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## **Predictors of Casual Sex Participation in Young Adulthood: Evidence from the National Longitudinal Study of Adolescent Health**

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To the Graduate Council:

I am submitting herewith a dissertation written by Rachel M. Holmes entitled "Predictors of Casual Sex Participation in Young Adulthood: Evidence from the National Longitudinal Study of Adolescent Health." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Deborah P. Welsh, Major Professor

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**Predictors of Casual Sex Participation in Young Adulthood: Evidence from the  
National Longitudinal Study of Adolescent Health**

A Dissertation Presented for the  
Doctor of Philosophy  
Degree  
The University of Tennessee, Knoxville

Rachel M. Holmes  
May 2014

## **DEDICATION**

To my parents, whose love and support made it all possible.

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## ABSTRACT

Casual sex is often associated with young adulthood. Most research on the prevalence of casual sex has relied on college students and regional samples. The current study utilized the third wave of the National Longitudinal Study of Adolescent Health, which was collected in 2001-2002, to obtain nationally representative estimates of the prevalence of casual sex for young adults between the ages of 18-24. This study replicates Lyons and colleagues' (2013) work on the associations between varying educational trajectories and young adult casual sex behavior, and moves beyond prior work by examining recent casual sex and recent casual oral sex participation. The results suggested that young adults with some college experience or a community college experience were more likely to report casual sex participation within the past 6 months, compared to young adults with a Bachelor's degree or who were enrolled in a 4-year post-secondary institution. Contrary to Lyons et al.'s (2013) findings, the results also indicated an interaction effect between gender and education status, such that the differences between recent casual sex participation and education status were significant only for men. These results may be helpful for programs aimed at encouraging healthy sexual behavior to identify young adults groups who have the highest risk of casual sex partners.

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## I. RESEARCH RATIONALE AND PROJECT AIMS

Most young adults between the ages of 18 to 24 in the United States are sexually experienced. Mosher, Chandra, & Jones (2005) estimated that 90 percent of young adults have had sex by age 23, and 77% have had sex in the last 12 months. Some of these sexual relationships occur outside of committed, romantic relationships, and are regularly referred to as casual sex. Research based on college students' experiences indicate that casual sex is a common experience, with over half of respondents reporting having sex with a friend, acquaintance, or "friends with benefits" (England, Fitzgibbons Shafer, & Fogarty, 2007; McGinty, Knox, and Zusman, 2007). Most of the literature on casual sex uses college student samples (e.g., England, Fitzgibbons Shafer, & Fogarty, 2007; Glenn & Marquardt, 2001; McGinty, Knox, and Zusman, 2007); unfortunately, 33 percent of adolescents do not pursue college after they graduate from high school (David & Bauman, 2008). Furthermore, 59 percent of 18-24 year olds are not currently enrolled in post-secondary education (US Census Bureau, 2012). As such, the analyses in this project are based on the Add Health Data, which is a nationally representative sample of young adults with diverse educational attainment and experiences, ranging from not completing high school to attaining a 4-year degree. Furthermore, using this dataset allows for documentation of national prevalence rates, which is currently missing in the literature.

Using a biopsychosocial framework to guide the key research questions in this dissertation, I investigate demographic correlates of casual sex participation in

young adulthood. Examining the demographic correlates of young adults' sexual experiences can contribute to a better understanding of the health realities of this population. Casual sex is associated with lower rates of contraceptive and condom use, as well as a greater risk of pregnancy and sexually transmitted infections (Manlove et al., 2007; Manning, Longmore, & Giodano, 2000). Approximately 750,000 U.S. women between the ages of 15 to 19 become pregnant each year. Two-thirds of all teen pregnancies occur among teens between the ages of 18 to 19 years old. (Kost & Henshaw, 2012). Of the 18.9 million new cases of sexually transmitted infections (STI) each year, approximately half are diagnosed among individuals between the ages of 15-24 (Weinstock, Berman, & Cates, 2004). Among college students who know they have a STI, 40 percent of women and 34 percent of men do not inform their current partner. The more previous sexual partners one has, the less likely he or she will tell their current partner about having had an STI (Desiderato & Crawford, 1995). Results from the current project can help in the development of targeted programs about sexual health.

Specifically, I examine associations between adolescent casual sex participation, gender, education, living situation, employment, race/ethnicity, relationship status, and parent education attainment on young adult casual sex participation, recent casual sex participation, and recent casual oral sex participation. I also examine possible interaction effects between gender and education status on casual sex participation. Using evolutionary theory, sexual scripts, and intersectionality theory, I examine the following hypotheses:

1. Young adults with adolescent casual sex experience will be more likely to participate in casual sex as young adults than those without adolescent casual sex experience.
2. Women will be less likely to participate in young adult casual sex than men.
3. Young adults who are enrolled in or graduated from four-year post-secondary institutions will be less likely to participate in young adult casual sex than young adults with less education.
4. Education status will moderate the relationship between gender and casual sex participation, such that for young adults without post-secondary education experience, women will be less likely to participate in casual sex than men. However, for young adults with post-secondary experience, the gender difference will not be significant.
5. Young adults who live independently from their family will be less likely to report casual sex participation than those who live with their family.
6. Young adults who report full-time and part-time employment will be less likely to report casual sex participation than those who are not employed.
7. As young adults age, they will be more likely to participate in casual sex.
8. Black and Hispanic young adults will be more likely to engage in casual sex than white young adults.
9. Young adults in committed relationships will be less likely to participate in casual sex than young adults who are not in committed relationships.

10. Young adults whose parents have post-secondary education experience will be less likely to participate in casual sex than young adults whose parents do not have a post-secondary education.

## II. BACKGROUND AND SIGNIFICANCE

### **Theoretical Framework**

In recent years, many scholars have taken a biopsychosocial perspective in their effort to understand the nature of casual sex. This approach integrates the influences of culture, social context, and personal experiences, and biological factors that shape young adults' willingness to participate in casual sex (Eagly & Wood, 1991; Garcia et al., 2012; Hatfield et al., (in press); Wood & Eagly, 2002). Wood and Eagly (2002) emphasize that if scholars are to understand people's behavior, they must consider both the proximal and distal causes.

Evolutionary and social models frequently generate analogous hypotheses about casual sex, although each addresses a different casual level. Fisher and colleagues (2012) suggested that evolution may be most helpful in exploring reproductive motives, while sexual scripts may be useful in investigating cultural agendas. In other words, evolutionary biology influences why young adults engage in casual sex and the way they react to these encounters (ultimate level explanations). Concurrently, social roles and sexual scripts influence how young adults navigate their desires in a particular context (proximate level explanations). The feminist sociological theory of intersectionality explains how these categories interact to create different cultural pressures in varying intensities.

### **Casual Sex in Adolescence and Young Adulthood**

Adolescence is the time most individuals start to become sexually active. Navigating sexuality is a significant developmental component of adolescence that continues into young adulthood. During adolescence, teenagers explore physical and

emotional intimacy as they develop greater maturity through their middle and high school years (Manning, Giordano, & Longmore, 2006). Twenty-two percent of individuals have had sex by the age of 15 (Harris, Duncan, & Boisjoly, 2002), and by the age of 18; between 60 to 70 percent of adolescents engage in sexual intercourse (Carver, Joyner, & Udry, 2004).

A normal part of this process is experimenting with sex in both dating relationships and non-romantic relationships (Manning, Giordano, & Longmore, 2006). Researchers have suggested that teenagers are sexually active in a variety of ways (Halpern-Felsher, Cornell, Kropp, & Tschann, 2005; Manning, Giordano, & Longmore, 2006; Remez, 2000). Approximately one-quarter of teens (26%) had a casual partner in the 18 months prior to the first wave of Add Health, which represents about three-fifths of sexually active teens (Manning et al., 2005). Raley and colleagues (2007) reported similar findings for older teens. However, these analyses were based on the age of the participant at the time, and do not reflect the percentage of teenagers who eventually experience casual sex by the age of 18.

Developmental theorists and researchers have varying definitions of adolescence and young adulthood. Some define adolescence beginning at puberty and continuing to mid-twenties (Feldman & Elliot, 1990), while others consider late teens and early twenties (e.g. college age individuals) as a distinct developmental period (Arnett, 2000). For the purposes of this project, young adulthood is defined as between the ages of 18 to 24. As individuals transition into young adulthood, they continue to become more sexually experienced. Some researchers have suggested that changing roles, expectations, and individual factors contribute to young adults'

participation in casual sex. Lefkowitz and Gillen (2006) reported that individuals' sexual attitudes become more liberal during this time, and liberal sex attitudes are related to casual sex participation. Bailey and colleagues (2008) concluded that young adult casual sex behavior was a continuation of adolescent behavior, although these findings may be limited as the young adults in the study were interviewed only six months after high school graduation, which may not have been enough time to fully transition into young adulthood. I expect to replicate Bailey and colleagues (2008) finding that adolescent casual sex participation will be positively associated with young adult casual sex participation.

Adolescents are more likely to participate in sex as they age (Miller et al., 1997). For example, 13 percent of 14-year-old girls have had sexual intercourse compared to 70 percent of 18-year-old young adults (Abma et al., 2004). Adolescent boys have sex at an earlier age compared to girls (Spriggs & Halper, 2008). Older adolescent girls are more likely to have casual sex compared to younger teens (Manning et al., 2005). Bogle (2008) reported that casual sex is common while young adults are enrolled in post-secondary education, but the practice is not as frequent once graduated. Based on this, I hypothesize that as young adults get older, they will be more likely to report casual sex participation.

Most of the research on casual sex has focused on vaginal intercourse, although other types of casual sex behavior occur (Weiss & Bullough, 2004). Researchers have recently started investigating casual oral sex in adolescents and young adults (Brewster & Tillman, 2008; Lyons, 2013). Using a sample of 18-24 year old young adults from a Mid-western region of the country, Lyons (2013) reported

that women had an average of 2.0 casual sex partners and 1.2 casual oral sex partners in their lifetime, while men averaged 4.3 lifetime casual sex partners and 3.2 lifetime casual oral sex partners. For female adolescents between the ages 15-19, 54 percent have had oral sex and 53 have had vaginal sex, while for young adult females between 20-24, 87 percent have had vaginal sex and 83 have had oral sex. Similarly for males, 49 percent of 15-19 year olds have had vaginal sex and 55 percent have had oral sex, while 88 percent of 20-24 year olds have had vaginal sex and 82 percent have had oral sex (Mosher et al., 2008). In sum, while oral sex is a common practice for adolescents and young adults, a greater proportion of young people experience vaginal sex. In order to account for some of the variation of casual sex activity, the current investigation includes both oral and vaginal casual sex participation.

