level within the African American community may be truly committed to official church doctrine, including teachings regarding sexual morality, and therefore exhibit lower odds of sexual behavior.

Religion may function as a completely different institution for African Americans, as compared to non-Hispanic Whites, and as a result have a different impact on adolescent sexual activity. In many ways, the African American church has not had the luxury that predominately White churches have had of being able to focus energy and resources on regulating sexual morality. Instead, the African American church has had to serve as the heart of the community, often providing social services as well as playing an important political role (e.g. the Civil Rights Movement). As a result of its vital role in the African American community, the church has become a more inclusive institution, where non-marital sexual conduct is not advocated but perhaps often ignored. Given the high rates of nonmarital births (62 percent) within the Black

community (Dye 2005), active adult members of the African American religious community themselves have likely given birth or fathered children outside of marriage. Therefore, young sexually active African American may not feel morally conflicted about non-marital sexual behavior. To take this line of reasoning one step further, African American churches may even serve as venues for meeting additional sexual partners. As noted earlier, church often bring together individuals who are not only religiously, but socially similar. If many of the adolescents who are active within African American religious institutions are not committed to teachings prohibiting non-marital sexual conduct, churches could be another opportunity for meeting sexual partners.

The impact of religious involvement also appears to vary as a function of family context. More specifically, it appears that close parent-child relationships may amplify the protective effects of religious service attendance on adolescent sexual behavior. It may be that parents that already have strong relationships with their children have less difficulty instilling religious beliefs and values regarding sexual morality. When adolescent feel their parents appreciate and accepted them as they are, they are more likely to accept moral and spiritual messages than when they feel unloved and misunderstood. Further, those teens who report close relationships with their parents may also be more enthusiastic about attending church, as well as other family activities, and therefore may be more receptive to the messages they receive from religious leadership. On the other hand, youth who have poor relationships with their parents may rebel against parental values, including those related to religious beliefs and

practices, and therefore church attendance may be less effective in delaying transitions into sexual behavior among these teens.

Additionally, the influence of various form of religious involvement (e.g. adolescent salience, parental attendance, attending with parents) appears to have a greater impact when coupled with higher levels of parental monitoring. While religious doctrines may increase the perceived cost of participating in sexual activity, parental monitoring may reduce the opportunity to engage in sexual behaviors. Religiously involved youth may be less inclined to seek out sexual experiences, and high levels of parental monitoring may prevent them from being exposed to sexual opportunities. As a result, these youth may be particularly unlikely to engage in sexual activity. On the other hand, religious behaviors may have less impact when adolescents are given a great deal of latitude in their behaviors. Teens who enjoy greater freedom in their outside influences (e.g., movies, music, peers), may be more likely to receive messages espousing permissive sexual values than their more regulated peers. These influences may in turn reduce the impact of religious messages on adolescent sexual decision making.

**Finally, this study yielded interesting distortion and suppression effects with regard to religious affiliation.** The data also reveal several interesting findings with regard to religious affiliation. Although holding a conservative Protestant, mainline Protestant or Catholic affiliation is most often unrelated to transitioning to sexual behavior in initial models, adolescents holding these affiliations are actually *more* likely to report these behaviors than their unaffiliated counterparts, once other measures of

religious involvement are taken into account. Although this finding is somewhat consistent with some previous research on sexual intercourse among Catholic women (Brewster et al., 1998) previous work in this area has not uncovered these patterns among members of other religious affiliations. Although conservative Protestants sometimes fail to exhibit reduced odds of sexual behavior (Regnerus, 2007), I am among the first to show that conservative Protestant affiliation may actually *increase* the odds of sexual activity net of religious involvement itself.

These findings may not be the result of religious affiliation per say, but may be the consequence of omitted variable bias, such as untapped socioeconomic status at the individual and community level. Given that conservative Protestants tend to be located in areas of the country (i.e. the southeastern US) that suffer from lower education attainment, poor school quality and lower overall economic status, what may be viewed as the impact of conservative Protestant affiliation on adolescent sexual behavior may really be a spurious relationship with community socioeconomic status. Future research should also include more precise measures of family SES (e.g. wealth, occupation, debt) when available.

