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Race and Gender Differences and the Role of Sexual Attitudes in Adolescent Sexual Behavior

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RACE AND GENDER DIFFERENCES AND THE ROLE OF SEXUAL ATTITUDES

IN ADOLESCENT SEXUAL BEHAVIOR

By

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Attitudes towards premarital sex have become more permissive in the past fifty years and adolescent sexual behavior reflects this attitudinal trend. The majority of adolescents are having sex prior to marriage and many adolescents are having sexual intercourse outside of committed relationships. Sexual behavioral trends vary by race and gender adding further intricacies in understanding adolescent sexuality. Past research examining adolescent sexual behavior has not examined the role of sexual attitudes in sexual behavior and the potential differences by race and gender. I draw on the Theory of Reasoned Action to further the understanding of the role of sexual attitudes in sexual behavior and add detailed analysis to further examine race and gender differences. This study utilizes Wave I of the National Longitudinal of Adolescent Health (Add Health). Multinomial logistic regression was used to examine the role of sexual attitudes and race and gender differences in sexual behavior outcomes. Three sexual categories are included; no sex, relationship sex, and nonrelationship sex. The results show that adolescent sexual behavior varies by race and gender both within and across groups. Furthermore, sexual attitudes mediate race and gender differences in sexual behavior for some groups but not for others.

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Introduction

Attitudes towards premarital sex have become increasingly more permissive in the past fifty years (Thornton and Young-Demarco 2001). Research documenting increases in permissive attitudes is well documented in previous research (Meier 2007; Paul, McManus, and Hayes 2000; Paul and Hayes 2002; Manning, Giordano, and Longmore 2006). The National Youth Risk Behavior Survey (YRBS) found that 47.8% of students in grades 9 through 12 have had sexual intercourse and 14.9% had four or more sexual partners (YRBS 2007). Given the trend of increasingly permissive attitudes towards premarital sex, the findings of the YRBS are not surprising. Reflective of attitudinal trends, sexual experience is likely to begin before marriage and many first time sexual experiences take place during adolescence. In addition to sex prior to marriage, 64% of sexually active adolescents in the first wave of Add Health report having at least one sexual partner outside of a committed relationship (Manning, Giordano, and Longmore 2005). Moreover, the likelihood of experiencing casual sex relationships in adolescence varies by race and gender. On average black youth are more likely to be sexually active and males are more likely to have more sexual relationships in comparison to females (Petersen and Hyde 2010; Kotchick et al. 2001). These behaviors may extend into adulthood with research on young adults indicating that more men and women are having casual sexual relationships and are placing an emphasis on non-commitment and no strings attached sexual relations (Manning, Giordano, and Longmore 2006).

Casual sex experience is becoming increasingly common among adolescents and young adults in American society and research demonstrates there are potential long-term health consequences associated with casual sex. Ford, Sohn, and Lepkowski (2001) examined the impacts of casual sex experience and find that casual sex can lead to increased risk of STDs and unplanned pregnancy due to less consistent condom use in casual sex relations. There are

negative consequences for mental health as well. Young females are more likely to experience increased depression if their first sex experience takes places in a nonromantic relationship (Meier 2007). Casual sex may also lead to long term relationship formationproblems. Perceived relationship desirability among males and females has been shown to decrease among individuals who have non-committed sexual relations (O'Sullivan 1995). However, the role sexual attitudes play in the increasing occurrence of casual sexual intercourse is not well understood.

Sexual attitudes or norms refer to "how accepting people are of sexual activity for themselves or for others" (Sprecher 1989:232). Research indicates that early adolescence is crucial in the development of attitudinal gender differences regarding the acceptability of casual sex (Chara and Kuennen 1994). Thus, adolescence marks an important time to examine both sexual behaviors and attitudes. Adolescent females are more likely to perceive the norm that sexual intercourse takes place in a committed relationship (Collins 2009). Differences in sexual attitudes by race during adolescence, however, have not been well-researched. Previous research primarily focuses on the "player" label and sexual attitudes and behaviors attached to this label for black male adolescents (Anderson 1989; Giordano et al. 2009). Manning et al. (2005) began further exploration in to the role of sexual attitudes in non-romantic sexual behavior and found normative beliefs to be significant in predicting non-romantic sexual intercourse. Adolescents who perceived sexual intercourse as more beneficial were more likely to have non-romantic sex. The current study further extends the role of sexual attitudes including measures of confidence in sexual knowledge and sexual risk assessment. Drawing on the theoretical perspective – Theory of Reasoned Action - I argue that in order to further understand sexual behavior outcomes it is important to examine the sexual attitudes associated with these behavior outcomes.

The importance of studying non-committed sexual relationships in adolescence is fourfold. First, early onset of experience in non-committed sexual relationships during adolescence may indicate greater likelihood for non-committed sexual experience in early

adulthood thus leading to increased health risks and increased risk of difficulties in mate selection and relationship formation. Second, non-committed sexual experience may present greater risks for female adolescents regarding pregnancy and exposure to sexually transmitted diseases. Third, the importance of gender differences in sexual attitudes and behaviors has been well-researched but the relationship between sexual attitudes and how attitudes influence sexual behavior by race and gender groups is not well understood. Given previous findings showing differences in sexual behavior outcomes by race it is important to further understand the role of sexual attitudes. Fourth, adolescent sexual attitudes also warrant attention as an important factor in sexual development. Adolescence is a time where youth are learning about sexual intercourse and their sexuality. Their sexual attitudes developed in adolescence may influence their sexual behavior outcomes in adolescence and as they enter early adulthood.

Research has been conducted on trends of sexual attitudes, changes in sexual behavior, and the negative impacts of casual sex. The majority of previous research has not focused on the relationship between adolescent sexual attitudes and sexual behavior, however. Furthermore, research has not emphasized the specific race and gender differences in both sexual behaviors and the role of sexual attitudes in mediating such differences. In this study I will examine the following research questions:

(1) Does the likelihood of engaging in nonrelationship, relationship, or no sexual intercourse vary by race and/or gender?
(2) How do motivations to engage in sexual intercourse, risk perceptions, and confidence in sexual knowledge influence adolescent sexual behavior outcomes?

In order to answer these research questions, data from Wave I of the National Longitudinal Study of Adolescent Health (Add Health) will be used. This data offers a nationally representative sample to further examine race and gender differences and offers adequate measures to assess adolescent sexual attitudes.

Theoretical Background

Research examining differences in sexual behavior by race and gender emphasizes the role of socialization. For example, research shows that females are influenced by gender roles and norms to perceive sex as something that should take place in a committed relationship (Collins 2009; Oliver and Hyde 1993). This type of socialization is reflected in findings that, on average, females are less likely to experience non-committed sexual relationships in comparison to their male counterparts (Petersen and Hyde 2010). Race differences are also discussed in terms of socialization. Anderson (1989) found that among low income black adolescents sex was viewed more as a game and the focus was not love and commitment. Testing Anderson's "player hypothesis", Giordano et al. found that black male adolescents were more likely to be labeled as players and many of those adolescents were more likely to engage in nonrelationship sexual intercourse. Previous research in this area largely emphasizes the role of socialization in relation to sexual behavior outcomes. However, further understanding how sexual attitudes influence sexual behaviors is a key component to further assessing race and gender differences.

