

AN ABSTRACT OF THE DISSERTATION OF

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Title: Television and the Sexual Behavior of Black/African American Female Adolescents

Abstract approved:

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Sex on television has nearly doubled since 1998 while sexual risk and responsibly messages have decreased. During this time frame, television watching has become one of the most popular pastimes in the United States, especially among Black/African Americans. Black youth are more likely to report higher levels of satisfaction with television images and view characters as more realistic than the average youth. Here, we examine how viewing higher amounts of television affects certain sexual behaviors of Black female adolescents using data from the 2007 Youth Risk Behavioral Surveillance Survey. Results indicate that the number of television hours viewed on an average school day was significantly related to initiating sexual intercourse before the age of 14, condom use, and contraceptive use to prevent pregnancy for all adolescent females in the sample. Though the number of television

hours viewed on an average day was not significantly related to the sexual behaviors of Black adolescent females, this group was more likely to initiate sex before 14, report having 3 or more lifetime sexual partners, and more likely to report using condoms at last intercourse than their female counterparts in any other racial group. Black female adolescents who watched 5 or more hours of television, however, were almost four times more likely to report using any form of contraceptive to prevent pregnancy than their white counterparts. These findings suggest that the amount of television watched on an average school day does not influence the sexual behaviors of Black female adolescents in high school. More research is needed to determine the effect television has on Black female adolescents.

Keywords: sexual content, television, African Americans

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Television and the Sexual Behavior of Black/African American Female Adolescents

by
Amber Wilburn

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes realize of my dissertation to any reader upon request.

Amber Wilburn, Author

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TABLE OF CONTENTS

	<u>Page</u>
Chapter 1: Introduction	1
Public Health Significance	2
Sex on Television	8
African Americans on Television	10
Significance of the Research	14
Study Objectives	15
Chapter 2: Literature Review	16
Sex on Television	17
Sex on TV 4 Study	17
Primetime Programming Study	22
Comparison Study	26
African American Geared Programming Study.....	29
Cultivation and Social Learning	33
Television as a “Super Peer”	34
Cultivation Theory	36
Social Learning Theory.....	40
Television, Puberty, and Social Learning	44
Television and Sexual Behavior	47
Early Initiation of Sexual Intercourse	48
Television and Pregnancy	55
Music Videos and Sexual Health	57

TABLE OF CONTENTS (continued)

	<u>Page</u>
Statement of Hypotheses	64
Chapter 3: Methods	68
Rationale	68
The Youth Risk Behavior Surveillance System (YRBS)	71
Study Sample	73
Measures	74
Covariates	76
Data Screening	78
Data Analysis	79
Univariate and Bivariate Analysis	80
Hypothesis 1	80
Hypothesis 2	81
Hypothesis 3	82
Hypothesis 4	83
Chapter 4: Results	84
Sample Characteristics	84
Hypothesis 1	91
Hypothesis 2	94
Hypothesis 3	98
Hypothesis 4	102

TABLE OF CONTENTS (continued)

	<u>Page</u>
Chapter 5: Discussion and Conclusion	115
Strengths and Limitations	125
Future Implications for Public Health	134
Conclusion	137
Bibliography	139

LIST OF TABLES

<u>Table</u>	<u>Page</u>
4.1 Characteristics of Female Respondents: YRBS 2007	85
4.2 Characteristics of Female Respondents by Race: YRBS 2007	89
4.3 Results of Logistic Regression Analyses Predicting Early Initiation of Sexual Intercourse among Sexually Active Black/African American Female Adolescents in High School who Reported Having Sexual Intercourse	92
4.4 Results of Logistic Regression Analyses Predicting 3 or More Sexual Partners over Lifetime for Black/African American Female Adolescents in High School	95
4.5 Results of Logistic Regression Analyses Predicting 1 or More Sexual Partners in the Last 3 Months among Sexually Active Black/African American Female Adolescents in High School	97
4.6 Results of Logistic Regression Analyses Predicting Condom Use at Last Intercourse among Black/African American Female Adolescents in High School	99
4.7 Results of Logistic Regression Analyses Predicting Contraceptive Use to Prevent Pregnancy among Black/African American Female Adolescents in High School	101
4.8 Results of Logistic Regression Analyses Predicting Early Initiation of Sexual Intercourse among Sexually Active Female Adolescents in High School	103
4.9 Results of Logistic Regression Analyses Predicting 3 or More Sexual Partners over Lifetime among Female Adolescents in High School...	106
4.10 Results of Logistic Regression Analyses Predicting 1 or More Sexual Partners in the Last 3 Months among Sexually Active Female Adolescents in High School	108

LIST OF TABLES (continued)

<u>Table</u>	<u>Page</u>
4.11 Results of Logistic Regression Analyses Predicting Condom Use at Last Intercourse among Female Adolescents in High School	110
4.12 Results of Logistic Regression Analyses Predicting Contraceptive Use to Prevent Pregnancy among Female Adolescents in High School	112

CHAPTER I: INTRODUCTION

One of the most important tasks for adolescents is the integration of sexuality into their identity (Burson, 1998). How adolescents understand, define, interpret and express their sexuality is an important aspect of understanding not only how sexual scripts develop but also in understanding when and under what circumstances sexual interest and participation in sexual activity begins. Television provides a wide range of depictions that not only help shape an adolescents' understanding of their sexuality but also aide in adolescents develop sexual behaviors, positive or negative.

Research suggests that television plays a major role in not only promoting sexual intercourse among teens (Collins, et al., 2004) but also hastening the initiation of sexual intercourse among this population (Brown and Newcomer, 1991; Brown et al., 2006; Collins et al., 2004; RAND, 2004). In addition, youth who watch higher amounts of television are more likely to hold nontraditional attitudes about sex (Ward & Rivadeneyra, 1999), believe the stereotypical images of women presented on television (i.e., music vides; Wingood et al., 2003), become pregnant (Chandra et al., 2008), have multiple sexual partners (Wingood et al., 2003) and report a newly acquired STI within the following year (Wingood et al., 2003) than are adolescents who view fewer hours of television. For these reasons, understanding how television affects the sexual behavior of adolescents is essential.

The primary purpose of this research was to determine if there is a link between television viewing, initial onset of sexual intercourse, number of sexual partners, and contraception use among African American female adolescents using data from the 2007 Youth Risk Behavior Surveillance survey (YRBS). This chapter provides: 1) a summary of the public health significance of the problem; 2) a brief overview of portrayals of African Americans on television; 3) an introduction to the topic of sexual messages in television programming; 4) a discussion of the significance of the research; and 5) presents the study objectives.

Public Health Significance

The prevalence of sexual content on television may serve as a model among the adolescent population for engaging in risky sexual health behavior such as initiating sexual intercourse at an early age, having multiple sex partners, and reduced use of condoms and other contraceptives at the time of intercourse. These actions, as a result, may lead to negative sexual health outcomes such as an increased risk of pregnancy and exposure to sexually transmitted infections and HIV/AIDS. Thus, improving the understanding of the effects of television on sexual behavior has implications for several public health problems, specifically in the Black/African American population.

To begin, a number of scholars have documented the negative sexual health outcomes that can and do occur when youth initiate sexual intercourse activity at an

early age. For example, Chandra and colleagues (2005) found that youth who initiate intercourse at younger ages were more likely to report that event as involuntary; nearly 20 percent of women who first had “intercourse” before 15 years of age compared to four percent of women over 20. That same study found that almost 26 percent of women who had first sexual intercourse before the age of 15 had ever been treated for pelvic inflammatory disease or sexually transmitted infection compared to 10 percent of women who had first sex at 20 or older. Other studies have documented that youth who have intercourse at younger ages are less likely to use any form of contraception (Felton & Bartoces, 2002; National Center for Health Statistics, 1997; Santelli, Morrow, Anderson, & Lindberg, 2006), have a larger number of lifetime sexual partners (Dowsell, 2002; Greenberg, Magdar & Aral, 1992) and are more at risk for becoming pregnant (Dowse, 2002; Finer & Henshaw, 2006; Santelli, et al., 2006).

Despite the fact that the pregnancy rate of teenagers in the United States has been declining, it remains twice that of other industrialized nations (Darroch, Singh & Frost, 2001). In the United States, approximately 6.4 million pregnancies occur each year with nearly half of those being unintended (Finer & Henshaw, 2006; NFPRHA, August 2005). Pregnancies among adolescent females under 20-years of age accounted for nearly 745,000 pregnancies (Gavin et al., 2009). Additionally, female youth 10-12 years of age accounted for approximately 16,000 pregnancies in the same time period (Gavin et al., 2009). Overall, although birth rates among

adolescents between 15-19 years of age had been decreasing over the past decade, they have since increased from 40.5 live births per 1,000 in 2005 to 42.5 per 1,000 in 2007 (Gavin, et al., 2009).

Although the rate of pregnancy among adolescent African Americans (youth 15-19 years) declined 45 percent between 1990 and 2005 (Wind, 2010), the current rates are still higher than their white peers (128/1,000 vs. 45.2/1,000 live births, respectively; Gavin et al., 2009). Black teen pregnancy alone increased to 126.3 in 2006 compared to 44.0 pregnancy rate for white teens in the same year (Wind, 2010). Additionally, African American adolescents in that age group are two to three times more likely to give birth than white adolescents (Philadelphia Black Women's Health Project, 2002), and African American adolescents under the age of 15 are more than four times likely to conceive than white adolescents of the same age (Dowsell, 2002).

Overall, sexually transmitted diseases remain a key challenge in the United States (Center for Disease Control and Prevention [CDC], 2005a; CDC, 2009b; Gavin et al., 2009). Although African Americans make up only 13 percent of the United States population (U.S. Census, 2003), they account for more cases of STIs than any other racial or ethnic group (Bunzi, Weinman & Smith, 1998; CDC, 2009a, 2009b; Gavin et al., 2009). For example, the CDC estimates that approximately 19 million new cases of STIs occur each year in the entire population with nearly half of those being among youth aged 15 to 24. African American adolescents experience disproportionately high rates of sexually transmitted infections and HIV/AIDS than

people of any other racial or ethnic background (Weinstock et al., 2004). According to data from the 2003-2004 National Health and Nutritional Examination Survey (NHANES), African American female adolescent participants had an STI prevalence of 48 percent, compared to only 20 percent prevalence in both white and Mexican American female adolescents (CDC, 2008c).

In 2005, nearly 100,000 new cases of chlamydia were diagnosed nationally making it the most commonly reported infection in the United States (CDC, 2005a). However, researchers and healthcare workers feel this is an underestimate considering other estimates reveal approximately 2.8 million new cases each year (CDC, 2005a). In 2005, African American adolescent females were infected by chlamydia with a rate seven times that of white adolescents and more than twice that of Latinas (CDC, 2005b). In 2007, nearly 50 percent (48%) of all chlamydia cases reported in the United States occurred among African Americans (Gavin, et al., 2009) with African American adolescent females (15-19 years) having a rate of 8,858.1 cases per every 100,000 people in the population (Gavin et al., 2009).

Gonorrhea is the second most commonly reported STI in the United States (CDC, 2005a; Gavin et al., 2009). Until 2002, overall rates had remained constant at 115.6 cases per 100,000 people after a 74 percent decline between 1975 and 1997 (CDC, 2005b). In 1996, African Americans accounted for nearly 78 percent of all gonorrhea cases (CDC Wonder, 1997). In the same year African American female adolescents (15-19 years of age) had a gonorrhea rate that was 24 times that of white

female adolescents (CDC Wonder, 1997). As of 2004, African American adolescents had an infection rate that was nearly 18 times that of whites (CDC, 2005a). In 2007, African American women had a rate 15 times that of their white peers (CDC, 2007b). Gavin and colleagues (2009) found that, currently, African American female adolescents (15-19 years of age) have a rate that is 13.5 times that of their white peers.

Syphilis (primary and secondary) rates, overall, reached an all time low in 2000 (2.7/100,000), but since have increased 17.5 percent in 2006 and 17.2 percent in 2007 (CDC, 2009b). Despite the decline in syphilis rates prior to 2000, the rate at which African Americans were infected increased nearly 150 percent between 1986 and 1990 (Bunzi et al., 1998) and decreased only 20.2 percent between 2000 and 2001 (STD Surveillance, 2001). In 2001, this group accounted for 62.5 percent of all cases (STD Surveillance, 2000). Between 2005 and 2006, African American females' prevalence rate increased by 11 percent and was the only racial-gender group to increase in prevalence (CDC, 2007a). In 2007, African American women had a rate 14 times that of white women (CDC, 2007b). Currently, African American female adolescents (15-19 years of age) have the second highest rate- after African American males of the same age- at 14.8 cases per 100,000 cases in the population (Gavin et al., 2009).

Since the beginning of the HIV/AIDS epidemic, African Americans have accounted for nearly 42 percent of all AIDS cases, and in 2005 African Americans

accounted for nearly half (49%) of all new HIV/AIDS cases in the United States (CDC, 2008b). Gavin and colleagues (2009) reported that in 2006, African Americans had an HIV/AIDS rate that was five times higher than the rate for Latinos. Further, nearly 130 African American adolescent females (15-19 years of age) per 100,000 adolescents of the same age were living with HIV/AIDS compared to 40.2 Latina/Hispanic adolescents in 2006, a rate three times that of Latina/Hispanics (Gavin et al., 2009). Overall, in 2007, the HIV prevalence rate for African American women was 18 times that of white women (CDC, 2009a).

Though Black/African Americans, in general, and Black/African American adolescents, specifically, have higher STI and HIV/AIDS rates and higher incidences of pregnancy, research regarding rates at which this group uses contraceptives are conflicting. Although a number of studies state that African American youth have higher and more consistent rates of contraceptive use than other racial and ethnic groups (Abma, Martinez, Mosher, & Dawson, 2004; CDC, 1997; Everett et al., 2000; Ku, Sonenstien & Peck, 1994; Manlove, Ryan & Franzetta, 2003; Somers & Tynan, 2006), other studies indicate they have lower rates of contraceptive use (Doswell, & Braxter, 2002; Bunzi et al., 1998). Manlove and colleagues (2003), for example, conducted a study observing contraceptive use patterns among adolescents in their first sexual relationships. Logistic and multiple regression analyses were conducted on data collected from the first two waves of the National Longitudinal Study of Adolescent Health. Results indicate that African American adolescent participants

had higher levels of consistent contraceptive use (66.3%) compared to white adolescents (65.5%) and Latino/Hispanic adolescents (55.3%). The research addresses this conflicting evidence by specifically studying contraceptive use of African American female adolescents.

Overall, African American youth have higher incidences of sexually transmitted diseases/infections and higher rates of pregnancy than youth of any other racial or ethnic group. These data strongly indicate that understanding the factors that contribute to the sexual health outcomes of African American youth, especially African American female youth, is essential. Understanding how viewing sexual content on television affects the sexual health of this population is the first step in reducing these negative sexual health outcomes.

Sex on Television

Television viewing is one of the most popular pastimes among people in the United States. According to Neilson's "Three Screen Report," people living in the United States watch a little more than 153 hours of television per month, or an average of 5 hours of television per day (Neilson, 2009). This represents a 3.6 percent increase in television watching since 2008. Not only has television watching increased over the years, sexual content on television has increased as well. A study conducted by the Kaiser Family Foundation (2005) found that sex on television has

nearly doubled since 1998 (Kunkel, Eyal, Finnerty, Biely, & Donnerstien, 2005; Brodesser-Akner, 2007; Newswire, 2005).

On television, sex is often presented as a casual activity with no (or little) risk and/or consequence (RAND, 2004). For example, a study conducted by Kaiser Family Foundation found that nearly 70 percent of all television programming contains sexual content, and programs with such content average 5.0 sexual scenes per hour (Kunkel et al., 2005). This is a cause for concern considering only nine percent of all shows with any sexual content made any reference to contraceptive use, safer sex or delaying sexual activity (Nation's Health, 1999). As the average youth watches approximately 3 hours of television per day (Roberts, Foehr, Rideout & Brodie, 1999), we can see how viewing television programs may influence sexual health decision making.

Though television watching and sexual content in television programming are high in the overall United States population, it (i.e., television watching) is disproportionately high among the African American population. Tikrodkar and Jain (2003) found that African American households watch nearly 23 more hours of television per week than the average United States household (75 hours vs. 52 hours, respectively). Additionally, the Generation M² Report (Rideout, Foehr, & Roberts, 2010) found that while white youth watch an average of 3:36 hours of television on a typical day, Black/African American youth watch an average of 5:54 hours of television on a typical day.

Although there are a number of studies that document the sexual content present on television in general (e.g., Kunkel et al., 1998; Kunkel, Cope-Farnar, Biely, Farinola, & Donnerstein, 2001; Kunkel, Eyal, Finnery, Biely & Donnerstein, 2005), in primetime programming (e.g., Farrar et al., 2003), soap operas (e.g., Haferkamp, 1999; Lowry & Towels, 1989) and teen programming (e.g., Cope, 1998), only one study (Gurman & Orkis, 2006) observed sexual content messages on television shows geared toward the African American population. In their observation of 68 episodes of six Black/African American situation comedies that aired on the United Paramount Network¹ (UPN), Gurman and Orkis (2006) found that 100 percent of shows contained sexual talk and 75 percent of shows contained sexual behavior. Sexual risk and responsibility was mentioned in less than ten percent (9.8%) of the scenes that contained sexual content and in less than one percent (0.85%) of scenes that contained sexual behavior. Clearly, understanding the effects of television viewing on African American sexual health behavior is important.

Blacks/African Americans on Television

Historically, Black/African Americans characters on television have been few and far between. Although their presence has increased from one to two percent in the 1950s (Lichter, Lichter, Rothman & Amundson, 1987) to eight percent in the

¹ Independent television station which first broadcasted January 1995 and last broadcasted September 2006 when it merged with The WB to become the CW Television Network.

1980s (Ford, 1997) to 16 percent in 2002 (Hunt, 2003), images of African Americans have changed very little. Content analysis from shows in the 1970s (Graves, 1996) found that African American individuals were more commonly portrayed as poor, lazy and incompetent than any other racial group, while Black/African American families were more likely to be shown as conflict ridden and female-dominated than any other racial group. Current studies show that when Black/African American characters do appear on television, they are more likely to be cast in minor roles (Graves, 1996; Hunt, 2003) and serve as comic relief or supporting sidekicks than are white, Latino/a or Asian characters (RBC, 2003).

According to a study conducted by researchers at the University of Los Angeles, California (UCLA; Hunt, 2003), whereas white individuals living in the United States accounted for 81 percent of total screen time during prime time programming, African Americans accounted for only 15 percent of on-screen time. The researchers also found that African American characters were not more likely to be portrayed on situation comedies (the genre that contains the highest frequency of talk about sex; Farrar et al., 2003); however, it is likely that the most prominent Black/African American characters are more likely to be portrayed on situation comedies. Finally, African American characters were more likely to appear on Monday and Saturday night prime time television shows and were disproportionately present on UPN. Monday and Saturday prime time programs are the least watched prime time programs throughout the week. Ninety percent of the African American

characters appearing on Monday night prime-time programming did so on UPN. Though these characters made up only 19 percent of all African American characters on prime-time programming, they accounted for 30 percent of total African American screen time.

Finally, Mastro and Greenberg (2000) conducted an analysis of prime-time programming in 1996 and found that Black/African American characters on these shows were more provocatively dressed and less professionally dressed than white characters and that they were the least respected ethnic group. For example, *Girlfriends'* main character, Joan Clayton, is known among her colleagues to wear form fitting pants, low-cut blouses and see-through shirts while Maya, her secretary, is often seen in tight, short skirts and thigh high boots. Not only does television provide a primary location for African American representation (Railton & Watson, 2005), African American adolescents are more likely to report higher levels of satisfaction with television (Albarran & Umphrey, 1993), believe television characters are more realistic (Greenberg, 1993), and have a better process and recall of media depictions of same-race characters (Bell & Clark, 1998). This population is also more likely to identify with individuals that look like them on television and in movies (Makkar & Strube, 1995).

Moreover, although African American youth can identify with both African American and white television characters (Greenberg & Atkin, 1982), these youth are more likely to watch shows with predominantly African American characters

(Tirodkar, & Jain, 2003). *A Different World*², for example, ranked 2nd among all United States television ratings in its first season (1987-1988), fell to 3rd the second season (1988-1989), 4th the third and fourth seasons (1989-1990, 1990-1991), 17th the fifth season (1991-1992) and 86th the final season (1992-1993). Among African American households, however, this show ranked 2nd the first season (1987-1988) and 1st in the remaining seasons. Other shows such as *America's Next Top Model*³, *Girlfriends*⁴ and *Half and Half*⁵ appear on the top 10 program list of Black/African Americans but not one of these shows appears on the top 10 list of television programs for the general public (Neilson, 2006). Of the 20 most popular television shows among teens as observed in the Kunkel and colleagues study (2005), only one (*America's Next Top Model*) ranked on top 10 lists of both African American and the United States household lists. Because Black/African American adolescents watch more television than other youth groups (Tikrodkar & Jain, 2003), and the television programming they watch most contains higher levels of sexual content than overall television, determining how these images affect African American youth is essential.

