

UNDERSTANDING HOW FAMILY CONTEXTUAL FACTORS AFFECT
ADOLESCENT OUTCOMES: AN EXAMINATION OF AN AFRICAN AMERICAN
SAMPLE

A Dissertation by

Shani Roshelle Roberts

Master of Arts, Wichita State University, 2007

Bachelor of Arts, Westfield State College, 2005

Submitted to the Department of Psychology
And the faculty of the Graduate School of
Wichita State University
in partial fulfillment of
the requirements for the degree of
Doctor in Philosophy

May 2011

© Copyright 2011 by Shani Roshelle Roberts
All Rights Reserved

UNDERSTANDING HOW FAMILY CONTEXTUAL FACTORS AFFECTS ADOLESCENT
OUTCOMES: AN EXAMINATION OF AN AFRICAN AMERICAN SAMPLE

The following faculty members have examined the final copy of this dissertation form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree Doctor of Philosophy, with a major in Psychology.

Rhonda K. Lewis, Committee Chair

Darwin Dorr, Committee Member

James Snyder, Committee Member

Michael Birzer, Committee Member

Sabina Low, Committee Member

Accepted for the College of Liberal Arts and Sciences:

William D. Bischoff, Dean

Accepted for the Graduate School:

J. David McDonald, Dean

DEDICATION

To my family and friends
who supported me throughout my graduate education at Wichita State University:

I love you all very much
and thank you for all of your encouragement.

Education is for improving the lives of others
and for leaving your community
and world better than you found it.

Marian Wright Edelman

ACKNOWLEDGMENTS

Dear Heavenly Father, I thank you for all that you have done for me and all that you continue to bless me with. To Dr. Rhonda Lewis; you will never know how grateful I truly am to you for your mentoring and leadership throughout this entire process. I thank you and truly love you for all that you have done and continue to do for me. To my committee members Darwin Dorr, James Snyder, Sabina Low and Michael Birzer: I thank you for your effort and insight throughout this process. To my parents: Daddy, thank you for personally investing in my education at a very young age. I love you. Mommy, I love you and hope that I continue to make you proud. To my family and friends: I am forever grateful for your unconditional love and support over the years. And a special acknowledgment to my love, although you came into this process towards the end, you have made a great impact on the finale – I love you!

ABSTRACT

Family structure has been examined in depth for its possible impact on adolescent outcomes (such as substance use, achievement, sexual risk, etc.). Among the African American community, less than one-half of African American children live in two-parent households. African American households earn less than Hispanics and Caucasians, and they are less likely to be married than both Hispanics and Caucasians (Kreider & Elliot, 2009; NCES, 2003). The present study examined the level of association between family contextual factors (i.e., parent's level of income, marital status, parent's level of education) and adolescent outcomes (i.e., sexual activity, substance use, adolescent education) among an African American sample of adolescents ages 12 to 17. Using data from The National Longitudinal Study of Adolescent Health (also known as the Add Health Survey), N = 890, five hypotheses examined how positive family contextual factors have either a lower level or a higher level of association with the adolescent outcomes of sexual intercourse, sexual risk, substance use, educational aspirations, and educational performance. Results showed that two out of the five hypotheses were statistically significant. The study had varied outcomes for females and males. Specifically, the results showed that family contextual factors had an impact on the educational aspirations and educational performance of African American females. For African American males, parent's marital status had a negative association with substance use. Lastly, while 57% reported being sexually active, it was surprising to find a large number of adolescents, 37%, who reported not using birth control.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
II. LITERATURE REVIEW	4
Family Contextual Factors	4
Parent Income	5
Parent Level of Education	6
Marital Status (Single vs. Married)	6
Adolescent Outcomes	8
Sexual Intercourse/Risk: Aversive Outcome in Adolescents	9
Substance Use: Aversive Outcome in Adolescents	10
Educational Aspirations: Positive Outcome in Adolescents	11
Educational Performance: Positive Outcome in Adolescents	12
Relationship between Family Context and Adolescents Outcomes	13
Hypotheses	19
III. METHODOLOGY	21
Participants	21
Measures	21
Procedures	23
Data Analysis	24
IV. RESULTS	25
Preliminary Analysis	25
Primary Analysis	26
Hypothesis Testing	30
V. DISCUSSION	42
Adolescent Sexual Intercourse	42

TABLE OF CONTENTS (CONT.)

Chapter	Page
Adolescent Sexual Risk	44
Adolescent Substance Use	45
Educational Aspirations and Educational Performance	46
Male and Female Educational Aspirations and Performance	48
Surprising Findings	49
Limitations	50
Future Research	51
Conclusions	52
REFERENCES	53
APPENDICES	59
A. Survey Response Choices – Family Contextual Factors	60
B. Survey Response Choices – Adolescent Education	61
C. Survey Response Choices – Risky Behaviors	62

LIST OF TABLES

Table		Page
1	Family Contextual Factors (FCF)	22
2	Adolescent (Education) Outcomes Questions	22
3	Adolescent (Risky Behaviors) Outcomes Questions	23
4	All Variables by Gender	28

LIST OF FIGURES

Figure		Page
1	Family Contextual Factors	5
2	Adolescent Outcomes	9
3	Linking the Role of Family Contextual Factors to Adolescent Outcomes	20
4	Hypothesis 1 Males	31
5	Hypothesis 1 Females	32
6	Hypothesis 2 Males	34
7	Hypothesis 2 Females	35
8	Hypothesis 3 Males	36
9	Hypothesis 3 Females	37
10	Hypothesis 4 Males	38
11	Hypothesis 4 Females	39
12	Hypothesis 5 Males	40
13	Hypothesis 5 Females	41

CHAPTER I

INTRODUCTION

Family structures have undergone major shifts in the United States over the past 30 years. Kreider and Elliot (2009) reported that the number of children living with two biological married parents has steadily declined, and the number of children living with a single parent is at an all time high. There have been numerous studies over the years validating the impact of family structure variables and their impact on adolescent outcomes (Blum, Beuhring, Shew, Bearinger, Sieving, & Resnick, 2000; Flewelling & Bauman, 1990, Ginther & Pollak, 2004; Hoffman, 2006; McLoyd, 1998; and Vereen, 2007). Researchers have established that the diverse changes in family structure have impacted adolescent behavioral, as well as social, outcomes (Hoffman, 2002). Specifically, studies have shown that children living with both of their biological parents are less likely to be involved in delinquent behaviors, drop out of school, and use drugs (Hoffman, 2002; Hoffman, 2006; and Kowaleski-Jones & Dunifon, 2006).

The objective of this research was to expand on existing literature by using an entirely African American sample to explore how multiple family factors (family contextual factors) may be related to adolescent outcomes (i.e., sexual intercourse, substance use, and educational aspirations). For the purpose of this research, family contextual factors were defined as parent's level of income, marital status (single vs. married) and level of education. These family contextual factors are being examined individually to account for the possible individual levels of difference that each may have on adolescent outcomes. Although these variables among the literature have been combined and defined as socioeconomic status (Williams & Collins, 1995; House, Kessler, & Regula, 1990), the present study was designed to assess these factors separately in order to gain a clearer picture of each factor's influence, rather than a combined –

and possibly muddled – picture of what was truly going on. In past research, Kantomaa, Tammelin, Nayha, and Taanila (2007) examined the relationship between adolescents’ physical activity and parents’ income and parents’ education. Their results show that high parental education was associated with adolescents being physically active, and high parental income was associated with adolescents being an active sports club member. Thus, for the purpose of this study, each variable - parents’ level of education, parents’ income and marital status – were examined separately.

The adolescent outcomes that were examined in this study are risky behaviors (i.e., sexual activity, substance use) and adolescent education (i.e., educational aspirations, educational performance).

There is much research literature available exploring the relationship between family contextual factors and adolescent outcomes. For example, Kreider and Elliot (2009) estimated approximately 32% of African American adults were married, as compared to 64% estimated in 1970. Not only are the marriage rates among African Americans declining, but African American adults marry at later ages as well. More African American children live in a single parent home than Caucasian children, and they are more likely to live in poverty than Caucasians (CDC, 2006). It is estimated that 35-40% of African Americans are middle class, but most achieve this through their marriage (Dixon, 2008). These observed differences among African American families versus Caucasian families may account for some of the problems African American children and adolescent’s experience. Although deviant behaviors often begin in the home, there are many societal factors experienced by African Americans, such as increased unemployment rates, increased incarceration rates, and lower educational attainment rates that

could also result in the observed differences between the African American and Caucasian community (McLoyd, 1998).