The Theory of Reasoned Action (Fishbein and Ajzen 1975) is used as a guiding theory for this study to further examine how attitudes influence behavioral outcomes. In the theory of reasoned action, behavioral intention equals the individual's attitudes/beliefs and preferences about the action plus the subjective norms or beliefs belonging to people who socially influence the individual. In this study I will focus on individuals' personal attitudes and personal beliefs that influence their sexual behaviors. The beliefs of others that may influence them are beyond the scope of this study.

Gilmore et al. (2002) conducted research applying the Theory of Reasoned Action using multiple group analysis to predict sexual intercourse among school-aged teenagers. This study tested the interaction between sexual status (virgins vs. nonvirgins), gender, and the theory construct to measure both direct and indirect paths to sexual intercourse. Gillmore et al. (2002) found sexual intercourse was associated with intentions to have sex. Moreover, sexual intentions

were associated with both general attitudes and general norms. Sexual intentions were measured by responses of when the adolescent expected to have sexual intercourse. General attitudes were associated with adolescents' perspective of how pleasant sexual intercourse would be. Conversely, general norms measured whether or not other individuals (adults and young people) in the adolescent's life would approve of them having sexual intercourse. Adolescents with greater intentions to have sex were more likely to have sex and sexual intentions that were influenced by general norms and general attitudes towards sexual intercourse.

The current study uses Theory of Reasoned Action to test whether sexual attitudes influence sexual behavior outcomes. The sexual attitude measures in this study (motivations to engage in sexual intercourse, risk perception, and confidence in sexual knowledge) serve as a proxy to measure sexual norms and behavioral intentions. These measures tap into the normative ideology of sexual intercourse by examining how motivations to engage in sexual behavior influence actual behavior outcomes. Perception of sexual risks and confidence in sexual knowledge are additional measures included in this study to account for the multi-faceted dimensions of sexual attitudes and behavior.

Sexual Intercourse Prevalence and Potential Consequences

Nearly half of adolescents report having sexual intercourse prior to graduating from high school, 66% of females and 51% of males reported having sex prior to the age of 18 (Carver et al. 2003). The proportion of teens having sexual intercourse declined between 1995 and 2002 and many teens appear to be waiting longer to have sex (Guttmacher 2010) but the majority of teens still have sex prior to graduating high school. Most young people have sex for their first time at about age 17 but on average, do not marry until their mid to late 20s (YRBS 2007, CDC 2004,Guttmacher 2010). This increases the likelihood of individuals having multiple sexual partners over time. Research conducted by Ellen et al. (1996) found that adolescents classify these sexual relationships into three different categories (1) steady partners, (2) casual partners or friends, and (3) one-night stands. In a nationally representative study 70-85% of sexually

experienced adolescents and young adults aged 12-21 reported having at least one casual sex partner in the previous year (Grello, Welsh, Harper, and Dickson 2003). In a study of college-aged women at a mid-sized Midwestern University 36% reported having sex with a partner once and only once and 29% reported having sexual intercourse with someone they had known less than 24 hours (Eshbaugh and Gute 2008). These numbers indicate that many individuals in American society have sex prior to marriage and experience casual sex relationships during adolescence and early adulthood.

Individuals who experience casual sex during adolescence are more likely to participate in casual sex relationships throughout early adulthood. Research examining the prevalence of casual sex relationships found that the strongest predictor of involvement in non-committed sexual activity to be prior sexual experience (Manning et al. 2006). Casual sex experience often times comes with elevated health risks. Adolescents and young adults who have casual sex are less likely to consistently use protection placing them at greater risk for pregnancy and STDs (Ford, Sohn, and Lepkowski, 2001; Manning, Longmore, and Giordano, 2000).   Females are disproportionately affected by these health risks given their higher risk for sexually transmitted diseases through heterosexual contacts (Ickovics 2001). Furthermore, research indicates that young females are more likely to experience increased depression following their first sex experience. This becomes increasingly likely if sex takes place in a nonromantic, low emotional attachment relationship (Meier, 2007).

Risks involved in casual sexual intercourse also extend into the social arena. Women report experiencing more shame and regret following a casual sex experiences in comparison to males (Paul and Hayes, 2002; Martin 1996; Thompson 1995). Future relationship formation may also be impacted as research conducted examining male and female's sexual experience in relation to their relationship desirability reveal that both men and women who were depicted as having sexual relations in casual, non-committed situations were perceived as the least desirable for relationships (O'Sullivan, 1995; Sprecher, Regan, McKinney, Maxwell, and Wasienski,

1997). It is important to further examine who experiences different types of sexual behavior given the potential long term psychological and social impacts of varying types of sexual experience.

Previous research has examined how sexual behavior varies by multiple sociodemographic characteristics. Research on sexual behaviors consistently finds differences by gender. Males are more likely to have first sexual intercourse at a younger age, more frequent sexual intercourse, and an overall larger number of sex partners (Petersen and Hyde 2010). In contrast, females have first sexual intercourse at an older age and a lower reported number of sex partners (Christopher and Sprecher 2000). This research highlights the stark gender differences in sexual behavior beginning in adolescence. As an added complexity in understanding adolescent sexual outcomes research finds that females who have early onset of sexual experience are more likely to experience casual sex (Manning et al. 2006). Gender differences are an important facet in understanding the complexities of adolescent sexual behavior.

Beyond gender differences, other predictors include differences by race/ethnicity. National surveys suggest that sexual activity is higher for certain minority youth than for Caucasian youth (Kotchick et al., 2001). Manning and Giordano (2005) found that African Americans are more likely to experience non-committed sexual relationships in comparison to their non-Latino white counterparts. Latino/a adolescents also report high rates of sexual activity. In a study of high school students, 51% of Latino youth reported sexual experience, compared to 43% of white youth (Eaton et al 2006). Research focused on understanding the high rates of sexual activity among Latino/a youth have examined the role of religiosity in predicting adolescent sexual behavior. Among Latino youth, previous research indicates that religiosity decrease sexual risks for youths (Edwards, Fehring, Jarrett, and Haglund 2008). Previous research on religiosity shows that as religiosity increases the likelihood of having sexual intercourse declines for all groups. Religious involvement is associated with delayed sexual activity (Regernus 2007) and fewer sexual partners (Miller and Gur 2002) in adolescence.

Sexual Attitudes

Sexual attitudes or norms refer to "how accepting people are of sexual activity for themselves or for others" (Sprecher 1989:232). Attitudes towards premarital sex became increasingly permissive in the 1960s and 1970s and continued increasing at a slower rate in the 1980s and 1990s (Thornton and Young-Demarco 2001). Attitudes towards premarital sex are found to be more accepting if the sexual intercourse takes place in a serious dating relationship versus a casual dating relationship (Sprecher 1989). Westera and Bennett (1994) found that 88% of high school males and 84% of high school females expressed attitudes supportive of premarital sex.

Greater acceptance of premarital sex is found among individuals with characteristics of being young, politically liberal, African American, male, and single (Sprecher 1989, Christopher and Sprecher 2000). Males report more permissive attitudes towards casual sex and extramarital sex compared to females they also report lower levels of anxiety, fear, or guilt associated with premarital sexual relations (Petersen and Hyde 2010, Hyde 1993). However, despite general sexual attitudes being more permissive, males are more likely to reinforce the sexual double standard identifying sexually experienced females as less desirable (Fugere et al. 2008). This double standard negatively impacts females and often times they are at risk of being negatively labeled due to their casual sex experiences.