### **Casual Sex and Gender**

Human evolutionary theory attempts to explain sexual behavior by understanding our evolved history may influence behaviors in a given environment. There are several different midlevel biological or evolutionary theories about the nature of human sexual behavior that aim to understand the way evolutionary pressures influence human sexual tendencies, variation, and in some instances, sex differences. One of the central premises of evolutionary theory is that sexual reproduction is costly in many ways, including time, energy, and resources spent finding and attracting mates and the subsequent costs of child rearing.

The nature of sexual reproduction is generally characterized by competing male and female interests, which differ due to the variation reproduction rates

(Trivers, 1972). For humans, producing offspring from gestation to lactation takes longer for females than for males. The sex with the faster potential reproductive rate (generally males) can benefit by attempting to reproduce with multiple members of the opposite sex. Females, who commonly have the slower potential reproductive rate, will be in shorter supply relative to the sex with the faster potential reproductive rate, only because it takes females longer to reproduce. This discrepancy in reproductive rate between the sexes sets up general predictions about sex-specific mating behaviors (Trivers, 1972). Males are predicted to compete for access to the reproductive potential of females; this influences psychological and physical adaptations likely to increase success rates. Females are predicted to be relatively more selective when choosing their partners because of the relatively higher costs of childrearing and making a potentially poor reproductive choice.

When applying this explanation to casual sex, uncommitted sex can be interpreted as a “fitness-enhancing short-term mating strategy” (Buss & Schmitt, 1993). For men, casual sex participation is a way of possibly maximizing reproductive efforts; therefore, they will attempt to have sex with multiple partners, give consent to sex more quickly than women, and expend resources to minimally to short-term partners (Buss, 1998). Women will engage in short-term mating strategies to obtain better quality genes for offspring (Gangestad & Thornhill, 1997). Through a sexual strategy lens, both men and women engage in short-term sexual behavior, but for sex-specific reasons (Buss & Schmitt, 1993). It is important to note that men and women are more similar than different in a majority of sexual behaviors, with the exception of sexually permissive attitudes (Petersen & Hyde,

2010). In general, men appear to have a more permissive attitude toward casual sex (Petersen & Hyde, 2010). In a cross-cultural study involving 52 countries, Schmitt and colleagues (2003) reported that men self-report a greater desire for sexual partner variety than women, regardless of relationship status or sexual orientation. In North America, 65.2 percent of men and 45.4 percent of women reported seeking a short-term partner. These data demonstrate a relative difference in seeking a short-term partner, although there is significant overlap between the sexes and within the sexes.

In sum, the simplest, most general prediction from an evolutionary model is that men will be relatively more competitive and sexually eager, and that women will be relatively more selective. Evolutionary scholars have pointed out that sexual strategies theory may not be able to adequately explain casual sex behavior in shifting environmental contexts (Gangestad & Simpson, 2000; Garcia et al., 2012). Contemporary conditions, such as contraception and reproductive technologies, allow women and men to control their reproduction. Furthermore, sexual behaviors can be used for other purposes, such as enjoyment or social standing, although these influences should not be enough to completely alleviate evolved mating strategies.

Sexual script theory suggests that our sexual behaviors are dictated by a set of “scripts” that are used to organize and interpret sexual encounters (Simon & Gagnon, 1986). The most widely disseminated cultural sexual scripts are heterosexual in nature and include those focused on male roles (Kim et al., 2007; Tolman, 2006). Gender roles are a key aspect of sexual script theory. Wiederman (2005) argued that scripts are not only sexualized, but also gendered, with

underlying sexual messages being noticeably different for men and women. For men, sex is portrayed as central to male identity, non-relational sex is preferential, and men are active sexual agents. In contrast, women are portrayed as sexual objects, sexual gatekeepers, and passive compared to men.

Researchers studying casual sex in college samples have extensively examined gender differences in casual sex attitudes, meanings, and behaviors (e.g. Bogle, 2008; Stepp, 2007). Adolescent girls are less likely to engage in casual sex than boys (Manning et al., 2005; Manning et al., 2006). Recent studies of casual sex among college students demonstrate a similar pattern (Grello et al., 2006; Paul et al., 2000). Among a broader sample of young adults, the findings are mixed. Lyons, Manning, and Giordano (2013) found that women were less likely to report lifetime and recent casual sex than men. Bailey et al. (2008) did not find a significant gender difference among men and women's casual sex experiences six months post high school. In the current investigation, I hypothesize that women will be less likely to participate in casual sex than men.

### **Casual Sex Participation and Education**

Sexual scripts theory can be applied to the education gradient in casual sex behavior. Sexual scripts and social roles influence how young adults navigate their desires in a particular context. For example, Holman and Sillars (2012) found that high degrees of closeness to peer social networks and peer communication about casual sex was associated with more sexual hookups, which may be considered a volitional response to peer expectations and local norms. Based on these findings, they hypothesized that young adults with post-secondary experiences on college

campuses may be more closely connected to their peer networks and more aware of peer norms than those without those connections (Holman & Sillars, 2012).

Many of the researchers studying casual sex in young adulthood have relied on university students enrolled in 4-year programs (e.g. Bogle, 2008; England, Shafer, & Fogarty, 2007). Utilizing college samples limits the representiveness of these studies because the majority of young adults are not enrolled in 4-year universities (U.S. Census Bureau, 2010). Research with educationally diverse young adults is needed because college samples may be biased toward more advantaged young adults.

Over the span of five years, Bogle (2008) interviewed 76 college students and alumni from two universities in the northeast. From this data, she theorized that a unique set of factors present on college campuses create an environment conducive to casual sex. The sense of familiarity fostered by being surrounded by people like themselves creates a sense of safety. Students reported feeling as though they could trust a person they just met, as though they were a “friend of a friend,” even if they did not have any friends in common. The proximity of college men and women to one another makes it logistically easier to have casual sex. College students are more aware of the sexual activities others, because they are trying to understand college culture and fit in with their peers.

In contrast, alumni interviewed one or two years out of college reported finding it more difficult to meet people and reverted to more traditional dating scripts (getting to know a partner and delaying sexual activity) to find potential marriage partners. Both men and women conveyed concerns of safety in post-

college hooking up, because little is known about the potential partner, and traveling to an unfamiliar location for a sexual encounter was considered potentially dangerous and logistically complicated.

The underlying assumption of Bogle and other researcher's work is that a combination of factors unique to college students creates an environment conducive to casual sex. Three studies of heterosexual casual sex among American young adults have relied on a broader spectrum of participants (Bailey et al., 2008; Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009; Lyons, Manning, Giordano, & Longmore, 2013). Bailey and colleagues (2008) analyzed the responses of 938 first and second graders (in 1993) from the Pacific Northwest who were young adults in 2003-2004. Data from the participants was collected annually until the 12<sup>th</sup> grade, and then 6 months after the individuals' high school graduation. They found that college attendance was negatively associated with reports of ever having casual sex, and that prior risk behavior, including risky sex, explained young adult sexual risk behavior. Bailey and colleagues (2008) concluded that young adults' sexual behavior was a continuation of adolescent behavior and that college appeared to have a protective effect on casual sex behavior during the 6 months following high school graduation. This study was limited by the shortened time frame post- high-school graduation. It may be that the participants did not have enough time to fully transition into young adult roles and new environments before they were interviewed.

Eisenberg et al. (2009) analyzed most recently reported causal sex experiences from a sample of young adults who were enrolled in Minnesota public

high schools during the 1998-1999 year, and they did not find a significant difference between those that were enrolled in post-secondary school and those who were not. Lyons, Manning, Giordano, and Longmore (2013) found in a sample of young adults from the Toledo area that individuals without a high school degree and those with some college experiences reported significantly more lifetime casual sex partners than individuals who were currently enrolled or had graduated from a 4-year university. Thus, contrary to the popular treatments of casual sex, such as Bogle's (2010) study, these findings based on broader samples suggest that casual sex experiences may not be more likely among young adults who have attended college. The current investigation will continue to build on this work by examining associations between education status and young adult casual sex in a nationally representative sample. Based on Lyon colleagues (2013) findings, I predict that young adults who are enrolled in or graduated from four-year post-secondary institutions will be less likely to participate in young adult casual sex than young adults with less education.

Third wave feminists use the theory of intersectionality to understand how biological, social, and cultural categories interact on multiple (and simultaneous) levels to contribute to systematic inequality (Collins, 1990). In this view, people experience discrimination in varying arrangements and varying degrees of intensity. Although this theory originated in black feminist thought, it can be applied to all people and to many different intersections of group membership. For example, young adults that attend college are likely to have more resources and advantages available to them, regardless of gender. Thus, the evolutionary prediction that

women engage in casual sex less than men may not be significantly different at higher levels of education attainment.

### **Employment and Living with Parents**

Sexual scripts theory can be further extended to other demographic variables that may be particularly relevant in young adulthood. Socioeconomically disadvantaged youths, such as those without a high school degree, do not have the resources or structural advantages that foster and sustain more stable intimate relationships. For example, disadvantaged youths may not have expendable income to participate in group activities or dates. Over time, disadvantaged youths cultivate positive attitudes about casual sex involvement, especially among men, which increases the likelihood that casual sex occurs within these contexts (Anderson, 2009; Giordano et al, 2009). This pattern may continue into young adulthood. As adolescents transition to young adulthood, those from disadvantaged backgrounds may have less access to more conventional pathways to adulthood, such as higher education attainment, stable employment, or independent living, furthering their positive attitudes about casual sex participation. Without the resources to participate in more traditional dating activities or other pursuits that foster stable relationships, young adults may find that casual sex relationships are more suitable.

Gainful employment and independent living are two markers of adulthood (Arnett, 2004). Currently, there is little research available on the relationships between employment and living situation and casual sex. Young adults enrolled in school are less likely to be employed (Bureau of Labor Statistics, 2013), and those employed may spend less time in environments with their peers, thus having fewer

opportunities for casual sex. Furthermore, young adults who are employed may have more resources to maintain more intimate and committed relationships. In the current study, I investigate whether full-time employment (young adults who reported working 35 hours a week or more), part-time employment (young adults who reported working less than 35 hours a week), and no employment are associated with participation in casual sex; I expect that young adults who are employed will be less likely to participate in casual sex than young adults who reported being unemployed.

Similarly, young adults living with their families may have fewer opportunities to engage in casual sex. Bailey and colleagues' (2008) findings did not support this hypothesis, while Lyons et al. (2013) found that living with parents was negatively associated with lifetime casual sex and oral sex partners. I expect that living independently from family will be positively associated with the likelihood of casual sex participation.