The African American community is faced with a number of challenges, such as poor neighborhoods, less access to quality health care, poor school systems, negative effects of substance use, gang violence, and an increase in single mother households (McLoyd, 1998; Hoffman, 2006; Hoffman, 2002). These factors, along with many others, may contribute to the problems African American adolescents experience in their development. Although educational attainment in the United States is improving across all racial groups, African American adolescents continue to be at a greater disparity in terms of high school dropout rates (12% African Americans compared to 6% Caucasians) and are subject to lower graduation rates (84% African Americans and 92% Caucasians, respectively; CDC, 2008; Hoffman, Llagas & Snyder, 2003).

Belgrave and Allison (2006) report that, although adolescents tend to engage in more deviant behaviors than any other age group, overall adolescent deviant behaviors have decreased in many areas since the early 1990s. While this may be viewed as a positive outcome, African American adolescents continue to be at a greater risk than Caucasian adolescents for engaging in deviant behaviors. Continued substance use and sexual activity among African American adolescents may not only have negative effects on educational aspirations and attainment, but the family structure may also be influencing these outcomes. Further investigation into the relationship between adolescent outcomes and family contextual factors is critical to help identify the needs in the African American community and the intervention/prevention programs which could assist in promoting effective practices.

CHAPTER II

LITERATURE REVIEW

Family Contextual Factors

The fluid nature of the family has been one of the many risk factors studied in the sociology literature and continues to be one of the primary predictors of adolescent development (Astone & McLanahan, 1991; Carlson, 2006; McLanahan, 1985;). Family contextual factors, meaning the way in which the family operates within its structure, among all races has changed dramatically over the last few decades, and many have linked these changes to adolescent outcomes (Astone & McLanahan, 1991; Carlson, 2006; McLanahan, 1985;). There may have been a number of reasons for this change.

The next section will explore the three variables identified earlier as the family contextual factors, which include: 1) parent income, 2) parent education, and 3) marital status (see Figure 1). Again, these family contextual factors are being examined individually to determine the level of influence each one has on adolescent outcomes. Although each of these variables could be included in socioeconomic status, the present study examined how these variables independently associate with adolescent outcomes. Each factor will be examined using data from an African American sample as well as from an exploration regarding how each of these variables may or may not be contributing to the development of African American adolescents' outcomes.

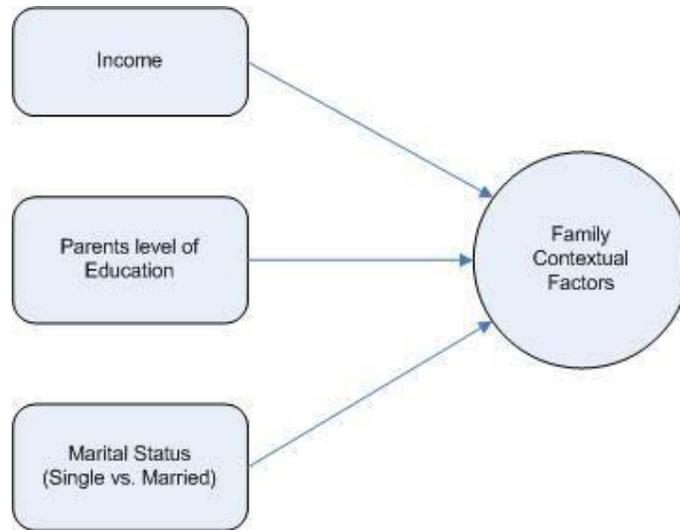


Figure 1. Family Contextual Factors

Parent Income

Parents' material resources appear to be an especially important factor when examining the development of adolescents. Whether from a single parent or two parent household, there may be certain variables that are more important in order to avoid negative adolescent outcomes. Parental income has been identified as one of these important factors. McLanahan and Booth (1989) examined single mother households and their relationship to the economic outcomes of social well-being and long-term consequences for children. They reported that single mothers over the last few decades have continued to emerge as a major family structure (McLanahan & Booth, 1989) and that they inevitably earn less than married families. Kreider and Elliot (2009) reported that the median income for families was \$50,000 and that married couple families had the highest income of all families with a median combined income of \$57,300. Additionally, African American households had the lowest median income at \$29,400 and had the highest percentage (19.1%) of household incomes below \$10,000 (Kreider & Elliot, 2009). Mulkey, Crain, & Harrington (1992) reported that if income was the only major factor in adolescent

educational outcomes, then more adolescents should be experiencing negative outcomes. Instead, the authors point to explanations beyond simple income, such as economic conditions, adolescent behaviors, and parent level of education, to address observed educational differences among adolescents (Mulkey et al., 1992).

Parent Level of Education

The impact of parent(s') level of education on adolescent development may not be as clear as previously thought. Researchers have suggested that a parent's level of education could be thought of as a factor that indirectly leads to other factors, such as time spent with the adolescent, availability of resources, and access to quality care. These factors may further complicate the examination of aversive adolescent outcomes (McLanahan & Booth, 1989; Mulkey et al., 1992). The higher the parent(s') education, the more access they will have to securing higher paying employment, which may then lead to more resources for the adolescent. Examining 1,258 participants, Haveman, Wolfe, and Spaulding (1991) used behavioral observations and surveys to find that parents' level of education and mothers' occupation had a significant positive impact on children and adolescents' completion of high school. Other factors, such as the number of children in the family, incidence of poverty, and frequent relocation as a child, had a significantly negative impact on the children and adolescents' completion of high school (Haveman et al., 1991).

Marital Status (Single vs. Married)

Green, Gesten, Greenwald, and Salcedo (2008) found that parental marital status was not only a significant risk factor for the African American female population, but was also a significant predictor for males and Caucasian adolescents. Overall, the number of married coupled families for both African Americans and Caucasians has declined; however, Caucasian

women were still twice as likely as African American women to be married (Belgrave & Allison, 2006). In 2000, 27.5% of African American women and 34.2% of African American men were married with spouses present, compared with 53.2% of Caucasian women and 56.8% of Caucasian men (Belgrave & Allison, 2006).

In an examination of the declining marriage rates among African Americans, James (1998) offered three economy-based explanations: 1) the economic status of men contributes to the number of married coupled families among African Americans, 2) African American women have become more economically independent and do not have economic needs that would typically be fulfilled within a marriage, and 3) changes in African American gender ratios have contributed to more available women than available men as marriage partners. When economic opportunities were good, both men and women married earlier, but the declines in marriage among African Americans may have been due to the poor labor market for African American men (James, 1998). Over the past few decades, the increasing economic marginality of African American men has made them less attractive as potential mates (James, 1998). This explanation focuses on the function of marriage in providing financial support for women. James (1998) also found additional support which suggests that, as women obtain more economic opportunities, marriage levels decline. Thus, African American women are not getting married at the same rates that they did in the 1980s, which contributes to the increased number of single parent households among the African American population. This decline in marriage rates may be indirectly affecting African American adolescent behavioral outcomes by the increased number of single parent households.

Adolescents Outcomes

Many factors influence African American adolescents in regard to sexual activity, substance use, and education (Barrett & Turner, 2006; Blum et al., 2000; Flewelling & Bauman, 1990). Risk factors are characteristics that increase the likelihood of a negative outcome and are evident across social-ecological levels, such as environment, number of parents in the household, parent's level of education, number of siblings in the household, and level of family income (Hawkins & Catalano, 1992). Conversely, these same characteristics can also be viewed as protective factors, which are characteristics that may decrease the likelihood of a negative outcome. Both risk and protective factors are very important because they contribute to observed African American adolescent outcomes.

The number of risk factors per family may also have an influence on adolescent academic achievement, as well as a tendency to engage in negative behaviors. Green et al. (2008) examined how risk factors can predict delinquency referrals. Delinquent referrals in this study were defined as the total number of referrals made to the Florida Department of Juvenile Justice (DJJ) for persons under the age of 17. The results indicated that being male, African American and poor were associated with an increased number of delinquency referrals. Socio-economic status was the strongest predictor of delinquency referrals (Green et al., 2008). These results suggest that male African American adolescents who come from lower income households have an increased likelihood of receiving a delinquency referral. This further supports the importance of exploring the African American family and factors that may be influencing negative outcomes among adolescents.