² Spin-off of the *Cosby Show*, centering on the lives of African American college students on a fictitious historically Black college campus (Hillman College) in Virginia. It began in 1987 and ran for six seasons.

³ Reality show created and hosted by African American model, Tyra Banks, where a number of women compete to be America's next top model and start their career in the modeling industry. The show debuted May 2003 and is currently on its sixteenth cycle.

⁴ Situation comedy which followed the lives and relationships of 4 African American women living in Los Angeles, California. The show debuted September 2000 and ran for eight seasons.

⁵ Situation comedy which followed the lives of two African American half-sisters who were estranged during their childhood; set in San Francisco, California. The show debuted September 2002 and was cancelled May 2006

Significance of the Research

This study is significant in the following ways. First, it addresses a major public health concern (i.e., sexual health behaviors of African American female adolescents). Additionally, this research adds to the literature on the consistency of condom use in African American female adolescents as current research provides inconsistent findings. Third, it advances the understanding of the effects of television viewing on the sexual behaviors of Black/African American adolescents. A small number of articles relating media to negative sexual behavior exist. Escobar-Chavez and colleagues (2005) found that less than one percent of the articles they reviewed (n=2522) involving the effects of media on youth examine the association between media use and sexual attitudes, beliefs, and knowledge. They found only 13 published articles discussing the association between media exposure and sexual beliefs, attitudes or behavior, (e.g., Brown & Newcomer, 1991; Brown, Steele, & Walsh-Childers, 2002; Bryant & Rockwell, 1994; Collins et al., 2004; Davis & Mares, 1998; Greeson & Williams, 1986; Klein et al., 1993; Moore & Furstenberh, 1991; Pardun, L'Engle, & Brown, 2005; Peterson, Peterson & Kahn, 1995; Strouse, Buerkel-Rothfuss, & Long, 1995; Wingood et al., 2001). Only one article was found that looked specifically at the association between media viewing and pregnancy rates (Chandra et al., 2008), while one looks at the association between television viewing and initiation of sexual activity (Collins et al., 2004). Finally, only two articles have been published that examine and show a correlation between viewing sexual content

and the effects of sexual behavior, attitudes and beliefs looking specifically at race and gender; these articles, however, measured music video consumption and not overall television programming consumption (Wingood et al., 2003; Peterson, Wingood, DiClemente, Harrington and Davies, 2007). This indicates that more research is needed to better understand how television influences the sexual behavior of Black/African American female youth. Finally, this study used a national dataset that provides some of the most up-to-date information about this population's television viewing hours and their sexual behavior. Thus, the results provide some of the most up-to-date information on the population of interest.

Study Objective

The overall objective of this study was to better understand the influence of television on the sexual behavior (i.e., initiation of sexual intercourse, three or more lifetime sexual partners, one or more sexual partners in the last three months, condom use, and contraceptive use to prevent pregnancy) of Black/African American female adolescents. The study utilized data from the 2007 YRBS survey to examine the association between hours of television watched and Black/African American adolescent female sexual behaviors.

CHAPTER II: LITERATURE REVIEW

Introduction

This chapter begins by examining past and present research on the amount of sexual content in television; in particular four important studies that dealt with the topic are described. The next section discusses theories that are most frequently used in understanding and examining the relationship between television viewing and its effects on sexual health attitudes and behavior. Following that, the relationship between viewing sexual content on television and the advent of certain sexual behaviors (i.e., initial age of sexual intercourse and contraceptive use) is examined. Because much of the research examining the effects of television viewing on sexual behavior involves adolescent women, this section does not include any studies that focus on adult women. Finally, the current study is described and research hypotheses are presented.

Sex on Television

Overall, media in the United States is thought to be the most sexually aggressive media in the Western Hemisphere (Strasburger, 2005). In addition, the sexual messages in media, television specifically, are believed to be increasing in number and explicitness while decreasing in realistic portrayals. This section describes a number of studies that document the nature of sexual intercourse, sexual talk and sexual messages on television in overall programming, prime-time

programming, most watched teen shows, and one African American geared independent television broadcast station.

Sex on TV 4 Study

Since the fall of 1997, the Kaiser Family Foundation (KKF) has published a biennial report examining sex on television⁶ (Kunkel et al., 2005). These reports began not only to address sexual content on television that could be generalized to overall television programming but also to address limitations of other studies of sex on television. Limitations of such studies include limited analysis of television programs used in analyses and inconsistencies in operationalizing and measuring sexual content on television programs. The KKF series, Sex on TV Parts 1-4, represent the most comprehensive reports on the subject matter to date.

Sex on TV 4 is the most recent report on television sexual content by the Kaiser Family Foundation (Kunkel et al., 2005). The researchers used three sampling strategies to obtain television broadcasts that were representative of overall programming. In the first phase of sampling, a composite week schedule was developed by randomly sampling programs that aired between 6:00am and 10:00pm Mountain Standard Time between the October 2004 and April 2005 on the 10 most watched television channels. Channels included in the study consisted of commercial (ABC, NBC, CBS and Fox), independent (the CW), and public (PBS) broadcast

⁶ There has not been a Sex on TV report since the Sex on TV 4 report published in 2005.

stations as well as basic (Lifetime, TNT and USA Network) and premium (HBO) cable stations. In the second phase, three full weeks of prime-time programs were collected for each of the four commercial stations. “Finally, the third sample included three episodes of each of the 20 most watched television shows for 12-17-year-old youth” (Kunkel et al., 2005).

In total, 1154 television programs were sampled from the Tucson, Arizona market⁷; 959 programs from phase I (composite list), 174 from phase II (prime time programming), and 21 from phase III (most watched teen shows). All programs randomly selected were placed in 30 minute time slots and taped (those shows with a running time over 30 minutes were placed in two consecutive 30-minute time slots). For the small number of programs that ran at the same time, both were taped. This study excluded news broadcasts, sports and children’s programs because, as Kunkel and colleagues (2005) state, these programs present different types of issues that may dilute the main focus of assessing sexual content on television.

The coders measured sexual messages at both the scene and program levels of the 1154 programs sampled. Sexual messages were broken into two categories: sexual behavior and sexual dialogue. Sexual behaviors included any behavior that conveyed a potentiality or likelihood of intimacy and actual behaviors of such, with the lowest threshold for behavior being physical flirting. Sexual dialogue or “talk

⁷ All 3 previous studies sampled programming from the Los Angeles, California market. Evidence showed that no threat to validity would occur if the market was shifted.

about sex” included any discussion of sexual interest or second hand discussions. In addition, topics pertaining to reproductive issues, sexually transmitted diseases and sex crimes were also included in the sexual dialogue category. In any scene that included sexual content, the degree to which sexual risks and responsibilities were portrayed or discussed was assessed as well. Overall consistency and agreement of coding at both scene and program levels ranged from 83-100 percent.

Findings indicated that 70 percent of the composite week sample included any form of sexual content: sexual behavior, sexual dialogue or both. Of the programs that contained sexual content, an average of 5.0 scenes per hour were reported. This represents an increase of programs that contain any sexual message(s) by 25 percent since the first wave of the Sex on TV study in 1997-98. Overall, the total number of sexual scenes on television has increased by 96 percent since the 1997-98 report.

Sexual talk remains the most common type of sexual content on television with 68 percent of all programs (4.5 scenes per hour) sampled containing some form of sexual talk. Sexual behavior was not as frequent but was still evident in 35 percent of all programs (2.0 scenes per hour) sampled. Since the 1997-98 report, both sexual talk and sexual behavior have increased; sexual talk by 14 percent and sexual behavior by 12 percent.

Of the television programs most watched by youth 12-17 years of age, 11 percent (one in nine shows) included a scene where sexual intercourse was seen or

strongly implied. Findings indicate that youth geared television programs place the most emphasis on sexual related content. Though youth are more likely to see sexual behavior on television, the characters that participate in such acts are older than they have been in previous years.

Findings of this report indicate that, of all scenes that depict any form of sexual content, only four percent also included mention or portrayal of risk or responsibility concern, which is the same rate identified in the 1997-98 report. Although an increase of risk and responsibility messages of six percent was found in the 2001-02 study, that effect has since diminished and returned to pre-2001 levels.

Kunkel and colleagues (2005) preformed an additional analysis to determine how often risk and responsibility were mentioned at any time during any show that contained sexual content. They found that 14 percent of all shows with sexual content sampled in 2005 also included risk messages compared to only nine percent of shows sampled in 1997-98. Further analysis found that only 31 percent of shows with risk messages place primary emphasis on risk or responsibility while 69 percent of risk/responsibly scenes place minimum or inconsequential emphasis on the topic. Only one percent of all programs with sexual content also placed primary emphasis on risk and/or responsibility during the entire show. On prime time television programming, only 11 percent of shows with sexual content also include some form of sexual risk and responsibility.

The additional analysis was also conducted on programs most watched by youth 12-17 years of age. Findings indicate that 25 percent of all teen programs with sexual behavior included some message(s) regarding risk and responsibility. This finding is important because programs used in the teen sample were found to place the most emphasis on intercourse-related content. Overall, the most watched television programs by youth place the most emphasis on sexual risk and responsibility with the frequency of risk and responsibility messages at 17 percent.

Strengths of the Sex on TV 4 study include the wide range of television programming sampled, which allowed for the findings to be more generalizable to overall television programming. The high inter-coder reliability (83-100%) assures that observer bias was limited and the reliability of the measurement (i.e., the definition and assessment of sexual content by coders) was consistent. In addition, the researchers used methods to determine, define and measure sexual content on television that have been shown to work in past studies (e.g. Brown & Newcomer, 1991). Finally, since this study is the fourth in the series, the previous replications allow for more accurate comparisons of increases and decreases in sexual content over time.

Primetime Programming Study

Another study that sought to assess sexual content on television was conducted by Farrar et al. (2003). Unlike Sex on TV 4 study (Kunkel et al., 2005), which observed a variety of television programming on a variety of stations, this study only assessed sexual messages of prime time⁸ programming on commercial broadcast stations (ABC, NBC, CBS and Fox). Similar methods as the Sex on TV 4 study were applied to this study as well. For each of the four channels included in the analysis, random selection was used to obtain three composite week schedules. A sampling period from October to May was established for each of the three years included in the study (1997-98, 1999-2000, and 2001-02 television seasons⁹). A random selection of thirty minute time slots were chosen for videotaping; programs selected that extended beyond the thirty minutes were tape recorded and analyzed in their entirety. Sporting events were excluded.

Content measures were defined similarly to the Sex on TV 4 study with sexual messages being broken into two categories: sexual behavior and sexual dialogue. Scene level variables were analyzed on their degree of sexual focus, degree of sexual explicitness and their mention of sexual risk or responsibility. To assess the level of sexual talk, a scale was constructed that weighs all scenes with such talk equally. Overall inter-coder reliability for identifying scenes with sexual content was

⁸ Television shows which air between 8pm and 11pm (Pacific and Eastern standard time)

⁹ All programs were selected from the Los Angeles, California market, but all programs taped were distributed nationwide.

79 percent, 86 percent and 91 percent for first, second and third wave samples, respectively. In identifying contextual variables at the scene level, inter-coder reliability did not fall below 70 percent for any wave.

In total, 258 prime time programs were sampled from the 2001-02 television season. The researchers found that 71 percent, or almost three of every four programs, contained some type of sexual content with an average of 6.1 scenes per hour. Sixty-nine percent of the programs examined in the study included some sex talk while 33 percent included sexual behavior. Talk about sex was more frequent, averaging 5.8 scenes per hour, than sexual behavior, which averaged 2.0 scenes per hour. Level of explicitness of each was moderate, measuring 2.9 and 2.0, respectively, on a 4.0 severity scale. However, findings also indicated that 12 percent (one in eight prime time shows) either strongly implied or actually observed depictions of sexual intercourse.

Comments made about one's own or other's interest was the most dominate form of sexual talk, making up 68 percent of sex talk behavior, followed by sex crimes (17%) and talk of sexual intercourse that already occurred (8%). Most frequent sexual behavior was passionate kissing (46%), followed by physical flirting (24%) and sexual intercourse that was implied (17%).

As in the Sex on TV 4 study (Kunkel et al., 2005), only four percent of all scenes with sexual content used in this study included any form of sexual risk or responsibility message. In sum, regardless of degree of sexual content, viewers will

only witness sexual risk and responsibility messages once out of every 25 times sexual content issues arise. Of the three risk and responsibility themes coded (sexual patience, sexual precaution, and depiction of negative consequences) all scenes viewed in the 2001-02 sample, sexual patience did not occur once. Sexual precaution and depiction of negative sexual consequences each occurred in two percent of scenes viewed.

Finally, the researchers also observed the frequency of sexual content in the different programs sampled in the study. Of the five genres sampled, three included sexual content in more than 70 percent of the shows measured. Ninety-four percent of movies featured some form of sexual content, followed by situation comedy series (89%) and dramas (73%). Though movies were more likely to include sexual content, situation comedies had the highest number of sexual content scenes per hour (9.5) compared to dramas (6.1), news magazine shows (4.3), reality shows (3.7) and, finally, movies (3.3).

Eighty-seven percent of situation comedy series contained talk about sex and represented the highest frequency in scenes per hour (8.9). Eighty-one percent of movies contained talk about sex but had the fewest number of scenes (2.5) featuring talk. Again, the researchers found that more movies depicted sexual behavior (56%) but had fewer scenes per hour (2.2) showing the act. Situation comedies followed in their frequency of portrayal of sexual behavior (48%) but led in the number of scene depictions (3.4).

Findings from the Farrar and colleagues study (2003) are important as they shed light on the various levels of sexual content on different types of television programming. As stated previously, African American characters are more likely to be portrayed in situation comedies (Hunt, 2003), and African American youth are more likely to watch programs with characters that look like them (Tikrodkar & Jain, 2003). According to the Farrar et al. (2003) findings, programs that African American youth are more likely to watch have higher concentrations of sexual content per scene than the programs viewed most often by other racial or ethnic groups.

Some strengths of the study include its longitudinal design, which allowed for comparisons to be drawn from previous years and findings to be more generalizable to overall prime time viewing. Additionally, high inter-coder reliability indicates strong agreement on measures and a reduced risk of measurement error.

Limitations of the study include its inability to be generalized to overall television programming. Soap operas, for example, were not included in this study and those programs often have higher incidences of sexual talk and behavior and fewer incidences of sexual risk or responsibility messages (Gunter, 2002). Additionally, after school programming (airing between 3pm to 6pm) was not included in this study. These shows may also contain sexual content that would influence a youth's sexual activity.

Comparison Study

Kunkel, Cope and Biely (1999) conducted a comparison of three studies that observed the sexual content on television. The three studies include the Family Hour Study (Kunkel, Cope, & Colvin, 1996); the Teen Study (Cope, 1998); and the V-Chip Study (Kunkel et al., 1998). The Family Hour Study is most limited as it assessed only television programs on broadcast networks that air the first hour of prime time. The Teen Study assessed the 15 most watched television shows among youth 12-17 years of age. Three episodes each of the 15 shows were assessed. Finally, the “V-Chip Study compared the V-chip rating for programs to their actual depictions of sex, violence and adult language.” Because the later study encompasses more programs than the previous two, Kunkel and colleagues (1999) divided the data into two sets: V-Chip Prime Time (which encompasses prime time programming between 8pm-11pm on commercial broadcasts networks) and V-Chip Composite Week (which encompasses all other programming between 7am-11pm on network and independent networks and basic and premium cable stations).

The authors found that all three studies defined sexual content similarly as “any depiction of talk or behavior that involves sexuality, sexual suggestiveness, or sexual activities or relationships.” As in the Sex on TV 4 study, sexual behavior was any action that conveyed the potential or likelihood of sexual intimacy with the lowest threshold measure being physical flirting in all three studies. Sexual dialogue included primary discussion of sexual interest and topics as well as secondary

exchanges. Talk of reproductive issues and sexually transmitted diseases were also included when measuring sexual dialogue. Additional contextual features measured in the Family Hour and Teen Studies included sexual risk and responsibility themes and relationship characteristics of those involved in sexual behaviors.

Reliability of the coder scores in all three studies was evaluated at two levels: agreement on identifying sexual content within scenes and agreement on contextual measures observed. Agreement on sexual talk and sexual behavior ranged from 83 to 100 percent; agreement on other scene-level indicators ranged from 90 to 100 percent and program level indicator agreement occurred 76 to 100 percent of the time.

Findings across the three studies show that sexual content is present in the majority of television programming. The V-Chip Composite Week data show that sexual talk is present in 57 percent of programming, averaging 2.3 scenes per hour. The V-Chip Prime Time data show that prime time programming is more likely to include sex talk, as seen in 67 percent of programming. In the 15 most watched teen programs, sex talk was present 67 percent of the time, while 59 percent of programs shown during family hour included sex talk.

Talk about one's interest in sex are present in 72-74 percent of shows sampled in the V-Chip data, in 62 percent of shows most popular with teens, and in 59 percent of programs shown during family hour. Expert advice or visual depiction (visit to a doctor's office or viewing a condom box on a desk) is present in five to six

percent of shows sampled in the Family Hour and Teen Studies. V-Chip samples showed even fewer scenes.

Sexual behavior assessed in the three studies differed slightly. In both the Family Hour and Teen Studies, coders reported all sexual behavior observed in every episode (i.e. physical flirting, passionate kissing, intimate touching, sexual intercourse implied and depicted). In the V-Chip study, sexual behaviors were only judged when they were the primary emphasis of the scene in which they were present. This stricter definition of sexual behavior was necessary as program ratings and raters may not have included minor types of sexual behavior in their rating of the overall program.

This comparison found that 61 percent of programs during family hour and 62 percent of programs most popular among teenagers displayed any type of sexual behavior. The V-Chip study found that only 28 percent of all programs contained scenes with a primary emphasis on sexual behavior. The majority of sexual behavior portrayed in all three studies were precursory actions (flirting, passionate kissing, etc.), which accounted for 86-97 percent of all sexual behaviors.

Sexual risk and responsibility messages were only judged in the Family Hour and Teen Studies samples. Findings indicated that eight percent of shows in the Family Hour Study and three percent of shows in the Teen Study that depicted sexual content also included any reference to sexual risk or responsibility (that is, fewer than one in ten shows with sexual content in these studies also included a risk and responsibility message). Risk talk was more common in scenes that had sex talk.

Ten percent of programs sampled in the Family Hour Study and 14 percent of programs in the Teen Study provided any emphasis on a risk message. Only six percent of Family Hour programs and nine percent of Teen programs placed primary emphasis on risk or responsibility when sexual content was present in that episode. The most striking fact, however, is that no program sampled in either study mentioned risk or responsibility concerns when sexual intercourse was either strongly implied or depicted.

African American Geared Programming Study

Each of the studies described previously provide great insight on the sexual content of television programming. They all observed a variety of programs on a variety of stations, whether publicly broadcasted or privately broadcasted. Each also provided evidence that sex on television is evident in over 50 percent of shows while risk and responsibility messages are present less than 25 percent of the time. However, each study has one limitation: the lack of attention paid to programs geared toward a specific racial or ethnic group. For example, none of the studies conducted before September 2006 observed any program that aired on UPN, where the majority of African American characters and television programs were aired (Hunt, 2003). Of the programs listed on the composite and prime time schedules in the Sex on TV 4 study (2005), only one (*Bernie Mac Show*) ranked in the 20 most watched shows by African Americans. In that same study, of the 20 television

programs most viewed by teens that were sampled, only one (*America's Next Top Model*) appears on the top 10 shows watched by African American teens that same year. Although the scope of Sex on TV 4 was to gain insight on sexual content on television that can be generalizable to the overall population, differences in television programming marketed toward certain racial and ethnic groups may yield different results. The following study is the only published study identified that examined sexual content on African American geared television programming.

Gurman and Orkis (2006) conducted the only study found that specifically observes sexual content in television programming geared toward African Americans. The researchers assessed 68 episodes of prime-time situation comedies that aired on UPN between September 2004 and January 2005. All episodes ran 30 minutes. Commercials were not coded. To increase face validity of assessing sexual content, the authors used methods previously established and utilized by Kunkel and colleagues (1999, 2003, 2005) in the Sex on TV reports. As with the studies described previously, sexual content was broken into two categories: sexual behavior and sex talk. In scenes where multiple behaviors were portrayed, only the highest scoring behavior was recorded (for example, if flirtatious behavior and intimate touching were both present in a scene, only intimate touching would be scored to prevent confounding). Verbal and visual depictions of risk and responsibility were also measured.