### **Race / Ethnicity**

Sexual behavior varies by race for teenagers. Black adolescents have higher rates of sex by the age of 15 compared to White adolescents (Tucker Halpern et al., 2000). Abma and colleagues (2004), report that among females, 40 percent of Hispanic girls have sexual intercourse, followed by 46 percent of White girls and 57 percent of Black teenage girls. White male adolescents (41 percent) are less likely to have sex compared to Hispanic teenage boys (56 percent) and black teenage boys (62 percent). Black adolescents engage in more casual sex behaviors compared to their White counterparts (Manning et al., 2005).

Similar patterns emerge for young adults. Santelli and colleagues (1998) reported that Black and Hispanic males were more likely to endorse having multiple sexual partners in the last three months than their female counterparts. Using a sample of young adults six months after high school graduation, Bailey and colleagues (2008) report Blacks and Hispanic young adults were significantly more likely to engage in casual sex behavior compared to their White counterparts. I expect to replicate this finding.

### **Parent Education**

Parent education is an indicator of socioeconomic status and influences opportunities available to adolescents and young adults. For adolescents, parental education delays sexual debut, but this effect appears to be stronger for females than males (Zimmer-Gembeck & Helfand, 2008). Manning and colleagues (2005) demonstrated a small but significant negative relationship between parental education and experiencing adolescent casual sex. Based on these findings, I hypothesize that parent education will be negatively associated with casual sex participation, and that the association may be stronger for women than men.

### **Relationship Status**

Prior researchers have demonstrated that young adults in romantic relationships are less likely to engage in casual sex (Lyons et al., 2013; Raley, Crissey, & Muller, 2007). Bailey and colleagues (2008) also found union status to be a protective factor against risky sexual behavior. Consistent with previous research, I expect that young adults who report being in committed relationship will be less likely to participate in young adult casual sex.

## **Current Study**

The scant research available on young adults beyond the college environment suggests that young adults enrolled in college may be the least likely to engage in casual sex (Bailey et al., 2008; Lyons, 2013). Bailey and colleagues (2008) suggest that adolescences who participate in casual sex may be more likely to participate in casual sex as young adults, regardless of education status. The major aims of this project are to examine associations between demographic characteristics and prior casual sex behavior and young adult casual sex participation using a nationally representative sample, as well as extend existing literature by investigating interaction effects between gender and education status. Specific hypotheses include:

1. Young adults with adolescent casual sex experience will be more likely to participate in casual sex as young adults than those without adolescent casual sex experience.
2. Women will be less likely to participate in young adult casual sex than men.
3. Young adults who are enrolled in or graduated from four-year post-secondary institutions will be the less likely to participate in young adult casual sex than young adults with less education.
4. Education status will moderate the relationship between gender and casual sex participation, such that for young adults without post-secondary education experience, women will be less likely to participate in casual sex than men. However, for young adults with post-secondary experience, the gender difference will not be significant.

5. Young adults who live independently from their family will be less likely to report casual sex participation than those who live with their family.

6. Young adults who report full-time and part-time employment will be less likely to report casual sex participation than those who are not employed.

7. As young adults age, they will be more likely to participate in casual sex.

8. Black and Hispanic young adults will be more likely to engage in casual sex than white young adults.

9. Young adults in committed relationships will be less likely to participate in casual sex than young adults who are not in committed relationships.

10. Young adults whose parents have post-secondary education experience will be less likely to participate in casual sex than young adults whose parents do not have a post-secondary education.

### III. METHODS

For this project, I used data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of adolescent health behaviors and their outcomes in young adulthood. The Add Health data set provides unique longitudinal survey data that address participants' psychological, physical, social and economic health, coupled with family, relationship, school, community and neighborhood contextual data, thereby allowing researchers to examine how adolescent environments and behaviors are linked to young adult outcomes. The Add Health study is considered the largest, most comprehensive survey of adolescents ever conducted (Harris et al., 2009).

#### **Sampling Framework and Procedures**

**Wave I.** The first in-home wave of the Add Health sample consisted of U.S. middle and high school adolescents (grades 7-12) interviewed during the 1994 and 1995 academic years. The Add Health participation selection for Wave I occurred in two stages. For the school sample (Stage 1), researchers selected a stratified, random sample of high schools from a database collected by Quality Education Data, Inc. Stratification methods and sampling procedures ensured all high schools selected for the study were nationally representative of high schools in the U.S., with respect to region of the country, metropolitan area, school type, ethnicity, and size of school (Harris et al., 2009). The recruitment effort resulted in a pair of schools in each of 80 communities (a high school and a feeder school). School eligibility criteria included an 11<sup>th</sup> grade and a minimum of 30 students enrolled at the time of data collection. More than 70 percent of the originally sampled high schools

participated, and another school within the stratum replaced schools that declined participation. Feeder schools, or schools that included a 7th grade and had at least five of their graduates attend the high school of interest, were identified with the assistance of participating high schools. Feeder schools were selected in proportion to the number of its graduates attended the high school of interest. Replacement feeder schools were selected for those that declined to participate in the study.

During the second stage of data collection, 144 middle schools, junior high schools, and high schools participated. A total of 90,118 students completed a 45-minute in-school questionnaire that collected general descriptive information about students' and their parents' background, their friends, school life, school work and school activities, and general health status and health-related behaviors. Each participating school completed a school administrator questionnaire that gathered information about the educational setting and the environment of the school. Each school provided a roster of all their enrolled students. A sample of 20,745 adolescents derived from the rosters and the pool of participants in the in-school survey completed an interview at home. Approximately 200 adolescents, stratified by gender and grade, were selected from each of the 80 pairs of schools, resulting in a total initial (core) sample of 16,004 adolescents enrolled in grades 7 through 12. In addition, all of the students at two high schools (a total of 3,350 students) were selected for the PAIRS school sample. Other supplemental samples consisted of adolescents in various ethnic categories, disabled students, and sibling pairs. Student rosters were provided to ensure that students were registered at their

respective schools, and identification numbers were assigned to every name in order for students to identify friends. The response rate for Wave I was 79 percent.

**Wave II.** The second wave of the Add Health study contained most of the nearly 15,000 of the same students one year after the collection of Wave I data, with the following exceptions: a) respondents who were seniors at the time of Wave I collection and who were not part of the genetic sample were not interviewed in the second wave, b) respondents who were only in the disabled sample of the first wave were not subsequently re-interviewed, c) approximately 65 individuals who were members of the genetic sample and who had not been interviewed at Wave I were interviewed for Wave II. The response rate for Wave II was 88.6 percent.

**Wave III.** The sample for Wave III consisted of Wave I respondents who could be located and interviewed between August 2001 and April 2002, when they were between 18 and 28 years old (n=15,197). Wave III also included supplemental an opposite sex partner sample (1507 partner interviews) and a binge drinking sample of freshmen and sophomores in 2- and 4- year colleges, along with a control group of non-college same age peers, who were administered additional questions about binge drinking. Of the original 20,745 Wave I respondents, 687 were ineligible because they were not part of the probability sample or the genetic sample, and 96 were deceased, leaving 19,962 young adults eligible for participation in Wave III. Wave I respondents were ineligible if they were not 18 years old, not a sibling of originally sampled adolescent, on active military duty, or out of the country at the time of data collection for Wave III (Chantala, 2003). Field interviewers contacted 17,632 cases, and 15,170 completed the Wave III interview. Researchers attempted

to re-interview Wave I respondents who were incarcerated during Wave III data collection. A prisoner protocol was developed for proper access to respondents who were incarcerated during the fieldwork period for Wave III. Incarcerated respondents who were not expected to be released in time for Wave III data collection participated in private interviews; correctional administrators had to agree to the confidentiality restrictions established by the Add Health researchers prior to the interviews. The overall response rate for Wave III was 75.6 percent.

### **Data Collection**

Researchers collected Waves I, II, and III in-home interview data using computer-assisted personal interview (CAPI) and computer-assisted self-interviewing (CASI) on laptop computers. For sensitive questions, respondents listened through headphones and entered the responses into the computer themselves. Throughout the interview, participants used an Event History Calendar (EHC) to aid in recalling important events. During Wave III data collection, some of the questions were pre-loaded with Wave I data, including the name, age, and gender of the respondent, as well as identification of family members and friends that were previously acknowledged. All eligible respondents read and signed an informed consent form. Interviewers and participants recorded responses on a laptop computer. All participants received \$20 as an incentive for participation in the study. The laptop interview was followed by the collection of biological specimens for STI testing. The average length of a complete interview was approximately 134 minutes.

## **Data Storage**

After each interview, field interviewers were locked out of the data by an electronic lock installed in each laptop computer. This ensured that interviewers were unable to access the respondents' answers once submitted. The data were then transmitted electronically to a field contractor, and subsequently transferred to UNC for data cleaning and processing. Once processing was complete, data were given to the security manager for storage on a secure server.

## **Participant Characteristics**

I selected data from the participants who were between 18 to 24 years of age in Wave III and had valid data for the questions of interest, as well as valid sample weights. Of the 15,197 participants in Wave III, 2,419 were excluded because they did not meet the age criteria and 1,659 were excluded because they did not have valid sampling weights. Of the remaining 11,684, 565 (5%) were missing 1 value in a variable of interest, 50 (0.4%) were missing 2 values, and 1 (0.0%) was missing 3 values. None of the variables in the study were missing more than 5 percent of their values: parent education had the highest percent of missing values with 3.9 percent, employment was missing 2.4 percent, race / ethnicity was missing 0.7 percent, and living situation had missing 5 values (0.0%). Analyses between the missing and study samples suggested no significant differences in participant characteristics and variables of interest at the .05 level, as evidenced by the following: parent education ( $\chi^2=1.07$ ,  $p=.79$ ), employment ( $\chi^2=.10$ ,  $p=.76$ ), living situation ( $\chi^2=0.14$ ,  $p=.91$ ), race/ethnicity ( $\chi^2=6.32$ ,  $p=.05$ ), adolescent casual sex ( $\chi^2=.62$ ,  $p=.43$ ), education

( $\chi^2=3.22$ ,  $p=.07$ ), and biological sex ( $\chi^2=1.39$ ,  $p=.24$ ), and relationship status ( $\chi^2=.09$ ,  $p=.75$ ). The final sample for this project was  $n=11,119$ .