African American adolescents, compared to Caucasians and Hispanics, have been at a disadvantage with regard to parent's level of education, the number of biological parents in the

household, and level of poverty. Thus, it is important to examine how these factors may influence risky behaviors in this population. Figure 2 highlights the risky behaviors examined in the current study. Seven risky behaviors (i.e., sexual intercourse, birth control, cigarettes, chewing tobacco, alcohol, marijuana, and cocaine) of African American adolescents were examined. Adolescents' educational outcomes (specifically, educational aspirations and educational attainment) were examined. Each variable was assessed for gender differences.

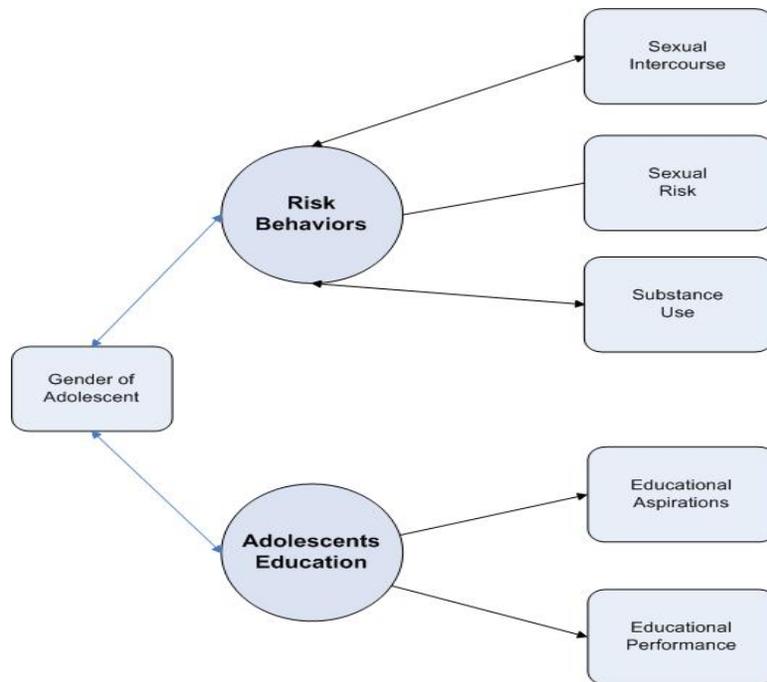


Figure 2. Adolescent Outcomes

Sexual Intercourse/Risk: Aversive Outcome in Adolescents

The rates of sexually transmitted infections and HIV/AIDS among adolescents are alarming, but particularly so among the African American population. The CDC (2007) reported that 34% of currently sexually active high school students reportedly did not use a condom during their last sexual intercourse. African American adolescents report risky behaviors that are similar to Caucasians and Hispanics. The CDC (2007) reports that 51% of Hispanics/Latinos,

68% of African Americans, and 43% of Caucasian adolescents engaged in sexual intercourse. They also report that 46% of females and 48% of males are engaging in sexual intercourse. In Kansas, these percentages were only slightly different. The CDC (2007) reports that for Kansas, 45% of all high school students engaged in sexual intercourse. Unfortunately, there were not enough data collected from Kansas for a comparison among the different racial groups, but the CDC (2007) was successful in reporting gender differences. They found that 44% of females and 45% of males were engaged in sexual intercourse in high school. These percentages were only slightly lower than the national average (CDC, 2007).

Substance Use: Aversive Outcome in Adolescents

Hoffman et al. (2003) found that African Americans were less likely than Caucasians and Hispanics/Latinos to report using alcohol or tobacco. Hoffman also reported differences in marijuana use, with 16% of African Americans using marijuana compared to 19% of Caucasians. (Hoffman et al, 2003). There were no differences observed between African Americans and Caucasians with regard to illicit drug use (Hoffman et al., 2003). African American adolescents engaged in substance use, but they had rates similar to their Caucasian counterparts, with the exception of illicit drug use. Even though it was reported that African Americans engaged in similar substance use compared to Caucasians, they continue to be more affected by the negative outcomes of substance use (e.g., incarceration rates, longer jail sentences, greater community impacts; Moore & Elkavich, 2008). There is a dearth in the literature regarding African American substance use and the relationship between having a single parent versus having a two parent household. More research is needed in this area.

There has been extensive research exploring the relationship between family structure and deviant behaviors among adolescents (Astone & McLanahan, 1991; Carlson,

2006McLanahan, 1985;). Many studies have examined the different structures of families, such as single parent, two parents, or step parents, and how these different structures can be linked to deviant behaviors in adolescents, such as smoking, drug use, alcohol use, and sexual activity (Barrett & Turner, 2006; Browning, Leventhal, & Brooks-Gunn, 2004).

The origins of the African American family structure have been explored in the literature in many different ways, but the literature specifically addresses events in history that may influence the African American family struggles. For example, Ruggles (1994) argued that single parent households are not new in the African American community and that there is a pattern of single parent households that could be traced back to the 1850s. Ruggles (1994) also suggested that the pattern of more African American children coming from single parent homes was a result of the socioeconomic conditions post-slavery, and that, at the time, social norms about marriage were different for Caucasians and African Americans. Ruggles (1994), Littlejohn-Blake and Darling (1993), Willie (1993), Moynihan, (1965), and Dickson (1993) all examined the origins of the African American family and relate current outcomes experienced today to those in the past. Some of these connections begin to address the outcomes for adolescents and how being raised in certain conditions can increase negative outcomes in adolescents (Dickson, 1993Littlejohn-Blake et al., 1993;; Ruggles, 1994).

Educational Aspirations: Positive Outcome in Adolescents

Although African American adolescents lag behind in educational attainment, their educational aspirations are reportedly equal to Caucasians (Cahalan, Ingels, Burns, Planty, & Daniel, 2006). Cahalan et al. (2006) found that in 2002, 11% of African Americans reported that they expect to earn only a high school diploma. They reported that 13% of African Americans stated that they would complete two years or less of college or vocational school, as compared to

11% of Caucasians (Cahalan et al., 2006). Forty-one percent of African Americans reported that they would earn a college degree, and 69% of African Americans stated that they will enter college right after graduation (Cahalan et al., 2006). African American sophomores (41%) reported that they would go on to college, which was more than Caucasians (40%) and Hispanics/Latinos (40%;Cahalan et al., 2006). There was an observed difference among socioeconomic status (SES) for all races. Sixty-six percent of low SES respondents expect to obtain a higher degree, whereas 79% of middle SES and 93% of highest SES expect to receive a higher degree (Cahalan et al., 2006). These findings suggest that African Americans do have educational aspirations that are equal to Caucasians, but there is a disconnect between what African Americans would like to do (educational aspirations) and what they are actually doing (educational performance).

Educational Performance: Positive Outcome in Adolescents

Education is the key to financial, personal, and social success, not only in American culture, but across the world (Payne, 2008). African American adolescents lag behind Caucasian adolescents regarding academic achievement. However, in the last two decades, that gap has been closing (Kreider & Elliot, 2009). More African American adolescents have been completing high school, and high school dropout rates have decreased for the past few decades. Although African Americans adolescents' graduation and college enrollment rates have increased, African Americans continue to be underrepresented in the areas of high school graduation and educational performance at the secondary and postsecondary level.

Many children may experience a certain level of pressure to excel in school. Adolescents who do well in elementary and middle school are more likely to have better educational performance, be more well adjusted, have a more positive outlook on life, and have higher self-

confidence (Redd, Brooks & McGarvey, 2002). Redd et al. (2002) reported that African American and Hispanics/Latinos have lower average levels of achievement and are less likely to graduate from high school than Caucasians and Asians. Redd et al. (2002) also suggested that families play a strong role in adolescents' performance in school and report that adolescents who have two parents who are involved and come from an affluent background fare better than adolescents who don't have this background (Redd et al., 2002). The authors report that the most important factor for adolescents' success is parental involvement, which may imply the number of parents in the household, marital status, and socioeconomic status are not solely responsible for the success rates of adolescents. These findings suggest that further investigation into factors contributing to both successful and unsuccessful outcomes among African American adolescents are needed to help create more effective prevention/intervention programs that promote success among this population.

Relationship between Family Contextual Factors and Adolescent Outcomes

This section explores several articles that have examined either African American adolescent and/or analyzed any of the above-mentioned adolescent outcomes. Each study offered either confirmation of the ideas presented previously and/or added a new perspective. However, the majority of the research conducted in this area did not include large samples of African American adolescents. In addition, the literature usually focused on one adolescent outcome such as juvenile delinquency; however, other outcomes, such as sexual activity or educational aspirations, were not examined. This section highlights the need for examining multiple family contextual variables that might be related to more than one adolescent outcome.