Females perceive strong norms that sexual behavior should occur within the context of romantic relationships (Collins 2009; Oliver and Hyde 1993). Research indicates that gender differences in regards to sexual attitudes may stem from early experiences and learned gender roles. Females are socialized to be more concerned with interpersonal relationships and relationship status. Thus, females are more conservative in their sexual attitudes preferring the intercourse to take place in context of a committed relationship versus a non-commited setting (Feldman et al. 1999). Women were more likely to be motivated to have sexual intercourse because of emotional value for their partner and were more likely to comply with unwanted

sexual acts as a form of relationship maintenance (Christopher and Sprecher 2000; O'Sullivan and Gaines 1998). This research highlights the importance of examining adolescent sexual attitudes. Although both males and females participate in non-committed sexual relationships the motivations for the sexual act may drastically differ.

Gender differences in sexual behavior are important to address as females are more negatively impacted by casual sex experience in comparison to males. Females are socialized to view sex as something that should occur in a committed relationship and their attitudes towards sex reflect this socialization. Feldman et al. (1999) found that females expect and desire sexual relations to take place in committed relationships whereas males are more accepting of non-committed sexual relations. In a survey on forming romantic relationships female respondents indicated more relationship interest following casual sex in comparison to males, 48% of women and 36% of men reported desiring a relationship (England et al. 2008). Previous research has shown men have more permissive attitudes towards sex (Chara and Kuennen 1994) and desire more sex partners (Buss and Schmitt 1993). During their lifetime women reported they would prefer to have five sex partners in comparison to men's preference of 18. Males were also found to be more likely to agree to casual sex with a stranger than women (Clark and Hatfield 1989).

Previous research examining sexual attitudes differences by race/ethnicity found that white Americans were more likely to have sexually permissive attitudes compared to Mexican American students (Padilla and O'Grady 1987). In their study, Feldman et al. (1999) report that young African Americans often endorse sexual permissiveness, approving of casual sex in a non-committed relationship. Anderson's (1989) research highlighted the different sex codes for inner city youth, specifically black male adolescents. Anderson argued that lack of employment and a harsh economic environment contributed to black adolescents seeking to establish their manhood in other ways. Due to their inability to support a family, Anderson states casual sex offered an alternative route to manhood by proving their manliness by having sex with and potentially impregnating multiple females. Giordano et al. (2009) tested Anderson's "player hypothesis" and

found that black male adolescents are more likely to be described as players, a label emphasizing the casual nature of sexual experience and large number of sexual partners. Their research also found that adolescents who are identified as players are more likely to engage in more sexual risk taking behavior regardless of race.

Sexual Knowledge

General attitudes toward sexual intercourse, such as viewing it positively or negatively or having more permissive attitudes, are important to understand. However, understanding adolescent risk perception and confidence in sexual knowledge is also important. Attitudes and motivations to engage in sexual behavior are multi-faceted. Knowledge about sexual intercourse and potential risk can come from various sources such as parents, peers, media, school, etc. The role knowledge plays in developing sexual attitudes and influencing sexual behavior outcomes, however, is not well researched.

Previous research examining perceived sexual knowledge and premarital sexual intercourse found that males were more likely to report more sexual knowledge and individuals with more perceived sexual knowledge reported increased premarital sexual behavior (Spanier 1976). Spanier (1976) emphasized that little was known about the direction of the relationship and whether sexual knowledge came before or after initiating sexual intercourse. Research examining the role of knowledge influencing behavior is not often focused on sexual outcomes, however, it demonstrates the importance of understanding the role of adolescent sexual knowledge.

Research on smoking behaviors is a prime example of the role knowledge can play in influencing behavioral outcomes. As knowledge regarding the dangers of smoking becomes more prevalent smoking behaviors have been shown to decline. Multiple factors influence the decline in smoking behaviors such as race, gender, and social class. However, the role of knowledge and risk perception is important and largely shown to influence behavior outcomes.

This same idea may be applied to adolescent sexual knowledge. Adolescents with more risk perception may be more likely to abstain from sexual intercourse.

Statement of the Problem

The detrimental effects of romantic and nonrelationship sexual intercourse during adolescence are well-documented. However, the characteristics of adolescents engaging in nonrelationship sex and attitudes towards sexual intercourse are not well researched. Few studies have examined how attitudes towards sexual intercourse influence adolescent's decisions in choosing whether to have sex, not have sex, or have nonrelationship sex. This research seeks to identify characteristics of individuals who are at increased risk of experiencing nonrelationship sexual intercourse. The research also further examines the relationship between sexual attitudes and sexual behavior outcomes.

It is important to understand the influence of sexual attitudes on varying sexual experiences to broaden the understanding gender differences and motivations for engaging in nonrelationship sexual behavior. As demonstrated by Theory of Reasoned Action, attitudes, subjective norms, and behavioral intentions all play a role in attitudes influencing behavior. In this research measurements of adolescent's general attitudes towards sexual intercourse, their confidence in sexual knowledge, and their perceived sexual risks are included to examine attitudes beyond solely whether adolescents view sexual intercourse positively or negatively. These additional measures also allow for further understanding of the role that sexual knowledge plays in adolescent sexual behavioral outcomes.

In previous research, the influence of adolescent sexual attitudes on sexual behaviors has not been addressed. Additionally, differences in sexual behaviors and attitudes based on race and ethnic identities are not well researched except to note that African Americans are more likely to hold permissive attitudes towards casual sex and participate in casual sex relationships (Mannning et al 2005; Christopher and Sprecher 2000). In this study, the following research questions are examined:

(1) Does the likelihood of engaging in nonrelationship, relationship, or no sexual intercourse vary by race and/or gender?

(2) How do motivations to engage in sexual intercourse, risk perceptions, and confidence in sexual knowledge influence adolescent sexual behavior outcomes?

Methods

Data. Analyses are based on Wave I of the National Longitudinal Study of Adolescent Health (Add Health). Add Health in Wave I is based on interviews with students in grades 7 through 12 and their parents in 1994/1995. The sample for this data was collected in two stages. In the first stage, data was collected using a stratified random sample of all high schools in the United States. The high schools were stratified into clusters based on region, urbanicity, school size, school type (private, public, parochial), percent white, percent black, grade span, and curriculum. In the second stage, an in-home sample of 27,000 adolescents was drawn consisting of a core sample from each community plus selected oversamples. The oversamples were determined based on the adolescent's responses on the initial In-School questionnaire. The in-home interviews consisted of different samples: core, saturated schools (where all students were selected for in-home interviews), disabled, blacks from well-educated families, Chinese, Cuban, Puerto Rican, and adolescents residing together. The Add Health data also includes measures of adolescent romantic and non-romantic (nonrelationship) sexual experiences and multiple measures of adolescent attitudes towards sexual outcomes.

My analytic sample consists of respondents in the Wave I home interview. Respondents missing data on my focal dependent variable or key independent variable (e.g., sexual behaviors, sexual attitudes, parent income) and adolescents younger than age 15[1] were omitted from the analysis. In total, this resulted in 4,825 adolescents omitted from the sample. The parent income variable also reduced the sample size due to high numbers of missing data in the parent survey, 3,798 adolescents had missing data on the parent income variable. The resulting sample is 7,447

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[1] Adolescents under the age of 15 were not asked questions regarding sexual attitudes and sexual behaviors.

adolescents. For future research purposes, the statistical technique of multiple imputation could be used to recover these missing cases.