## Measures

**Lifetime Casual Sex Participation.** To measure adolescent casual sex participation, I created a dichotomous variable using data from all three waves in which “1” meant that the respondent experienced at least one casual sex relationship, and “0” indicated that the respondent did not have a casual sex relationship. In Wave I and Wave II, respondents were asked the question “Not counting the people you have described as romantic relationships, have you ever had a sexual relationship with anyone?” Respondents who indicated “yes” in either wave were coded as 1. In Wave III, I created a dichotomous casual sex classification variable for each reported relationship (1= casual sex relationship or 0=not a casual sex relationship). For this wave, a Relationships Data Set was created with one record per “recent” (since Summer 1995) relationship. There are as many or as few records as are appropriate to the respondent. If a respondent had no relationship records, they were coded as 0. Respondents were prompted with the following instructions “The next part of the interview is concerned with any romantic relationships and sexual relationships you have had at any time since the summer of 1995. Include relationships that began more than six years ago if they continued at least until June 1995. If you have been involved with the same person more than once, think of this as one relationship rather than as two or three relationships, and list the person only once. Please be especially careful to list recent relationships, even those that may have been very short-term.” For each partner the respondent

listed, they were asked the following question: “Have you had sexual relations with [partner’s initials]? By “sexual relations” we mean vaginal intercourse (a man inserts his penis into a woman’s vagina), oral sex (a person puts his or her mouth on another person’s sex organs), or anal sex (a man inserts his penis into his partner’s anus or asshole.” Respondents could choose between “no, we have not had sexual relations” or “yes, we have had sexual relations.” If a respondent indicated that she or he had not had sexual relations, the relationship was coded as 0. All relationships in which a respondent endorsed having sexual relations were included in the MM sample. Respondents in the MM sample were given an additional series of detailed questions about their relationship. Respondents completed a “Relationships in Detail” record for each sexual relationship listed in the Relationships Data Set. Respondents were asked a series of questions to categorize the nature of their romantic relationship with the partner listed. The researchers first asked about current or previous cohabitation: “We’d like to know if you and [partner’s initials] currently live together, or lived together at some time in the past. Please select the sentence below which best describes your relationship” (response choices included “You have never lived together,” “You live together at the present time,” and “You lived together at some time in the past,”) then about current or previous marriage: “We’d like to know if you and [partner’s initials] are currently married, or were ever married. Please select the sentence below which best describes your relationship” (response choices included “You have never been married,” “You are currently married,” and “You were once married, but are not married now.”) If the respondent reported that the relationship was a previous or current cohabitating relationship,

or if it was a previous or current marriage, the relationship was coded as 0. If the respondent indicated that she or he had never lived together nor been married, the respondent was prompted to answer the following questions two questions: “At the present time, are you and [partner] engaged to be married?” (response choices were “yes” or “no”) and “Which of the following best describes your relationship with [partner] at the present time?” (response choices included “dating [partner] exclusively,” “dating [partner] frequently, but not exclusively,” “dating [partner] once in a while,” or only having sex with [partner].”) Relationships in which the respondents indicated that they were engaged, dating exclusively, dating frequently, but not exclusively, or dating once in a while were coded as 0. If a respondent endorsed “only having sex with [partner],” the relationship was coded as 1.

**Recent Casual Sex Participation.** To measure recent casual sex participation, I created a dichotomous variable using data from Wave III in which “1” meant that the respondent experienced at least one casual sex relationship within the past 6 months, and “0” indicated that the respondent did not have a casual sex relationship within that timeframe. In Wave III, I used the casual sex variable I created to categorize the young adult casual sex relationships (described in the lifetime casual sex participation measure), but I added a criteria that the casual sex relationship occur within 6 months of the interview. Participants were asked the questions “In what month (and year) did your sexual relationship with [partner’s name] begin?” and, “In what month (and year) did your sexual relationship with [partner’s name] end?” This data was used to calculate the time between the date the sexual relationship began and the interview date, as well as the relationship

ending and the interview date. If the sexual relationship began or ended within 6 months from the interview date, the relationship was counted as recent. If a sexual relationship began prior to the 6 months before the interview date, but the end question was skipped (indicating that this was a current relationship), the relationship was counted as recent. If a relationship ended more than 6 months before the interview, it was marked as "0." All of the respondents endorsed the following question: "Have you ever had vaginal intercourse with [partner?]" By vaginal intercourse, we mean when a man inserts his penis into a woman's vagina.

**Recent Casual Oral Sex Participation.** This variable was created the same way as described above in the recent casual sex participation variable, with one exception. The participants also endorsed one of the following questions: "Has [partner] ever performed oral sex on you? That is, has [partner] ever put [his/her] mouth on your [penis?/vagina?]" or "Have you ever performed oral sex on your [partner]? That is, have you ever put your mouth on his/her penis?/vagina?"

Participants were asked the questions "In what month (and year) did your sexual relationship with [partner's name] begin?" and, "In what month (and year) did your sexual relationship with [partner's name] end?" This data, in addition to that was used to calculate the time between the date the sexual relationship began and the interview date, as well as the relationship ending and the interview date. If the sexual relationship began or ended within 6 months from the interview date, the relationship was counted as recent. If a sexual relationship began prior to the 6 months before the interview date, but the end question was skipped (indicating that

this was a current relationship), the relationship was counted as recent. If a relationship ended more than 6 months before the interview, it was marked as “0.”

**Adolescent Casual Sex Participation.** To measure adolescent casual sex participation, I created a dichotomous variable using data from all three waves in which “1” meant that the respondent experienced at least one casual sex relationship between the ages of prior to the age of 18, and “0” indicated that the respondent did not have a casual sex relationship within that age range. In Wave I and Wave II, respondents were asked the question “Not counting the people you have described as romantic relationships, have you ever had a sexual relationship with anyone?” Respondents who indicated “yes” in either wave were coded as 1. In Wave III, I created a dichotomous casual sex classification variable for each reported relationship (1= casual sex relationship or 0=not a casual sex relationship). In Wave III, I created a dichotomous casual sex classification variable for each reported relationship (1= casual sex relationship or 0=not a casual sex relationship). For this wave, a Relationships Data Set was created with one record per “recent” (since Summer 1995) relationship. There are as many or as few records as are appropriate to the respondent. If a respondent had no relationship records, they were coded as 0. Respondents were prompted with the following instructions “The next part of the interview is concerned with any romantic relationships and sexual relationships you have had at any time since the summer of 1995. Include relationships that began more than six years ago if they continued at least until June 1995. If you have been involved with the same person more than once, think of this as one relationship rather than as two or three relationships, and list the person only once. Please be

especially careful to list recent relationships, even those that may have been very short-term.” For each partner the respondent listed, they were asked the following question: “Have you had sexual relations with [partner’s initials]? By “sexual relations” we mean vaginal intercourse (a man inserts his penis into a woman’s vagina), oral sex (a person puts his or her mouth on another person’s sex organs), or anal sex (a man inserts his penis into his partner’s anus or asshole.” Respondents could choose between “no, we have not had sexual relations” or “yes, we have had sexual relations.” If a respondent indicated that she or he had not had sexual relations, the relationship was coded as 0.

All relationships in which a respondent endorsed having sexual relations were included in the MM sample, which meant that they were given an additional series of detailed questions about their relationship. Respondents completed a “Relationships in Detail” record for each sexual relationship listed in the Relationships Data Set. Respondents were asked a series of questions to categorize the nature of their sexual relationship with the partner listed. The researchers first asked about current or previous cohabitation: “We’d like to know if you and [partner’s initials] currently live together, or lived together at some time in the past. Please select the sentence below which best describes your relationship” (response choices included “You have never lived together,” “You live together at the present time,” and “You lived together at some time in the past,”) then about current or previous marriage: “We’d like to know if you and [partner’s initials] are currently married, or were ever married. Please select the sentence below which best describes your relationship” (response choices included “You have never been

married,” “You are currently married,” and “You were once married, but are not married now.”) If the respondent reported that the relationship was a previous or current cohabitating relationship, or if it was a previous or current marriage, the relationship was coded as 0. If the respondent indicated that she or he had never lived together nor been married, the respondent was prompted to answer the following two questions: “At the present time, are you and [partner] engaged to be married?” (response choices were “yes” or “no”) and “Which of the following best describes your relationship with [partner] at the present time?” (response choices included “dating [partner] exclusively,” “dating [partner] frequently, but not exclusively,” “dating [partner] once in a while,” or only having sex with [partner].”) Relationships in which the respondents indicated that they were engaged, dating exclusively, dating frequently, but not exclusively, or dating once in a while were coded as 0. If a respondent endorsed “only having sex with [partner],” the relationship was coded as 1.

For the casual sexual relationship to be considered “young adult” the respondent had to be 17 years of age or younger at the time of their first sexual encounter. Participants were asked the question “How old were you when your sexual relationship with [partner] began?” Respondents who indicated that they were 17 years of age or younger were coded as 1, and 18 years of age or older when the sexual relationship first began were coded as 0. If data from this question were not available, an approximate age was calculated from participant responses to the question “In what month (and year) did your sexual relationship with [partner’s name] begin?” and the participant’s birthday. If the calculated age was 17 years of

age or younger at the time the sexual relationship began, the relationship was coded as coded as 1, and 18 years of age or older were coded as 0. If this data was not available, an approximate age was calculated from participant response to the question “In what month (and year) did your sexual relationship with [partner’s name] end?” and the participant’s birthday. If the calculated age was 17 years of age or younger at the time a sexual relationship ended, the relationship was coded as coded as 1, and 18 years of age or older were coded as 0.

**Education Status.** I created an education status variable with the following categories: completed or enrolled in a four-year degree program, some college, completed or enrolled in a two-year degree program, high school degree or equivalent, or no degree completed. Respondents were asked “What degrees have you received?” and then instructed to “Indicate all that apply.” Respondents had the option to mark “GED or high school equivalency degree,” “high school diploma,” “associate or junior college degree-an AA,” “bachelor’s degree- a BA, AB, or BS.” If no degrees were marked, participants were asked “Is it correct that you have received no academic degrees or diplomas?” Respondents also answered the following questions about their education: “What is the highest grade or year of regular school you have completed?” (Responses ranged from 6<sup>th</sup> grade to 5 or more years of graduate school), “Are you currently attending regular school? If you are enrolled but on school break or vacation, count this as attending,” and “Is this a high school, a two-year college, a four year college, or a graduate school?” Participants who indicated that they were enrolled in a four-year college or indicated that they completed a four-year degree were categorized as such. Respondents who indicated

that they completed high school or obtained an equivalency degree and who also indicated that they completed one or more years of college were categorized as having some college. Participants who indicated that they were enrolled in a two-year college or indicated that they completed a two-year degree were categorized as such. Participants who reported that they had received a high school diploma or high school equivalency degree but reported no further schooling or current enrollment in a post-secondary institution were categorized as high school degree or equivalent. Finally, a respondent who indicated that she or he had not academic degrees or diplomas were categorized as having no degree.