Kreider and Elliott (2009) investigated the living arrangement of American families using the US Census Bureau data. The authors found that, in 2007, a reported 5 million children (all

racess included) lived in single father households, while a reported 14 million children lived in single mother households (Kreider & Elliott, 2009). The National Center for Education Statistics found that while the number of single father families grew from less than half a million to 2 million, female-headed households have increased from 3 million in 1970 to 10 million in 2003. What can be concluded from both sources is that the number of single parent households is increasing. Especially noteworthy was the increase in the number of single mother households, which increased by 4 million from 2003 to 2007.

Research indicates that children and adolescents raised in a single parent household will suffer more negative consequences than children and adolescents in two parent households (Hoffman et al., 2003). Lower educational performance and delinquent behaviors among adolescents were commonly linked to single parent households (Hoffman et al., 2003). Due to the increase in the number of single parent households over the last few decades, living in a single parent household is no longer viewed as living in a non-traditional family.

Researchers have linked family structure to the delinquent behaviors of adolescents (Belgrave & Allison, 2006; Green et al., 2008; Leiber, Mack & Featherstone, 2009), but few have specifically compared differences in adolescent outcomes among single households versus married households using an African American sample. Hoffman et al. (2003) reported that “less than one-half of African American children lived with two parents in 2000 and that African American children were less likely than Caucasian or Hispanic children to live in a married couple family.” Hoffman et al. (2003) stated that “in 2000, 37% of African American children under 18 lived in two parent families, and 53% lived in single parent families.” For African American adolescents under 18 years of age, “49% are more likely to live with single mothers, rather than single fathers, 4%” (Hoffman et al., 2003). These statistics illustrate that African

American youth disproportionately experience single parent family structure compared to Caucasians and Hispanics.

Between 1980 and 1982, Mulkey, Crain, and Harrington (1992) examined 15,000 high school sophomores and seniors using the *High School and Beyond* longitudinal survey conducted by the National Opinion Research Center. Variables such as race/ethnicity, parents' level of education, number of siblings, income, and residence were explored in this study. Although racial differences between African American, Hispanic and Caucasian families were examined in the results section, this study did not fully explain their sample size by race/ethnicity in detail. The authors found that the effect of mother/father absent households on the upbringing on students' performance in school to be very small. When background was controlled for, results were no longer statistically significant. The study showed that the incidence of mother absent or father absent households may have a very small effect on adolescent educational outcomes; however the differences are better explained by the race, economic conditions and behavior of the adolescent (Mulkey et al., 1992). Mulkey et al. (1992) found that living in a father-absent household had no direct effect on test scores, while living in a mother absent household produced an insignificant direct effect on test scores. Father absence found no effect on vocabulary or science test performance, but had minor effects on grades. Mother absence had a small direct effect on science testing and on grades, but when both mother and father were absent from the home, students' grades were reduced by .17 and .27 standard deviations. However, this impact was inconsequential when compared to the outcome found in research examining the incidence of high school dropout rates, teenage pregnancy, arrest rates or poverty (Mulkey et al., 1992). These findings indicate that family structure, defined as the number of parents in the household, has a relatively inconsequential connection to negative adolescent academic outcome. In

conclusion, adolescents of single-parent households may be academically adequate, but the effects of an unstable home life may distract the adolescent, leaving them susceptible to increased incidence of other negative behaviors.

Gonzales, Cauce, Friedman, and Mason (1996) conducted a large longitudinal study with African American adolescents in Seattle, Washington. In this study, many variables were measured, such as family status (which was defined as the number of parental figures in the home environment), parenting variables, peer support, neighborhood risk, and school performance. Gonzales et al. (1996) found that family structure variables (family income, parent education level, number of parents in the home) did not significantly predict adolescents' school performance. However, this study had a modest sample size of only 120 African American adolescents and fewer males than females. This study also argued that the neighborhood of the adolescents was an indicator of adolescent educational outcomes. Although this study isolated important factors, school performance was the only outcome examined. Thus, there is a need for researchers to explore other factors that might be interfering with adolescent outcomes. The current study expanded on this research by examining a larger sample size of African American adolescents while looking at multiple outcomes among adolescents (i.e. substance use, sexual activity, educational aspirations and attainment).

Leiber, Mack, and Featherstone (2009) used the National Longitudinal Study of Adolescent Health (Add Health) to assess family structure defined as either intact (currently biological mother and biological father living in the same household) or non intact (defined as mother was divorced, widowed, or never married). Additionally, this study examined family processes (which included maternal attachment, maternal supervision and parental control) and economic factors (i.e., receipt of public assistance, employment and race) in relation to

delinquency for African Americans, Caucasians and Hispanics. With a total sample size of 9,636, the study examined three main variables (i.e., family structure, family processes and economic factors), while controlling for gender, age, race, maternal education, risk taking, peer attachment, peer deviance, presence of other adults, number of siblings, and time since disruption of the family. Results showed that there were no differences in the relationship of family structure, family processes and economic factors in relation to juvenile delinquency. Results also indicated that family structure (intact or non-intact) alone did not predict non serious or serious delinquent behaviors. Results were not analyzed by race to show whether there were differences. While family structure alone was not a predictor, it would have been interesting to see if there were differences among the African American population and if those differences had an impact on the results.

Garg, Melanson, and Levin (2007) used data from the National Youth Science Project, which consisted of 3,837 students between the ages of 13 to 20. Garg et al. (2007) found that “adolescents from single-parent families tend to fare worse than the adolescents from intact families on the factors that affect educational aspirations.” They point out that, while there was no statistical significant difference for male adolescents, males appeared to have more difficulty in single-parent households than females. Garg et al. (2007) also reported that adolescents’ academic self-schema, which includes grades, learning experiences, and parental educational expectations, explained around 40% of the variance of educational aspirations for both adolescents from single-parent household and intact families. The study emphasized the importance of determining how gender affects adolescent outcomes. These results were derived from an 89% Caucasian sample (only 2.1% identified as other racial groups). The authors did not break down the results based on racial groups, but they did identify gender differences.

Gutman, Sameroff, and Eccles (2002) examined risk and protective factors for an African American adolescent population on three achievement measures (grade point average, number of school absences, math achievement test scores). The authors hypothesized that those African American adolescents who have more risk factors will have a lower GPA, more school absences and lower math scores. Using the Maryland Adolescent Development in Context (MADIC) and a sample of 837 families, with 93% mother headed households and their children; they found that as the adolescents' GPA increased, the number of risk factors decreased (Gutman et al., 2002). Adolescents with less exposure to risks had higher GPAs. This suggests that there may be a relationship between adolescents' educational performance and family context.

Each of these articles further supports the need for the current study. Connections continue to be made between family structure (single parent or two parents), households, other family resources, such as income, parent level of education, marital status, and outcomes for adolescents. The current study hopes to expand on this by adding additional family factors, so as to not only examine family structure (e.g., single parent or two parents). Another important characteristic of the current study is that it examines a large African American sample as well as observes multiple adolescent outcomes.

Summary

Overall, within the United States, the traditional family has changed for both African Americans and Caucasians with African Americans facing greater disadvantages than Caucasians in many areas. For example, African Americans are less likely to be married, more likely to live in poverty, and there are more single parent households among African Americans than Caucasians (CDC, 2006; Kreider & Elliott, 2009). The African American adolescents raised in these environments may or may not be negatively affected by some of the variables that are

presented by parent(s)/guardians, such as income, level of education, and marital status. The question is how might these variables (i.e., parent education, parent income, and marital status) contribute to negative adolescent outcomes such as substance use and sexual activity, and in positive adolescent outcomes such as education aspirations and attainment?

Hypotheses

While there is research that explores family contextual factors separately, few studies have examined family contextual factors and adolescent outcomes using data from the National Longitudinal Study of Adolescent Health. The present study investigated a model that examines the link between family context and adolescent outcomes on an African American sample (See Figure 3). The following hypotheses will be explored:

- 1) Positive family contextual factors (*defined as parents' level of income, parents' level of education and parents' marital status*) will be associated with lower levels of sexual intercourse among African American adolescents.
- 2) Positive family contextual factors will be associated with lower levels of sexual risk behaviors among African American adolescents.
- 3) Positive family contextual factors will be associated with lower levels of substance use among African American adolescents.
- 4) Positive family contextual factors will be associated with higher levels of educational aspirations among African American adolescents.
- 5) Positive family contextual factors will be associated with higher levels of educational performance among African American adolescents.

Furthermore, the model below (Figure 3) examines how age and gender may moderate the different levels of association for each hypothesis.