Measures.

Dependent Variables

In this research my dependent variable is a categorical variable measuring sexual behavior outcomes. To answer the first and second research questions, examining how sexual behavior varies by race and gender and how sexual attitudes are related to sexual behavior, sexual behavior is identified as the dependent variable. In this analysis, *sexual behavior* is assessed using a categorical variable. This measure was created using different questions from the Wave I in-home survey. To identify adolescents who reported being virgins or having no sexual experience the this question was used, "With how many people, in total, including romantic relationship partners, have you ever had a sexual relationship?". Individuals could identify between 1 and 900 partners, individuals who reported 0 partners were coded as having no sexual experience. A dummy variable was created with (1) no sexual experience and (0) sexual experience. However, due to inconsistent reporting individuals identified as having no sexual experience but later reported relationship or nonrelationship sexual experience were recoded as (0) having sexual experience.

To identify individuals having *relationship sex* three similar variables were used. Each variable used was from the romantic relationships rosters, the respondent could identify three romantic relationship partners. "When you had sexual intercourse with {INITIALS} did you insert your penis into her vagina?" or "When you had sexual intercourse with {INITIALS} did he insert his penis into your vagina?". Individuals who responded yes to this question on any three of their relationship rosters were coded as having relationship sex (1). Individuals who answered no or who skipped the question due to no sexual intercourse being reported were coded as not having relationship sex (0). Each of these three variables was combined to create one variable identifying all individuals reporting relationship sex.

To identify individuals having nonrelationship sex six similar variables were used. It is important to note that individuals had more opportunities to report nonrelationship sexual intercourse in comparison to relationship sexual intercourse. Each variable used was from the nonromantic nonrelationship roster. Individuals could report up to six experiences of nonromantic relationships. The same question was asked of individuals in the romantic relationship rosters, "When you had sexual intercourse with {INITIALS} did you insert your penis into her vagina?" or "When you had sexual intercourse with {INITIALS} did he insert his penis into your vagina?". Individuals who answered yes on any of these questions were coded as having nonrelationship sex (1) individuals who answered no were coded as not having nonrelationship sex (0). Each of these variables was then combined to create one variable that combined all nonrelationship sexual experience.

After each of these categories was identified a sexual behavior typology was created. No sexual experience was coded using the no sexual experience variable (1) relationship sex experience was coded using the combined relationship sex experience variable (2) and nonrelationship sex experience was coded using the combined nonrelationship sex variable (3). When creating the typology individuals who had both relationship and nonrelationship sexual experience were put into category 3, which has been labeled "some nonrelationship sexual experience". Each category was mutually exclusive and individuals could only be coded into one category.

Independent Variables

To answer my first research questions I focus on two key independent variables, race and gender. Gender was coded using the respondents reported biological sex; males were coded as 0 and females as 1. The race variable was initially broken into six categories (White, African American, Latino, Asian, Native American, and other). After reviewing the percentages of each race in the sample, I collapsed the categories Asian and Native American and include them in the other category.

To address my second research question, examining the relationship between attitudes and behaviors, all three sexual attitude scales are identified as independent variables. *Motivations to engage in sexual intercourse* are measured by a 4-item scale using four questions from the Add Health Wave I in-home survey. The questions each had a response scale of 1 to 5, 1 strongly agree and 5 strongly disagree. The agreement of each item indicates more positive sexual attitude. Due to the higher scores initially indicating disagreement the scale has been reverse coded to indicate higher scores as positive attitudes and lower scores as negative attitudes. The questions were as follows (1)If you had sexual intercourse, it would relax you, (2)If you had sexual intercourse it would give you a great deal of physical pleasure, (3)If you had sexual intercourse, it would make you more attractive to men/women, and (4)If you had sexual intercourse, you would feel less lonely. The scale has a cronbach's alpha of .76 and each item had high factor loadings for one factor. Another factor was present but the eigenvalue was low and the scale had unidimensionality.

Perception of sexual risks was measured using two items. The first measurement is *STD risk perception* derived from two questions (1) What do you think your chances are of getting a sexually transmitted disease, such as gonorrhea or herpes? (2) What do you think your chances are of getting AIDS? The second measurement is *pregnancy* risk perception measured by (1) Imagine that sometime soon you were to have sexual intercourse with someone just once, but were unable to use any method of birth control, what is the chance you would get (your partner) pregnant? Responses ranged from 1 to 5, 5 was coded as the highest risk perception.

Confidence in sexual knowledge was measured using a four item scale. Each item in the scale measured the confidence in a respondent's answer to a sexual knowledge question. An example of sexual knowledge questions asked were "when using a condom the man should pull out of the woman right after he has ejaculated" and "the most likely time for a woman to get pregnant is right before her period starts". For this analysis, confidence in knowledge was the desired variable. Accordingly the follow up question, assessing the confidence in their answer to

the sexual knowledge question, was used. This question asked respondents to rate how confident they were their answer was correct. Response values ranged from 1 (very) to 4 (not at all). The items were reverse coded so the higher scores indicated increased confidence. The scale had a cronbach's alpha of .63.

Additional control variables were measured including: age, religiosity, family structure, parent income, and parent education. The age of adolescents was calculated from the reported birth date and interview year. The *religiosity* measure was created from a question asking adolescents how important religion was to them. Their responses ranged from very important (5) to not important (1). *Family structure* was coded using the Wave I parent interviews and the parents reported marital status. The categories identified are married, divorced, never married single parent families, and other families. *Parental* income was calculated using the reported income from the parent survey. The natural logarithm of parental income is used in my data analysis to allow functional form and more accurate interpretation of the results. *Parent education* was coded using the parent interviews. The variable was coded into the following categories: less than high school, high school, some college, bachelor's degree, and beyond bachelor's degree.

Analytic Strategy

The analysis will have three different model series. The first two models assess race and gender differences in sexual behavior outcomes. The first model includes the race and gender variables with interaction coefficients. The second model includes additional control variables (age, income, education, etc.) In the final model, I assess the relationship between adolescent sexual attitudes and sexual behaviors. Sexual behavior is identified as the dependent variable, attitudinal measures are independent variables and all the sociodemographic variables are included in the model.   Multinomial logistic regression is used to estimate the relative risk of experiencing relationship sex versus nonrelationship sex and relationship sex and nonrelationship sex versus no sexual experience. In order to further assess race and gender differences relative

risk ratios were calculated for each model comparing all race and gender groups (white males, white females, black males, black females, Latino males, and Latina females)[2]. These results are given in separate tables for each sexual behavior comparison group.

Results

Sample Characteristics

Table 1 reports the descriptive characteristics for the full sample and for each sexual behavior category (virginity, relationship sex, and nonrelationship sex). Approximately half (50.3%) of the sample are females. The sample is predominately White (68.9%) with 14.3% Black and 10.7% Latino. Married families consisted of 74.6% of the sample, followed by divorced families with 14.5% and single parent families with 3.8%. The average age of the sample was 16.9 years. Respondents reported an average of 2.8 for the motivations to engage scale, 3.0 for confidence in sexual knowledge, 3.6 for STD risk perceptions, and 3.3 for pregnancy risk perceptions. Sample characteristics varied by reported sexual experience.