**Biological sex.** The respondents' sex was based on Wave I self-report and preloaded for Wave III. There were 20 cases for which the Wave III gender did not match the sex recorded in earlier waves. Researchers corrected 18 of the inconsistent cases at Wave III; the Wave III biological sex variable is considered accurate.

**Race/Ethnicity.** I created a combined category for race/ethnicity (Hispanic, any race; non-Hispanic black; non-Hispanic white; and other) by following the procedure outlined by Add Health researchers (Udry, Li, & Hendickson-Smith, 2003). Participants who answered "yes" to the question "Are you of Hispanic or Latino origin?" were categorized as Hispanic. If the respondent answered "no," they were asked the question "What is your race?" and instructed, "You may give more than one answer." Categories included "white," "black or African American," "American Indian or Native American," and "Asian or Pacific Islander." Respondents who gave more than one answer were prompted with the question "Which one category best

describes your racial background?" (Response choices included "white," "black or African American," "American Indian or Native American," "Asian or Pacific Islander.") Participants who chose only "white" or indicated that "white" best described their racial background were coded as non-Hispanic white. Respondents who chose only "black or African American" or indicated that "black or African American" best described their racial background were coded as non-Hispanic black. All other responses were coded as other.

**Age.** Age was calculated by subtracting the respondent's date of birth from the date of the interview.

**Current Relationship Status.** Respondents' current relationship statuses were categorized using a series of variables from the Relationship Data Set. Relationship categories included married or cohabitating, dating exclusively, dating non-exclusively, and currently not dating. Respondents listed their relationship histories in chronological order. A relationship was considered current if it was the most recent relationship listed in the data set and the respondent answered affirmatively to the question, "Are you currently involved in a sexual or romantic relationship with [partner]?" Respondents were considered to be currently married or cohabitating if they endorsed "You live together at the present time" to the question "We'd like to know if you and [partner's initials] currently live together, or lived together at some time in the past. Please select the sentence below which best describes your relationship," or they indicated, "You are currently married" after the question "We'd like to know if you and [partner's initials] are currently married, or were ever married. Please select the sentence below which best describes your

relationship.” If a respondent indicated that they had either lived together or been married in the past, but were not living together or married currently, the relationship was not categorized. If the respondent indicated that she or he had never lived together nor been married, the respondent was prompted to answer the following questions two questions: “At the present time, are you and [partner] engaged to be married?” (response choices were “yes” or “no”) and “Which of the following best describes your relationship with [partner] at the present time?” (response choices included “dating [partner] exclusively,” “dating [partner] frequently, but not exclusively,” “dating [partner] once in a while,” or only having sex with [partner].”) Relationships in which the respondents indicated that they were engaged or dating exclusively were categorized as dating exclusively, and dating frequently, but not exclusively, or dating once in a while were coded as dating non-exclusively. Respondents that did not have a relationship that qualified as current were coded as currently not dating.

**Parent Education.** Responses from the Wave I report of biological and residential parents’ education statuses were combined and categorized as less than high school, high school, some college, and college degree or more. Respondents first completed a household roster. Participants were instructed, “Please tell me the first names of all the people, other than you yourself, who live in your household. If someone usually lives with you, but is away for a short time, include him or her.” Respondents were then asked a series of questions about each household member listed, including “What is [name]’s relationship to you?” If the participant indicated that the household member was either their “father” or “mother,” the respondent

was prompted with the follow-up question, “Which description best fits [name]’s relationship to you?” Response choices included “biological father,” “stepfather,” “adoptive father,” “step/adoptive father,” “foster father,” “biological mother,” “stepmother,” “adoptive mother,” “step/adoptive mother,” “foster mother,” or “other.” Based on the participants’ responses in the household roster, they were prompted to answer questions about their resident mother and resident father. In each instance, the participant was asked “How far in school did she (or he) go?” Responses marked “eighth grade or less” and “more than eighth grade, but did not graduate from high school” were categorized as less than high school. Responses marked “went to a business, trade, or vocational school instead of high school,” “high school graduate,” and “completed a GED” were categorized as high school degree or equivalent. If the participant indicated that their parent “went to a business, trade, or vocational school after high school” or “went to college, but did not graduate” they were classified as some college, and if they marked that they “graduated from a college or university” or “professional training beyond a four-year college or university” they were categorized as having a college degree or more. If both biological parents were in residence, the highest degree attained between both parents was used. Residential biological parent education was used for respondents living with blended families or in single-parent homes, and residential non-biological parent data was used if biological parent data was not available.

**Employment.** Current employment status was categorized as not employed, employed part-time, or employed full-time. “Are you currently working for pay for at least 10 hours a week?” Respondents who answered “no” were coded as not

employed. Participants who answered “yes” were also asked, “How many hours a week do you usually work at this job?” Respondents who indicated that they worked less than 35 hours were coded as part-time, and participants who endorsed working 35 hours or more were coded as working full-time.

**Living Situation.** Participants were categorized as either living with parents or relatives or living independently from family based on a series of questions about the participant’s residence history. Respondents answered the question “Where do you live now? That is, where do you stay most often?” Response choices included “your parents’ home,” “another person’s home,” “your own place,” or “group quarters (dormitory, barracks, group home, hospital, communal home, etc.)” Participants who chose “your parents home” were coded as living with parents. Participants who endorsed “your own place” or “group quarters” were coded as living independently. Respondents who answered “another person’s home” were prompted with the question “Who is this person?” Participants who endorsed “a relative” were coded as living with parents or relatives, and participants who indicated “a friend” or “a spouse or partner” were coded as living independently.

### **Data Analyses**

The University of Tennessee’s Institutional Review Board (IRB) granted permission to conduct secondary analyses of the Add Health data. I followed the guidelines outlined in the Add Health security plan for restricted data use.

### **Sample Weights**

Schools sampled in Wave I had an unequal probability of selection. Researchers constructed sampling weights to produce representative population

estimates. Researchers analyzed the differences in response rates for the school stratification and found statistically significant differences for three of the school attributes (metropolitan area, percent white enrollment, and region) for the Wave III respondents. Sampling weights were adjusted to compensate for the non-response. Chantala (2003) made additional adjustments to the Wave III sample weights by each sex-race-grade combination so that Wave III respondents were representative of the population eligible for the Wave III interview. Using 67 items from the Wave I data, researchers measured the extent to which the differences between respondents and non-respondents introduced bias in different estimates. They concluded that the Wave III sample was adequately representative of the same population as the Wave I sample when the sampling weights were used to compute population estimates (Chantala, 2003).

### **Analytic Strategy**

I conducted the analyses using STATA version 13. I used  $\chi^2$  tests to conduct preliminary analyses between education, gender, and casual sex participation. Multivariate testing was done using logistic regression (Long & Freese, 2003; Peng & So, 2002). Model 1 included gender, education status, employment, living with family, age, race, relationship status, and parent education. An interaction model was tested to determine whether the association between education status and young adult casual sex varied by gender. Logistic regression analyses used survey commands to adjust for Add Health's complex survey design and applied sampling weights to yield national population estimates. To compare model fit, *F*-adjusted mean residual tests were used; this goodness of fit test was designed specifically for

logistic regression models utilizing large datasets with a complex sampling design (Archer, Lemeshow, & Hosmer, 2006). To determine whether separate models should be presented for women and men, I used Allison's method of comparing coefficients across groups. This method is appropriate for binary logistic regression models, because it removes the potentially confounding effects of residual variance, which can otherwise produce apparent differences in coefficients that are not indicative of true differences across groups (Allison, 1999).

## IV. RESULTS

### Descriptive Statistics

Forty percent of young adults have experienced a casual sex relationship in their lifetime, 3 percent of young adults have experienced casual sex within the past 6 months, and 2 percent have experienced casual oral sex within the past 6 months (see Table 1). Table 1 also includes the descriptive statistics for the independent variables. Thirty percent of the participants experienced a casual sex relationship as an adolescent. Thirty-five percent of the sample was either enrolled or had graduated from a 4-year college, and 13 percent had some college experience but was not enrolled. Sixteen percent of the sample was enrolled or had graduated from a community college. Only 8 percent of the sample had no degree, while 30 percent had a high school degree but was not enrolled in a post-secondary institution. The sample included slightly more women (53%) than men (47%). Almost half of the young adults (46%) were employed full-time; 27 percent endorsed part-time employment, while 28 percent reported no employment. Almost half of the respondents (44%) indicated that they were living with their parents or other relatives at the time of their Wave III interview. As previously mentioned, participants' ages in this sample ranged from 18-24; the average age was 21.8( $SD=1.59$ ). More than half of the sample (57%) identified as White (non-Hispanic), 20 percent indicated they were Black (non-Hispanic), 16 percent identified as Hispanic/Latino, while 7 percent of participants' responses were categorized as other. Forty-three percent of the young adults in the sample were

**Table 1. Descriptive statistics for dependent and weighted independent variables**

	Mean	SD	Frequency	Percent
<b>Lifetime Casual Sex</b>				
Yes			4,762	40%
No			7,157	60%
<b>Recent Casual Sex (past 6 months)</b>				
Yes			322	3%
No			11,597	97%
<b>Recent Casual Oral Sex (past 6 months)</b>				
Yes			252	2%
No			11,667	98%
<b>Education Status</b>				
No High School Degree			884	7%
High School Degree			3,542	30%
Community College			1,879	16%
Some College not Enrolled			1,490	13%
Bachelor's			4,124	35%
<b>Gender</b>				
Women			6,354	53%
Men			5,565	47%
<b>Adolescent Casual Sex</b>				
Yes			3,533	30%
No			8,386	70%
<b>Employment</b>				
Full-time			5,524	46%
Part-time			3,077	26%
Not Employed			3,318	28%
<b>Living with Family</b>				
Yes			5,243	44%
No			6,676	56%
<b>Age</b>	21.8	1.59		

**Table 1. Descriptive statistics for dependent and weighted independent variables (continued)**

	<u>Mean</u>	<u>SD</u>	<u>Frequency</u>	<u>Percent</u>
<b>Race</b>				
White			6,797	57%
Black			2,376	20%
Hispanic/Latino			1,859	16%
Other			887	7%
<b>Relationship Status</b>				
Married/Cohabiting			3,271	28%
Dating Exclusively			2,776	23%
Dating Non-exclusively			725	6%
Single			5,147	43%
<b>Parent Education</b>				
Bachelor's or Higher			3,512	30%
Some College			2,392	20%
H.S. or Equivalent			4,083	34%
No Degree			1,932	16%

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N=11,919

Source: National Longitudinal Study of Adolescent Health

single, while 28 percent were married or cohabitating with their partner. Only 6 percent reported dating non-exclusively, and 23 percent endorsed dating exclusively. Half of the young adults in the sample had a parent with some college experience; 30 percent of the young adults in the sample had a parent with a Bachelor's degree or higher, 20 percent had some college experience, 34 percent indicated having a high school degree or the equivalent, and 16 percent indicated no degree.