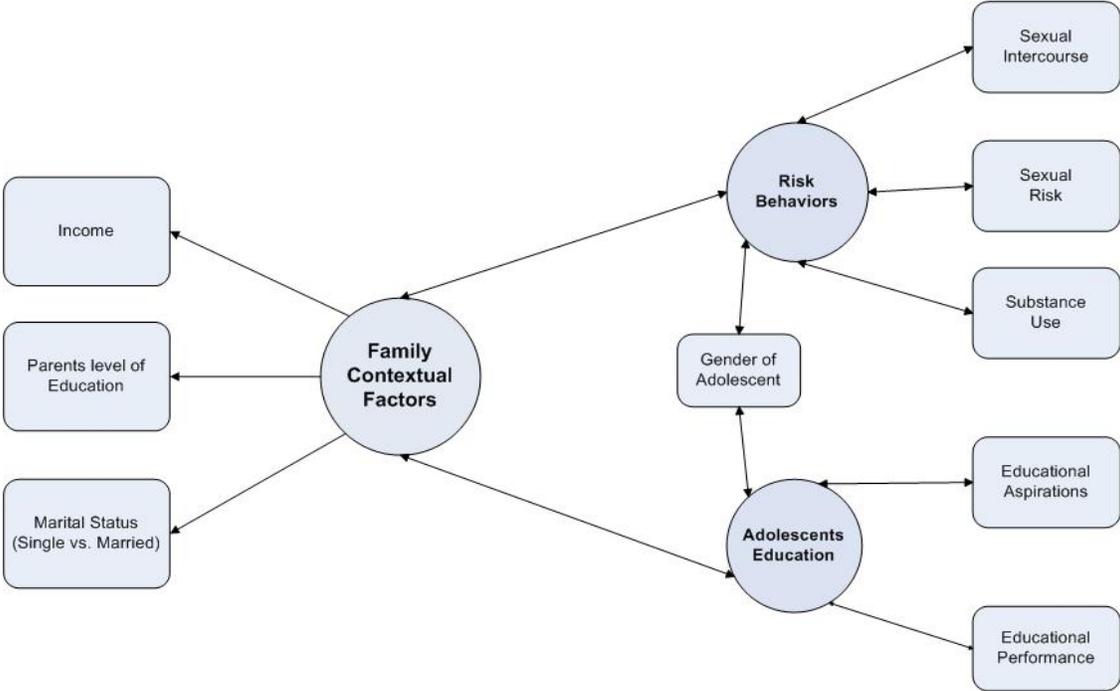


Figure 3. Linking the Role of Family Contextual Factors to Adolescent Outcomes

CHAPTER III

METHODOLOGY

Participants

The present sample included participants from the National Longitudinal Study of Adolescent Health (also known as Add Health Survey), a nationally representative survey used to assess adolescents on various psychosocial, behavioral and community level factors (such as perceptions and attitudes towards communities, families, siblings, friends, schools, and neighborhoods; Harris, Halpern, Whitbeck, Hussey, Tabour, & Entzel et al., 2009). The mean age of participants was 15 and 43% were reportedly in single parent households. The Add Health study is a nationally representative survey used to assess adolescents on a number of domains (such as communities, families, siblings, friends, schools, and neighborhoods). These domains assess various influences related to adolescent health and risky behaviors. After cleaning and screening for missing data, 890 African American adolescents between the ages of 14 – 17 were included in the analysis. The four highest rates of missing data were 142 missing responses for parent's level of education, 140 for parent's marital status, 73 for adolescent substance use, and 59 for adolescent GPA.

Measures

The Add Health wave I was comprised of four questionnaires (i.e., parent survey, teacher survey, adolescent in-school survey, and adolescent in-home survey). Sections of each questionnaire were used to address hypotheses. The family context variables (i.e., income, parent level of education and marital status) were derived from the parent in-home interview (see Table 1).

TABLE 1

FAMILY CONTEXT FACTORS QUESTIONS

Family Context	Question
Income	1. About how much total income, before taxes did your family receives in 1994?
Parent Level of Education	2. How far did you go in school?
Marital Status	3. What is your current marital status?

For adolescent education, educational aspirations (measured by two items on a 5-point likert scale, 1 (low) to 5 (high): *I want to go to college* and *I would like to go to college*) and educational performance (by actual grades achieved in math, English, science and history) are derived from the teacher questionnaire (See Table 2).

TABLE 2

ADOLESCENT (EDUCATION) OUTCOMES QUESTIONS

Adolescent Education	Question
Educational Aspirations	How much do you want to go to college?
	How likely is it that you will go to college?
Education Performance	What was your grade in each of the following subjects?

Lastly, risky behaviors were examined as an adolescent outcome, defined as sexual intercourse, sexual risk (measured by type of birth control use or lack thereof) and substance use (measured by questions regarding alcohol and substance use). For further explanation of each variable, please see the Appendix.

TABLE 3

ADOLESCENT (RISKY BEHAVIORS) OUTCOMES QUESTIONS

Risky Behaviors	
Sexual Intercourse	Have you ever had sexual intercourse?
Sexual Risk	What method of birth control did you or your partner use the first time you had sexual intercourse?
Substance Use	During the past 30 days, on how many days did you smoke cigarettes?
	During the past 30 days, on how many days did you use chewing tobacco or snuff?
	During the past 12 months, on how many days did you drink alcohol?
	During the past 30 days, how many times have you used marijuana?
	During the past 30 days, how many times have you used cocaine?

Procedures

Add Health was conducted in 1994 and used a random selection of 7th to 12th grade students from schools all across the United States. The Add Health Survey had a total of three waves (i.e., 1994, 1996 and 2001). Each wave consisted of an adolescent questionnaire, a questionnaire to schools, and an in-home interview with adolescents and their parents. In the in-home interviews with adolescents, parents were also asked to complete a questionnaire about their family and relationships. An estimated 90,000 adolescents participated by filling out information in schools. Parents and teachers also completed questionnaires about each adolescent.

For the purpose of the present study, wave I of the Add Health data set was used, when this group was in adolescence. A random sample of the larger data set (N=6000) was selected and, of this, 1,619 were African American adolescents. This is a cross-sectional data set. For

further details regarding the Add Health project, see Resnick, Bearmen, Blum, Bauman, Harris, Jones, Tabor et al. (1997).

Data Analysis

The present study used structural equation modeling to examine the relationship between family contextual factors and adolescent outcomes among African American adolescents. First, using a statistical program (SPSS 17.0), descriptive statistics of means, and standard deviations were conducted (George and Mallery, 2004). Second, independent sample t-tests were conducted for each variable to examine whether there was a significant difference between males and females. Third, statistical modeling software called AMOS (Byrne, 2010), was used to assess pathways for males and females between the family contextual factors and adolescent outcomes. Lastly, age of the adolescent was used as a control variable for the model. When this was completed, adolescent outcome variables were analyzed separately creating five hypotheses for males and five for females. Observed data was imposed onto the model for “fit.” All models were then compared using various fit indices and evaluated accordingly.

CHAPTER IV

RESULTS

Preliminary Analysis

Before estimating the models, many variables had to be recoded. (See Appendix 1 for the original response choices). Marital status was recoded into three response choices: 1 = single, 2 = married, and 0 = refused to answer. The income of the parent was modified so that each parent reported per capita income. This was done by dividing the number of people in the household by the reported income. Parent level of education was recoded into a hierarchy from 0 – 9 responses. Receiving a GED and high school diploma were recoded so that GED received a lower score.

Within the adolescent outcomes, many variables had to be recoded and/or transformed. For educational aspirations, items 1 and 2 were summed and each adolescent received a score from 2 (low aspirations) to 10 (high aspirations). The educational performance question was first recoded so that an A = 4.00, B = 3.00, C = 2.00 and D = 1.00 on math, science, English and history/social science. Once recoded, a GPA variable was created for each adolescent. Risky behaviors were made up of three variables: sexual intercourse, sexual risk (being the type of birth control method used) and substance use. Sexual intercourse did not need to be recoded because it was coded into 0 = no and 1 = yes. The response choices for sexual risk (birth control) were recoded into 2 = non-condom use and 1 = condom use. There were many response choices for types of birth control that adolescents reported using (See Appendix 1 for further explanation and response choice options). Additionally, for this item to be used in analysis, all of the adolescents who reported they were not sexually active were excluded from the sexual risk analysis. Substance use items were recoded so that each participant received a 0 = for no days using the

substance or 1= any number of days using the substance. After all five questions were recoded, a new variable was computed that summed all five items together to give each adolescent a substance score ranging from 0 to 5, with 5 indicating more substance use/risk.