Of the 68 episodes observed in the study, 100 percent contained sexual content. All episodes were found to contain sexual talk while 75 percent contained sexual behavior. A total of 356 scenes in these episodes contained sexual content with 86 percent (n=306) containing sexual talk, 33.1 percent (n=118) containing sexual behavior and 19.1 percent containing both. In all, an individual watching this programming could expect to see an average of 10.5 scenes per hour that depict any type of sexual content, with 9.0 scenes per hour depicting sexual talk and 3.5 scenes per hour depicting sexual behavior.

Talk of risk and responsibility was addressed in only 9.8 percent (n=35) of the episodes that contained sex talk. The majority of the risk and responsibility talk revolved around pregnancy (45.7%) and sexual patience (37%) while STI and condom concerns made up 20 percent of responsibility talk. Only eight of these scenes focused primarily on risk and responsibly. No scenes that included sex talk included expert information. Of the 118 scenes that included sexual behavior, sexual risk and responsibility was mentioned once (0.85%).

Three other important findings in this study relate to the type of scenes that involved adolescents and differential sexual content in terms of gender. The authors found that there was no statistically significant difference in scenes that depicted intimate behaviors based on age (i.e., adolescents aged 13-17 are just as likely to be in scenes with intimate behaviors as adults 18 and over), but that there was a statistically significant difference in scenes where intimate sexual discussion occurred (i.e.,

adolescents age 13-17 were less likely to be in scenes where intimate discussions were had). With regards to gender, scenes with sexual content were more likely to focus on one female who was stripping for an audience or dancing suggestively for a male who was off camera. The latter of the findings is especially important as one study found that adolescent females who view and internalize the heterosexual script (for example, seeing more images of women scantily clad, being objectified, characterized solely as a sex object, etc.) were less likely to believe they had control in personal sexual situations (Tolman, Kim, Schooler & Sorsoli, 2006).

One of the main strengths of this study is that it is the first (and only) to assess sexual content on programs geared toward African American viewers. Gurman and Orkis (2006) admittedly assumed that prime-time programs on UPN were popular among teens. Ethnic TV ratings for African Americans showed that six of the top 10 most viewed programs by African Americans in February of 2004 aired on this station (Ethnic TV, 2004). This study adds tremendously to the limited research on sexual content on African American television media.

Limitations of this study include the low coder agreement when identifying scenes with sexual content. Though only one variable had a reliability score that fell below 50 percent, overall percent of agreement was 62 percent. Another limitation, as mentioned by the researchers, is that researcher's coding of sexual content and messages may differ from the way in which African American youth interpret these messages.

Overall, the studies summarized here indicate that sexual content on television is rampant, while depictions of risk and responsibility are limited. An adolescent 12-17 years of age will view sexual intercourse on one in nine shows that they watch, while only seeing or hearing mention of sexual risk or responsibility in one or two scenes. Among television shows geared toward African American youth, the likelihood of viewing sexual content increases substantially. Understanding how youth internalize and interpret these images is important.

Cultivation and Social Learning

As evidenced by Kunkel et al. (2005), Farrar et al. (2003) Kunkel, Cope and Biely (1999) comparison study, and Gurman and Orkis (2006), television is saturated with sexual content. When one considers that television provides a primary location for African American representation (Railton & Watson, 2005), that African American adolescents are more likely to identify with individuals that look like them on television and in movies (Makkar & Strube, 1995), and that African American adolescents watch more television than other youth groups (Tikrodkar & Jain, 2003), it becomes crucial to determine how these images affect youth. This section will focus on how theory is used to inform and direct our understandings of how television influences the sexual behavior of African American female youth.

Television as a “Super Peer”¹⁰

Television provides a powerful form of influence in our society that disseminates ideas and “truths” regarding such things as culture (Cosby, 1994), violence (Gray, 1995; Parenting School Years, 2009), health (Tirodkar, & Jain, 2003) and beauty (Brooks, 2007; Collins et al., 2004; Collins, 2008; Gray, 1995; Linder & Gentile, 2008; hooks, 1981; Perraccini & Alligood, 2005; Potera, 2009; Smith-Shomade, 2002; Stephens & Phillips, 2005; Strausburger, 2009). In addition, many scholars have stated that television acts as a type of “super peer” with regards to educating youth about sexual behaviors, influencing their attitudes regarding sex and sexuality and informing them about sexual decision-making (Brown, 1993; Brown, Halpern & L’Engel, 2005; Farrar, 2006; Farrar et al., 2003; Gruber & Thau, 2003; McGruber, 2008; Teitelman, Bohinski, & Boente, 2009).

For example, a 2001 report found that teenaged youth ranked media second as a leading source of sex education, only after school sex education programs (Committee on Public Education, 2001). Another report found that media outranked school sexual education programs and parents as the prime source of information about birth control (Strasburger, 2005). In addition, the Teen Health and the Media (THM) study conducted by the Kaiser Family Foundation found that nearly 80 percent of teenagers said the reason they believe teenagers have intercourse is

¹⁰ A persuasive source of information for adolescents who may feel embarrassed about asking their peers certain questions about sex and sexuality. This media may exceed the influence traditional peer groups have on an adolescent as information presented provides the youth with “nonbiased” information in a nonjudgmental manner.

because television programs and movies make it seem like a normal activity for teens (“Teen Health and the Media,” 2009).

To gain a better understanding of how television serves as a “super peer,” Ward and Rivadeneyra (1999) conducted a study examining the ways in which television viewing affected undergraduate students’ sexual attitudes and expectations. Their findings suggest that female participants who watched more hours of prime-time television had stronger endorsements of recreational attitudes about sex (i.e., having sex for fun in a non-serious, non-monogamous relationship), regardless of their demographic background. Female participants who watched more hours of comedies and dramas exhibited attitudes and experiences that more closely resembled the images of sexuality depicted most frequently in that genre, regardless of demographic background. Those who more closely identified with program characters and experienced greater connections to sexual situations portrayed were more likely to hold recreational attitudes about sex, have higher expectations of sexual experience of peers, and have more experience with sexual relationships. Finally, female participants who viewed television as a source of education were more likely to have higher recreational attitudes about sex, regardless of demographic background. These findings may again point to African American female youth as more susceptible to television’s sexual content as these youth not only perceive television characters to be more realistic than youth of other racial and ethnic backgrounds (Greenberg, 1993) but also have a greater sensitivity to recall and

process of media depictions of same-race characters than characters of other races (Bell & Clark, 1998).

The above research suggests that youth may look to television not only as a source of education, but a transmitter of social reality regarding sexual activity among their peers. A number of theories have been used to explain how television affects the learning process of youth. This research will utilize the Cultivation and Social Learning Theories to understand how television affects teen's understandings of the social reality of teen sexual health.

Cultivation Theory

Cultivation Theory (Gerbner & Gross, 1976, Gerbner, Gross, Morgan, & Signorielli, 1986) is one of the most commonly cited media effects theories in communication research to date (Gentles & Harrison, 2006). It developed out of George Gerbner and colleagues' (1967) Cultural Indicators research reports, a group of reports which assess how television programming affects the attitudes and behaviors of individuals living in the United States and their perceptions of social reality (Miller, 2005). These research projects followed three research strategies: institutional process analysis, message system analysis, and cultivation analysis (Morgan, n.d.). Institutional analysis involves investigating the methods by which media messages are selected, created, and distributed, whereas the message system analysis tracks and quantifies the most common images in television content. Finally,

cultivation analysis examines if and how television contributes to viewers perceptions of social reality (Signorielli & Morgan, 1990).

Cultivation theory posits that television's consistent images about and portrayals of an event construct a portrait of reality that gradually cultivates attitudes and expectations about the world. Television is believed to act as the world's "storyteller," portraying most of the world's stories to most of the world's audience. These stories represent widespread assumptions about the facts of life informing its viewers of how others live, think and behave. As a result, two of the fundamental assumptions underlying this theory are that television is the most important distributor of social reality information and that those who view higher amounts of television will hold beliefs and opinions more similar to those presented via television (Gerbner & Gross, 1976, Gerbner et al., 1986).

Initial studies using this theory used message system and cultivation analysis to examine the effects violence on television had on perceptions of violence in reality. Gerbner and colleagues (1980) found that violence occurred five times an hour on television and that citizens outnumbered law enforcement personnel in that media. To conduct their cultivation analysis, Gerbner and colleagues (1980) designed an experiment where participants were asked a number of questions pertaining to violence. Findings indicated that people who watched the highest amount of television perceived higher rates of violence, believed they were more likely to be a victim of a violent act and that the world, in general, was a more violent place than

those who watched fewer hours of television. Since its development, Cultivation Theory has also been used to study consumption of media and perceptions related to violence (Hetsroni, & Tukachinsky, 2006), rape myth acceptance (Kahlor & Morrison, 2007), gender roles (Signorielli, 1989), doctors and patient satisfaction (Quick, 2009), natural environment (Good, 2007), body size (Gentles & Harrison, 2006), body dissatisfaction (Nabi, 2009) and racial and ethnic stereotyping (Armstrong, Neuendorf, & Brentar, 1992; Lee, Bichard, Irely, Walt, & Carlson, 2009).

Distribution of reality messages occurs by two primary methods: “mainstreaming” and “resonance” (Gerbner, Gross, Morgan, & Signorielli, 1980). “Mainstreaming” occurs when television consumers of heterogeneous populations who view more hours of television grow to share common outlooks of events cultivated by television that are not shared by viewers who watch fewer hours of television. Ashby, Arcari and Edmonson (2006), for example, conducted a study of television viewing and risk of sexual initiation and found that youth who viewed television two or more hours per day were more likely to initiate sexual intercourse within one year compared to participants who viewed fewer than two hours of television per day, regardless race, age or parent’s income. African American youth, however, were more likely to initiate sexual intercourse since the start of the study compared to white youth.

“Resonance” occurs when what is seen on television creates a “double dose” of one’s life experience. In other words, what is seen on television resembles one’s real life experience which enhances cultivation (Gerbner et al., 1980). One example may be if an African American female youth had unprotected intercourse and urinated afterward so she would not get pregnant. Then, within the next week, that youth watched a television show where a woman said she did not get pregnant after unprotected sexual intercourse because she urinated immediately afterwards. This African American youth would then have received a “double dose” of the message that urinating after unprotected intercourse protects from pregnancy, which would increase cultivation of this belief in reality.

Cultivation theorists often distinguish between “first order” and “second order” effects of television viewing on the viewer (Miller, 2005). First order effects refer to the statistical descriptions on television about the world. Second order effects, on the other hand, refer to an individual’s or group’s “belief about the general nature of the world” (Miller, 2005, p. 287). For example, first order effects would suggest to a female teenager who views high levels of television that she would be less likely to become pregnant or contract a sexually transmitted infection after having unprotected sexual intercourse. In contrast, second order effects would lead a female teenager to believe that the world is a more sexual place and her peers are more sexual. These effects are stressed by Strausburger (2005) in his discussion of findings that teenagers believe the media pressures and encourages them to have

sex and by the THM study which indicated that youth feel television programs and movies make sexual intercourse seem like a normal activity for teens (Anon., 2009).

Social Learning Theory

Whereas Cultivation Theory examines the effect television has on attitudes and beliefs about social reality, Social Learning Theory (Bandura & Walters, 1963; Bandura, 1977; Bandura, 1986) examines the effects observations have on an individual's behaviors. For this reason, Social Learning Theory (SLT) will also be used to examine how observing sexual health messages on television programming can affect the actions and behaviors of youth who view them.

The development of the Social Learning Theory, a precursor to the Social Cognitive Theory, was an attempt to bridge the gap between behavioral and psychological perspectives to understanding human development (Sanklin, 2004). One of the first contributors to SLT was Robert Sears (Grusec, 1992; Sanklin, 2004). He purported that social influences are the most important intervening variables in the stimulus-response dichotomy. He also believed that social interactions between members of a two-person relationship impact each other. Basic assumptions to this theory include:

1. every behavior begins as an effort to reduce tension that is associated with a biological need;
2. behavior is a function of interactions between people;

3. behavior is both the cause and the effect of later behavior;
 4. the quality of behavior is determined by experience and learning
- (Sanklin, 2004)

Although Sears' contribution to social learning behavior has been significant, many theorists were reluctant to accept a theory that combined psychoanalytic and behavioral approaches to development (Sanklin, 2004). Additionally, many believe his approach was more psychological than behavioral. Finally, the Sears' approach failed to identify how compound behaviors develop over short periods of time without some personal rehearsal (Sanklin, 2004). Although his approach was not widely accepted, it did lay the framework for other social learning theorists such as Albert Bandura (1971, 1977, 1986) who emphasized the importance of attitudes, emotions of others and how those elements affect behavior.

Bandura (1977, 1986; Bandura & Walters, 1963) contends that there is a reciprocal determinism to individual behavior influenced by the interaction between that individual and the environment (i.e., television) where they exist (Bandura, 1977; Sanklin, 2004). This reciprocal determinism is achieved through trial-and-error learning in which the individual learns what behaviors and actions will present the most beneficial outcomes and which provide high levels of positive reinforcement. Bandura (1977, 1986) does not present a model that implies behavior is achieved simply through internalization of observed behaviors; instead, he presents a complex

model that explains behavior through the internalization of behavioral, cognitive and environmental stimuli.

Central to mass media effects, SLT theorists argue that individuals learn and internalize behaviors by watching television characters model them (Bandura, 2002). The internalization of behaviors begins with observational learning where the individual imitates the behaviors of television characters. Four processes comprise this process: attention, retention, motor reproduction, and motivation (Salkind, 2004). The individual must first be able to witness the important features of the behavior to be modeled. In order to continue the behavior, the individual must retain the learned information so it can be used in the future. Once the behavior is learned through the first two processes, the person must be able to physically reproduce the behavior (motor reproduction). Finally, a reward is given that prompts the individual to continue and possibly increase this behavior (Salkind, 2004). These four processes play a pivotal role in behavior learning and reproduction.

One of the most important assumptions in Bandura's SLT posits that individuals do not need to be rewarded for performing certain behaviors, but can have behaviors reinforced by watching others receive rewards for their behaviors, a process called vicarious reinforcement (Bandura, 1971). Vicarious reinforcement is seen when youth who view sexual messages on television imitate or model certain behaviors (using or not using condoms, discussing STI prevention with sexual partners prior to sexual intercourse, etc.) based on the television character's

performance of them. For example, according to SLT, if no use of a birth control method is seen or spoken of during a sexual scene on one or more television programs a youth watches, that youth is less likely to use any form of birth control when they engage in sexual activity. Not only are the characters modeling a certain behavior (no birth control use), they are also receiving rewards for this behavior (sexual gratification, no contraction of an STI, no pregnancy outcome, etc.). The youth retains this information, reproduces it and is motivated to continue it, given their real life reward(s) (sexual gratification, no contraction of an STI, no pregnancy outcome, etc.) are consistent. If the character has a negative experience or negative outcome(s), the youth may either retain their previous attitude or change it to reflect this new knowledge. However, these negative experiences and outcomes occur in just 14 percent of overall television programming and 17 percent of shows most popular among teens (Kunkel et al., 2005) so it more likely that a youth will internalize the negative behavior because it is more reinforced and modeled.

These two theories prove essential in understanding how sexual health messages on television affect the sexual behavior of the youth who watch them. While Cultivation Theory explains how youth develop ideas and attitudes about sex from watching programs with sexual content, Social Learning Theory explains how those images affect and provide youth with modeling behaviors. Together, these theories demonstrate the negative effects television can have on adolescent sexual behavior and health. The following sections of this chapter will use these two

theories to understand how television informs youth of sexual behaviors (Brown, Halpern, & L'Engle, 2005) as well as the effects of television on pregnancy (Chandra et al., 2008), early initiation of sexual intercourse (Ashby, Arcari & Edmonson, 2006; Brown & Newcomer, 1991; Collins, Elliot, Berry, Kanouse, & Hunter, 2003; Somers & Tynan, 2006) and overall sexual health (Peterson, Wingood, DiClemente, Harrington & Davies, 2007; Wingood, DiClemente, Harrington & Davies, 2002; Wingood et al., 2003).

Television, Puberty and Social Learning

Brown, Halpern, and L'Engle (2005) conducted a survey using African American and white female adolescents from 16 public middle schools in North Carolina and found that these young adults reported watching television to gain some insight on sexual behaviors and sexual scripts. In addition, they found that 12-year old girls were less interested in sexual media content than older girls in the study. Older youth in the study reported having more exposure to birth control and sexually transmitted disease (STD) information from television. African American female adolescents of any age, however, were more likely to report exposure to STI content in the media than white female adolescents.

Brown and colleagues' (2005) findings also indicate that earlier pubertal timing (i.e., the earlier age at menarche, development of hips and breasts, etc.) was more positively associated with high exposure to information regarding dating, birth

control and STIs on television among their participant population than later pubertal timing. Moreover findings indicated that increased media exposure was highest for younger, earlier maturing girls. In addition, the adolescents' exposed to higher instances of safer sexual health information from this media also perceive that the media is giving them sexual permission. However, the authors' findings indicate that a 3-year post-menarcheal 12-year-old girl is more likely to perceive sexual permission from the media than a pre-menarcheal girl of the same age. They suggest that earlier maturing girls look to media, more often television, for not only information about, but norms regarding sexuality and sex as their peers may not be interested in these issues. Mainstreaming and vicarious reinforcement occur as these youth internalize behaviors they see on television and perform them in real world situations.

Using this information, a reasonable assumption would be that adolescent females who begin puberty at earlier ages look to television more to gain information on and cultivate their understanding of sex and sexuality. Early maturing female youth look to television to inform them of how (physically) "mature" girls act as their friends may not be experiencing the same physical changes and parental figures may not have informed them about such changes. These female youth may watch more hours of television because it provides "super peer" education and information they may not be receiving from their real world peer or family groups. Viewing specific images on television may serve to cultivate and influence their understanding of the change.

African American adolescent females, then, are at a higher risk because this population begins puberty and menarche at an earlier age than their white, Latina and Asian American counterparts (Herman-Giddens et al., 1997). For example, a study conducted by Herman-Giddens and colleagues (1997) found that of the 17,000 girls seen in a variety of pediatric practices, African American girls began puberty 1 to 1.5 years earlier than their white counterparts and began menarche nearly eight months earlier. Where, by age 8, nearly half of all African American girls began puberty, only 15 percent of white adolescents the same age had entered puberty (Herman-Giddens et al., 1997). Additionally, though the average age of menarche for all women is approximately 11 years of age, Doswell (2000) found that African American female youth begin menarche 1.5 years earlier (9.5 years of age) than do white female youth.

As described in Gruber and Thau (2003), some studies have indicated that pubertal development is a more accurate and reliable predictor of sexual involvement than age. Though Gruber and Thau (2003) surveyed white adolescents, it may shed some insight on African American populations as well. For example, according to data from the 1995 National Survey of Family Growth (NSFG) report, African American females (aged 15 to 17) were more likely than their white peers to have had sexual intercourse since menarche (48% versus 34%, respectively; Singh & Darroch, 1999). Additionally, according to the 2002 NSFG, 53.4 percent of African American adolescents had had sexual intercourse before the age of 17 but after menarche

compared to 36.8 percent of Latinas and 40.2 percent of white adolescent females (Chandra, Martinez, Mosher, Abma, & Jones, 2005). By 14-years of age, 9.5 percent of African American female adolescents had had intercourse while 4.9 percent and 4.5 percent of Latina and white adolescent females, respectively, had experienced the same event after menarche (Chandra, Martinez, Mosher, Abma, & Jones, 2005).

This earlier development may contribute to the accelerated sexual behavior among African American adolescent females because the beginning of menstruation and the development of breasts and hips indicates entrance into womanhood. As such, African American female youth may feel as though having sexual intercourse is simply a rite of passage that many women their age participate in. Viewing television images of physically mature female youth or women acting in certain ways may cultivate their attitudes toward and about their sexuality while also providing them with the resonance, vicarious reinforcement and modeling behavior that they need.

Television and Sexual Behavior

The following sections present studies examining the relationships between overall television viewing and a number of sexual health behaviors and outcomes (e.g., initiation of sexual intercourse, pregnancy, STI rates). Additionally, the relationship between viewing of a specific component of television (i.e., music videos) and its effects on sexual health and self-efficacy will be discussed. Findings will support the cultivation and behavioral modeling ideas presented previously.

Youth may be less comfortable asking their parents, peers or other figures about sexual issues but may not hesitate to watch television to gain this education.

Watching more hours of television with programs high in sexual content may provide the education the youth is seeking, which may contribute to the associations described below.