### **Bivariate Analyses**

Table 2 illustrates the percentage of participants that have experienced a casual sex relationship in young adulthood by gender and education status. Among the total sample, 40 percent reported engaging in casual sex in their lifetime, 2.7 percent reported having casual sex within the past 6 months, and 1.9 percent reported having casual oral sex within the past 6 months. Chi square tests were used to determine if significant gender differences exist according to the full sample and at each education level. Thirty-five percent of the women full sample endorsed having a casual sex relationship, compared to 46 percent of the men ( $\chi^2=148.96$ ,  $p<.0001$ ). Almost 3 percent of the full sample endorsed having a casual sex relationship within the past 6 months; 2.2 percent of the women full sample endorsed having a casual sex relationship, compared to 3.2 percent of the men ( $\chi^2=12.05$ ,  $p<.001$ ). Almost 2 percent of the full sample endorsed having casual oral sex within the past 6 months; 1.7 percent of the women full sample endorsed having a casual sex relationship, compared to 2.1 percent of the men ( $\chi^2=6.13$ ,  $p<.05$ ).

Among the total sample, lifetime casual sex participation is the most common among young adults with some college experience (47%), followed by respondents with a high school degree (46%), community college (37%), no degree (32%), and 4-year college experience (31%). Casual sex within the past 6 months occurred most frequently for those with community college experience (3.5%), followed by those with some college experience (3.1%), a high school degree (2.8%), and those with no degree or a bachelor's (2.2%). Oral casual sex within the past 6 months occurred most frequently for those with a high school degree (2.6%), followed by those with community college experience (2.4%), young adults with some college experience (2.2%), those with bachelor's degree (1.9%), and those with no degree (1.8%).

Among those with 4-year college experience, 27 percent of women and 37 percent of men endorsed ever having casual sex ( $\chi^2=54.79$   $p<.0001$ ). Within the past 6 months, 2 percent of women and 2.8 percent of men reported having casual sex ( $\chi^2=1.85$   $p>.05$ ) and 1.7 percent of women and 2.1 percent of men reported having casual oral sex ( $\chi^2=.87$   $p>.05$ ). Among those with some college experience, 43 percent of women and 50 percent of men endorsed ever having casual sex ( $\chi^2=10.60$   $p<.001$ ). Within the past 6 months, 1.9 percent of women and 4.5 percent of men reported having casual sex ( $\chi^2=8.2$   $p<.001$ ), and 1.6 percent of women and 2.7 percent of men reported having casual oral sex ( $\chi^2=6.1$   $p<.05$ ). Thirty-two percent of women and 43 percent of men who completed or were enrolled in a community college indicated that they had experienced casual sex in their lifetime ( $\chi^2=27.08$   $p<.0001$ ); 3.3 of women and 3.7 percent of men reported participating in casual sex

within the past 6 months ( $\chi^2=.19$   $p>.05$ ), 2.4 of women and 2.6 percent of men reported participating in casual oral sex within the past 6 months ( $\chi^2=.18$   $p>.05$ ). Among those with a high school degree, 43 percent of women and 52 percent of men endorsed ever having casual sex ( $\chi^2=21.21$   $p<.001$ ). Within the past 6 months, 2.1 percent of women and 3.5 percent of men reported having casual sex ( $\chi^2=6.39$   $p<.05$ ) and 1.6 percent of women and 3.6 percent of men reported having casual oral sex ( $\chi^2=5.29$   $p<.05$ ). Twenty-seven percent of women and 37 percent of men who completed or without a degree indicated that they had experienced casual sex in their lifetime ( $\chi^2=12.30$   $p<.0001$ ); 2.2 of women and 2.3 percent of men reported participating in casual sex within the past 6 months ( $\chi^2=.05$   $p>.05$ ) and 1.6 of women and 2.0 percent of men reported participating in casual oral sex within the past 6 months ( $\chi^2=.14$   $p>.05$ ).

In sum, males were more likely to have casual sex in young adulthood, and there were some gender differences according to education status. The bivariate results provided some support the hypothesis that young adults in four-year institutions would be the least likely to engage in casual sex; young adults with a bachelor's or 2-year degree were the two groups least likely to participate in casual sex within the past six months. The hypothesis that sex differences would not be significant at higher education levels was supported for the recent casual sex and recent oral sex, but not for lifetime prevalence.

**Table 2. Percent of young adult casual sex participation by education status and gender**

	Lifetime Casual Sex				Recent Casual Sex (past 6 mo.)				Recent Casual Oral Sex (past 6 mo.)			
	Total	Women	Men	Sig.	Total	Women	Men	Sig.	Total	Women	Men	Sig.
Full Sample (N=11,919)	40%	35%	46%	***	2.7%	2.2%	3.2%	**	1.9%	1.7%	2.1%	*
No Degree (N=884)	32%	27%	37%	***	2.2%	2.2%	2.3%		1.8%	1.6%	2.0%	*
High School Degree (N=3,542)	46%	43%	52%	**	2.8%	2.1%	3.5%	*	2.6%	1.6%	3.6%	*
Community College (N=1,879)	37%	32%	43%	***	3.5%	3.3%	3.7%		2.4%	2.4%	2.6%	
Some College not Enrolled (N=1,490)	47%	43%	50%	**	3.1%	1.9%	4.5%**		2.2%	1.6%	2.7%	*
Bachelor's (N=4,124)	31%	27%	37%	***	2.2%	2.0%	2.8%		1.9%	1.7%	2.1%	

NOTE: Women(N=6,354), Men(N=5,562) \*p<.05, \*\*p<.001, \*\*\*p<.0001

## Multivariate Analyses

An interaction model was tested to determine whether the association between education status and young adult casual sex varied by gender. Table 3 illustrates the logistic regression model for lifetime casual sex, which includes the gender by education status interaction terms. When the interaction terms were added to the model, the terms were not significant. A comparison of coefficients between men and women determined that the groups were not significantly different ( $\chi^2=2.33$   $p= .36$ ). In Model 1, men were 60% more likely than women to report participation in casual sex over the course of their lifetime, holding all other variables constant. Compared to young adults with a Bachelor's degree, young adults with some college experience were 88% more likely and those with 2-year college experience were 48% more likely to report lifetime casual sex. Those with no degree were 2.4 times more likely to report participation in casual sex across their lifetime compared to those with a bachelor's degree, holding all other variables constant.

Young adults without a job were 9 percent more likely to engage in casual sex than those with full-time employment. Young adults who live independently were 21% more likely to report casual sex than those who live with family, holding all other variable constant. Age was significantly associated with casual sex participation; for each year a participant ages, they were 23% more likely to report participating in casual sex. Race and ethnicity was also significantly

**Table 3. Logistic regression with gender by education interaction predicting lifetime casual sex participation**

Predictor	Lifetime Casual Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Constant</b>	.01***(.00-.02)	.04***(.02-.12)
<b>Education Status</b>		
No High School Degree	2.40***(2.04-2.83)	2.41***(1.75-3.32)
High School Degree	2.00***(1.80-2.23)	2.35*** (1.91-2.89)
Community College	1.48***(1.31-1.67)	1.78*** (1.42-2.22)
Some College not Enrolled	1.88***(1.65-2.14)	2.28*** (1.83-2.84)
Bachelor's (omitted)		
<b>Gender</b>		
Men	1.60***(1.47-1.73)	1.78**(1.27-2.82)
Women (omitted)		
<b>Employment</b>		
Full-time	.91*(.83-1.01)	.91*(.83-1.01)
Part-time	.91 (.82-1.01)	.91 (.82-1.01)
Not Employed (omitted)		
<b>Living Independently</b>		
Yes	1.21**(1.08-1.36)	1.12**(1.08-1.36)
No (omitted)		
<b>Age</b>	1.23*** (1.18-1.28)	1.23*** (1.18-1.28)
<b>Race/Ethnicity</b>		
White (omitted)		
Black	1.55***(1.31-1.81)	1.55**(1.32-1.82)
Hispanic/Latino	.78* (.63-.96)	.78* (.63-.97)
Other	.58***(.44-.76)	.58***(.44-.76)
<b>Relationship Status</b>		
Married/Cohabiting	1.17***(1.02-1.34)	1.17* (1.02-1.34)
Dating Exclusively	1.44***(1.24-1.68)	1.44***(1.24-1.68)
Dating Non-exclusively	2.00***(1.56-2.55)	2.00***(1.56-2.55)
Single (omitted)		

**Table 3. Logistic regression with gender by education interaction predicting lifetime casual sex participation (continued)**

Predictor	Lifetime Casual Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Parent Education</b>		
Bachelor's or Higher (omitted)		
Some College	1.07 (.91-1.27)	1.08 (.91-1.27)
H.S. or Equivalent	1.07(.93-1.24)	1.08 (.93-1.25)
No Degree	.81(.67-.98)	.81*(.67-.98)
<b>Gender X Education</b>		
Male X Bachelor's (omitted)		
Male X Some College	--	.80 (.54-1.16)
Male X Community College	--	.91 (.59-1.40)
Male X High School Degree	--	.77 (.52-1.14)
Male X No Degree	--	.96 (.65-1.43)
F-adjusted test statistic	1.46	1.43

N=11,919, \*p<.05, \*\*p<.01, \*\*\*p<.0001

associated with casual sex. Black young adults were 55% more likely to report casual sex than white young adults. White young adults were 28 percent more likely to report casual sex than Hispanic/Latino young adults, and 72 percent more likely to report casual sex than those who were categorized as “other” (including Asian and Native American young adults), holding all other variable constant.

Relationship status was also associated with lifetime casual sex participation. Young adults who reported current a current marriage or cohabitation relationship were 17% more likely to report participation in a casual sex relationship in their lifetime, and young adults who reported being in an exclusive dating relationship were 44% more likely to report casual sex than young adults who were single. Young adults who were dating non-exclusively were twice as likely to report participation in a casual sex relationship than those young adults who were single, holding all other variables constant.