The virgin sample is predominately white (72.7%) with married family backgrounds (80.0%). Their attitudes towards motivations to engage in sexual behavior, confidence in sexual knowledge, and perceptions of STD risk were all lower compared to the full sample average. Adolescents reporting relationship sex had higher scores on the motivations to engage, confidence in sexual knowledge, and STD risk perception scales. The sample consisted of 65.3% white adolescents, followed by 19.8% black, and 9.7% Latino. The proportions of adolescents who have no sex, relationship sex, or nonrelationship for each race and gender category are reported in the Appendix (Table 1 and 2). The nonrelationship sex sample reported the highest averages on the motivations to engage and STD risk perception scales. Their average score on

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[2] To assess significant differences between each race and gender group category dummy variables were created (e.g., white males, black males, white females, black females, etc.). After creating the dummy variables separate regression models were run for each model switching out the reference group category. For example, a set of models was run with white males as the comparison group, followed by white females as the comparison group, then black males, etc. for each race and gender category. The significance value for these models was used to assess the significant differences between groups.

pregnancy risk perceptions were lower than the full sample and both other sexual intercourse categories.

Relationship Sex versus Virginity

In section A of Table 2 the multinomial logistic results are shown for the comparison between relationship sex versus virginity. The first column shows the relative risk [3] results for the baseline model.

As previously stated, the relative risk ratios (RRR) were calculated for each race and gender group to further examine differences. Table 3 presents the RRR for white males (wm), white females (wf), black males (bm), black females (bf), Latino males (lm), and Latino females of experiencing relationship sex versus virginity for all models (baseline, control, and full). In Panel A the relative risk ratios for the baseline model are shown. In this model, white females' relative risk of experiencing relationship sex versus virginity was 24% higher in comparison to white males and 50.7% higher than Latina females. The relative risk for white females was lower in comparison to black males and black females (RRR=.342 and RRR=.547 respectively). Black males had a higher relative risk of having relationship sex versus remaining virgins compared to all other groups. Their relative risk was 3.6 times higher compared to white males and 2.9 times higher than white females. In comparison to their black female counterparts, their relative risk was 60% higher to experience relationship sex versus virginity. In the baseline model black males' relative risk was 4.4 times higher than Latina females and 2.8 times higher than Latino males. The baseline model also shows that Latina females have a lower relative risk in comparison to all other groups. Latino males had a 57% higher relative risk of having relationship sex versus virginity in comparison to their Latina female counterparts.

The control model added measures to control for family structure, parent income, parent education, age, and religiosity. The relative risk estimates comparing relationship sex to virginity

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[3] Relative risk coefficients display exp (b) rather than b. The ratio of a relative risks is the relative risk ratio (RRR).

for this model are shown in Panel A, Column 2 of Table 2. The control variables for divorced family status, single parent family status, parent education, age, and religiosity were also found to be significant. As both parent education and religiosity increase the relative risk of adolescents experiencing relationship sex versus virginity decreases. Age, single family status, and divorced family status were all associated with an increase in relative risk.

As with the baseline model relative risk ratios were calculated for the control model to further assess race and gender differences. The control model relative risk ratios for each race and gender group comparing relationship sex versus virginity are shown in Panel B of Table 3. The results of these comparisons are largely the same with slight variations in relative risk. Most notably, the difference between black females and black males is no longer significant once the control measures are included in the model.

The final model series includes both control variables and additional attitudinal measures. The multinomial logistic results for the relative risk of relationship sex versus virginity are shown in Column 3 in Panel A of Table 2. The additional attitudinal measures included in this model were significant. Adolescents with increased motivations to engage in sexual intercourse have an 80% higher relative risk of experiencing relationship sex versus virginity. Confidence in sexual knowledge is associated with a 2.6 higher relative risk. As confidence in sexual knowledge increases adolescents' relative risk of experiencing relationship sex versus virginity also increases. Adolescents' who have more risk perception of STDs had a 29% higher relative risk of experiencing relationship sex versus virginity.

The relative risk ratios of adolescents having relationship sex versus virginity for the full model are shown in Panel C of Table 3. In this model the difference in relative risk for white females compared to black males is no longer significant. Conversely, the relative risk of white females to Latino males becomes significant. In the full model, Latino males have 2.4 times higher relative risk of experiencing relationship sex versus virginity compared to white females. The difference in relative risk comparing Latino males to Latina females is no longer significant.

However, it should be noted that in this model the relative risk of experiencing relationship sex becomes greater for Latina females versus Latino males (non-significant finding).

Black females now have a 4.3 times higher relative risk of experiencing relationship sex versus virginity in comparison to white males and 4.2 higher relative risk compared to Latino males. The relative risk for black females versus white males and Latino males in the full model nearly doubled in comparison to both the baseline and control model. The results for black males show an opposite trend, the relative risk of experiencing relationship sex versus virginity decreases for black males compared to Latina females. Black males still have significantly higher risk (RRR=2.806) but it is much lower in comparison to both the baseline and control models (RRR=4.4 and RRR=5.2 respectively).

Nonrelationship Sex versus Virginity

The second set of results compares the relative risk of experiencing nonrelationship sex versus virginity. The multinomial logistic regression results for this comparison are shown in Panel B of Table 2. The first column of Panel B shows the results for the baseline model. Table 4 shows the relative risk ratios for each race and gender group of experiencing nonrelationship sex versus virginity. In Panel A of table 4 the relative risk ratios for the baseline model are shown. In this model, white males have a 2.2 times higher relative risk of having nonrelationship sex versus virginity in comparison to Latina females. White females also have a higher relative risk in comparison to Latina females (RRR=2.077) and a lower relative risk in comparison to all other groups. Black males have a nearly ten times higher relative risk of experiencing nonrelationship sex versus virginity in comparison to Latina females (RRR=9.275). Their relative risk is 2.9 times higher than Latino males, 4.3 times higher than white males, 4.5 times higher than white females, and 2.2 times higher than their black female counterparts. Black females' relative risk of experiencing nonrelationship sex versus virginity is 89% higher in comparison to white males and 99% higher compared to white females. In comparison to Latina females, black females' relative risk is 4.1 times higher. Latino males have a higher relative risk

in comparison to white males, white females, and Latina females (RRR=1.467, RRR=1.539, and RRR=3.197 respectively). Overall, Latina females have the lowest relative risk of experiencing nonrelationship sex versus virginity with lower relative risks in comparison to all groups.

The second model includes additional control variables. The multinomial results for this model are presented in the second column of Panel B in Table 3. In this model, black adolescents relative risk of having nonrelationship sex versus virginity remains much higher compared to white adolescents (RRR=4.6). The difference between Latino adolescents and white adolescents is no longer significant in this model. Divorced family status and age are found to be associated with an increased relative risk of experiencing nonrelationship sex versus virginity. Religiosity and higher parental income and education are associated with a lower relative risk of experiencing nonrelationship sex versus virginity.

The race and gender relative risk ratios for this model are shown in Panel B of Table 4. These results for the nonrelationship sex versus virginity comparison are not largely different from the baseline model. The relative risk for black males' increases from approximately 9 times higher to 11.6 times higher compared to Latina females. The difference in relative risk for Latino males compared to white males and white females is no longer significant but the difference in relative risk between black females and Latino males becomes significant. Black females' relative risk of experiencing nonrelationship sex versus virginity is 70% higher compared to Latino males.