Early Initiation of Sexual Intercourse

Brown and Newcomer (1991) conducted one of the first studies that assessed television viewing habits and sexual behavior (i.e., initiation of sexual intercourse) among adolescents. Questionnaires were distributed to 504 high school students (aged 13-18) in an urban area of North Carolina at baseline (fall 1978) and at two follow-up periods (fall 1979 and spring 1981). An additional questionnaire with information regarding media use was distributed and completed by the 391 students that remained in the area in 1981. Pre-sexual initiation variables included demographic variables, perceptions of peer and media encouragement for sexual activity, television viewing, and stage of pubertal development. Perceived encouragement was measured by asking respondents to look at a series of statements and decide if “*TV and Movies, Your best male friend, Your best female friend*” participated in the sexual activities described with either a “yes” or “no” response. Television viewing was measured using three variables: total television viewing, sexy television viewing and proportion of sexy television viewing. The outcome variable observed

was sexual behavior measured using a scale indicating degree of intimate experiences and a dichotomous variable indicating whether or not the respondent had ever had intercourse.

Study findings show that African American participants viewed more hours of television than did their white counterparts. African American female participants viewed the most hours (4.9 hours/day) compared with African American males (3.8 hours/day) and viewed nearly twice as many hours as white males and females in the study (2.4 hours/day and 2.7 hours/day, respectively). Black youth in the study also averaged more frequent viewing of sexy programs than whites. By the third interview, more than 40 percent (42%) of African American females reported having sexual intercourse compared to 31 percent of white female adolescents.

The authors used a multivariate model to predict transition to intercourse based on television viewing hours controlling for such variables as race, gender, income, pubertal development, previous noncoital experience and perceptions of friends and television's sexual encouragement. This analysis found that both virgin and non-virgin African American females viewed television at higher rates and had a higher sexy program viewing consumption than other groups in the study.

Initial results found that prior noncoital experience was the only variable that predicted sexual intercourse. However, once the ratio of sexual television viewing was included in the model, subsequent data indicated that noncoital sexual experience and viewing sexy media increased participants' likelihood of initiating

sexual intercourse in the final wave (wave 3) of the study. This analysis showed that adding sexual behavior at wave 2 did not increase the variance in the model, indicating that viewing higher sexual content on television is predictive of initiation of sexual intercourse within the study's two year period not the reverse.

Collins and colleagues (2004) conducted a national longitudinal survey of 1,792 young adults aged 12-17 in which baseline and 1-year follow-up interviews were conducted to assess the respondents' sexual behaviors and television viewing behaviors. Three measures were used to reflect the exposure of sexual content on television: exposure to sexual content, exposure to depictions of sexual risk or the need for safety, and exposure to sexual behavior versus sexual talk. Twenty-three television programs (animated and live comedies, reality shows, dramas and sitcoms) airing between October 2, 2000 and February 18, 2001 were selected from broadcast networks and basic and premium cable stations. Initial analysis showed that scenes having both sex behavior and sex talk had an additive, rather than redundant effect. In other words, when sex talk was added to a program/scene with sexual behavior, initiation of sexual behavior at follow-up of the participant was more likely than just having one of the two behaviors present in a program/scene.

Other measures used to conduct the analysis included average hours of television viewing and sexual behavior with the opposite sex. The researchers found that participants viewing higher levels of sexual content on television were more likely to initiate sexual intercourse and have higher levels of noncoital activity in the

following year than participants who viewed fewer levels of sexual content. For youth in the high sexual content viewing category, initiation of sexual intercourse and genital touching was almost double at follow up across all age groups, with the initiation of breast touching increasing by 50 percent. Findings also indicate that a 12-year old who viewed highest sexual content on television appeared more like youth two to three years older who viewed the lowest sexual content, even after controlling for differences between high and low sexual content viewers. Additionally, participants' exposure to programming that included only sex talk had the same effect as programming that included sexual behavior.

Another important finding indicates that exposure to higher levels of sexual risk and safety portrayals reduced African American participants' likelihood of initiating sexual intercourse and noncoitus activity but was not related to the same outcomes of youth in any other racial or ethnic category. As with the studies described previously, sexual risk and responsibility references were limited; as such, concluding that viewing these images had no effect on other racial and ethnic group members could be unwise. This finding indicates, in fact, that though more African American participants had sex at baseline and 1-year follow-up, these youth were more strongly influenced by risk and responsibly portrayals. It also indicates that African American youth may interpret television programming differently than youth of other racial and ethnic groups.

This study is relevant as it provides evidence to support a number of outcomes associated with television watching. First, it shows that younger youth who view more sexual content hold beliefs similar to older youth who are exposed to less sexual content. Here, heterogeneous populations grow to share common world outlooks based on the amount of television they view. Second, it provides evidence that the more sexual content a youth is exposed to is associated with the increased likelihood of initiation of sexual intercourse. As sexual images on television have increased, as has the amount of time youth spend watching television, youth are more likely to cultivate and internalize these images as truth (mainstream). African American youth, then, may be more likely to ascribe to these ideas and behaviors as this group watches television more and as television programming African Americans are more likely to watch has more sexual content than other programming.

Ashby, Arcari and Edmonson (2006) conducted a secondary analysis of data collected from the first and second waves of the National Longitudinal Study of Adolescent Health (Add Health). A systematic, random sample of 80 high schools in the United States was conducted and a total of 20,745 seventh through twelve graders were randomly selected to partake in in-home interviews conducted in 1995. A portion of these (n=16,706) were selected for a follow-up interview 1-year later with an 81 percent (n=13,568) response rate. The final sample included participants who were younger than 16 years of age at baseline, completed the follow-up

interview and reported never having sexual intercourse at baseline (N= 4,808). The primary variable of interest was hours of television exposure per day. Secondary variable of interest was parental monitoring gathered through self-report. Covariates included such variables as sociodemographic variables, educational aspirations, and self-esteem. The outcome variable was initiation of sexual intercourse.

Findings indicate that, overall, participants who viewed television two or more hours per day were more likely to initiate sexual intercourse within one year. Those youth had an initiation rate of 15.8 percent compared to 9.8 percent sexual initiation rate for participants who viewed fewer than two hours of television per day. Compared to participants in the first and second quartiles (those who viewed less than 0.9 hours/day and those who viewed between 0.9-1.9 hours/day, respectively), participants in the third quartile (2.0-2.9 viewing hours/day) and 75th to 90th percentile (3.0-4.9 viewing hours/day) were significantly more likely to initiate sexual intercourse within the next year.

The strength of this study includes its use of data from a national, longitudinal data set. This allowed for a nationally representative sample of adolescents and its longitudinal design reduced possibility of reverse causality.

One of the limitations of this study is that the dataset used to conduct this analysis was 10-years old at the time of publication. Since the 1995 Add Health survey was conducted, hours of television watched has increased; therefore, findings of sexual initiation based on television viewing may have yielded results that are not

generalizable to today's youth. Results, however, are important as they still show a relationship between television viewing and sexual behavior of youth.

Despite the 10-year old dataset used in this study, it remains relevant as it shows that the more hours of television watched by youth increases the likelihood of sexual initiation within the next year. Since, as stated previously, African American youth view more hours of television than youth of other racial and ethnic group, this finding leads one to believe African Americans will be more at risk of negative sexual behavior and health outcomes.

Finally, Somers and Tynan (2006) conducted a study to assess the effects of overall consumption of sexual dialogue and content on television on adolescents using a multiethnic population. Over four hundred ($N=473$) adolescents from two United States high schools were randomly selected and asked to complete questionnaires which measured sexual attitudes, sexual behaviors and media viewing. To assess media viewing, respondents were asked to list all television shows they watch each day. Explicitness and sexually suggestive dialogue of the 140 shows listed was then rated by 144 coders (Cronbach's alpha ranged from 0.68 to 0.97).

Although no relationship between viewing of sexual content and sexual behavior of African American participants was found, regression results did indicate that African American participants were more reliable in their contraceptive use. Because risk and responsibility messages are so limited, this finding is interesting as it goes against the Cultivation Theory assumption that heavier viewers of television will

hold beliefs and opinions more similar to those presented on television. However, it may confirm the findings that not only does viewing sexual content on television affect youth of different racial groups differently (Brown & Schulze, 1990), it also supports the finding that African American youth may be more influenced by risk and responsibility messages (Collins, Elliot, Berry, Kanouse & Hunter, 2003) .

Television and Pregnancy

Chandra and colleagues (2008) conducted a study linking exposure to sexual content on television to teenage pregnancy outcomes. The authors used a national longitudinal survey of youth 12-17 years of age to assess whether their exposure to sexual content on television predicted pregnancy for female youth or responsibility of pregnancy for male youth. Baseline as well as 1- and 3-year follow up telephone interviews were conducted in spring 2000, 2001 and 2004, respectively. Seventy-three percent (n=1461) of those who completed baseline assessments also completed assessments at the 3-year follow up.

Pre-pregnancy variables included demographic variables, participant's intentions to have children prior to 22-years of age, deviant behavior, total hours of television viewing and exposure to sexual content on 23 television programs assessed using the method Kunkel and colleagues (2001) used in their biennial report on sex on television. The outcome variable studied was pregnancy or responsibility of pregnancy since baseline.

Findings indicate that the simple association between viewing sexual content on television and pregnancy were positive but not statistically significant. However, a suppression effect may have been present as the researchers first found that total television had a negative, but not statistically significant, association with pregnancy. Once the researchers controlled for total viewing, the connection between sexual content and pregnancy was positive and statistically significant. Additionally, this association became even stronger once all covariates were included in the regression model.

To determine the magnitude of effect of television watching on pregnancy outcome, predicated probabilities of pregnancy or responsibility of pregnancy of youth in the low (10th percentile), middle (50th percentile), and high (90th percentile) sexual content viewing categories were calculated. Results indicated that youth watching high levels of sexual content on television had two to three times the risk of becoming pregnant or being responsible for a pregnancy than youth watching low levels of sexual content.

Limitations of the study include the small sample size for African American and Latino/a participants, which did not allow for comparisons within racial and ethnic groups. This is troublesome as previous research has indicated that viewing sexual content on television affects youth of different racial and ethnic groups differently (Brown & Schulze, 1990).

Despite the limitation, this study is important as it relates to the research because it was the first to show an association between a reproductive health outcome (i.e. pregnancy) and exposure to sexual content on television. Youth who view more sexual images on television with few references to risk and/or responsibility may not consider such outcome (i.e. pregnancy) possible for them. As a result, these images may continue to influence behaviors and negative sexual health outcomes of youth.

Music Videos and Sexual Health

Wingood et al. (2003) conducted a prospective study of exposure to rap music videos and health of African American female adolescents. Sexually active female teenagers between 14-18 years of age were recruited from school health classes and county health department clinics in a nonurban, low income neighborhood. These youth were eligible to participate in the study if they were sexually active within the previous six months. Baseline, 6-month and 1-year follow up data were conducted to determine such outcomes as occurrence of sexually transmitted disease (gonorrhea, Chlamydia and trichomoniasis), condom usage, having multiple sexual partners and other health risk behaviors.

Pre-outcome measures included demographic variables, rap music video exposure and video viewing characteristics. Exposure to rap music videos was assessed via self-report in which participants estimated the number of hours they

viewed music videos on a standard day. This number was multiplied by the number of days per week rap music videos were viewed. Video viewing characteristics were measured using three variables: primary type of rap video watched (i.e., hip hop, bass, or gangsta), company with whom video was watched (i.e., friends, parents, etc.), and location video was watched (i.e., home, friend's home, etc.).

Participants reported exposure to a median of 14 hours of rap music videos at baseline and 6-month follow-up and 12 hours of exposure at 12-month follow up. Findings indicate that at the 12-month follow-up period, nearly 40 percent (37.6%) of participants reported a newly acquired STD and almost 15 percent (14.8%) reported intercourse with someone other than their primary partner. The researchers also found that exposure to higher levels of rap music videos was associated with a variety of negative health outcomes, after controlling for covariates. African American female adolescents in the study who were exposed to more hours of rap music videos were twice as likely to have multiple sexual partners, and 1.5 times more likely to have acquired a new STD within the follow-up period.

This study was one of the first to link exposure to rap music videos to incidence of health risk behaviors. Laboratory tests results, as opposed to self-report, of newly acquired STDs among the participant population allowed for better assessment of sexual health at baseline and follow-up. In addition, the study boasted a high retention rate (92.2%).

Limitations of this study include its inability to assess potential mediating factors that may have played into the relationship found between rap music and health outcomes. Additionally, though the authors mentioned looking at condom usage as an outcome, no data for that measure was presented in the results or discussion section. Finally, this study used a purposive sample of African American female adolescents in an urban, lower-income area, which may make it non-generalizable to the broader African American populations of adolescents (since not all African American adolescents live in urban and/or low-income areas).

In another study using the same population and recruitment methods as mentioned above (Peterson, Wingood, DiClemente, Harrington, & Davies, 2007), the researchers examined the effects stereotypical sexual images in rap videos had on the health of adolescent African American females. In this study, participants completed an initial survey and an interview where they provided urine samples for certain health outcomes.

Predictive variables included demographic measures, perceptions of stereotypical imaging, perceived characteristics of unhealthy relationships and rap music video viewing habits. Perceptions of stereotypical imaging were assessed using a 9-item scale ($\alpha=0.72$) which asked about frequency of videos viewed that presented African American women in stereotypical manners. Characteristics of unhealthy relationships were assessed using 5-item scale ($\alpha=0.68$). Rap music video viewing habits were assessed using three measures: whether or not participant

viewed video, number of hours videos were viewed on a given day, and frequency of viewing (i.e. determined by taking the product of the first two measures).

Bivariate analysis indicated that participants who perceived more portrayals of stereotypical images in rap music video watched more hours of rap music videos (23.16 hours vs. 17.39 hours) and had more unhealthy relationship characteristics (60.4% vs. 48%) than those who perceived fewer stereotypical images. Logistic regression analysis indicates that those who perceived higher stereotypical imaging were almost two times more likely to have multiple sexual partners and 1.5 times more likely to have negative body image.

Using the same population, Wingood and colleagues (2002), found that those adolescents who were more dissatisfied with their body image were over two times more likely to

believe they had fewer sexual partner options, two times more likely to believe themselves as having limited self-efficacy with regards to their sexual relationships, 1.8 times more likely to be apprehensive about the results of condom use, 1.6 times more likely to report never using condoms during sexual intercourse within the past 30 days, and 1.6 times more likely to report having unprotected vaginal intercourse.

Strengths of the Wingood and colleagues (2007) study include combining theoretical research from Collins (2000), which states that historical sexualized

images of African American women are present in current depictions of African American women in music videos with important public health outcomes. In addition, it adds to the limited body of knowledge available dealing with (sexual) health outcomes and perceptions of African American imaging on certain programs.

Limitations of this study are similar to those listed as limitations in the Wingood and colleagues (2003) study. The purposive sample leaves little room for generalizability to a non-African American audience. Additionally, all respondents were from urban, low-income African American families which may limit generalizability to the African American community as a whole as not all African Americans are from urban, low-income areas. A longitudinal design was not used which makes it difficult to determine whether or not these outcomes would persist over a longer period of time. Finally, the authors were not able to determine which stereotypical images and sexual scripts were most prevalent or most influential to the youth in the study. This information may have allowed for more insight into ways in which African American female youth understand and interpret music videos.

The studies summarized in the previous pages provide a good deal of evidence attesting to the negative effects television viewing has on the sexual health of youth. Overall, evidence suggests that youth who view higher amounts of television and higher levels of sexual content on television have a higher likelihood of initiating sexual intercourse within the next year, becoming pregnant or getting someone pregnant, contracting an STI and have higher recreational attitudes about

sex. Studies which specifically observed African American youth, such as the Wingood and colleagues' studies (2002, 2003, and 2007), found that viewing large quantities of music videos not only has a negative association with the sexual behaviors and health of African American female adolescents but also has a negative affect on self-esteem, self-efficacy and body image of this population as well.

Somers and Tynan (2006), however, found that there was no relationship between the amount of television watching and sexual behavior of the African American population they included in their multiethnic sample. That same study found that African Americans were more consistent in the condom use while another study found that African Americans were more influenced by risk and responsibility messages presented on television (Collins et al, 2004).

Only four of the studies mentioned in this chapter focus solely on the African American viewing population or African American geared television programs and how this population is affected by those images. Although the Wingood and colleagues (2002, 2003, and 2007) studies focus specifically on African American female adolescents, their examination of how sexual content in television affect these youth is limited as they only focus on music videos. Many of the other studies focus on overall television watching, but none of those look at how sexual content affects the sexual behavior and health of African American female youth exclusively.

By focusing on African American female adolescents, this study adds to the research on how sexual content on television affects the sexual behaviors of this specific population. Many of the past studies described here have utilized African American populations as an afterthought, focusing more on the overall population. The present study, however, focuses on African American youth, specifically African American female adolescents, and compares these female youth to those of other racial groups. By doing this, this research adds to the literature detailing the effects of television viewing on the sexual health of African American female youth.

Additionally, the research analyzed data from the 2007 Youth Risk Behavioral Survey (YRBS), a dataset no other published article to date has used to address television's effects on the overall sexual behavior of youth. The 2007 YRBS provides one of the most recent and nationally representative data of African American female youth's use of television and assessment of certain sexual behaviors. Findings from these data will thus be one of the more up-to-date findings of other literature.

Statement of Hypothesis

Relatively few studies have been conducted that link viewing television laden with sexual content to adolescent sexual behavior (e.g., Ashby, Arcari & Edmonson, 2006; Brown, Halpern, & L'Engle, 2005; Brown & Newcomer, 1991; Chandra et al., 2008; Collins et al., 2003; Somers & Tynan, 2006). Even fewer studies have been conducted specifically looking at the how viewing sexual content on television affects African American youth and their sexual behavior (e.g., Peterson et al., 2007; Wingood et al., 2002; Wingood et al., 2003). Prior studies suggest that African American youth have higher likelihood of viewing sexual content (e.g., Gurman & Orkis, 2006; Roberts, Foehr, Rideout & Brodie, 1999; Tikrodkar & Jain, 2003), believing these images are more realistic (Makkar & Strube, 1995) and having more negative sexual health outcomes such higher rates of newly acquired STIs, and more sexual partners (e.g., Wingood et al., 2003) than youth of other racial and ethnic backgrounds. Although some studies indicate that African Americans are more consistent in their condom use, others indicate they are less consistent in their use of contraceptives. However, some studies found that viewing risk and responsibility messages have a greater effect on African American youth than those of other racial and ethnic backgrounds (Collins et al., 2003). One study, however, showed no relationship between viewing sexual content on television and sexual behaviors in racial and ethnic youth (Somers & Tynan, 2006).

The present study had one main objective: to better understand the influence that viewing sexual content on television has on the sexual behavior of African American female adolescents. Utilizing the Cultivation Theory and Social Learning Theory (SLT) has assisted in informing the specific hypotheses tested. In general, individuals who view higher amounts of television will be exposed to more sexual content than those who watch fewer hours of television. Cultivation Theory posits that individuals who view higher amounts of television will hold beliefs and opinions similar those presented on television thereby making them more likely to ascribe to sexual behavior practices presented in that medium. SLT posits that individuals learn and internalize behaviors by watching television characters model them. As sexual content on television has increased over the years, viewers of higher amounts of television will be exposed to more sexual content and thus believe, internalize and model the sexual behaviors portrayed on television. Youth who view high amounts of television will then be more able and more likely to model the sexual behavior on television (e.g., not using contraceptives, having multiple sexual partners, etc.). Additionally, because African American female youth watch more television than any other racial and/or gender group, and because television programming geared toward this population is more concentrated with sexual content messages and behaviors, these youth are exposed to more sexual content which may increase their cultivation of certain sexual behaviors and modeling of them.

This study increases our understanding of television's effects on the sexual behavior of African American female youth. The data used in this study are representative of adolescents living in the United States, and include appropriate measures of contraceptive use, initiation of sexual intercourse, and number of sexual partners (both over one's lifetime and in the last 3-months). Based on the research objective, the research hypotheses were:

- 1) Black/African American adolescent females who view higher amounts of television initiate sexual intercourse at an earlier age (14 years or younger) than Black/African American adolescent females who view lower amounts of television;
- 2) Black/African American adolescent females who view higher amounts of television have more sexual partners than Black/African American adolescent females who view lower amounts of television;
- 3) Black/African American adolescent females who view higher amounts of television are less likely to use contraceptives than Black/African American adolescent females who view lower amounts of television;
- 4) The associations between the amount of television viewing and early initiation of sexual intercourse, number of sexual partners and contraceptive use behavior are stronger for Black/African

American adolescent females than for adolescent females of any other racial group.