Table 4 illustrates the logistic regression model for recent casual sex, which includes the gender by education status interaction terms. When the interaction terms were added to the model, interaction terms were significant for the some college (OR=3.78,  $p<.05$ ) and high school degree (OR=5.19,  $p<.05$ ) levels of education. Men with a high school degree are more likely to report recent casual sex than men with Bachelor’s degree; Women with a high school degree are less likely to report recent casual sex than women with a Bachelor’s degree. Similarly for young adults with some college experience, men are more likely to report recent casual sex than men with Bachelor’s degree; women with some college experience

**Table 4. Logistic regression with gender by education interaction predicting recent casual sex participation**

Predictor	Recent Casual Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Constant</b>	.02***(.00-.08)	.05*(.00-.56)
<b>Education Status</b>		
No High School Degree	.53* (.28-1.00)	.83 (.36-1.88)
High School Degree	1.00* (.68-1.50)	.76 (.44-1.32)
Community College	1.92** (1.19-3.12)	2.01* (1.11-3.66)
Some College not Enrolled	1.18 (.68-2.03)	.72(.31-1.65)
Bachelor's (omitted)		
<b>Gender</b>		
Men	1.32*(.78-1.60)	.41(.12-1.32)
Women (omitted)		
<b>Adolescent Casual Sex</b>		
Yes	3.61***(.31-1.65)	3.61*** (.31-1.65)
No (omitted)		
<b>Employment</b>		
Full-time	.65*(.46-.93)	.68* (.47-.97)
Part-time	.61* (.40-.94)	.61* (.40-.95)
Not Employed (omitted)		
<b>Living Independently</b>		
Yes	.89(.61-1.29)	.90 (.62-1.30)
No (omitted)		
<b>Age</b>	.96 (.86-1.07)	.95 (.85-1.06)
<b>Race/Ethnicity</b>		
White (omitted)		
Black	1.90*** (1.35-2.66)	1.90*** (1.35-2.66)
Hispanic/Latino	.80 (.41-1.56)	.80 (.41-1.56)
Other	.90 (.43-1.92)	.91 (.43-1.92)

**Table 4. Logistic regression with gender by education interaction predicting recent casual sex participation (continued)**

Predictor	Recent Casual Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Relationship Status</b>		
Married/Cohabiting	.38***(.23-.60)	.38*** (.24-.61)
Dating Exclusively	.82 (.55-1.29)	.82 (.55-1.31)
Dating Non-exclusively	2.04***(1.34-3.18)	2.04***(1.34-3.18)
Single (omitted)		
<b>Parent Education</b>		
Bachelor's or Higher (omitted)		
Some College	1.31 (.82-2.09)	1.31 (.82-2.09)
H.S. or Equivalent	1.03 (.67-1.58)	1.03 (.67-1.58)
No Degree	1.08(.59-1.98)	1.08(.59-1.98)
<b>Gender X Education</b>		
Male X Bachelor's (omitted)		
Male X Some College	--	3.78* (1.03-13.21)
Male X Community College	--	2.12 (.55-8.13)
Male X High School Degree	--	5.19*(1.28-20.90)
Male X No Degree	--	2.37 (.68-8.24)
F-adjusted test statistic	1.18	1.23

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N=11,919, \*p<.05, \*\*p<.01, \*\*\*p<.0001

are less likely to report recent casual sex than women with a Bachelor's degree. A comparison of coefficients between men and women determined that the groups were significantly different for men and women ( $\chi^2=45.77$   $p<.001$ ).

Table 5 shows separate models for women and men predicting casual sex participation in the past 6 months. Women with adolescent casual sex experience were 3.98 times more likely and men were 3.37 more likely to report recent casual sex experience. Men with some college experience were 94% more likely to report recent casual sex and men with community college experience were 2 times more likely to report recent casual sex, while men with a Bachelor's degree were 2.7 times more likely to report recent casual sex than men with no degree. For women, employment status was not significantly associated with recent casual sex participation. Men who were not employed were 81 percent more likely to have casual sex than men with full-time employment, and 2.17 times more likely to report casual sex than men with part-time employment, holding all other variables constant. Independent living, as well as age, was not significantly associated with recent casual sex participation for men or women. Black women were 67% more likely to report recent casual sex participation compared to white women; black men were 2.07 times more likely to report recent casual sex participation than white men, holding all other variables constant. Single women were 3.57 times more likely to report casual sex than women who were married or cohabitating and 85 percent more likely than women who were dating exclusively, holding all other variables constant.

**Table 5. Logistic regression predicting recent casual sex participation with separate models for women and men**

Predictor	Recent Casual Sex Participation	
	Women	Men
	OR (95% CI)	OR (95% CI)
<b>Constant</b>	.01***(.00-.09)	.01**(.00-.32)
<b>Adolescent Casual Sex</b>		
Yes	3.98***(.238-6.67)	3.37*** (1.99-5.71)
No (omitted)		
<b>Education Status</b>		
No Degree	.79(.33-1.85)	.37*(.14-.97)
High School Degree	.74 (.41-1.34)	1.24 (.70-2.19)
Community College	1.88 (.99-3.56)	2.00* (1.33-3.69)
Some College not Enrolled	.71 (.30-1.65)	1.94* (.99-3.82)
Bachelor's (omitted)		
<b>Employment</b>		
Full-time	.89(.53-1.46)	.55* (.34-.90)
Part-time	.82 (.45-1.41)	.46* (.34-.90)
Not Employed (omitted)		
<b>Living Independently</b>		
Yes	.83 (.52-1.31)	.85 (.50-1.45)
No (omitted)		
<b>Age</b>	.97 (.83-1.12)	1.01 (.86-1.19)
<b>Race/Ethnicity</b>		
White (omitted)		
Black	1.67*(1.05-2.66)	2.07**(1.25-3.41)
Hispanic/Latino	.99 (.45-2.19)	.70 (.28-1.85)
Other	.53(.12-2.37)	1.18(.45-3.11)
<b>Relationship Status</b>		
Married/Cohabiting	.28** (.18-.61)	.50 (.23-1.07)
Dating Exclusively	.54* (.29-1.00)	1.10 (.67-1.81)
Dating Non-exclusively	2.00*(1.08-3.67)	2.01*(1.07-3.79)
Single (omitted)		

**Table 5. Logistic regression predicting recent casual sex participation with separate models for women and men (continued)**

Predictor	Recent Casual Sex Participation	
	Women	Men
	OR (95% CI)	OR (95% CI)
<b>Parent Education</b>		
Bachelor's or Higher (omitted)		
Some College	.73 (.40-1.34)	1.90* (1.05-3.43)
H.S. or Equivalent	1.06 (.62-1.80)	1.02 (.57-1.87)
No Degree	.98(.48-1.97)	1.12 (.49-2.59)
F-adjusted test statistic	.92	.97

Women=6,354 Men=5,565, \*p<.05, \*\*p<.01, \*\*\*p<.0001

Dating non-exclusively was significantly associated with recent casual sex for both women and men; women who were dating non-exclusively were 2 times more likely to participate in recent casual sex than women who were single; men who were dating non-exclusively were twice as likely to participate in recent casual sex than men who were single, holding all other variables constant. Finally, parent education was associated with recent casual sex participation for men. Men whose parents had some college experience were 90% more likely to report recent casual sex participation than men whose parents had a bachelor's degree or higher, holding all other variables constant.

Table 6 illustrates the logistic regression model for recent casual oral sex, which includes the gender by education status interaction terms. When the interaction terms were added to the model, interaction terms were significant for the some college (OR=2.10,  $p<.05$ ). Men with a high school degree are more likely to report recent casual oral sex than men with Bachelor's degree; women are less likely to report recent casual oral sex than women with a Bachelor's degree. A comparison of coefficients between men and women determined that the groups were significantly different for men and women ( $\chi^2=20.22$   $p<.05$ ).

Table 7 shows separate models for women and men predicting casual oral sex participation in the past 6 months. Education status was not significantly associated with recent oral sex for women. Men with some college experience were 50% more likely to report recent casual sex and men with some college experience were 79% more likely to report recent casual sex compared to men with a

**Table 6. Logistic regression with gender by education interaction predicting recent casual oral sex participation**

Predictor	Recent Casual Oral Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Constant</b>	.05**(.02-.12)	.04**(.02-.12)
<b>Adolescent Casual Sex</b>		
Yes	2.69**(.71-4.80)	2.45** (1.53-3.93)
No (omitted)		
<b>Education Status</b>		
No High School Degree	.53 (.01-.52)	.86 (.66-1.12)
High School Degree	1.04 (.70-1.55)	1.13 (.84-1.51)
Community College	1.94** (1.20-3.14)	1.22 (.93-1.61)
Some College not Enrolled	1.18** (.69-2.04)	1.61* (.38-1.00)
Bachelor's (omitted)		
<b>Gender</b>		
Men	1.57*** (1.11-1.90)	.62 (.43-1.10)
Women (omitted)		
<b>Employment</b>		
Full-time	.92 (.78-1.12)	.94 (.79-1.12)
Part-time	.85 (.69-1.00)	.84 (.69-1.01)
Not Employed (omitted)		
<b>Living Independently</b>		
Yes	1.00 (.90-1.18)	1.02 (.90-1.17)
No (omitted)		
<b>Age</b>	1.05 (1.01-1.12)	1.06 (1.01-1.11)
<b>Race/Ethnicity</b>		
White (omitted)		
Black	1.89*** (1.35-2.64)	1.69*** (1.97-2.58)
Hispanic/Latino	.79 (.40-1.53)	.82 (.67-1.03)
Other	.58 (.30-1.00)	.62 (.42-.92)

**Table 6. Logistic regression with gender by education interaction predicting recent casual oral sex participation (continued)**

Predictor	Recent Casual Oral Sex Participation	
	Model 1	Model 2
	OR (95% CI)	OR (95% CI)
<b>Relationship Status</b>		
Married/Cohabiting	.84 (.76-1.00)	.88 (.74-1.03)
Dating Exclusively	1.30*** (1.13-1.58)	1.36*** (1.15-1.61)
Dating Non-exclusively	2.68***(2.20-3.36)	2.75***(2.22-3.40)
Single (omitted)		
<b>Parent Education</b>		
Bachelor's or Higher (omitted)		
Some College	1.05 (.78-1.14)	.95 (.78-1.14)
H.S. or Equivalent	.73 (.57-.98)	.84 (.71-.99)
No Degree	.72 (.52-.95)	.69 (.55-.89)
<b>Gender X Education</b>		
Male X Bachelor's (omitted)		
Male X Some College	--	2.10* (1.12-4.30)
Male X Community College	--	1.22 (.89-3.41)
Male X High School Degree	--	2.76 (.95-6.89)
Male X No Degree	--	1.00 (.54-2.26)
F-adjusted test statistic	1.34	1.50