The full model results comparing nonrelationship sex to virginity are displayed in column 3 of Panel B in Table 2. In this model, the difference in relative risk for females versus males is now significant. Divorced family background is associated with an increase in relative risk of experiencing nonrelationship sex versus virginity compared to adolescents with married parents. Parental income and parental education are both associated with lower relative risk of experiencing nonrelationship sex versus virginity (RRR=.733 and RRR=.855 respectively).

The attitudinal measures in this model are all statistically significant. Increases in motivations to engage in sexual intercourse are associated with a 2.25 times higher relative risk of experiencing nonrelationship sex versus virginity. Adolescents with higher confidence in sexual knowledge also show an increased risk of nonrelationship sex versus virginity (RRR=2.71). Increased STD risk perception is associated with a 47% higher relative risk while increased pregnancy risk perception is associated with a lower relative risk of experiencing nonrelationship sex versus virginity (RRR=.810).

Table 4, Panel C shows the relative risk ratios of experiencing nonrelationship sex versus virginity by race and gender groups for the full model. In this model, white females' relative risk is now 2.4 times higher to experience nonrelationship sex versus virginity in comparison to white males. In the baseline and control model white females' relative risk was lower in comparison to Latino males, in the final model the relative risk for white females is 2.1 times higher. The difference in relative risk for white females and black males has also become smaller. In the previous control model black males' relative risk was over four times higher than white females. In the final model, the relative risk for black males is 1.8 times higher compared to white females. The difference in relative risk between black males and females is no longer significant. Black females' relative risk of experiencing nonrelationship sex versus virginity in comparison to Latino males is now 4.3 times higher. The relative risk for Latina females is still lower in comparison to all groups but the difference between Latina females and black males does become smaller with the inclusion of the attitudinal measures. In the control model black males had a 11.6 times higher relative risk of experiencing nonrelationship sex versus virginity compared to Latina females. In the final model with attitudinal measures black males' relative risk is only 5.1 times higher in comparison to Latina females.

Relationship Sex versus Nonrelationship Sex

The final comparison group shown is relationship sex versus nonrelationship sex. The multinomial logistic results for these comparison models are shown in panel C of Table 2. Column one displays the baseline model results. Panel A of Table 5 displays the relative risk of experiencing relationship versus nonrelationship sex by race and gender for the baseline model. The relative risk of experiencing relationship sex versus nonrelationship sex is 53% higher for white females compared to black males and 47% higher compared to Latino males. Latina females' relative risk of experiencing relationship sex versus nonrelationship sex is 79% higher than white males and approximately two times higher compared to both black males and Latino males.

The results for the control model are shown in Column 2 of Panel C in table 2. Additional control variables indicate that both family structure and parental income are associated with changes in relative risk. Increases in parental income are associated with a 29% higher relative risk of experiencing relationship sex versus nonrelationship sex. Increases in levels of religiosity are associated with a 22% increase of relative risk.

The race and gender differences for the control model do not largely differ from the baseline model. In Panel B of Table 5 the results for the control model are shown. The relative risk for Latina females' experiencing relationship sex versus nonrelationship sex remains higher in comparison to white males, black males, and Latino males (RRR=1.81, RRR=2.24, and RRR=2.05 respectively). The relative risk for white females also continues to be higher in comparison to all male groups (white males, black mlaes, and Latino males).

The final model includes the attitudinal measures and the results are displayed in column 3 of Panel C in Table 2. Parental income and religiosity are still associated with increases in the relative risk of experiencing relationship sex versus nonrelationship sex. Higher levels of motivation to engage in sexual behavior and STD risk perception are associated with a decrease in the relative risk of experiencing relationship sex versus nonrelationship sex (RRR=.804 and

RRR=.881 respectively). Increases in pregnancy risk perception are associated with a 14%

increase in relative risk of experiencing relationship sex versus nonrelationship sex. The relative

risk ratios for each race and gender group are shown in Panel C of Table 5. The differences in

relative risk for white females and white males and white females and black males are no longer

significant. In this model the only remaining significant differences are for Latina females

compared to black males and females. Latina females' relative risk of experiencing relationship

sex versus nonrelationship sex is 82% higher than black males and 72% higher than black

females.

Discussion

In response to the first research question, (does the likelihood of engaging in

nonrelationship, relationship, or no sexual intercourse vary by race and/or gender?) the results

show that sexual behavior outcomes vary by race and gender. On average, females' relative risk

of experiencing nonrelationship sex in comparison to virginity is lower compared to males

(Appendix Table 3). However, further examination including interaction variables and additional

control variables shows this varies by race. White females and black females have higher relative

risk of experiencing relationship sex versus virginity in comparison to white males. But the

relative risk for white females is lower in comparison to black males.

When comparing relationship sex versus nonrelationship sex the findings show that

females relative risk of experiencing relationship sex versus nonrelationship sex is higher in

comparison to males (Appendix Table 3). Again the results show that this finding varies by race.

Latina females and white females have a higher relative risk of having relationship sex versus

nonrelationship sex in comparison to all male groups. The relative risk for black females was not

found to be significantly different than the male comparison groups showing that the gender

findings also vary by race.

The second research question asked whether sexual attitudes influence sexual behavior

outcomes. The findings for this study indicate that sexual attitudes are associated with sexual

behaviors. Adolescents with increased motivation to engage in sexual behavior, increased

confidence in sexual knowledge, and higher STD risk perception had a higher relative risk of

experiencing both relationship and nonrelationship sex versus virginity. Higher levels of

pregnancy risk perception were associated with lower relative risk of experiencing

nonrelationship sex versus virginity and higher relative risk of having relationship sex versus

nonrelationship sex.

Furthermore, once attitudinal measures were included, the role of race and gender in

predicting adolescent sexual behavior shifted. In the attitudinal models, the relative risk of

experiencing relationship sex versus virginity for black males versus white females was no longer

significantly different. Conversely, the difference between white females and Latino males is

now significant with white females' relative risk of experiencing relationship sex versus virginity

being 2.4 times higher compared to Latino males. The difference in relative risk of experiencing

relationship sex versus virginity between Latino males and Latina females was also no longer

significant.

For the nonrelationship versus virgin category, Latina females were no longer

significantly different from white males and Latino males once the attitudinal measures were

included. Similarly, the relative risk for black females was no longer significantly different in

comparison to black males. In contrast, the differences for white females compared to white and

Latino males were now significant with white females' relative risk of experiencing

nonrelationship sex versus virginity 2.4 times higher compared to white males and 2.10 times

higher compared to Latino males.

In the final comparison group, relationship sex versus nonrelationship sex the inclusion

of attitudinal variables nearly results in no significant differences between race and gender

groups. The only differences that remain are Latina females versus black males and black

females. Latina females' relative risk of experiencing relationship sex versus nonrelationship sex

is 82% higher than black males and 72% higher compared to black females.