CHAPTER III: METHODS

This chapter begins with the rationale for the methods used, a description of the Youth Risk Behavior Surveillance (YRBS) survey, and a description of the sample. Subsequently, the measures and the procedures of this study are presented. Finally, analyses conducted to address the research questions are described.

Rationale

This study is a secondary analysis of data from the YRBS survey, a nationally representative sample of 9th-12th graders in the United States (CDC, 2008a). More specifically, data for this study are drawn from the 2007 YRBS survey dataset. This dataset is one of the most recent in the series and provides the some of the most up-to-date information on the number of hours adolescents watch television and adolescent sexual behaviors.

The YRBS dataset has a number of important characteristics that made it appropriate for this study. First, as noted above, the data are nationally representative of youth in grades 9 through 12. Many of the studies used to examine the relationship between television viewing and sexual behavior have been conducted using subsets of youth from schools or clinics in one particular geographic area (e.g., Brown, Halpern, & L'Engle, 2005; Brown, & Newcomer, 1991; Peterson et al., 2007; Somers, & Tynan, 2006; Wingood et al., 2003). Although these studies were well-designed, they may not be generalizable to the broader, national population. In

addition, the studies that have utilized nationally representative samples relied on data from the National Longitudinal Study of Adolescent Health (Add Health; National Institute of Health, 2007; e.g., Ashby, Arcari, & Edmonson, 2006) and one unnamed survey (e.g., Chandra et al., 2008). Although the Add Health survey data were collected over four waves from adolescents who were in grades 7-12 at baseline, their parents, their siblings, their romantic partners, etc., data were last collected in 2008 at which time the initial population ranged in age from 24-32. Although this makes the current wave of the Add Health survey generalizable to a younger adult population, it is not generalizable to an adolescent population. As with other national data sets, YRBS data were not collected solely to understand or examine the link between television viewing behavior and sexual behavior and/or outcome. However, because YRBS data are recent and from a nationally representative sample of adolescents living in the United States, findings obtained from the analysis of these data can be generalized to the population of interest for this study.

Second, the YRBS dataset includes the measures and population of interest. The survey explicitly asks participants to report the amount of television they view each day, their age at first intercourse, number of sexual partners, whether or not they used condoms at last intercourse, which pregnancy prevention method they use, and a variety of sociodemographic variables (i.e., sex, age, grade, race, and ethnicity). In contrast, one national survey, the National Survey of Family Growth (NSFG;

CDC, 2010), includes sexual behavior measures of interest (i.e., age at first sexual intercourse, number of sexual partners, contraceptive use, etc.), but does not ask about amount of television the respondent watches during a regular school day/week. Although the Add Health survey included all measures of interest, the population of interest (female adolescents of high school age) was last questioned in 1996. Since 1996, television viewing hours have increased. Additionally, there have been changes in a number of sexual health outcomes among the population of interest.

Third, data from the 2007 YRBS is some of the most recent, nationally representative data available that questions high school aged participants about the number of hours they watch television on an average school day as well as their current sexual behavior. As mentioned previously, using these data provides some of the most up-to-date results that are generalizable not only to the overall female adolescent population who attends high school, but also to the specific population (Black/African American females) who participated as well.

Finally, the YRBS 2007 survey was used in this study specifically because it coincided with the final airdate (September 2006) of the United Paramount Network, or UPN, the unofficial “Black television station.” Previous research indicated that Black/African American youth are more likely to watch shows with Black/African American characters (Tirodkar & Jain, 2003) and are more likely to identify with characters that look like them on television (Makkar & Strube, 1995). Considering

that a disproportionate number of Black/African American characters appeared on UPN and that 90 percent of Black/African American characters on Monday night primetime appeared on UPN, it was essential to include a period of television programming that Black/African American youth were more likely to watch. Because of UPN's importance in Black/African American youth viewing patterns, using the newest YRBS (2009) may not have been beneficial, though it would have provided the most recent information.

The Youth Risk Behavior Surveillance System

The Youth Risk Behavior Surveillance System (YRBS) was developed in 1990 to monitor health-risk behaviors that contribute to the leading causes of social problems, disability and death among youth and young adults (CDC, 2008a). This survey is a national school-based survey carried out by the Center for Disease Control and Prevention. In addition, it includes data collected from the 7 territorial educational agencies, 50 state educational agencies and local surveys, as well as data collected from tribal governments. YRBS surveys have been conducted biennially in odd years since 1991, often during the spring semester.

The primary sampling frame of the YRBS 2007 was all public, Catholic and other private high schools (9th through 12th grades) in the 50 states as well as the District of Columbia (CDC, 2008a). All schools with four grades were considered whole schools, whereas those with any other combination of grades were considered

fragmented schools. All United States territories and Puerto Rico were excluded from the primary sampling population. To gain a nationally representative sample of high school adolescents, a three-stage, cluster sample was used. Primary sampling units (PSUs) of 1,268 large counties and groups of smaller counties throughout the United States were broken into 16 strata. These strata were sorted by population size, and 57 were selected based on the probability proportional to their size. In the second phase of sampling, 195 schools from the PSUs were selected with probability proportional to enrollment. In the final phase, a random selection of one or two classes per grade per school from either a required subject (e.g., Math or English) or period (e.g., homeroom or fourth period) were chosen to participate. All students in that period or class subject were eligible to participate. To allow for separate analysis of African American and Latino/Hispanic students, an oversampling of schools with larger populations of students of color was conducted in which two classes per grade were selected instead of one. Overall, 157 high schools participated in the 2007 YRBS (CDC, 2008a).

Data collection procedures were designed to protect the privacy of student participants by allowing for voluntary and anonymous participation (Eaton et al., 2008). To gain paternal permission, two procedures were followed at the discretion of the school administrators: active permission (parents sent back a signed form stating they approved that their child was participating in the survey) and passive permission (parents sent back signed forms only if they did not approve of their

child participating). Self-administered questionnaires were completed by students during one class period and recorded on a computer-scannable booklet or answer sheet.

The core YRBS questionnaire consists of 87 questions. The core questionnaire contains questions that must be on all YRBS questionnaires whether distributed nationally, statewide, on Native American reservations or in United States territories. Eleven ($n=11$) questions were added to the national questionnaire, bringing the total of questions on the 2007 YRBS to 98 questions (CDC, 2008a).

Of the 16,662 surveys distributed, 14,103 of the questionnaires were completed by students in grades 9 through 12 at the 157 participating high schools. Only two of the completed questionnaires were not included in the final sample, for a final sample of 14,101. This represents an overall response rate of 68 percent. The school questionnaire was administered once with a reporting period from January to December 2007. Only students present on the day the questionnaire was administered participated in the survey. Participants ranged in age from younger than 12 to older than 18, with the vast majority of respondents (87.01%, weighted) being between 14 and 17 years of age.

Study Sample

According to initial descriptive statistics conducted by the CDC on the 2007 YRBS data (CDC, 2008a), 49.5% ($n=7,036$) of respondents were female while 50.5%

(n= 6,992) of respondents were male. Overall, 17% (n=3,132) of the respondents were Black/African American, 71% (n=6,968) of all participants were white, 26% (n=3,239) were 15 years of age, and 29% (n=3,467) were in the 9th grade. All percentages listed were weighted according to YRBS standards. For example, sample weights were calculated for adolescent females used to make nationally representative estimates. Weights were applied based on student sex, race/ethnicity and grade to adjust for nonresponse and oversampling of Black/African American and Latino/Hispanic students (CDC, 2008a).

The present study sample consists of all adolescent females with sample weights who participated in the 2007 YRBS (n=7,036). Male respondents were not included in any of the analyses for this study.

Measures

Television Viewing Behavior was assessed with the question, “On an average school day, how many hours do you watch TV?” Response categories included “I do not watch TV on an average school day,” “Less than 1 hour per day,” “1 hour per day,” “2 hours per day,” “3 hours per day,” “4 hours per day,” or “5 or more hours per day.” Although previous research indicates that watching two or more hours of television per day has the biggest effect on the sexual behavior of youth (Ashby, Arcari & Edmonson, 2006), collapsing this variable into only two categories may obscure the relationship between television hours watched and sexual behavior

assessed in this study. As a result, this variable was collapsed into 4 categories: “less than 1 hour,” “1-2 hours,” “3-4 hours,” and “5 or more hours.” Using this measure allowed for a better understanding of the effects of hours of television viewing on sexual behavior

Sexual Behavior was assessed by the following questions. First, age at first sexual intercourse was measured with the question: “How old were you when you had sexual intercourse for the first time?” Second, the number of sexual partners was measured with two questions: “During your life, with how many people have you had sexual intercourse?” and “During the past 3 months, with how many people did you have sexual intercourse with?” Third, condom use was measured with the question: “The last time you had sexual intercourse, did you or your partner use a condom?” Finally, contraceptive use to prevent pregnancy was measured with the question: “The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?” Responses for the later question included: “I have never had sexual intercourse,” “No method was used to prevent pregnancy,” “birth control pills,” “condoms,” “Depo-Provera,” “withdrawal,” “Some other method,” or “Not sure,” of which, only one response could be marked. A variable was created to assess the second of these questions where 0= “no method used/not sure” and 1= “some method used”.

Covariates

Eight covariates were included in the analyses to gain a better understanding of how television influences sexual behavior. By taking these variables into account, we controlled for the effects these covariates may have on the outcome variable(s). All covariates were measured in the 2007 YRBS survey and include *sociodemographic variables, forced sex, alcohol/drug use at last sex, and HIV education*.

Sociodemographics are important covariates as the National Study of Family Growth (NSFG), the largest nationally representative survey examining factors that affect pregnancy and women's health in United States, report contraceptive use rate differences based on sociodemographic characteristics (CDC, 2010). Additionally, studies described in the previous chapters (e.g., Brown, Halpern & L'Engle, 2005; Brown & Newcomer, 1991; Roberts et al., 1996) note differences in television watching behavior based on these characteristics as well. Not controlling for these variables in the analysis may confound the relationship between television viewing hours and sexual behavior.

Sociodemographic characteristics included in this analysis were *age, sex, race* and *ethnicity*. All measures were self-reported. *Age* was assessed with the question "How old are you?" and *Sex* was assessed using "What is your sex?" Respondents marked the response that applied to them.

Ethnicity and *Race* were assessed using two questions "Are you Hispanic or Latino?" and "What is your race?", respectively. For the former question, the

respondent marked either “yes” or “no.” Respondents could mark all categories that applied to them. For the later question, response options included “American Indian or Alaska Native,” “Asian,” “Black or African American,” “Native Hawaiian or Other Pacific Islander,” or “white.” A new variable for *race* was created that included “Black/African American,” “white,” “Latina,” and “Other.” Respondents in the “Other” category included: “Native American,” “Native Hawaiian or Other Pacific Islander,” “Asian,” and “multiple races.”

Forced Sex was assessed by using one question: “Have you ever been physically forced to have sexual intercourse when you did not want to?” The *Forced Sex* variable was included because this type of act is not consensual and should not be considered equivalent to consensual initiation of sexual intercourse. Including this variable allowed for better control of voluntary verses involuntary sexual history. Doing this provides a better understanding of how television influences *consensual* sexual activity.

Alcohol/drug use at last sex was assessed with one question: “Did you drink alcohol or use drugs before you had sexual intercourse the last time?” *Alcohol/Drug Use* variable was included as alcohol and drug use impairs thought and action and may limit practical use of contraceptives. This covariate is also a form of risky behavior that has been shown to influence the likelihood of condom use (Certain, Harahan, Saewyc, & Fleming, 2009; Scott-Sheldon et al., 2009).

Finally, the *HIV/AIDS Education* variable was included because having exposure to this type of education in school and outside of television may affect how the sexual content on television influences adolescent sexual behavior. As stated previously, youth list sex education in the school as their leading source in sex education (Committee on Public Education, 2001). As such, information gained from this forum may alter the influence television has on sexual behavior. *HIV/AIDS Education* was measured by one question: “Have you ever been taught about AIDS or HIV infection in school?”

Data Screening

A preliminary analysis of data was conducted prior to carrying out the primary analysis of the data. Tests of skewness/kurtosis were run to determine if the variables are normally distributed. Scatterplots were used to screen for linearity and homoscedasticity of the variables and residuals. Variables that were not normally distributed or linear were recoded to reflect dichotomous outputs.

Missing data on items accounted for between 0.4% and 7.1% of responses. To account for this, multiple imputations using the Imputation by Chained Equation (ICE) method were used to impute missing data. ICE imputations generate missing variables using a series of univariate models where a single variable is imputed based on a group of variables (UCLA, n.d.). This method easily generates missing variables for different types of variables (e.g., continuous, categorical, etc.) and is very useful

when imputing outcome variables. As a result, Regression ICE imputation was used to impute missing data in the Age variable, while Logistic ICE imputations were used to impute missing data in the dichotomous variables. Twenty imputations were run.

After imputations were run, the variable assessing alcohol/drug use at last intercourse was determined to be highly unreliable and yielded extremely large confidence intervals. As a result, this variable was not included in any of the subsequent analyses.

Data Analysis

All analyses were conducted using primary sampling unit (PSU) information and sample weights to account for the YRBS' complex sampling design and yield nationally representative population estimates, unless otherwise stated. PSUs, or the unit considered for selection in the first sampling stage (i.e., counties) were used to cluster counties with similar characteristics together. This allows for schools selected from the various PSUs to differ based on certain characteristics (i.e., population size, race/ethnicity of students, location, etc.), thus yielding a more accurate national representation of high school students throughout the United States. Appropriate weights were identified according the YRBS 2007 specifications. Data was analyzed using STATA 11 (College Station, Texas) statistical software. A significance level of 0.05 (2-tailed) was used for all analyses.

Univariate and Bivariate Analysis

Means for the continuous variable (e.g., age) and frequency distributions for the categorical variables (e.g., race, type of contraceptive used) were calculated to describe the full sample of female respondents. Unweighted sample sizes and weighted percentages are reported, as well as bivariate associations between covariates, amount of television hours viewed and dependent variables using the weighted data. Logistic regression analyses were used to analyze the relationship between the outcome and independent variable(s). The next section includes descriptions of analyses that were conducted to test each hypothesis.

Hypothesis 1: Black/ African American adolescent females who view higher amounts of television initiate sexual intercourse at an earlier age (14 years or younger) than Black/ African American adolescent females who view lower amounts of television.

Logistic regression was used to predict early initiation of sexual intercourse (initiation of sexual intercourse at or before 14 years of age) as a function of television watching. Using this method provided the probability of membership into the case group. Two models were analyzed in order to test this hypothesis. The first model included only television hours watched and sought to determine the effect that only television viewing hours had on early initiation of sex. The second model included television hours, as well as the sociodemographic variables and all other covariates as controls.

Hypothesis 2: Black/ African American adolescent females who view higher amounts of television have more sexual partners than Black/ African American adolescent females who view lower amounts of television.

Two separate analyses were conducted to examine the relationship between the number of sexual partners (lifetime sexual partners and sex partners in the last 3-months) and television viewing behaviors. Logistic and multinomial regressions were used to examine the influence of television viewing on lifetime sexual partners. The logistic regression analysis was run to predict three or more lifetime sexual partners while the multinomial regression analysis was run to predict 0, 1-2, or 3 or more lifetime sexual partners. Two models were used to analyze this hypothesis: one with only television hours (Model 1) and another with television hours, all sociodemographic variables, and all covariates (Model 2). Only results of the logistic regression analysis will be presented as both the logistic and multinomial regression analyses produced similar outputs.

Logistic regression was used to examine the influence of television viewing on the number of sexual partners within the last 3-months. As with the analysis to test Hypothesis 1, two models were used to analyze this hypothesis: one with only television hours (Model 1) and another with television hours, all sociodemographic variables, and all covariates (Model 2).

Again, for analysis of lifetime and recent sexual partners, Model 1 was used to determine the influence television hours alone had on sexual partners and Model 2

was used to determine if the relationship changed once sociodemographic and other variables were controlled for.

Hypothesis 3: Black/ African American adolescent females who view higher amounts of television are less likely to use contraceptives than Black/ African American adolescent females who view lower amounts of television.

Logistic regression was used to examine the influence television viewing had on contraceptive use for any purpose. Two separate analyses were conducted to examine the relationship between the two contraceptive behaviors (condom use at last intercourse and contraceptive use to prevent pregnancy) and television viewing behaviors. Again, using this method provided the probability of membership into the case group. In this case, the output will yield the probability of a Black female adolescent using a condom at last intercourse, and the probability of a Black female adolescent using a method to prevent pregnancy, respectively.

The regression equation for condom use at last intercourse was tested using logistic regression and included all variables and models mentioned previously, beginning with television watching hours, followed by the sociodemographic variables and ending with all other covariates.

Logistic regression was used to predict the probability of a Black female adolescent using a method to prevent pregnancy. All variables will be included in the order mentioned previously.

Hypothesis 4: The associations between the amount of television viewed and early initiation of sexual intercourse, number of sexual partners and contraceptive use behavior are stronger for Black/African American adolescent females than for adolescent females of any other racial group.

Analyses were conducted to examine the final hypothesis. Procedures similar to those described beforehand were used to determine whether a relationship between television hours viewed on an average school day and the sexual health behaviors (initiation of sexual intercourse, lifetime partners, and contraceptive use) of Black/African American female adolescents and female adolescents of other racial groups existed.

Logistic regressions were used to analyze these data since all data had dichotomous outcomes. Five different analyses were run to examine Hypotheses 1, 2, and 3 similar to those mentioned previously; however, for these analyses, *race* was included. In these analyses, three models were tested: Model 1 included television hours viewed and controlled for race; Model 2 included television hours viewed, race and all covariates; and Model 3 included television hours, race, all covariates and interaction variables. Two-way interaction terms were created by multiplying the amount of television watched by race. Post hoc tests on the interaction variables were run only if the variables were found to be significant to determine if the difference between groups was significant. The interaction variable was only considered significant if $p\text{-value} < 0.05$. If no interaction variable was found to be significant, Model 2 was used as the final model.

CHAPTER IV: RESULTS

This chapter reports the results of the analyses of whether television viewing is associated with the sexual behavior of female adolescents. The first section presents descriptive characteristics for the overall population and female respondents broken down by racial category of the YRBS 2007. The next section includes the results of analyses conducted to test Hypotheses 1-4.

Sample Characteristics

Tables 4.1 and 4.2 present the characteristics of all female respondents and female respondents according to racial category, respectively. Because Black/African American and Latina female students were oversampled, both tables include unweighted sample sizes as well as weighted percentages.

In general, the weighted characteristics of the female respondents overall reflect the sociodemographic profile of females in high school in the United States in the 2007 (CDC, 2008a). Table 4.1 indicates that about 60% of female respondents were non-Hispanic white, and 15% were non-Hispanic Black/African American. Thirty-eight percent of respondents viewed between one and two hours of television on an average school day. About half of the female respondents reported ever having sexual intercourse (46%). Four in five respondents indicated they had fewer than three sexual partners throughout their lifetime, and about 22% of those who had sexual intercourse reported having one sexual partner in the last three months.

Slightly more than two in five female respondents, who reported having intercourse, reported doing so at or before 14 years of age (44%). About 21% of female adolescents who had intercourse reported a history of forced sex. Finally, nearly all female respondents who had sexual intercourse reported receiving HIV education (91%).

Table 4.1
Characteristics of Female Respondents: YRBS 2007

Characteristics	Unweighted ^a N.	Weighted %
Overall Total	7036	100%
TV Hours Watched on an Average School Day		
< 1 hour	1865	28.71
1-2 hours	2477	38.04
3-4 hours	1687	22.77
≥ 5 or more	942	10.48
Age		
14 or younger	737	12.35
15	1629	26.04
16	1826	25.47
17	1798	23.41
18 older	1020	12.73
Race		
Black/African American	1521	15.03
Latina	1915	16.85
White	2928	60.44
Other ^b	574	7.68
Lifetime Sexual Partners		
0 partners	3338	54.29
1-2 partners	1918	27.44
3 or more	1363	18.26
Ever Reported Sexual Intercourse		
Yes	3297	45.87
No	3340	54.13
Total of Sexually Active Female Adolescents	3297	100%

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Age at First Intercourse		
13 or younger	667	20.57
14	725	23.41
15	950	27.80
16	620	18.70
17 or older	321	9.52
3-month Sexual Partners		
0 partners	719	22.34
1 or more	2567	77.66
Condom Use at Last Intercourse		
Yes	1874	58.70
No	1359	41.30
Contraceptive Use at Any Time		
Yes	2590	83.35
No	615	16.65
History of Forced Sex		
Yes	662	21.48
No	2613	78.52
HIV education		
Yes	2885	91.30
No	332	8.70
<hr/>		

Note. YRBS= Youth Risk Behavioral Survey System. Except where noted otherwise, data were weighted to account for oversampling, nonresponse, and noncoverage.