Primary Analysis

Primary analysis explored 1) descriptive statistics of cleaned and screened data and 2) hypothesis testing.

Descriptive Statistics

Participants in this study were 45% male and 55% female with a total $n = 890$. Table 4 gives a detailed description of percent and frequency on all demographic information by gender. The mean age was 15 and the mean grade level was 10th. The mean family income per capita was \$9,755. An independent samples t-test was run and found that there was not a significant difference between male and female adolescents $t(605) = 1.03, p = .30$. For parents' level of education, 11% did not complete high school, 2% completed a GED, 18% graduated from high school, 26% completed a trade or started college after high school, 15% graduated from college, and 12% went on to professional training after college. There was a significant difference between male and female adolescents in terms of parents' level of education $t(746) = 1.95, p = .05$. Forty-one percent of parents reported that they were single, while 43% were married. There was not a significant difference between male and female adolescents in terms of parents' marital status $t(748) = .61, p = .54$.

The mean reported educational aspiration from adolescent participants was 9 (range 2-10). There was a significant difference between male and female adolescents with regards to educational aspirations $t(883) = -3.87, p = .01$. The mean GPA from adolescents was 2.15 with a standard deviation of 1.09. There was a significant difference between male and female

adolescents in regards to GPA $t(829) = -4.21, p = .01$. Forty two percent of adolescents reported that they were not sexually active, while 57% reported that they were. There was a significant difference between male and female adolescents in terms of sexual intercourse $t(879) = 4.26, p = .01$. Sixty three percent of sexually active adolescents reported using condoms, while 37% were non-condom users. There was not a significant difference between male and female adolescents in terms of sexually risky behavior $t(885) = -1.05, p = .29$. Lastly, regarding substance use, 54% of adolescents reported that they were not using any substances, while 54% reported 0 days of use. There was not a significant difference between male and female adolescents in terms of reported substance use $t(815) = .60, p = .55$.

Examining the gender differences of the sample, the mean age was 15 years old for both males and females. Within the male adolescent subsamples, parents' mean income per capita was \$10,134, and parents' level of education indicated that 17% graduated from high school, 20% went to college/did not graduate, 16% graduated from college/university, and 45% of males adolescents parents were married. Forty-five percent of adolescent males scored a 10 on educational aspirations (the highest level of educational aspirations to report). Twenty-two percent of males had a GPA higher than 3.0, 31% had a GPA between 2.0 and 3.0, 23% had a GPA between 1.0 and 2.0. Regarding risky behaviors among adolescent males, 64% reported having sex, 62% reported not using condoms, and 35% reported using a substance.

Females' family contextual factors appeared to be somewhat different than males. Parent's mean income per capita was \$9,447. Parents' level of education was as follows: 20% graduated from high school, 17% went to college, but did not graduate, 14% graduated from college, and 42% of female adolescents' parents reported they were married. Regarding female adolescents' educational aspirations, 63% scored a 10 on educational aspirations and 32% had a

GPA higher than 3.0, 33% had a GPA between 2.0 and 3.0, and 18% had a GPA between 1.0 and 2.0. Regarding risky behavior among female adolescents, 51% reported having had sex, 37% reported not using condoms, and 40% reported using a substance.

TABLE 4
ALL VARIABLES BY GENDER

Demographic Information	Percent (<i>Frequency</i>)	Gender	
Age		Male	Female
14	26% (231)	24.2% (97)	27.4% (134)
15	26.1% (232)	28.2% (114)	24.1% (118)
16	26.6 (237)	25.7% (103)	27.4% (134)
17	21.3% (190)	21.7% (87)	21.1% (103)
Grade Level			
7 th Grade	1.9% (17)	3% (12)	1% (5)
8 th Grade	9.1% (81)	10.2% (41)	8.2% (40)
9 th Grade	24.7% (220)	22.9% (92)	26.2% (128)
10 th Grade	24.6% (219)	27.2% (109)	22.5% (110)
11 th Grade	23% (205)	22.4% (90)	23.5% (115)
12 th Grade	15.1% (134)	13.7% (55)	16.2% (79)
Demographic Information	Percent (<i>Frequency</i>)	Gender	
Parent's Level of Education		Male	Female
8 th Grade or Less	2.7% (24)	2.2% (9)	3.1% (15)
>8 th Grade/didn't graduate			
High school	8% (71)	7.2% (29)	8.6% (42)
Business/Trade/Voc instead of high school	.4% (4)	.5% (2)	.4% (2)
GED	1.9% (17)	1.2% (5)	2.5% (12)
High School Graduate	18.5% (165)	16.7% (67)	20% (98)
Business/Trade/Voc After high school	8.1% (72)	9.2% (37)	7.2% (35)
College/didn't graduate	18.1% (161)	19.7% (79)	16.8% (82)
Graduated from College/Univ	14.6% (130)	15.5% (62)	13.9% (68)
Professional Training beyond 4-year college/Univ	11.7% (104)	12.7% (51)	10.8% (53)

TABLE 4 (continued)

Demographic Information	Percent (<i>Frequency</i>)		Gender	
Marital Status*				
Single	40.9%	(364)	40.1% (161)	41.5% (203)
Married	43%	(383)	44.9% (180)	41.5% (203)
Adolescent Outcomes				
			Males	Females
Sexual Intercourse				
YES	57.1%	(508)	64.3% (258)	51.1% (250)
NO	41.9%	(373)	33.9% (136)	48.5% (237)
Sexual Risk				
Condom Use	62.8%	(319)	58.5% (151)	67.2% (168)
Non-Condom Use	36.6%	(186)	40.7% (105)	32.4% (81)
Substance Use				
0	54%	(481)	52.6% (211)	55.2% (270)
1	25%	(228)	22.2% (89)	28.4% (139)
2	8.5%	(76)	8.7% (35)	8.4% (41)
3	3.3%	(29)	4.2% (17)	2.5% (12)
4	.3%	(3)	.2% (1)	.4% (2)
Educational Aspirations				
2.00	1.2%	(11)	1.7% (7)	.8% (4)
3.00	.8%	(7)	1.0% (4)	.6% (3)
4.00	1.7%	(15)	2.0% (8)	1.4% (7)
5.00	1.9%	(17)	2.2% (9)	1.6% (8)
6.00	5.4%	(48)	5.5% (22)	5.3% (26)
7.00	5.5%	(49)	7.2% (29)	4.1% (20)
8.00	11.5%	(102)	14.7% (59)	8.8% (43)
9.00	16.2%	(144)	20% (80)	13.1% (64)
10.00	55.3%	(492)	45.4% (182)	63.4% (310)
Educational Performance				
0	10.4%	(93)	13% (52)	8.4% (41)
.25	.6%	(5)	.7% (3)	.4% (2)
.50	.7%	(6)	.7% (3)	.6% (3)
.75	1.8%	(16)	1.5% (6)	2.0% (10)
1.00	2.2%	(20)	3.0% (12)	1.6% (8)
1.25	4%	(36)	5.0% (20)	3.3% (16)
1.50	5.8%	(52)	6.7% (27)	5.1% (25)
1.75	8.2%	(73)	8.2% (33)	8.2% (40)
2.00	7.8%	(69)	9.0% (36)	6.7% (33)
2.25	7.1%	(63)	7.7% (31)	6.5% (32)
2.50	9.8%	(87)	8.2% (33)	11% (54)
2.75	7.8%	(69)	6% (24)	9.2% (45)
3.00	8.8%	(78)	6.7% (27)	10.4% (51)

TABLE 4 (continued)

Demographic Information	Percent (<i>Frequency</i>)	Gender
3.25	6.7% (60)	7.2% (29) 6.3% (31)
3.50	6.1% (54)	3.5% (14) 8.2% (40)
3.75	3.5% (31)	1.7% (7) 4.9% (24)
4.00	2.1% (19)	2.5% (10) 1.8% (9)

Hypotheses Testing

Hypothesis 1 - Positive family contextual factors (*defined reasonable income, parent level of education and marital status*) will be associated with lower levels of sexual intercourse among African American adolescent.

The first hypothesis states that adolescents with positive family contextual factors will be associated with lower level of sexual intercourse. According to the fit index, the model resulted in $\chi^2=6$, $p= .628$. The CFI (comparative fit index) = 1.00. This indicates that 99.9% of the covariation in the data can be reproduced by the hypothesized model. The RMSEA (root mean square error of approximation) < .001 indicates the discrepancy or lack of fit per degrees of freedom (Hancock and Freeman, 2001). In other words, the RMSEA controls for an inflated degrees of freedom. Using the cutoff of .08, the hypothesized model exhibits excellent fit according to the RMSEA. Also, in model comparison, the lower AIC (akaike information criterion) = 70.175, value indicates the preferred model. In other words, the lower the number, the better the model fit.