In addition to untapped socioeconomic status, conservative Protestant churches maybe less likely to promote higher education and more likely to focus attention on personal, particularly family, relationships. As a result, conservative Protestant teens may focus more time and energy on romantic relationships, rather than focusing on educational goals and career aspirations. As a result of this focus, they may enter into serious relationships earlier than other teens, viewing this as the path to

adulthood. When adolescent sex does occur, it is often within the context of a relationship, rather than a random occurrence. Additionally, unlike Mormon teens, which have notably lower odds of sexual behavior compared to other teens (Regnerus 2007), conservative Protestant adolescents may be discouraged from pursuing higher education by their religious community. Although Mormon theology is similar in its conservative values and focus on familial ties, LDS teens are encouraged to pursue a college education. Therefore, it may not be simply the promotion of traditional family values, such as marriage and childbearing, but the combination of these values with low educational goals and attainment. Given that educational goals and attainment are associated with adolescent sexual activity (Moore, Simms and Betsey 1986; Lauritsen 1994), conservative Protestant churches may inadvertently create an environment conducive to earlier adolescent sexual behavior.

These unusual findings may also be due to the nature of religious affiliation during adolescence. Some teenagers may see their religious identity as involuntary in nature. Teens may have few opportunities to explore or develop a religious identity that is separate from that of their parents. Further, some teens may have little interest in their religious identity, and may not see their religious affiliation as a salient part of their identity. Therefore, some teens who affiliate with a conservative Protestant, Catholic or mainline Protestant religious group may do so because they have had some sort of contact with that group, whether or not this contact was meaningful is another question. For example, teens that are not otherwise religiously involved may still affiliate with a certain group because, a) members of their family are affiliates of that group, b) it is

part of their cultural identity, or c) they had some sort of contact with that group during their childhood (e.g. the teen was confirmed or baptized in a certain church). Further, in some areas of the country (e.g. the south), identifying as unaffiliated may be viewed as non-normative, and therefore youth maybe reluctant to say they have no religious affiliation.

Conversely, unaffiliated adolescents may be socialized to avoid adolescent sexual activity for other, non-religious, reasons. Unaffiliated teens may receive more exposure to public health messages instilling a fear of teen pregnancy and sexually transmitted infections, than religiously affiliated teens. Religiously affiliated teens maybe sheltered from such messages, because religious leadership may view some public health messages as in opposition to religious principles. Religiously unaffiliated teens may also be more receptive to messages from public health officials concerning sexual health than religiously affiliated teens. Perhaps religiously inactive but affiliated adolescents display high levels of sexual activity because they are not receiving moral messages restricting sexual activity from religious institutions, while also lacking exposure and openness to public health information that may guard against sexual activity.

### *Limitations*

Although I noted several limitations of this research in each chapter, I would also like to briefly address limitations of the dissertation as a whole. First, while two waves of data are obviously better than one, Wave 3 of the National Survey of Youth and Religion will allow for more complex modeling of the relationship between religious

involvement and adolescent sexual behavior. The addition of Wave 3 of the NSYR will be particularly interesting as the overwhelming majority of respondents will have transition into sexual intercourse by this time.

Second, while African American youth compose the second largest racial/ethnic group of the NSYR they are still limited in number compared to non-Hispanic White adolescents. This limitation was particularly glaring in the sub-sample analysis of chapter three of this dissertation. While I considered employing two waves of data for this chapter, I chose not to for two reasons. First, a large minority of African American adolescents had already transitioned to sexual intercourse by Wave 1 of the NSYR. Omitting these youth from the analysis would have introduced bias; given that the most disadvantaged (and perhaps in the greatest need of protective religious environments) teens may have been removed from the analysis. Second, sample attrition was a particular problem for this racial/ethnic group. The combination of these factors would have cut the sample of African American youth roughly in half.

Third, although I have accounted for a number of sociodemographic, family and religious characteristics, there are a number of factors I have not included. Although omitted variable bias is a non-unique problem, it is still an important limitation of this study. For example, scholars are increasingly recognizing the importance of contextual influences, such as neighborhood characteristics or school environment in predicting adolescent sexual activity (e.g. Brewster 1994; Roche et al. 2005; Browning and Burrington 2006).



### *Directions for Future Research*

While this dissertation has uncovered interesting connections between religion and adolescent sexual behavior, there still a number of promising directions for future research in this area. First, future studies in this area should employ qualitative data, particularly in exploring the relationships between religion, race and adolescent sexual behavior. Many of the theoretical arguments from chapter three are speculative. Future research needs to uncover what messages about sexuality (if any) African American churches are delivering, and how African American youth think about sexuality in relation to religion. Additionally, future research should incorporate contextual variables, such as neighbor poverty, community racial/ethnic make-up and religious concentration, to explore whether religious involvement impacts adolescent sexuality in the same manner in different environments.

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