^aExcludes those who did not know or did not respond for each category

^bIncludes Native Hawaiian/other Pacific Islander, Asian, American Indian, Alaskan Native, and multiple, non-Hispanic

Table 4.2 presents the characteristics of female respondents by race. The weighted percentages for the sample of Black/African American female respondents reflect the sociodemographic profile of Black/African American, Latina, white and “Other” females in high school in the United States in the 2007 (CDC, 2008a). Because Black/African American and Latina female students were oversampled, the table includes unweighted sample sizes as well as their weighted percentages. Thirty-three percent of Black/African American female respondents watch 5 or more hours of television on an average school day compared to 14% of “Other” females, 12% of Latinas, and only 5% of white females who reported watching the same amount and these differences were statistically significant. About 61% of Black/African American female adolescents reported having sexual intercourse while 50% of Latinas, 44% of whites, and 39% of “Others” reported the same. Of those Black/African American female adolescents who reported having sexual intercourse, 55% reported doing so at 14 years of age or younger compared to 41% of Latinas, 39% of white female adolescents and 42% of female adolescents in the “Other” racial category. At least 13% of all female respondents reported having three or more lifetime sexual partners while at least 70% of all groups who had sexual intercourse reported having one or more sexual partners in the last 3 months. Overall, more Black/African American female adolescents (65%) reported using condoms at last intercourse than whites females. However, 86% of white females reported

contraceptive use to prevent pregnancy compared to 82% of Black/African Americans, 82% of Others, and 75% of Latinas.

Table 4.2

Characteristics of Female Respondents by Race: YRBS 2007

	Black/African American	Latina	white	Other^b
	Unweighted ^a N, (weighted %)	Unweighted ^a N, (weighted %)	Unweighted ^a N, (weighted %)	Unweighted ^a N, (weighted %)
Overall Total	1521 (15.03)	1915 (16.85)	2928 (60.44)	574 (7.68)
TV Hours Watched on an Average				
School Day				
< 1 hour	235 (16.84)	447 (21.72)	978 (33.91)	175 (22.71)
1-2 hours	345 (23.32)	665 (34.26)	1225 (42.68)	206 (38.62)
3-4 hours	413 (27.74)	563 (31.96)	562 (18.51)	135 (24.96)
≥ 5 or more	504 (32.85)	226 (11.69)	142 (4.91)	55 (13.70)
Age				
14 or younger	132 (11.37)	207 (6.30)	321 (3.70)	66 (5.29)
15	338 (29.40)	438 (21.76)	690 (16.41)	142 (16.86)
16	387 (24.75)	498 (25.64)	767 (27.58)	158 (25.76)
17	404 (22.02)	489 (27.27)	753 (32.39)	134 (32.97)
18 older	258 (12.45)	281 (19.03)	74 (19.93)	74 (19.12)
Lifetime Sexual Partners				
0 partners	520 (39.45)	892 (54.31)	1552 (56.34)	330 (67.36)
1-2 partners	457 (31.77)	587 (29.28)	731 (26.99)	117 (18.69)
3 or more	466 (28.78)	318 (16.41)	472 (16.66)	94 (13.95)
Ever Reported Sexual Intercourse				
Yes	929 (60.92)	908 (50.42)	1207 (43.75)	214 (39.27)
No	519 (39.08)	893 (49.58)	1552 (56.25)	331 (60.73)
Total of Sexually Active Female Adolescents	929 (100%)	908 (100%)	1207 (100%)	214 (100%)
Age at First Intercourse				
13 or younger	240 (29.19)	167 (17.44)	199 (16.33)	52 (24.59)
14	214 (26.02)	190 (24.05)	273 (23.09)	44 (17.23)
15	254 (25.37)	283 (28.31)	353 (28.80)	46 (24.33)

16	149 (13.76)	170 (16.19)	252 (20.89)	47 (23.25)
17 or older	72 (5.65)	90 (8.78)	130 (10.88)	25 (11.13)
3-month Sexual Partners				
0 partners	220 (28.66)	203 (23.03)	239 (19.91)	46 (22.18)
1 or more	706 (71.34)	701 (76.57)	966 (80.09)	166 (77.82)
Condom Use at Last Intercourse				
Yes	562 (65.12)	481 (57.07)	700 (56.78)	111 (61.59)
No	344 (34.88)	404 (42.93)	491 (43.22)	102 (38.41)
Contraceptive Use to Prevent Pregnancy				
Yes	721 (82.35)	656 (75.41)	1022 (86.39)	164 (81.78)
No	182 (17.65)	229 (24.59)	146 (13.61)	48 (18.22)
History of Forced Sex				
Yes	179 (18.84)	169 (20.58)	257 (22.59)	51 (23.32)
No	747 (81.16)	730 (79.42)	940 (77.41)	163 (76.68)
HIV education				
Yes	819 (92.87)	757 (85.67)	1087 (92.38)	191 (91.95)
No	69 (7.13)	139 (14.33)	95 (7.62)	21 (8.05)

Note. YRSB= Youth Risk Behavioral Survey System. Where noted, data were weighted to account for oversampling, nonresponse, and noncoverage.

^aExcludes those who did not know or did not respond in each category.

^bIncludes Native Hawaiian/other Pacific Islander, Asian, American Indian, Alaskan Native, and multiple racial groups, non-Hispanic.

Hypothesis 1

Black/African American adolescent females who view higher amounts of television initiate sexual intercourse at an earlier age (14 years or younger) than Black/African American adolescent females who view lower amounts of television.

The results of the logistic analyses conducted to predict whether a sexually active Black/African American female adolescent who watches more television will initiate sexual intercourse at an earlier age (before 14 years of age) are presented in Table 4.3.

According to the bivariate analysis (Model 1), the number of television hours viewed on an average school day was not significantly associated with early initiation of sexual intercourse for sexually active Black/African American female adolescents. When all covariates were included in the model (Model 2), television hours, again, was not a significant predictor; only age and history of forced sex were significantly related to early initiation of sex. With each year increase in age, a sexually active Black/African American female adolescent has 58% fewer odds of having sex at or younger than 14 years of age. Sexually active Black/African American female adolescents who reported a history of forced sex had 86% increased odds of reporting early initiation of sexual intercourse compared to sexually active Black/African American female adolescents who did not report a history of forced sex.

Table 4.3

Results of Logistic Regression Analyses Predicting Early Initiation of Sexual Intercourse^a among Sexually Active Black/African American Female Adolescents in High School who Reported Having Sexual Intercourse (N=975)

Predictor	Bivariate (Model 1)		With Covariates (Model 2)	
	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day				
Less than 1 hour	Reference	Reference	Reference	Reference
1 – 2 hours	0.79	(0.47, 1.34)	0.67	(0.37, 1.19)
3 – 4 hours	1.21	(0.71, 2.05)	1.07	(0.61, 1.87)
5 or more hours	1.25	(0.79, 1.98)	1.12	(0.67, 1.87)
Age (in years)			0.42*	(0.35, 0.51)
Reported History of Forced Sex			1.86*	(1.01, 3.44)
Reported HIV education			0.62	(0.32, 1.23)
<i>F</i>		1.27		21.33
<i>df</i>		39		39

^aEarly Initiation of Intercourse is defined as initiating sex at or before the age of 14.

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

* $p < .05$

Because the hours of television watched and all other covariates are used as a proxy for similar past behavior and experiences to predict initiation of sex at or before 14 years of age, there is not a very clear distinction in time order of these variables. Although associations were found between age and the outcome, careful interpretation of the findings is warranted. Because this analysis only included Black/African American female adolescents who had sexual intercourse, age being significant may be a result of the fact that all Black/African American female adolescents in the sample reported having sexual intercourse. In short, there is a greater opportunity for older Black/African American female adolescents in the sample to have sex at an older age while the 14-year old Black/African Americans in the sample had to have initiated sex at or before 14-years of age regardless of the number of television hours watched. In other words, older Black/African American female youth were less likely to initiate sexual intercourse before the age of 14 because the older female adolescents included in this analysis had more of an opportunity to initiate sex after 14 years of age.

Hypothesis 2

Black/African American adolescent females who view higher amounts of television have more sexual partners than African American adolescent females who view lower amounts of television.

Table 4.4 presents results from the logistic regression analyses conducted to predict whether Black/African American female adolescents who watch more hours of television on an average school day are more likely to have 3 or more lifetime sexual partners. Unlike the other analyses, which include only sexually active female adolescents, models analyzing this outcome include all Black/African American female respondents. According to the bivariate analysis (Model 1), number of television hours viewed on an average school day was not significantly related to having 3 or more lifetime sexual partners among Black/African American female adolescents. When covariates were included (Model 2), the number of hours watched was still not significantly related to having 3 or more lifetime sexual partners. However, age and having a history of forced sex were significantly related. With every year increase in age, a Black/African American female adolescent had 46% higher odds of having 3 or more lifetime sexual partners. Those who reported a history of forced sex had more than four times the odds of reporting 3 or more lifetime sexual partners than those who did not.

Table 4.4

Results of Logistic Regression Analyses Predicting 3 or More Sexual Partners over Lifetime for Black/African American Female Adolescents in High School (n=1523^a)

Predictor	Bivariate (Model 1)		With Covariates (Model 2)	
	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day				
Less than 1 hour	Reference	Reference	Reference	Reference
1 – 2 hours	0.77	(0.46, 1.28)	0.90	(0.51, 1.59)
3 – 4 hours	0.94	(0.61, 1.45)	1.16	(0.73, 1.86)
5 or more hours	0.70	(0.46, 1.06)	0.85	(0.53, 1.38)
Age (in years)			1.46***	(1.26, 1.70)
Reported History of Forced Sex			4.22***	(2.72, 6.56)
Reported HIV education			1.05	(0.59, 1.86)
<i>F</i>		1.11		16.76
<i>df</i>		40		40

^aIncludes Black/African American adolescents who did not report having sexual intercourse.

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

*** $p < .001$

A multinomial logistic regression was also run predicting 0, 1-2, and 3 or more lifetime sexual partners (not presented). The multinomial analysis produced results that were very similar to the logistic analysis. Age and history of forced sex remained significantly related to the outcome. Hours of television watched on an average day was not significantly related to the number of lifetime sexual partners.

Table 4.5 presents bivariate (Model 1) and multiple (Model 2) logistic regression results predicting 1 or more sexual partners in the last 3 months for sexually active Black/African American female adolescents. According to the bivariate results, hours of television watched on an average school day were not significantly associated with having had 1 or more sexual partners in the last 3 months for sexually active Black/African American female adolescents. Once covariates were included (Model 2), age was the only significant predictor of having 1 or more sexual partners in the last 3 months; television hours watched, again, were not significantly related to having any sexual partners in the last 3 months. With every year increase in age, a sexually active Black/African American female adolescent had 68% higher odds of reporting 1 or more sexual partners in the last 3 months.

Table 4.5

Results of Logistic Regression Analyses Predicting 1 or More Sexual Partners in the Last 3 Months among Sexually Active Black/African American Female Adolescents in High School (n=971)

Predictor	Bivariate (Model 1)		With Covariates (Model 2)	
	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day				
Less than 1 hour	Reference	Reference	Reference	Reference
1 – 2 hours	0.84	(0.43, 1.67)	0.92	(0.45, 1.88)
3 – 4 hours	0.83	(0.42, 1.63)	0.96	(0.46, 2.01)
5 or more hours	0.85	(0.42, 1.74)	0.94	(0.47, 1.91)
Age (in years)			1.68***	(1.32, 2.13)
Reported History of Forced Sex			1.01	(0.69, 1.47)
Reported HIV education			0.80	(0.32, 2.02)
<i>F</i>		0.13		7.16
<i>df</i>		39		39

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

*** $p < .001$

Hypothesis 3

Black/African American adolescent females who view higher amounts of television are less likely to use contraceptives than Black/African American adolescent females who view lower amounts of television.

The results of the bivariate (Model 1) and multiple (Model 2) logistic regression analyses conducted to predict condom use for sexually active Black/African American female adolescents are presented in Table 4.6. In both Models 1 and 2, the number of television hours Black/African American female adolescents watched on an average school day was not significantly associated with condom use at last intercourse. However, Model 2 indicates that age and having a history of forced sex were significantly associated with the outcome. With every year increase in age, a Black/African American female adolescent has 20% fewer odds of using a condom at last intercourse. Those Black/African American female adolescents who reported having a history of forced sex had 50% fewer odds of using a condom at last intercourse compared to those who did not report a history of forced sex.

Table 4.6

Results of Logistic Regression Analyses Predicting Condom Use at Last Intercourse among Black/African American Female Adolescents in High School (n=971)

Predictor	Bivariate (Model 1)		With Covariates (Model 2)	
	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day				
Less than 1 hour	Reference	Reference	Reference	Reference
1 – 2 hours	1.16	(0.67, 2.01)	1.06	(0.61, 1.84)
3 – 4 hours	1.40	(0.78, 2.52)	1.22	(0.68, 2.20)
5 or more hours	1.22	(0.67, 2.22)	1.08	(0.60, 1.93)
Age (in years)			0.80**	(0.69, 0.92)
Reported History of Forced Sex			0.50**	(0.31, 0.80)
Reported HIV education			1.48	(0.74, 2.98)
<i>F</i>		7.16		3.53
<i>df</i>		39		39

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

** $p < .01$

Table 4.7 includes the bivariate (Model 1) and multiple (Model 2) logistic regression analyses results predicting any form of contraceptive use to prevent pregnancy for sexually active Black/African American female adolescents. The number of hours television was watched during an average school day was not significantly related to contraceptive use to prevent pregnancy. When covariates were included (Model 2), only having a history of forced sex was a significant predictor of contraceptive use to prevent pregnancy for Black/African American female adolescents. Those who reported a history of forced sex had 49% fewer odds of using any form of contraceptive to prevent pregnancy than those who did not.

Table 4.7

Results of Logistic Regression Analyses Predicting Contraceptive Use to Prevent Pregnancy among Black/African American Female Adolescents in High School (n=971)

Predictor	Bivariate (Model 1)		With Covariates (Model 2)	
	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day				
Less than 1 hour	Reference	Reference	Reference	Reference
1 – 2 hours	1.26	(0.58, 2.76)	1.20	(0.53, 2.68)
3 – 4 hours	1.04	(0.51, 2.14)	0.97	(0.46, 2.03)
5 or more hours	1.27	(0.65, 2.47)	1.19	(0.62, 2.33)
Age (in years)			1.07	(0.88, 1.30)
Reported History of Forced Sex			0.51**	(0.33, 0.79)
Reported HIV education			2.21	(0.97, 5.04)
<i>F</i>		0.49		2.60
<i>df</i>		39		39

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

** $p < .01$

Hypothesis 4

The associations between the amount of television viewing and age at first intercourse, number of sexual partners, and contraceptive use behavior are stronger for African American adolescent females than for adolescent females of any other racial group.

The results of the logistic regression analyses predicting whether or not the relationship between television viewing hours and early initiation of sexual intercourse, number of sexual partners, and condom/contraceptive use is stronger from Black/African American female adolescents than for any other racial group are summarized in Tables 4.8- 4.12. Each table will include three models: one without covariates or interactions (Model 1), one with covariates but without interactions (Model 2), and one with both covariates and interactions (Model 3). Similar to the previous analyses, only the analyses predicting 3 or more lifetime sexual partners includes all female adolescents; all other analyses include only sexually active female adolescents.

As shown in Table 4.8, Model 1, watching 3-4 hours and 5 or more hours of television on an average school day and being Black/African American were significantly related to early initiation of sexual intercourse for sexually active female adolescents. Female adolescents who watched 3-4 hours of television had 28% increased odds of initiating sexual intercourse at or before 14 years of age

Table 4.8
Results of Logistic Regression Analyses Predicting Early Initiation of Sexual Intercourse^a among Sexually Active Female Adolescents in High School (N=3521)

Predictor	Multivariate (Model 1)		With Covariates (Model 2)		With Covariates and Interactions (Model 3)	
	OR	95% CI	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day						
Less than 1 hour	Reference	Reference	Reference	Reference	Reference	Referent
1 – 2 hours	0.95	(0.76, 1.18)	0.96	(0.76, 1.21)	0.98	(0.71, 1.34)
3 – 4 hours	1.28*	(1.01, 1.64)	1.15	(0.87, 1.52)	1.19	(0.81, 1.73)
5 or more hours	1.80**	(1.29, 2.52)	1.72**	(1.18, 2.51)	2.20	(0.89, 5.39)
Age (in years)			0.43***	(0.39, 0.47)	0.43***	(0.39, 0.46)
Reported History of Forced Sex			2.71***	(2.23, 3.28)	2.72***	(2.25, 3.29)
Reported HIV education			0.89	(0.64, 1.22)	0.88	(0.64, 1.22)
Black/African American	1.62***	(1.26, 2.08)	1.57**	(0.14, 2.16)	1.96**	(1.19, 3.24)
Latina	1.05	(0.75, 1.46)	1.12	(0.80, 1.56)	0.75	(0.34, 1.63)
Other	1.25	(0.92, 1.71)	1.10	(0.80, 1.53)	1.25	(0.74, 2.13)
Black*1-2 hours of TV					0.70	(0.35, 1.41)
Black*3-4 hours of TV					0.95	(0.50, 1.80)
Black*5 or more hours of TV					0.53	(0.18, 1.58)
Latina*1-2 hours of TV					1.43	(0.62, 3.34)
Latina*3-4 hours of TV					1.71	(0.61, 4.81)
Latina*5 or more hours of TV					2.11	(0.56, 7.89)
Other*1-2 hours of TV					1.07	(0.53, 2.16)
Other*3-4 hours of TV					0.58	(0.27, 1.22)
Other*5 or more hours of TV					0.73	(0.22, 2.38)
F		12.40		59.59		37.80
df		40		40		40

^aEarly Initiation of Intercourse is defined as initiating sex at or before the age of 14.

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

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

compared to those who watched less than 1 hour of television, while those who watched 5 or more hours of television had 80% higher odds of initiating sexual intercourse at or before 14 years of age than those who watch less than 1 hour of television on an average school day. Additionally, Black/African American females had 62% higher odds of initiating sex at or before 14 years of age compared to their white counterparts.

Model 2 indicated that watching 5 or more hours of television, age, history of forced sex, and being Black/African American were significantly related to early initiation of sex. Female adolescents who watched 5 or more hours of television had 72% higher odds of initiating sex at or before 14 years of age compared to those who watched less than 1 hour of television on an average school day. With each year increase in age, a female adolescent has 57% fewer odds of initiating sex at or before 14 years of age. Female adolescents who reported a history of forced sex had more than 2.71 times the odds of initiating sexual intercourse at or before 14 years of age compared to those who did not report a history of forced sex. Black/African American adolescent females had 57% increased odds of initiating sexual intercourse at or before 14 years of age compared to their white counterparts.

Model 3 indicates that none of the interaction variables were significant. As a result, further discussion will focus on the findings presented in Model 2.

Table 4.9 presents the results of the logistic regression analyses predicting whether a female adolescent in high school had 3 or more lifetime sexual partners. Unlike the other analyses which include only sexually active female adolescents, models used to predict this outcome included all female adolescents in the sample. Television watching hours was not significantly associated with predicting 3 or more lifetime sexual partners for adolescent girls in high school in any of the Models. Being Black/African American was the only significant predictor of 3 or more lifetime sexual partners in Model 1. Black/African American female adolescents had twice the odds of having 3 or more lifetime sexual partners than their white counterparts.

Once covariates were introduced (Model 2), age, having a history of forced sex, and being Black/African American became significantly related to the outcome. With every year increase in age, a female adolescent in high school had 64% increased odds of having 3 or more lifetime sexual partners. Those females who reported a history of forced sex had more than 6 times the odds of having 3 or more lifetime sexual partners than those who did not report a history of forced sex. Black/African American females had over twice the odds of having 3 or more lifetime sexual partners than their white counterparts.

Finally, when interactions were included (Model 3), age, having a history of forced sex, and being Black/African American remained significantly related to the outcome.