Male Estimates

The first model examines hypothesis 1 for male adolescents (See Figure 4) and shows that age had a significant association with reported sexual intercourse, $\gamma= .16$, $p<.001$. The data

suggest that higher levels of the age of male adolescents correspond to their reported sexual intercourse. Parents' marital status did not show a significant association with sexual intercourse, $\gamma = .03$, $p = .660$. Parents level of education/income did not have a significant negative association with the sexual intercourse of males, $\gamma = -.09$, $p = .175$. For male adolescents there was a positive correlation between their parents' level of education and income with the marital status of the parent, $r = .30$, $p < .001$. This suggests that higher levels of parents' level of education and income are associated with parents' marital status. Overall, as male adolescents get older, they are reporting increased sexual intercourse, but their parent's marital status, education and income does not appear to have an association with their sexual intercourse.

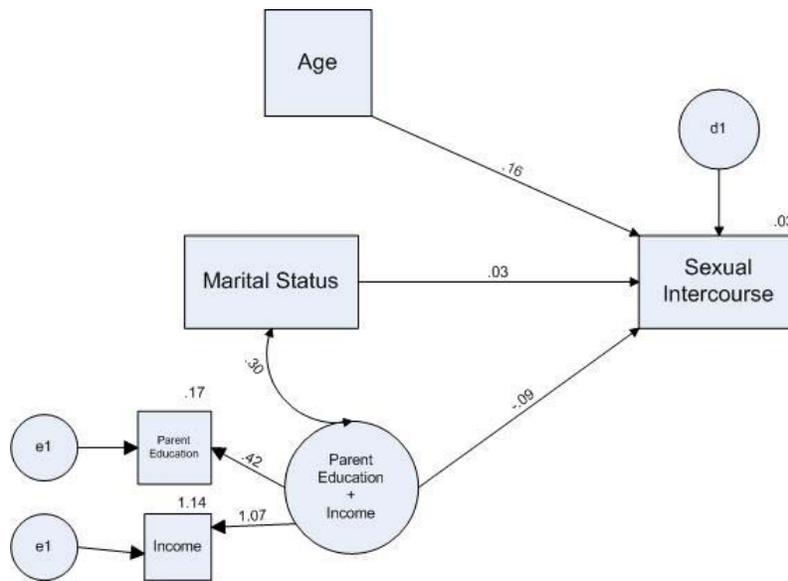


Figure 4. Hypothesis 1 Males

Female Estimates

Figure 5 model illustrates that for female adolescents age had a significant association with their reported sexual intercourse $\gamma = .26$, $p < .001$. The older the female adolescent the more likely she was to report sexual intercourse. Parents' marital status did not show a significant association with sexual intercourse $\gamma = -.00$, $p = .979$. Parents level of education/income did not

have a significant association with the sexual intercourse for females $\gamma = -.05$, $p < .401$. For females adolescents there was a significant relationship between parents level of education and their income with marital status of the parent $r = .22$, $p < .001$. This suggests that higher levels of parent's education and income were associated with higher levels of parent's marital status among females. For females it appears that higher levels of age was associated with higher levels of sexual intercourse, but parent's level of education, income and marital status is not having an association with their reported sexual intercourse.

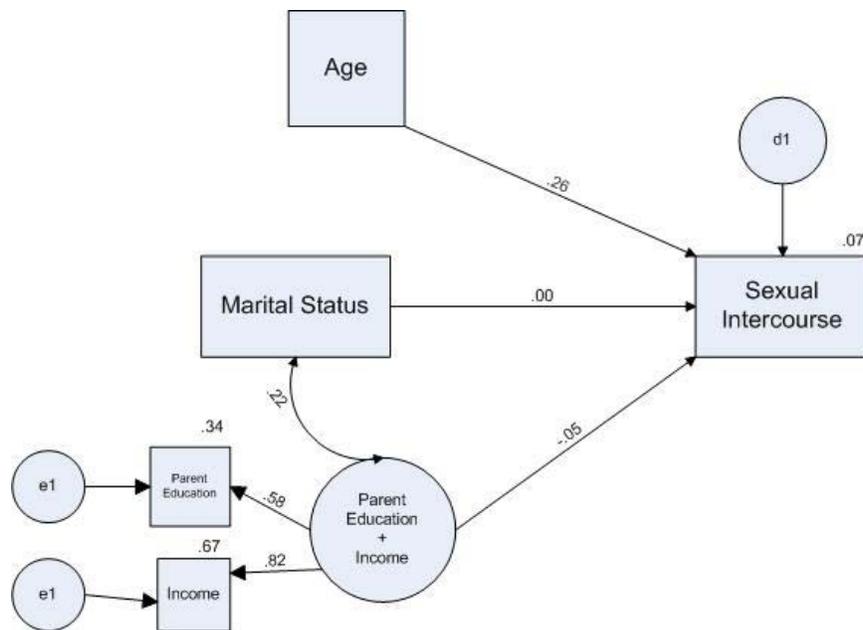


Figure 5. Hypothesis 1 Females

Hypothesis 2 - Positive family contextual factors will be associated with lower levels of sexual risk among African American adolescents.

The second hypothesis states that adolescents with positive family contextual factors will be associated with lower levels of sexual risk. According to the fit index, the model resulted in $\chi^2 = 9$, $p = .316$. The CFI (comparative fit index) = .983. This indicates that 98.3% of the covariation in the data can be reproduced by the hypothesized model. The RMSEA (root mean

square error of approximation) = .018 indicates the discrepancy or lack of fit per degrees of freedom. Using the cutoff of .08, the hypothesized model fits according to the RMSEA. Also, in model comparison, the lower AIC (akaike information criterion) = 73.319, value indicates the preferred model. In other words the lower the number the better the model fit.

Male Estimates

This model illustrates, (See Figure 6) that the age of the male adolescent did not have a significant association with sexual risk $\gamma = .10$, $p = .117$. Parents' marital status did not show a significant association with sexual risk $\gamma = .03$, $p = .649$. Parents level of education and income did not have a significant association with the sexual risk of males $\gamma = -.06$, $p = .525$. There is a positive correlation between parents level of education and income with their marital status $r = .39$, $p < .001$. This suggests that higher levels of parent's level of education and income were associated with marital status among males. Overall for male adolescents in this study, hypothesis 2 is not supported. The age of the adolescent did not have an association with the sexual risk and parent variables also did not have an association with male adolescent sexual risk.

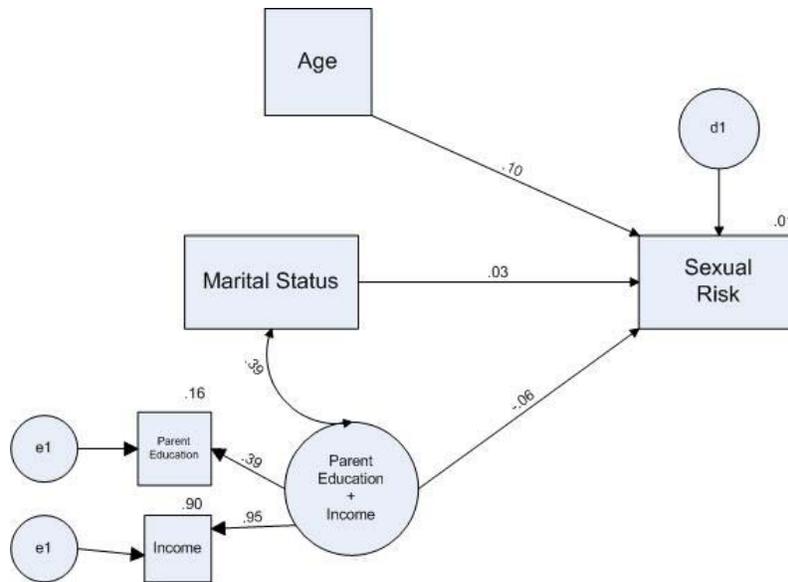


Figure 6. Hypothesis 2 Males

Female Estimates

Figure 7 showed that the age of the female adolescent was not significantly associated with their risky sexual behavior $\gamma = .002$, $p = .970$. Parents' marital status was not significantly associated with risky sexual behavior $\gamma = -.081$, $p = .255$. Parents' level of education and income did not have a significant association with the sexual risk for females $\gamma = -.029$, $p = .741$. For females adolescents, there was a non-significant correlation between parents level of education and income with marital status of the parent $r = .16$, $p = .071$. The age of female adolescents, parent's level of education, income and marital status are not related to their reported sexual risk.