This study focused on further examining race and gender differences in sexual behavior and the relationship between sexual attitudes and sexual behavior outcomes. The current study lends further support to Anderson's (1989) player hypothesis, finding that black male adolescents have a higher relative risk of engaging in nonrelationship sexual intercourse compared to white and Latino adolescents. The results also support Manning et al.'s (2005) previous research on nonromantic relationship sex finding black adolescents, both males and females, are more likely to engage in sexual intercourse outside of relationships in comparison to white teens. This research extends previous research to specifically examine gender differences within and between racial groups. For example, Latina females were shown to be significantly less likely to engage in nonrelationship sexual intercourse and relationship intercourse versus remaining virgins. They differed from their Latino male counterparts who had a significantly higher relative risk of experiencing sexual intercourse. This finding contradicts previous research showing that Latino youth are more likely to report sexual experience in comparison to white adolescents (Eaton et al. 2006).

The results showed support for the Theory of Reasoned Action. Sexual attitudes were shown to play an important role in sexual behavior outcomes. Sexual attitudes were shown to mediate race and gender differences for some groups but not for others. The inclusion of attitudinal measures mediated the differences between race and gender groups. When comparing relationship and nonrelationship sex the only race and gender differences remaining after the attitudinal measures were included were between Latina females and black males and black females.

Limitations of the study include the cross sectional nature of the data used for analysis. It would be useful in future research to examine how attitudinal changes over time influence sexual behavior outcomes. A majority of adolescents in the sample reported no sexual experience and were coded as virgins. This created a disproportionate number of virgins in the sample. Longitudinal research would again help to capture sexual behavior over time and further examine

adolescents both before and after their first sexual experience. Additionally, a large number of respondents were lost due to missing information in the family income variable. The study would be strengthened by using multiple imputation to recover these missing cases to increase the sample size.

This study extends previous research in examining adolescent sexual behavior beyond virginity versus sexual experience. The importance of exploring the additional category of nonrelationship sexual intercourse is valuable extending knowledge about the intricacies of adolescent sexual behavior. Overall, these findings offer further understanding of race and gender differences in sexual behavior and extend previous knowledge on the role of sexual attitudes in sexual behavior. Continued research to explore the sociodemographic characteristics influencing adolescent sexual attitudes would help to further the understanding of the role of sexual attitudes influencing sexual behavior outcomes.

Table 1

Descriptive Statistics

	Total	Virgin	Relation.	Non-rel.
	Mean/%	Mean/%	Mean/%	Mean/%
Gender				
Female	50.3	51.2	52.4	44.5
Race				
White	68.9	72.7	65.3	63.1
Black	14.3	8.9	19.8	21.9
Latino	10.7	11.8	9.7	9.2
Other	6.1	6.6	5.3	5.8
Sexual Attitudes				
Motivations to Engage	2.8	2.7	3.0	3.1
Knowledge	3.0	2.9	3.2	3.2
STD Risk	3.6	3.2	3.9	4.4
Pregnancy Risk	3.3	3.3	3.3	3.1
Controls				
Married Family	74.6	80.0	69.7	65.8
Divorced family	14.5	11.9	16.0	19.9
Single Family	3.8	2.4	5.8	4.3
Other Family	7.3	5.7	8.4	10.0
Parent Income (ln)	3.6	3.7	3.5	3.4
Parent Education	2.7	2.8	2.6	2.6
Age	16.9	16.6	17.3	17.2
Religiosity	3.3	3.3	3.2	3.1

Table 2
Multinomial relative risk estimates

	A. Virgin (ref) Relationship Sex			B. Virgin (ref) Nonrelationship Sex			C. Nonrelationship(ref) Relationship Sex		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Focal									
(Male)									
Female	1.242 ***	1.356 **	2.523 ***	0.953	1.048	2.447 ***	1.303 *	1.294 *	1.031
(White)									
Black	3.634 ***	3.706 ***	3.645 ***	4.256 ***	4.560 ***	4.414 ***	.854	.813	.826
Latino	1.298	1.081	1.033	1.467 **	1.218	1.166	.884	.888	.886
Other	1.058	1.292	1.345	1.158	1.435	1.483	.913	.901	.907
Interactions									
Female*Black	.503 **	.461 **	.475 *	.467 **	.435 **	.463 *	1.077	1.061	1.026
Female*Latino	.512 **	.488 **	.498 **	.328 ***	.308 ***	.303 **	1.559	1.583	1.646
Female*Other	.706	.519 **	.458 **	.746	.574	.495	.945	.905	.925
Controls									
Divorced Family		1.524 **	1.375 **		1.646 **	1.406 *		.926	.978
Single Family		2.030 **	1.656 **		1.150	.826 ***		1.765 **	2.004 **
Other family		1.306	1.163		1.340	1.151 *		.975	1.010
Parent Income		1.023	.963		.793 **	.733 ***		1.291 ***	1.313 ***
Parent Education		.826 ***	.797 ***		.886 **	.855 **		.932	.933
Age		1.672 ***	1.682 ***		1.586 ***	1.605 ***		1.054	1.048
Religiosity		.731 ***	.790 ***		.598 ***	.649 ***		1.222 ***	1.218 **
Attitudes									
Motivations to Engage			1.812 ***			2.253 ***			.804 **
Knowledge									
Confidence			2.592 ***			2.708 ***			.957
Pregnancy Risk			.930			.810 ***			1.147 **
STD Risk			1.294 ***			1.468 ***			.881 ***

Table 3

A. Relative Risk Ratios: Relationship vs. Virgin: Base Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.805	*	0.275	***	0.440	***	0.771		1.213	
white female	1.242	*	-		0.342	***	0.547	**	0.957		1.507	**
black male	3.634	***	2.925	***	-		1.601	*	2.801	***	4.408	***
black female	2.271	***	1.828	**	0.625	**	-		1.750	*	2.754	***
latino male	1.298		1.044		0.357	***	0.571	*	-		1.574	*
latina female	0.825		0.664	**	0.227	***	0.363	***	0.635	*	-	

B. Relative Risk Ratios: Relationship vs. Virgin: Control Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.738	**	0.270	***	0.432	***	0.925		1.397	
white female	1.356	**	-		0.366	***	0.585	**	1.254		1.894	**
black male	3.706	***	2.734	***	-		1.599		3.429	***	5.179	***
black female	2.317	***	1.709	**	0.625		-		2.143	**	3.237	***
latino male	1.081		0.797		0.292	***	0.467	**	-		1.510	*
latina female	0.716		0.528	**	0.193	***	0.309	***	0.662	*	-	

C. Relative Risk Ratios: Relationship vs. Virgin: Full Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.396	***	0.274	***	0.229	***	0.968		0.770	
white female	2.523	***	-		0.692		0.577	*	2.442	***	1.942	***
black male	3.645	***	1.445		-		0.834		3.527	***	2.806	***
black female	4.370	***	1.732	*	1.199		-		4.229	***	3.364	***
latino male	1.033		0.410	***	0.283	***	0.236	***	-		0.795	
latina female	1.299		0.515	***	0.356	***	0.297	***	1.257		-	

Table 4

A. Relative Risk Ratios: Nonrelationship vs. Virgin: Base Model

	wm		wf		bm		bf		lm		lf	
white male	-		1.049		0.235	***	0.528	**	0.682	*	2.179	*
white female	0.953		-		0.224	***	0.503	**	0.650	*	2.077	*
black male	4.256	***	4.465	***	-		2.247	***	2.901	***	9.275	***
black female	1.894	**	1.988	**	0.445	***	-		1.291		4.129	***
latino male	1.467	*	1.539	*	0.345	***	0.774		-		3.197	***
latina female	0.459	*	0.481	*	0.108	***	0.242	***	0.313	***	-	