Table 4.9
Results of Logistic Regression Analyses Predicting 3 or More Sexual Partners over Lifetime among High School Female Adolescents (n=7043^a)

Predictor	Multivariate (Model 1)		With Covariates (Model 2)		With Covariates and Interactions (Model 3)	
	OR	95% CI	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day						
Less than 1 hour	Reference	Reference	Reference	Reference	Reference	Reference
1 – 2 hours	0.78	(0.59, 1.04)	0.85	(0.63, 1.15)	0.78	(0.52, 1.17)
3 – 4 hours	0.90	(0.71, 1.16)	1.05	(0.80, 1.37)	0.96	(0.62, 1.47)
5 or more hours	0.94	(0.72, 1.16)	1.08	(0.80, 1.44)	1.08	(0.62, 1.88)
Age (in years)			1.64***	(1.51, 1.77)	1.63***	(1.51, 1.77)
Reported History of Forced Sex			6.28***	(5.14, 7.66)	6.22***	(5.10, 7.57)
Reported HIV education			1.07	(0.79, 1.44)	1.07	(0.79, 1.44)
Black/African American	2.01***	(1.60, 2.51)	2.14***	(1.68, 2.73)	2.03**	(1.24, 3.31)
Latina	0.86	(0.66, 1.13)	0.90	(0.67, 1.21)	0.80	(0.40, 1.62)
Other	1.00	(0.74, 1.34)	1.03	(0.76, 1.40)	0.80	(0.45, 1.42)
Black*1-2 hours of TV					1.18	(0.60, 2.34)
Black*3-4 hours of TV					1.28	(0.66, 2.48)
Black*5 or more hours of TV					0.83	(0.38, 1.78)
Latina*1-2 hours of TV					1.09	(0.52, 2.29)
Latina*3-4 hours of TV					1.39	(0.53, 3.63)
Latina*5 or more hours of TV					0.82	(0.29, 2.33)
Other*1-2 hours of TV					1.49	(0.71, 3.13)
Other*3-4 hours of TV					1.06	(0.53, 2.13)
Other*5 or more hours of TV					2.31*	(1.01, 5.29)
<i>F</i>		10.37		67.09		38.35
<i>df</i>		40		40		40

^aIncludes female adolescents who did not report having sexual intercourse.

OR= odds ratio; CI = confidence Interval

Note: Analyses were weighted

* $p > .05$, ** $p < .01$, *** $p < .001$

Odds for these predictors are similar to those in Model 2. Only one interaction became significant. “Other” female adolescents who watched 5 or more hours of television per day had more than twice the odds of having 3 or more lifetime sexual partners.

Again, a multinomial logistic regression was also run to predict 0, 1-2, and 3 or more lifetime sexual partners (not presented). The multinomial analysis produced results that were very similar to the logistic regression analysis. Age, history of forced sex, and being Black/African American remained significantly related to the outcome. Hours of television watched on an average day was not significantly related to having 3 or more lifetime sexual partners.

Table 4.10 represents the results of three models predicting 1 or more sexual partners in the last 3 months of sexually active female adolescents. The number of television hours watched on an average school day was not significant in predicting sexual partners in the last 3 months in any of the three models. In Model 1, sexually active Black/African American female adolescents had 36% fewer odds of having 1 or more sexual partners within the last 3 months than their white female counterparts.

When covariates were added (Model 2), age and being Black/African American were the only significant variables in predicting 1 or more sexual partners in the last 3 months. With every year increase in age, a sexually active female adolescent had 36% higher odds of having 1 or more sexual partners in

Table 4.10
Results of Logistic Regression Analyses Predicting 1 or More Sexual Partners in the Last 3 month among Sexually Active Female Adolescents in High School (N=3521)

Predictor	Multivariate (Model 1)		With Covariates (Model 2)		With Covariates and Interactions (Model 3)	
	OR	95% CI	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day						
Less than 1 hour	Reference	Reference	Reference	Reference	Reference	Reference
1 – 2 hours	0.96	(0.72, 1.27)	0.96	(0.70, 1.30)	1.08	(0.73, 1.60)
3 – 4 hours	0.81	(0.58, 1.13)	0.86	(0.60, 1.23)	0.88	(0.54, 1.44)
5 or more hours	0.93	(0.63, 1.36)	1.00	(0.67, 1.50)	0.98	(0.46, 2.10)
Age (in years)			1.36***	(1.22, 1.51)	1.36***	(1.22, 1.52)
History of Forced Sex			0.84	(0.65, 1.09)	0.84	(0.65, 1.01)
HIV education			0.97	(0.63, 1.50)	0.98	(0.64, 1.51)
Black/African American	0.64***	(0.51, 0.81)	0.67**	(0.53, 0.85)	0.72	(0.42, 1.23)
Latina	0.81	(0.58, 1.13)	0.80	(0.57, 1.11)	0.89	(0.42, 1.88)
Other	0.87	(0.63, 1.19)	0.93	(0.67, 1.29)	1.24	(0.69, 2.23)
Black*1-2 hours of TV					0.85	(0.42, 1.72)
Black*3-4 hours of TV					1.05	(0.45, 2.43)
Black*5 or more hours of TV					0.95	(0.34, 2.61)
Latina*1-2 hours of TV					0.72	(0.30, 1.72)
Latina*3-4 hours of TV					0.98	(0.31, 3.09)
Latina*5 or more hours of TV					1.38	(0.39, 4.88)
Other*1-2 hours of TV					0.58	(0.27, 1.28)
Other*3-4 hours of TV					0.70	(0.30, 1.62)
Other*5 or more hours of TV					1.05	(0.27, 3.99)
<i>F</i>		3.47		6.76		4.02
<i>df</i>		40		40		40

OR= odds ratio; CI = confidence Interval

Note: Analyses are weighted

** $p < .01$, *** $p < .001$

the last 3 months. Sexually active Black/African American female adolescents had 33% fewer odds of having 1 or more sexual partners in the last 3 months. When interactions were added (Model 3), only age was significantly related to the outcome. Again, the interaction variables were not significant in the model. As a result, Model 2 will be used as the final model in predicting 1 or more sexual partners in the last 3 months.

Table 4.11 represents the results of three analyses predicting condom use among sexually active female adolescents in the study. Watching 5 or more hours of television on an average school day and being Black/African American were significant in predicting condom use among female adolescents in Model 1. Those female adolescents who watched 5 or more hours of television had 28% fewer odds of using a condom at last intercourse compared to those who watched less than 1 hour. Black/African American female adolescents had 56% increased odds of using a condom at last intercourse compared to their white counterparts.

Once covariates were introduced (Model 2), watching 5 or more hours of television, age, having a history of forced sex, and being Black/African American were significantly related to condom use at last intercourse among female adolescents. Female adolescents who watched 5 or more hours of television on an average school day had 32% fewer odds of using a condom at last intercourse. With regard to age, with each year increase a female adolescent had 16% fewer odds of using a condom at last intercourse. Those with a history of forced sex

Table 4.11
Results of Logistic Regression Analyses Predicting Condom Use at Last Intercourse among Female Adolescents in High School (n=3521)

Predictor	Multivariate (Model 1)		With Covariates (Model 2)		With Covariates and Interactions (Model 3)	
	OR	95% CI	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day						
Less than 1 hour	Reference	Reference	Reference	Reference	Reference	Reference
1 – 2 hours	1.01	(0.81, 1.25)	0.97	(0.78, 1.21)	0.99	(0.75, 1.31)
3 – 4 hours	1.00	(0.75, 1.34)	0.94	(0.70, 1.27)	0.81	(0.55, 1.20)
5 or more hours	0.72*	(0.53, 1.00)	0.68*	(0.49, 0.93)	0.55	(0.27, 1.12)
Age (in years)			0.84**	(0.76, 0.92)	0.84***	(0.76, 0.92)
Reported History of Forced Sex			0.66***	(0.54, 0.81)	0.67***	(0.55, 0.82)
Reported HIV education			1.23	(0.83, 1.83)	1.24	(0.83, 1.85)
Black/African American	1.56**	(1.16, 2.10)	1.50*	(1.12, 2.01)	1.15	(0.66, 1.99)
Latina	0.96	(0.64, 1.42)	0.94	(0.62, 1.41)	1.04	(0.55, 1.93)
Other	1.15	(0.85, 1.57)	1.15	(0.85, 1.55)	1.13	(0.69, 1.83)
Black*1-2 hours of TV					1.07	(0.59, 2.00)
Black*3-4 hours of TV					1.53	(0.79, 2.96)
Black*5 or more hours of TV					1.95	(0.73, 5.24)
Latina*1-2 hours of TV					0.77	(0.39, 1.50)
Latina*3-4 hours of TV					1.17	(0.48, 2.84)
Latina*5 or more hours of TV					0.81	(0.25, 2.60)
Other*1-2 hours of TV					0.94	(0.50, 1.75)
Other*3-4 hours of TV					1.43	(0.73, 2.80)
Other*5 or more hours of TV					0.91	(0.30, 2.77)
<i>F</i>		2.13		7.27		5.07
<i>df</i>		40		40		40

OR= odds ratio; CI = confidence Interval

Note: Analyses were weighted

* $p > .05$, ** $p < .01$, *** $p < .001$

had 34% fewer odds of using condoms at last intercourse than those who did not report a history of forced sex. Black/African American female adolescents had a 50% increase in odds of using condoms at last intercourse compared to their white female counterparts.

Model 3 indicates that none of the interactions are significant. As a result, the discussion of these findings will use Model 2 as the final model.

Table 4.12 represents the results predicting contraceptive use to prevent pregnancy among female adolescents. As presented in the Model 1, watching 1-2 hours and 5 or more hours of television on an average school day, and being Latina or “Other” were significant predictors of contraceptive use to prevent pregnancy. Female adolescents who watched 1-2 hours of television had 27% fewer odds of using contraceptive to prevent pregnancy than those who watched less than 1 hour of television, while those who watched 5 or more hours of television had 40% fewer odds of using a contraceptive to prevent pregnancy than those who watched less than 1 hour of television on an average school day. Latina and “Other” female adolescents had 52% and 41% fewer odds, respectively, of using a contraceptive to prevent pregnancy than their white counterparts.

When covariates were introduced (Model 2), all previous predictors remained significantly related to the outcome and their odds ratios were relatively similar. Reporting a history of forced sex became significantly related to using a

Table 4.12

Results of Logistic Regression Analyses Predicting Contraceptive Use to Prevent Pregnancy among Female Adolescents in High School (n=3521)

Predictor	Multivariate (Model 1)		With Covariates (Model 2)		With Covariates and Interactions (Model 3)	
	OR	95% CI	OR	95% CI	OR	95% CI
TV Hours Watched on an Average School Day						
Less than 1 hour	Reference	Reference	Reference	Reference	Reference	Reference
1 – 2 hours	0.73*	(0.55, 0.97)	0.69*	(0.51, 0.93)	0.58*	(0.38, 0.88)
3 – 4 hours	0.77	(0.53, 1.11)	0.74	(0.51, 1.07)	0.58	(0.32, 1.06)
5 or more hours	0.60*	(0.41, 0.88)	0.59**	(0.40, 0.86)	0.30**	(0.15, 0.58)
Age (in years)			1.02	(0.90, 1.16)	1.02	(0.90, 1.15)
Reported History of Forced Sex			0.51***	(0.39, 0.69)	0.51***	(0.39, 0.67)
Reported HIV education			1.33	(0.83, 2.14)	1.34	(0.84, 2.15)
Black/African American	0.82	(0.53, 1.27)	0.80	(0.52, 1.24)	0.44*	(0.22, 0.86)
Latina	0.48*	(0.29, 0.83)	0.46**	(0.27, 0.79)	0.32*	(0.13, 0.80)
Other	0.59*	(0.39, 0.89)	0.61*	(0.41, 0.92)	0.47*	(0.23, 0.95)
Black*1-2 hours of TV					2.10	(0.84, 5.22)
Black*3-4 hours of TV					1.68	(0.67, 4.22)
Black*5 or more hours of TV					3.90**	(1.46, 10.41)
Latina*1-2 hours of TV					1.33	(0.48, 3.67)
Latina*3-4 hours of TV					1.96	(0.63, 6.13)
Latina*5 or more hours of TV					2.19	(0.57, 8.40)
Other*1-2 hours of TV					1.26	(0.54, 2.93)
Other*3-4 hours of TV					1.54	(0.59, 4.03)
Other*5 or more hours of TV					2.19	(0.66, 7.33)
<i>F</i>		6.19		8.26		6.47
<i>df</i>		40		40		40

OR= odds ratio; CI = confidence Interval

Note: Analyses were weighted

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

contraceptive to prevent pregnancy as well. Female adolescents who reported a history of forced sex had 49% fewer odds of using any form of contraceptive to prevent pregnancy than those who did not report a history of forced sex.

When interactions were introduced (Model 3) into the equation, watching 1-2 and 5 or more hours of television, having a history of forced sex, and being Black/African American, Latina, or “Other” were significantly related to using any contraceptive to prevent pregnancy. Those female adolescents who watched 1-2 hours of television on an average school day had 42% fewer odds of using any contraceptive to prevent pregnancy than those who watched less than 1 hour of television, and those who watched 5 or more hours of television had 70% fewer odds of using any contraceptive to prevent pregnancy than those who watched less than 1 hour of television. Those who reported a history of forced sex had 49% fewer odds of using any contraceptive to prevent pregnancy compared to those who did not report a history of forced sex. Black/African American, Latina and “Other” female adolescents had 56%, 78%, and 52% fewer odds, respectively, of using any form of contraceptive to prevent pregnancy than their white female counterparts.

Additionally, the interaction between Black/African American and watching 5 or more hours of television became a significant predictor in using any contraceptive to prevent pregnancy. Black/African American female adolescents who watched 5 or more hours of television were nearly 4 times more likely to report using any form of contraceptive to prevent pregnancy than their white counterparts

who watched the same number of hours of television. Since no other interaction variable was significant, no post hoc tests were conducted.

CHAPTER V: DISCUSSION AND CONCLUSION

One major finding of this study is that, overall, Black/African American female adolescents who watched more hours of television were not more likely to report risky sexual behaviors than the Black/African American female adolescents who watched fewer of hours of television on an average school day. In other words, Black female adolescents who watched more hours of television were not more likely to initiate sexual intercourse early (at or before 14 years of age), were not more likely to have more lifetime sexual partners or any sexual partners in the last 3-months and were not less likely to use contraceptives than Black female adolescents who watched fewer hours of television. This is in contrast to the previous research that indicates youth who watch more hours of television are more likely to initiate sex within a year (Collins et al., 2004) and those who watch more of a certain media (i.e., rap music videos) are more likely to have multiple sexual partners (Wingood et al., 2003). However, while the Collins et al. (2004) study analyzed a multiethnic participant sample, they did not conduct a separate analysis that included only the Black/African American (female) participants. The Wingood et al., (2003) study, on the other hand, only included Black/African American female youth. Also noteworthy, is that the Collins et al., (2004) and Wingood et al., (2003) studies also included the amount of sexual content present in the programming the youth watched, whereas the present study only took into consideration the number of hours youth watched television.

These differences in measurement and samples may explain differences in the findings.

On the other hand, this study's findings are consistent with Somers and Tynan's (2006) finding that there was no relationship between the amount of television watched and sexual behavior among Black/African Americans in their multiethnic sample. Somers and Tynan (2006) distributed questionnaires to over four hundred adolescents randomly selected from two United States high schools. They utilized methods that measured both time spent exposed to sexual media as well as level of sexual explicitness and hypothesized that youth watching more television with sexual content and dialogue would initiate sex earlier and exhibit poorer contraceptive use behaviors. Despite the difference in methodology, these two studies produced similar findings. This may indicate that viewing higher amounts of television may not influence the sexual behavior of Black/African American female adolescents as much as it influences female adolescents in other racial groups. Another reason television viewing was found not to influence Black/African American female adolescents' sexual behaviors may be that the images this group sees on television may not be that drastically different from their overall life experiences and social situations. As mentioned previously, television programming geared toward the Black/African American population is more concentrated with sexual content (Gurman & Orkins, 2006; Farrar et al., 2003) which may be a reflection of the amount of sexual content these youth are exposed to in their real

life. If this is the case, Black/African American youth would be nullified to higher amounts of sexual content on television and these images would not negatively affect their real life sexual situations because the images are simply a reflection of their real life sexual situations.

When the entire adolescent female population was included in the analysis, television hours watched became significant with some of the sexual behaviors of the overall Black/African American female participants when compared to their white female counterparts. Overall, Black/African American female adolescents were more likely to initiate sex earlier and have more lifetime sexual partners than their white female peers. These findings are consistent with much of the previous literature (e.g., Chandra et al., 2008). However, Black/African American female adolescents in this study were significantly less likely to have any sexual partner in the last 3 months than their white female counterparts. Terry-Humen, Manlove, and Cottingham (2006) found similar results in their research brief, *Child Trends*, which used data from the 2002 National Survey of Family Growth to document teenage adolescent sexual activity and contraceptive use. Black/African American female adolescents may have been less likely to report recent sex partners because they were more likely to initiate sex at an early age thus reducing the want/desire/need for immediate past sexual relationships. Additionally, there may be fewer sexual partner options for Black/African American female adolescents than their white peers due to the racial and cultural makeup of the school's they attend. While white female adolescents may

have more opportunity to date and have sexual relationships with male adolescents outside of their race, Black/African American female adolescents may not have that same opportunity or desire (Schoepflin, 2009; Wilson, McIntosh, & Isana, 2007).

Additionally, Black/African American females were more likely to use condoms at last sexual intercourse compared to their white female peers. This finding is also consistent with Somers and Tynan's (2006) finding as well as findings of other studies (e.g., Abma et al., 2004; CDC, 1997; Everett et al., 2000; Ku, Sonenstien & Peck, 1994; Manlove, Ryan & Franzetta, 2003). Use of condoms may be more of an STI/HIV prevention method than a pregnancy prevention method among Black/African American girls. Given the disproportionate impact of HIV and STIs among Black girls (CDC, 2009a), this group may be more likely use condoms to prevent such transmissions.

Another interesting finding indicated that Black/African American female adolescents who viewed 5 or more hours of television on an average school day were almost four times more likely to use any contraceptive to prevent pregnancy when compared to white female youth who viewed the same amounts of television. This finding supports Collins and colleagues' (2003) finding that Black/African American youth may be more influenced by risk and responsibility messages than youth of other racial backgrounds. Black/African American female adolescents who watch more television may be more likely to use contraceptives despite the limited risk and responsibility messages on television because, among this specific group, pregnancy

may be an outcome they do not desire. Because this group watches more television, they may be exposed to more negative outcomes of failing to use contraceptives or more negative outcomes of pregnancy, both stated and unstated, simply because they watch more television overall. Therefore, this group may be more likely to take steps to prevent pregnancy than their peers who watch the same amount of television.

Another reason for this may be that the sexually active Black/African American female adolescents who watch 5 or more hours of television are also more likely to live in lower income areas and in these areas, providers are more likely to suggest this group use certain methods to prevent pregnancy (Committee on Women, Population, and the Environment, n.d.; Roberts, 1997). However, since no measure of socioeconomic status was available using the YRBS 2007 (a limitation that will be discussed later), we cannot confirm this potential reason.

Although watching 5 or more hours of television was related to contraceptive use for Black females, the overall sexually active Black/African American female population in the sample was less likely to report using any contraceptive to prevent pregnancy. One possible explanation is that sexual active Black/African American female youth overall may not consider condom usage as their primary form of pregnancy prevention, instead considering it more of an STI and HIV prevention method. Black/African American female youth may also have limited access to certain methods of pregnancy prevention listed in the survey (i.e., Depo-Provera, the pill). However, while this group may have limited access to certain hormonal

methods listed, those who do have access to them may be more skeptical about using hormonal contraceptives over a long period of time compared to their white female counterparts (Gilliam, Davis, Neustadt, Levey, 2009).

With respect to sexually active female adolescents overall, the average hours of television watched was significantly related to early initiation of sexual intercourse, condom use at last intercourse, and any contraceptive use to prevent pregnancy. Adolescent females who watched five or more hours of television on an average school day had 72% increased odds of initiating sexual intercourse at or before 14 years of age after controlling for covariates and race. Cultivation Theory (Gerbner & Gross, 1976, Gerbner et al., 1986) maintains that television constructs a particular reality about sex and sexual behaviors that cultivates beliefs about sex. In this case, the prevalence of sex on television may lead female youth to believe that sex among their peers is more prevalent than it truly is, as the Teen Health and the Media (THM) study suggests (“Teen Health and the Media,” 2009). Social Learning Theory (Bandura & Walters, 1963; Bandura, 1977; Bandura, 1986) concepts come into play as female youth who have cultivated particular beliefs about sex internalize behaviors and conduct themselves in ways as seen on TV.

Female youth who watched 5 or more hours of television were less likely to report using condoms at last intercourse than those who watched fewer hours of television. The majority of those who have sex on TV are in some sort of romantic relationship with their sexual partner (Kunkel et al., 2005), and assumptions are made

about trust and monogamy in those relationships. The lack of condom use and other risk and responsibility behaviors as seen on television may be interpreted in two ways. The first interpretation may lead female adolescent viewers to believe that condoms are not used at all while the second interpretation may lead viewers to believe condoms are not used due to assumptions about monogamy and trust. In the latter explanation, condom/contraceptive use may imply one partner does not trust another. Either way, condoms are not seen in use and are not talked about. These potential reasons supports both the Cultivation (Gerbner & Gross, 1976, Gerbner et al., 1986) and Social Learning Theories (Bandura & Walters, 1963; Bandura, 1977; Bandura, 1986) in their assertions that not only are youth cultivated to believe images portrayed on television- in this case, the lack of talk or use of condoms during sexual intercourse- but also this behavior provides modeling (i.e., how not to use a condom) for the youth who view the most amounts of television and thus, who view the most amount of sexual content on television. Adolescent females may have internalized this understanding of not using condoms as seen on TV and modeled it in their lives.