N=11,919, \*p<.05, \*\*p<.01, \*\*\*p<.0001

**Table 7. Logistic regression predicting recent casual oral sex participation with separate models for women and men**

Predictor	Recent Casual Oral Sex Participation	
	Women	Men
	OR (95% CI)	OR (95% CI)
<b>Constant</b>	.01 (.00-.08)	.04 (.02-.10)
<b>Adolescent Casual Sex</b>		
Yes	1.78(.60-5.32)	2.69** (1.50-4.87)
No (omitted)		
<b>Education Status</b>		
No Degree	1.08(.82-1.49)	.50 (.18-1.31)
High School Degree	.40 (.09-1.57)	.55 (.25-1.18)
Community College	.33 (.05-1.96)	1.79* (1.29-2.23)
Some College not Enrolled	.77 (.18-3.27)	1.50* (1.21-2.20)
Bachelor's (omitted)		
<b>Employment</b>		
Full-time	1.65 (.74-3.73)	.97* (.48-1.94)
Part-time	.42 (.14-1.29)	.97* (.47-2.00)
Not Employed (omitted)		
<b>Living Independently</b>		
Yes	.95(.35-2.54)	.87 (.48-1.66)
No (omitted)		
<b>Age</b>	1.02 (.80-1.34)	.85 (.71-1.02)
<b>Race/Ethnicity</b>		
White (omitted)		
Black	.84(.27-2.61)	.59 (.25-1.40)
Hispanic/Latino	1.19 (.37-3.81)	.76 (.32-1.77)
Other	.95(.18-4.89)	1.22 (.45-3.34)

**Table 7. Logistic regression predicting recent casual oral sex participation with separate models for women and men (continued)**

Predictor	Recent Casual Oral Sex Participation	
	Women	Men
	OR (95% CI)	OR (95% CI)
<b>Relationship Status</b>		
Married/Cohabiting	.28* (.08-.91)	1.21 (.61-2.41)
Dating Exclusively	.61 (.18-2.13)	1.32 (.63-2.75)
Dating Non-exclusively	.89(.24-3.29)	2.43*(1.01-5.37)
Single (omitted)		
<b>Parent Education</b>		
Bachelor's or Higher (omitted)		
Some College	1.12 (.38-3.32)	.87 (.45-2.70)
H.S. or Equivalent	.85 (.26-2.70)	1.33 (.91-1.82)
No Degree	.73(.17-3.15)	1.08 (.73-1.47)
F-adjusted test statistic	2.17	2.63

Women=6,354 Men=5,565, \*p<.05, \*\*p<.01, \*\*\*p<.0001

Bachelor's degree, holding all other variable constant. Men with adolescent casual sex experience were 2.69 more likely to have recent oral sex. For women, employment status was not significantly associated with recent casual oral sex participation. Men who were not employed are 3 percent more likely to report recent casual oral sex than men who were employed full-time and part-time, holding all other variables constant. Independent living, age, and race was not significantly associated with recent casual oral sex participation for men or women. Women who were single were 3.57 times more likely to report recent casual oral sex than women who were married or cohabitating, holding all other variables constant. Dating non-exclusively was significantly associated with recent casual oral sex for men; men who were dating non-exclusively were 2.43 times more likely to participate in recent casual oral sex than men who were single, holding all other variables constant. Finally, parent education was not associated with recent casual sex participation either men or women.

### **Results Summary**

The results of the multivariate analyses suggest that gender moderated the relationship between education status for recent casual sex participation and recent casual oral sex participation. Among the independent variables examined, gender was a significant factor in casual sex participation. Males were more likely to participate in casual sex than females, which provides support the first hypothesis. Education was also significantly associated with casual sex participation. Education status was not associated with recent casual sex for women , while for men, having

some college or community college experience was associated with an increase in the likelihood of participating in casual sex, while men with a Bachelor's degree were more likely to report recent casual sex than men without a degree. Education status was not associated with recent casual oral sex for women, while for men, having a high school degree or some college experience was significantly associated with an increase in the odds of having recent casual oral sex. These results suggest that there is an interaction effect between gender and education status; however, the prediction that there would be no significant gender differences for men and women with post-secondary experience was not supported.

Employment was significantly associated with all three dependent variables. Both part-time and full-time employment significantly decreased the likelihood of lifetime casual sex participation, which supports the hypothesis that young adults who were employed would be less likely to participate in casual sex. In the recent casual sex participation and recent casual oral sex participation models, the relationship between employment and recent casual sex was significant only for men. The hypothesis that independent living would be associated with an increase in the odds of casual sex participation was partially supported; independent living was significantly associated with an increase in the likelihood of lifetime casual sex participation, but it was not significantly associated recent casual sex participation or recent casual oral sex participation.

There were other significant associations among other variables of interest. As predicted, age was also significantly associated with lifetime casual sex participation; as young adults aged, the likelihood of engaging in casual sex

increased. There was some variation in casual sex participation by race / ethnicity. As predicted, compared to white participants, black participants were more likely to report lifetime casual sex participation, and they were also more likely to report recent casual sex and recent casual oral sex participation. Contrary to prediction, Hispanic young adults and 'other' participants were less likely to report casual sex participation.

Relationship status was also significantly associated with casual sex participation. As predicted, dating non-exclusively was associated with an increase in the odds of lifetime casual sex, recent casual sex, and recent casual oral sex participation. Dating exclusively was also positively associated with lifetime casual sex behavior. The association between being married or cohabiting with a partner increased the odds of lifetime casual sex participation, but decreased the odds of recent casual oral sex for both women and men and recent casual sex for women. Finally, contrary to predictions, parental education was not significantly associated with casual sex participation.

## V. DISCUSSION

Consistent with evolutionary theory and sexual scripts theory, women were less likely to participate in casual sex than men. Evolutionary theory suggests that while both men and women may participate in short-term relationships, but women may be less likely to engage in casual sex than men. Sexual scripts theory similarly predicts that women may be less likely to participate in casual sex than men because men are portrayed as active sexual agents, while women are portrayed as sexual gatekeepers.

An extension of sexual scripts theory is that sexual scripts and social roles influence how young adults choose to their sexual behavior in a particular context. Socioeconomically disadvantaged young adults may not have the resources to engage in more stable relationships, and may be more likely to engage in casual sex relationships. The finding that young adults with a bachelor's degree were the least likely to report lifetime casual sex participation supports this explanation. Additionally, these findings are contrary to some researchers' assertions that during the transition to adulthood, young adults may participate in casual sex relationships because they are busy pursuing their education and employment, leaving little time to pursue committed relationships (Arnett, 2000; Bogle, 2008).

The findings from this study suggest that gender differences in recent casual sex participation occur at different levels of education. For men, some college or community college experience was associated with an increase in the likelihood of recent casual sex participation and recent casual oral sex participation compared to those with a bachelor's degree, which is consistent with the explanation above.

Interestingly, women without a degree were less likely to engage in recent casual sex, compared to women with bachelor's degree. It may be that the magnitude of the social pressures and environment constraints operate differently for men and women. Those without a degree may be relatively isolated and have limited opportunities to interact with peers. Other factors, such as teen pregnancy, which is associated with low education attainment, may be more costly, in terms of time and resources, and may be further isolating for women.

The extension of sexual scripts theory to explain the relationships between employment, independent living, and casual sex were partially supported. Although the relationship between independent living and casual sex was not significant, other significant findings suggest that young adults with less resources available to them participate in more casual sex relationships. Employment was significantly associated with a decrease in the odds of recent casual sex participation and recent casual oral sex participation, but only for men. These findings further support the idea that young adults with more resources available to them would be less likely to participate in casual sex. Interestingly, it does not provide support for some researchers assertions (i.e. Bogle, 2008) that men may be more likely to participate in casual sex because they want to focus on completing school and establishing a career prior to committing to a relationship.

The finding that black young adults are more likely to report lifetime, recent casual sex relationships, and recent casual oral sex relationships also supports the hypothesis that disadvantaged groups may be more likely to participate in casual sex relationships. Contrary to predictions, Hispanic young adults were less likely to

report lifetime casual sex participation compared to white young adults. Although Hispanic /Latino young adults are more disadvantaged compared to their white counterparts, there may be cultural components for this group, including a strong religious tradition and the tendency to marry young, which may serve as protective factors against young adult casual sex participation.

Overall, young adults in some type of relationship, whether it be married, cohabitating, or dating non-exclusively, were more likely to report having participated in a casual sexual relationship in their lifetime, compared to young adults who were single at the time of their interview. As predicted, dating non-exclusively was associated with an increase in the odds of lifetime casual sex, recent casual sex, and recent casual oral sex participation. Dating exclusively was also positively associated with lifetime casual sex behavior. The association between being married or cohabiting with a partner decreased the odds of recent casual oral sex for both women and men and recent casual sex for women. Young adults who are dating have more opportunity engage in casual sex.

Interestingly, parent education had no significant associations with lifetime casual sex participation; although it did increase the odds of recent casual sex participation for men whose parents had some college education. The relative lack of significant associations between parent education and casual sex participation is contrary to the hypothesis that young adults whose parents have less post-secondary education would be the least likely to engage in casual sex behavior. It may be that more salient factors, such as young adults' own post-secondary education experience.

This study is the first to examine the prevalence of casual sex behavior in a nationally representative sample of U.S. young adults. While lifetime casual sex does not provide information about young adult casual sex behavior exclusively, it does replicate Lyon's (2013) findings. Furthermore, this study extends her findings by including prior casual sex behavior.

### **Limitations**

Although this study was helpful in understanding casual sex participation for U.S. young adults, it did have limitations. The current study did not include other potentially relevant individual predictors, such as attitudes about casual sex or other risk behavior. For example, Lyons (2013) suggested that sexual attitudes mediated the relationship between education status and casual sex behavior. The Add Health dataset did not include any measurement of sexual attitudes in Wave III, so replication of Lyons (2013) was not possible for this project. Researchers have also suggested that alcohol is an important factor when investigating young adult casual sex (Bogle, 2008; White et al., 2009). Unfortunately, this was not possible with the Add Health dataset. Researchers using more diverse regional samples (Bailey et al., 2009; Lyons, 2013) have not included alcohol use either, and future research should address this gap.

The current study did not differentiate between opposite-sex and same-sex relationships. This may be especially important when considering types of sexual behavior in casual relationships. The lifetime casual sex variable was a more general measure comprised of casual sex relationships that included vaginal, oral, and anal sex, so discriminating between relationship pairs

Types of casual sex relationships also warrant additional scrutiny, such as the differences between a one-time sexual encounter versus sexual involvement over time with a casual partner. Unfortunately, the Add Health data did not provide enough level of detail to be able to definitively distinguish between casual partners with whom young adults have had sex on one or more than one occasion. Other casual encounters, such as having sex with an ex-partner, or patterns of relationship instability in which a couple breaks and gets back together may place young adults at risk (Manning et al., 2006). Even with these limitations, this study demonstrated a range of the sexual relationship scope for young adults.

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