B. Relative Risk Ratios: Nonrelationship vs. Virgin: Control Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.954		0.219	***	0.481	**	0.821		2.540	**
white female	1.048		-		0.230	***	0.504	**	0.860		2.662	**
black male	4.560	**	4.352	***	-		2.195	***	3.744	***	11.583	***
black female	2.077	***	1.982	**	0.456	***	-		1.706	*	5.277	***
latino male	1.218		1.162		0.267	***	0.586	*	-		3.093	***
latina female	0.394	**	0.376	**	0.086	***	0.190	***	0.323	***	-	

C. Relative Risk Ratios: Nonrelationship vs. Virgin:Full Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.409	***	0.227	***	0.200	*	0.857		1.158	
white female	2.447	***	-		0.554	**	0.489	**	2.098	**	2.833	**
black male	4.414	***	1.804	**	-		0.882		3.785	***	5.109	***
black female	5.005	***	2.045	**	1.134		-		4.291	***	5.794	***
latino male	1.166		0.477	**	0.264	***	0.233	***	-		1.350	
latina female	0.864		0.353	**	0.196	***	0.173	***	0.741		-	

Table 5
A. Relative Risk Ratios: Relationship vs. Nonrelationship: Base Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.767	*	1.171		0.834		1.131		0.557	*
white female	1.303	*	-		1.526	*	1.087		1.474	*	0.725	
black male	0.854		0.655	*	-		0.712		0.965		0.475	**
black female	1.199		0.920		1.404		-		1.355		0.667	
latino male	0.884		0.679	*	1.036		0.738		-		0.492	**
latina female	1.797	*	1.379		2.104	*	1.499		2.032	**	-	

B. Relative Risk Ratios: Relationship vs. Nonrelationship: Control Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.773	*	1.230		0.897		1.127		0.550	*
white female	1.294	*	-		1.592	*	1.160		1.457	*	0.712	
black male	0.813		0.628	*	-		0.729		0.916		0.447	**
black female	1.115		0.862		1.372		-		1.256		0.613	
latino male	0.888		0.686	*	1.092		0.796		-		0.488	**
latino female	1.818	*	1.405		2.237	**	1.630		2.048	**	-	

C. Relative Risk Ratios: Relationship vs. Nonrelationship: Full Model

	wm		wf		bm		bf		lm		lf	
white male	-		0.970		1.211		1.145		1.129		0.665	
white female	1.031		-		1.248		1.181		1.164		0.686	
black male	0.826		0.801		-		0.946		0.932		0.549	*
black female	0.873		0.847		1.057		-		0.986		0.581	*
latino male	0.886		0.859		1.073		1.015		-		0.589	
latino female	1.504		1.459		1.821	*	1.722	*	1.697		-	

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Appendix A: Supplemental Tables

Table 1
Proportions of sexual behavior by race and gender

	Virgin	Relation.	Nonrel.
white male	0.595	0.236	0.169
white female	0.556	0.287	0.157
black male	0.316	0.372	0.312
black female	0.469	0.336	0.194
Latino male	0.538	0.262	0.200
Latina female	0.680	0.023	0.095

Table 2
Proportions of sexual behavior by race and gender
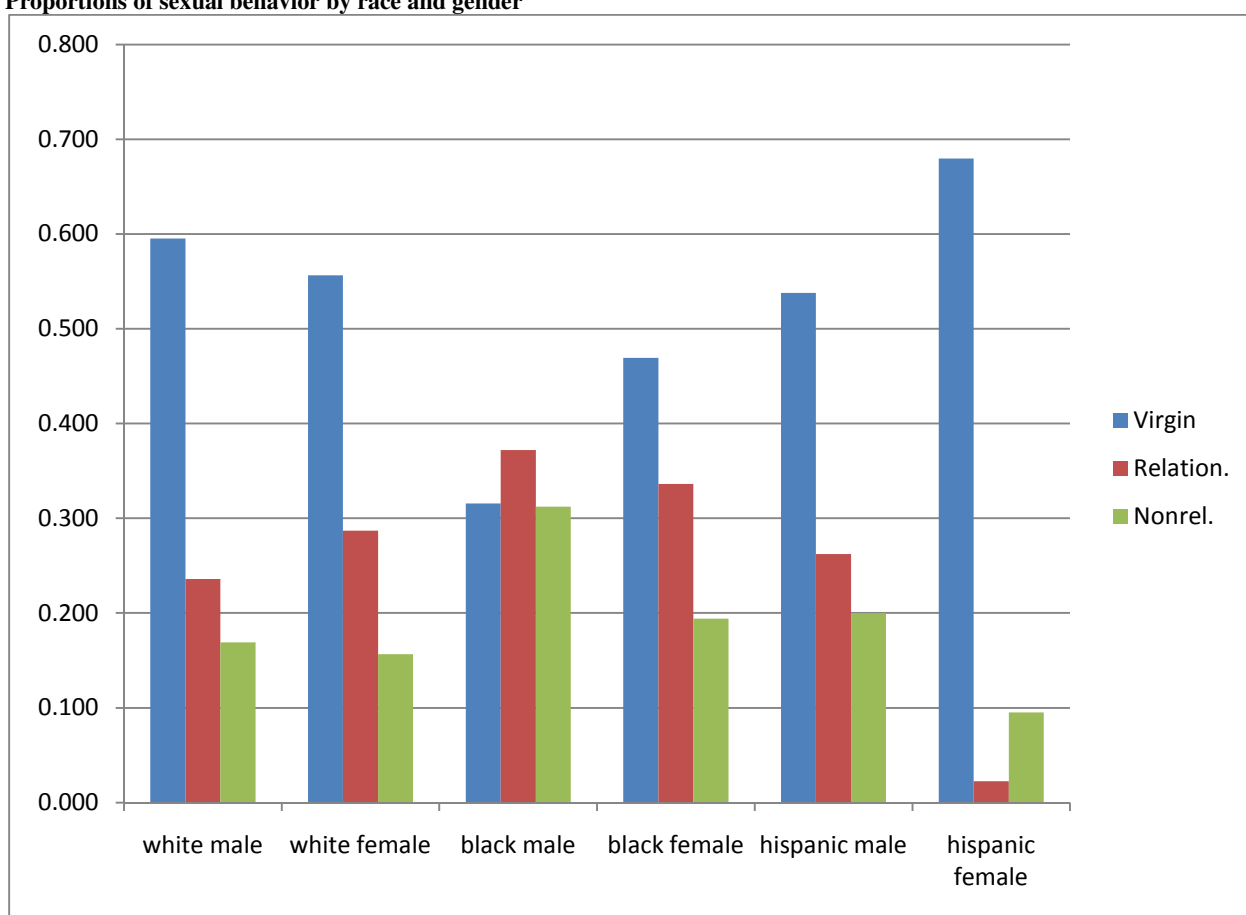
Table 3
Multinomial Logistic Results: Base Model (No Interactions)

| | Virgin(ref) | | | | Nonrelation(ref) | |
	Relationship		Nonrelation.		Relationship	
Female	1.038		0.754	**	1.377	**
Black	2.486	***	2.827	***	0.865	
Latino	.913		0.902	**	1.012	
Other	0.887		1.008		.880	

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