Another interesting finding of this study indicates that female youth who watch 1-2 hours and 5 or more hours are less likely to use any contraceptive to prevent pregnancy. Also interesting is that the Black, Latina, and “Other” females in the study were less likely to report using any contraceptive to prevent pregnancy than their white female peers. This may be due to a variety of reasons that include, but are not limited to, lack of availability of birth control methods other than male condoms

and cultural differences regarding childbearing. This finding may also be attributed to the wording of the question asking about pregnancy prevention methods. The YRBS 2007 allowed youth to indicate only one response for that particular item so even if respondents used more than one method to prevent pregnancy, they could only indicate one. As a result, those that used hormonal birth control (i.e., Depo-Provera, the pill) or another method (i.e., withdrawal, or “other method”) may not have marked condoms on this item because they did not consider condoms as their primary method of pregnancy prevention.

In the first three analyses of television viewings effects on the sexual behaviors, age and having a history of forced sex were the only predictors of sexual behavior of Black/African American female adolescents. These two factors were also the most consistent predictors when the entire female adolescent population was included in the analyses. Age and its relationship to certain sexual behaviors have been examined in previous studies and was not the focal point of the current study. However, it is important to note that our findings, with respect to the relationship between age and certain sexual behaviors, are consistent with findings of previous studies. For instance, similar to other studies (e.g., Dowsell, 2002; Greenberg, Magdar, & Aral, 1992), this study found that older youth are more likely to have more lifetime sexual partners. Consistent with Sheeran, Abraham, and Orbell (1999), this study found that older female youth were less likely to use condoms at last intercourse in analyses of both the Black/African Americans and the overall female

adolescent sample. Some reasons for this may be that older female youth may feel as though they are better able to judge the health of their current sexual partner, evaluate the outcome of their sexual behavior (e.g., be better able to use the calendar method of birth control), and/or may have been in longer relationships or a monogamous relationship and may not feel the need to use condoms regularly. Also, older youth may use hormonal contraceptives at a higher rate (Mosher & Jones, 2010). Again, however, assessing this relationship alone was beyond the scope of the current study.

Having a history of forced sex has also been linked to certain sexual behaviors. For example, Molitor and colleagues (2000) found that women in their study who reported a history of forced sex were more likely to report a younger age at first voluntary intercourse, had more lifetime sexual partners, and were less likely to report sex with condom use than those who did not report a history of forced sex. Though these women were from lower income neighborhoods in a number of California counties, findings may be applicable to overall female adolescents as well. Another study conducted using data from the National Longitudinal Study of Adolescent Health (Add Health) found that adolescent females with a history of forced sex were significantly more likely to have more sexual partners than adolescents who did not report a history of forced sex (Upchurch & Kusunoki, 2004). Although neither of these mentioned studies also analyzed the television viewing behavior of their population, their findings regarding the relationship

between forced sex and sexual behavior are consistent with this study's findings.

Assessing this relationship alone, however, is beyond the scope of the present study.

Finally, HIV education was not significant in predicting any outcome in any of the analyses. This is contrary to previous studies which found that HIV education and sexual health programs were associated with delayed initiation of sexual intercourse (Jorgenen et al., 1993) and/or reduced sexual frequency (Smith, 1994). A study by Walter and Vaughan (1993) found that following an AIDS prevention curriculum, their multiethnic urban high school participants were more likely to be monogamous and reported more consistent condom use than those in the control group. However, Ray and colleagues (2007) found that HIV education was associated with sexual protective behaviors (i.e., condom use) for boys but less so for girls suggesting that there may be need for more gender-tailored HIV education approaches. Considering that the current study focused only on female adolescents, the Ray and colleagues (2007) finding may help explain the lack of significant relationships between HIV education and sexual behaviors in this study.

Another reason that HIV education was not found to be significant may be the timing of the survey and generation (i.e., age) of the participants. During the time this version of the YRBS survey was disseminated, abstinence-only education in schools was at its peak, receiving \$800 million federal dollars between 2001 and 2006 with a projected increase to \$140 million in 2007 (McClelland & Fine, 2008). In many cases, this education stressed not having sexual intercourse until marriage, but

also distorted information about contraceptives (highlighting failure rates while ignoring the benefits), and presented stereotypes (linking the morality of the sexual participant with STI acquisition) as fact (Special Investigations Committee Report, 2004). The finding that HIV education was not significant in this study may be a result of the non-comprehensive and inaccurate sexual education adolescents, in general, were exposed to at the time.

Strengths and Limitations

As described earlier, one strength of the YRBS 2007 survey is that it utilizes a nationally representative sample of high school aged youth. This allows for a greater generalizability of behaviors assessed on the survey to the broader high school aged population. Another strength of this survey is that it is one of the most recent waves of YRBS 2007 data, which provides some of the most up-to-date information regarding the population of interest (female adolescents) and their sexual behaviors (condom use, contraceptive use to prevent pregnancy, number of sexual partners and initiation of sexual intercourse). A third strength of the 2007 YRBS is the high response rate of schools (81%) and students (84%) as well as the relatively high overall response rate (68%). Finally, the high test-retest reliability of the questionnaire is a strength of the study. Brenner and colleagues (2002) found that over 93% of items in the YRBS questionnaire had at least a “moderate” reliability ($\text{kappas} \geq 41\%$) while 47 percent of items had at least “substantial” reliability

(kappas $\geq 61\%$). Additionally, items related to sexual behavior demonstrated significantly higher reliability (kappa = 62.7%) than items related to physical activity, dietary activity, and other health-related topics (Brenner et al., 2002).

Despite the strengths of the YRBS data, this study has some limitations. For example, the cross sectional study design of the YRBS is one of these limitations. In many cases, cross sectional designs do not allow for causal inferences as time order of the exposure and outcome variable(s) cannot be determined. Another limitation is that findings can only be extrapolated to adolescents who attend high school in the United States and District of Columbia, not to youth who do not attend high school or live in any United States territory.

A third limitation is that the YRBS does not define sexual intercourse, leaving the interpretation of what is considered “sexual intercourse” up to the respondent. How the respondent interpreted the meaning of the term would have influenced their response. For example, if a student did not consider oral sex in their definition of “sexual intercourse,” then they would have responded “no” to the question even if they engaged in oral sexual intercourse. A study conducted by Gut and colleagues (2008) found that participants were less likely to define oral sex as “sexual intercourse” and more likely to define vaginal and anal intercourse as such. Randall and Byers (2003) found that less than 25 percent of their sample considered oral sex to be “sexual intercourse.” Although these studies used college undergraduates, findings may be applicable to participants in this study. Future

YRBS surveys should define “sexual intercourse” so all respondents have the same understanding of the term and so researchers and public health officials can have a more accurate picture of the sexual behaviors of teenaged youth.

Another limitation is that the YRBS survey does not ask respondents about their sexual orientation which may reduce the prevalence of certain sexual behaviors among the overall sample of YRBS respondents. Lesbian adolescents may engage in oral and/or vagina-vagina sex at higher rates and if they do not define oral sex as “sexual intercourse,” they would be less likely to indicate they had had sexual intercourse which would, in turn, reduce the true numbers of high school female adolescents who had sexual intercourse. On the other hand, if lesbian adolescents did consider oral and/or vagina-vagina intercourse as intercourse, they may be less likely to report using condoms at last intercourse. Also, they may not be using any form of contraceptive to prevent pregnancy because oral and/or vagina-vagina intercourse are not forms of sexual intercourse that contribute to pregnancy. As a result, these youth would report “yes” to the sexual intercourse questions but report “no” to the contraceptive use questions which would increase the presumed “risky” behaviors found among female adolescents in high school. Future research should include a sexual orientation measure to gain a better understanding of sexual behavior in the overall adolescent population.

Fourth, the only measure of television watching behavior was measured in amount of hours an adolescent watched television on an average school day. For this

study, we assumed that female adolescents who viewed higher amounts of television were exposed to more sexual content and thus were expected to believe, internalize and model sexual behaviors portrayed on television. These female youth would be more able and more likely to model the sexual behavior on television (i.e., not using contraceptives, having multiple sexual partners, and initiating sex at an early age). However, exposure to high levels of sexual content may, of course, depend on the programming the adolescent viewed. For example, viewing three hours of the Discovery Channel programming and one hour of BET programming on an average day is different than viewing three hours of MTV reality show programming and thirty minutes of PBS programming on an average day. Future research should not only include questions regarding amount of television watched on an average day but also types of programming viewed as well.

Additionally, since the YRBS uses cross sectional data, the number of hours television watched and all other covariates are used as a proxy for similar past behaviors and experiences. This study assumed that hours of television watched on an average school day in 2007 was similar to hours of television watched on an average school day in the year the youth initiated sexual intercourse and had their first lifetime sexual partner, as well as all other lifetime sexual partners prior to January 2007. Therefore, we can draw the conclusion that television hours viewed on an average school day is associated with the two outcome variables. However, there

is not a very clear distinction in time order of these behaviors since television watching hours was used as a proxy.

Another limitation of using the YRBS dataset is that the researcher can only analyze those variables included in the dataset. The YRBS survey asks a variety of questions regarding sexual behaviors, overall health, television watching hours and certain sociodemographics. There is no item on the survey, however, that addresses the respondents' family/parent income or parent's educational level. This is critical as many researchers find differences in behavior based on one's overall socioeconomic status which includes income and educational level (e.g., Ashby et al., 2006; Brown & Newcomer, 1991; Doswell, 2000; Harper, Gannon, Watson, Catania & Dolcini, 2004; Koniak-Griffin, Lesser, Uman & Nymathi, 2003; Peterson et al., & Davies, 2007; Wingood et al., 2003). Youth with lower socioeconomic backgrounds may have fewer recreational opportunities outside of the residence because of limited funds (e.g., participating in sports teams costs money the family may not have), time (e.g., participating on sports teams requires parents to travel to practices and games and those parents may not have time outside of work to do this), and/or safety (e.g., it is not safe in some areas for youth to play outside after dark). For these reasons, television watching may be one of the few recreational activities that youth in lower income families are able to participate in while youth in higher income families may watch fewer hours of television because they have more recreational opportunities. Additionally, if these youth are staying at home more, they may have more of an

opportunity to engage in sexual behaviors, which could be considered both recreation and exercise. Because Black/African American families have less income and wealth than the average white family living in the United States (Lipsitz, 2006), controlling for socioeconomic status is imperative. Future research should include measures of socioeconomic status to better understand the relationship between television hours watched on an average school day and socioeconomic status. Future research should also include participation in extracurricular activities as a measure as well.

Finally, the extent to which youth underrepresented or overrepresented their behaviors on the 2007 YRBS cannot fully be determined. For example, although Hearn and colleagues (2003) found that adolescent women 12 to 14 years of age were highly reliable in their reporting of age at first intercourse, Alexander and colleagues (1993) found high levels of inconsistency among youth reporting age at first intercourse. In addition, some evidence suggests that reliability of self-reporting may vary with gender. Siegel and colleagues (1990), for example, found that middle school male students were more likely to overestimate their sexual activity while middle school aged female students were more likely to understate their sexual activity. However, as stated previously, the high test-retest reliability of the YRBS survey as stated by Brenner and colleagues (2002) suggests that respondents are reliable in their self-reporting.

Findings of the study may imply that there are a number of other social, cultural, and possibly economic factors that contribute to differences in the sexual behavior of Black/African American female youth and other youth aside from their differences in television hours watched. For example, it makes sense that a female youth who began menarche at 10 years of age would also begin having sexual intercourse at an earlier age because menarche is seen as a sign of womanhood (Chandra, Martinez, Mosher, Abma & Jones, 2005; Singh & Darroch, 1999) and, thus, would have a higher number of lifetime sexual partners (Dowse, 2002; Greenberg, Magdar, & Aral, 1992). As stated previously, some studies have found that Black/African American women begin menarche earlier and, as a result, may be more likely to have “grown woman” experiences earlier (Dowse, 2000). This may account for the Black/African American adolescent females in the sample being more likely to report initiating sex at an early age and being more likely to having 3 or more lifetime sexual partners than their white female counterparts. Future research should include onset of menarche as a variable to better understand its relationship to television watching and sexual behavior.

“Early” onset of sexual activity among the Black female population may be an adaptive practice for this group since Black/African Americans living in the United States experience early health deterioration due to repeated and consistent exposure to stressors (e.g., discrimination, racism, lack of access to jobs, education, housing, etc.) over their lifetime (Geronimus, Hicken, Keene, & Bound, 2005). This

phenomenon had been termed the “weathering hypothesis,” and many studies have documented evidence to support this hypothesis which include, but are not limited to, higher rates of infant mortality (e.g., Fiscella, 2004; Hessol & Fuentes-Afflick, 2005; Lane et al., 2001) and maternal mortality (Fiscella, 2004), higher rates of teen pregnancy (e.g., Gavin et al., 2009), and a shorter lifespan (e.g., Geronimus, Bound, Waidmann, Hillmeier & Burns, 1996) among Black/African Americans. Often, these outcomes persist even when income and education level are controlled.

Additionally, Black/African American female adolescents in the sample reported using condoms at a higher rate than their white counterparts, but were significantly less likely to use any form of contraceptive to prevent pregnancy. This, again, may bring light to the different cultural norms and attitudes about pregnancy, childbearing, and certain sexual behaviors in the Black and white communities. Delaying childbearing and childbearing practices (e.g., initiating sex at a certain age, not using contraceptives, etc.) are a normative for white female adolescents while engaging in sexual behaviors earlier is often a desire to assert their independence and rebel against authority (Lauristen, 1994). For Black/African Americans, on the other, initiating certain sexual behaviors earlier are adaptive practices (Geronimus, 2003) for economic and health reasons, among other things. According to the “weathering hypothesis,” Black/African American experience physical aging earlier (Geronimus, 2003; Geronimus et al., 2005), therefore, initiating sexual intercourse at an early age and using contraceptives to prevent pregnancy less may actually benefit

Black/African American women's health in the long run. For example, Astone and colleagues (2002) found that Black women in their sample who had their first child after 25 years of age had higher mortality rates than those who had their first child at younger rates. In addition, Colen and colleagues (2006) found that falling teen pregnancy rates in the 1990s were associated with the rising employment rates of the times, but only among Blacks/African Americans in their sample, specifically among 18- and 19-year old African American women. Understanding how the social and cultural norms, as well as, how adaptive practices of specific groups influence sexual behavior is important when studying the relationship between these factors.

Despite these limitations, however, the compelling aspect of this research is that it represents an important addition to the literature on the relationship between television viewing and sexual behavior among Black/African American adolescent female adolescents. Few studies have examined how television affects the Black/African American female adolescent population specifically, while those that do often report conflicting findings. The findings of this research help inform future studies about the relationship of television viewing to the sexual behavior of female adolescents overall, but specifically, Black/African American female youth.

Future Implications for Public Health

Considering that the present study found no relationship between the amount of television hours viewed and certain sexual behaviors of Black/African American female adolescents, implications in that regard are limited. Findings suggest that the number of television hours viewed by a Black/African American female adolescent does not, by itself, influence the sexual behavior of this group. Special consideration needs to be taken in determining what type of programming youth watch, not simply the number of hours they watch television. Had this study focused on television content, and not simply television hours viewed, findings may have been different for this group. Though no relationship was found, previous research points to the need for risk and responsibility messages on television programming geared toward the Black/African American female youth population.

As stated previously, having a better understanding of how the social and cultural norms of different groups influence their sexual behavior is important. However, there are a number of implications for public health based on other findings of the study. Although television viewing hours did not affect the sexual behavior of Black/African American female adolescents in this study, it was associated with the sexual behaviors of the overall female adolescent respondents. Including more risk and responsibility messages on television would increase the visibility of those messages and may increase the internalization of those ideas and modeling of those behaviors. Additionally, more accurate portrayals of sex, which

include but is not limited to, the physical, emotional and psychological effects of being in a sexual relationship would also assist in the cultivation and modeling of sexual behaviors. Media personnel should also acquire more input from young Black/African American female adolescents to develop responsibility messages specifically for this group. Public health practitioners should continue to inform media experts on ways to include more risk and responsibility messages in television programming in ways that will be receptive to female youth.

Second, when all female adolescents were included in the analyses, Black females were more likely than white females to initiate sexual intercourse at an early age (14 years of age or younger), have more than 3 lifetime sexual partners and use condoms at last intercourse but less likely to have any sexual partner within the last 3 months and use any contraceptive to prevent pregnancy. Again, having a better understanding of how the cultural norms of this group influence their sexual behavior is important. The weathering hypothesis may explain some of these differences (e.g., earlier initiation of sexual intercourse and fewer usage of any contraceptive to prevent pregnancy). Public health practitioners should include more of Black/African American females in the developmental stages of culturally-tailored sexual health education programs, as well offer more programs tailored to this community.

Although television viewing was not associated with sexual behavior among Black/African American female adolescents, it was associated with sexual behavior

of female adolescents overall. Similar implications and suggestions to those listed above should also be noted here. More sexual health education programs that give female adolescents the knowledge and self-efficacy to use condoms and other contraceptives, as well as the self-efficacy to hold conversations about contraceptive use with their sexual partners is important. Including role playing in those programs and/or witnessing theatrical performances may provide assistance in this area as youth will be shown behavior to be modeled.

Incorporating discussions about popular television show episodes into sexual health and sexual education programming may be beneficial. Female youth may be able to identify certain sexual behaviors and messages on their favorite or most watched television programs, and holding a discussion about such behaviors and messages may provide them with more information than simply presenting sexual education messages in a different context (e.g., lecture). For example, it may be easier for a female youth to brainstorm how to bring up and have a discussion about using condoms with her partner by talking through a scene in MTV's *Skins* than by thinking about a time in her personal future or past. Likewise, discussing Joan's (from *Girlfriends*) 3-month rule for having sex with a new partner may also provide the talking points a female youth needs when she is taking on a potentially new partner. These discussions may give the youth the skills they need to internalize responsibility messages and enact behaviors accordingly.

Conclusion

Television's treatment of sexual content in recent years has raised important societal concerns in a time where decisions about sexual behavior inescapably involve public health issues (Kunkel et al., 2005). Television provides a powerful form of influence in our society that disseminates ideas and "truths" regarding a variety of topics (Brooks, 2007; Collins et al., 2004; Collins, 2008; Cosby, 1994; Gray, 1995; Linder & Gentile, 2008; hooks, 1981; Parenting School Years, 2009; Perraccini & Alligood, 2005; Potera, 2009; Smith-Shomade, 2002; Stephens & Phillips, 2005; Strausburger, 2009; Tirodkar, & Jain, 2003). Research suggests that television can and does act as a "super peer," educating youth about sexual behaviors, influencing their attitudes regarding sex and sexuality and informing them about sexual decision-making (Brown, 1993; Brown, Halpern & L'Engel, 2005; Farrar, 2006; Farrar et al., 2003; Gruber & Thau, 2003; McGruber, 2008; Teitelman, Bohinski, & Boente, 2009). As a result, understanding how television influences the sexual behavior of youth is essential in improving the health of these youth.

The overarching goal of the present study was to better understand the influence that viewing high amounts of television has on the sexual behavior of high school-aged female adolescents, specifically Black/African American female adolescents. This study contributes to the current research in many ways. First, it adds to the 13 articles identified by Escobar-Chavez and colleagues (2005) that discuss the links between mass media use and sexual behavior. Second, it is the first

to use the YRBS, a national survey, to examine the relationship between television watching and sexual behavior. Third, findings indicate that watching higher levels of television is not predictive of certain Black/African American female adolescent sexual behavior but is associated with early initiation of sexual intercourse, condom use and any contraceptive use to prevent pregnancy among female adolescents in general. Fourth, these findings suggest that there may be distinct (social, cultural, economic, etc.) norms and beliefs about sexual intercourse in the Black and white communities that affect female youth's sexual behaviors outside of their television watching behavior. The lack of significant findings between television viewing behavior and the sexual behavior of Black/African American female adolescents underscores the need for further research regarding how television influences this population and how culture and other factors play into the sexual behavior of this group. Additionally, the significant findings of how television viewing affects the sexual behaviors of female adolescents overall highlights the need for more sexual behavior risk and responsibility messages on television.

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