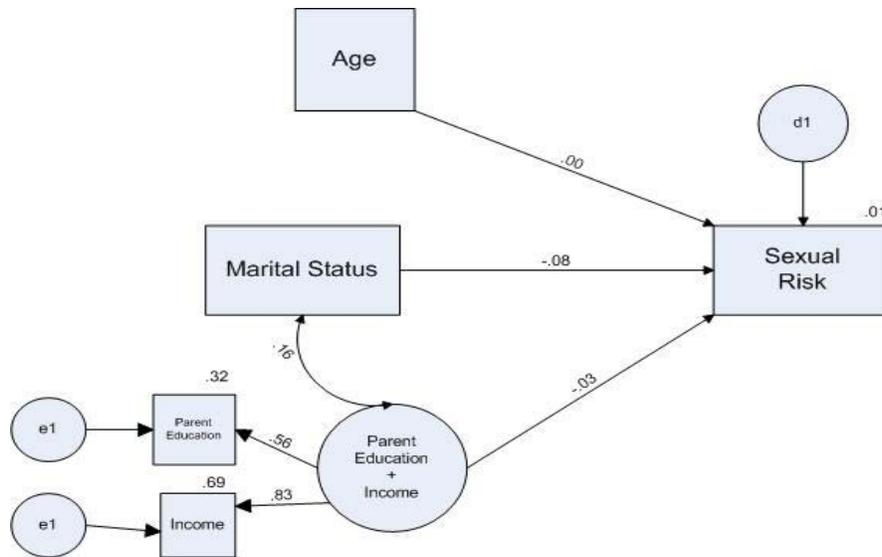


Figure 7. Hypothesis 2 Females

Hypothesis 3 - Positive family contextual factors will be associated with lower level of substance use among African American adolescents.

The third hypothesis states that adolescents with positive family contextual factors will be associated with lower levels of substance use among African American adolescents. According to the fit index, the model resulted in $\chi^2=4$, $p= .535$. The CFI (comparative fit index) = 1.00. This indicates that 99.9% of the covariation in the data can be reproduced by the hypothesized model. The RMSEA (root mean square error of approximation) < .001 indicates the discrepancy or lack of fit per degrees of freedom. Using the cutoff of .08, the hypothesized model fits according to the RMSEA. Also, in model comparison, the lower AIC (akaike information criterion) = 68.279, value indicates the preferred model. In other words the lower the number the better the model fit.

Male Estimates

The age of the male adolescent did not have a significant association with reported substance use $\gamma= .09$, $p= .097$ (see Figure 8.). Parents' marital status did show a significant association with reported substance use $\gamma= -.17$, $p= .005$. Higher levels of parent's marital status

were associated with lower levels of male adolescents substance use. Parents' level of education/income did not have a significant association with the reported substance use of males $\gamma = .09$, $p = .182$. For male adolescents, there was a positive correlation between parents' level of education and income with marital status $r = .27$, $p < .001$. Hypothesis 3 was supported for male adolescents and found that higher levels of their parents' marital status were associated with lower levels of their reported substance use.

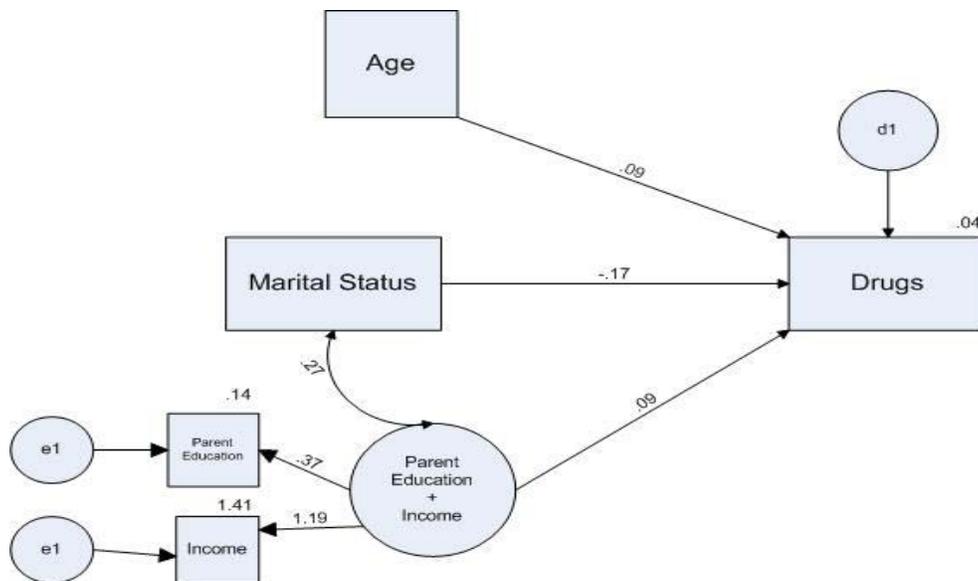


Figure 8. Hypothesis 3 Males

Female Estimates

With regard to the model, (See Figure 9) age of the female adolescent had a significant association with their reported substance use $\gamma = .11$, $p < .05$. This suggests that a higher level of females' age was associated with higher levels of their reported substance use. Parents' marital status did not show a significant association with substance use $\gamma = -.03$, $p = .524$. Parents level of education/income did not have a significant association with the reported substance use for

females $\gamma = .03$, $p = .690$. For female adolescents, there was a positive correlation between parents level of education/income and marital status $r = .22$, $p < .001$. These results state that female adolescent's age has an association with their reported substance use, but their parent's level of education, income and marital status has no association.

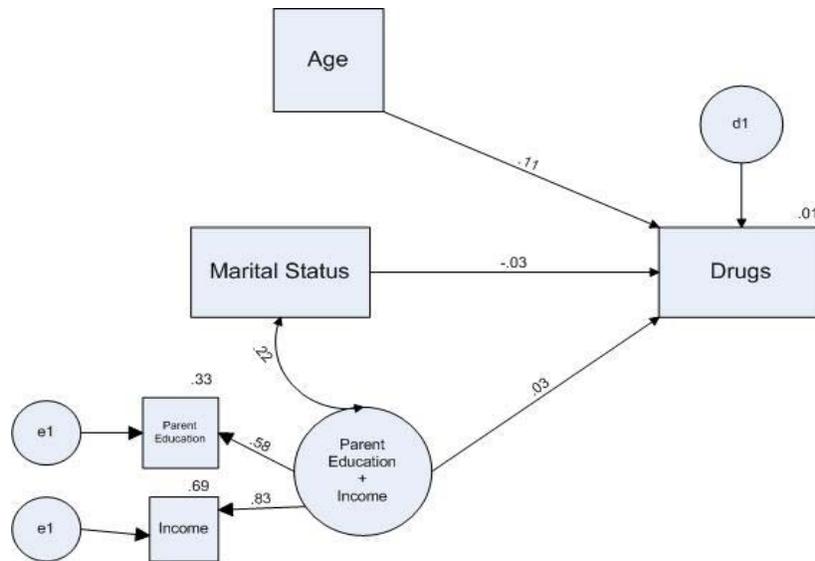


Figure 9. Hypothesis 3 Females

Hypothesis 4 - Positive family contextual factors will be associated with higher levels of educational aspirations among African American adolescents.

The fourth hypothesis states that adolescents with positive family contextual factors will be associated with higher levels of educational aspirations among African American adolescents. According to the fit index, the model resulted in $\chi^2 = 17$, $p < .05$. The CFI (comparative fit index) = $.959$. This indicates that 95.9% of the covariation in the data can be reproduced by the hypothesized model. The RMSEA (root mean square error of approximation) = $.035$ indicates the discrepancy or lack of fit per degrees of freedom. Using the cutoff of $.08$, the hypothesized model fits according to the RMSEA. Also, in model comparison, the lower AIC (akaike

education/income had a significant association with the educational aspirations for females $\gamma = .33$, $p < .001$. This indicates that a higher level of parent's education and income had a positive association on female adolescents' educational aspirations. For female adolescents there was a significant correlation between parents' level of education/income and marital status $r = .21$, $p = .002$. Female adolescents report on hypothesis 4 that while age and parents marital status did not have an association with educational aspirations, parent's level of education and income did.

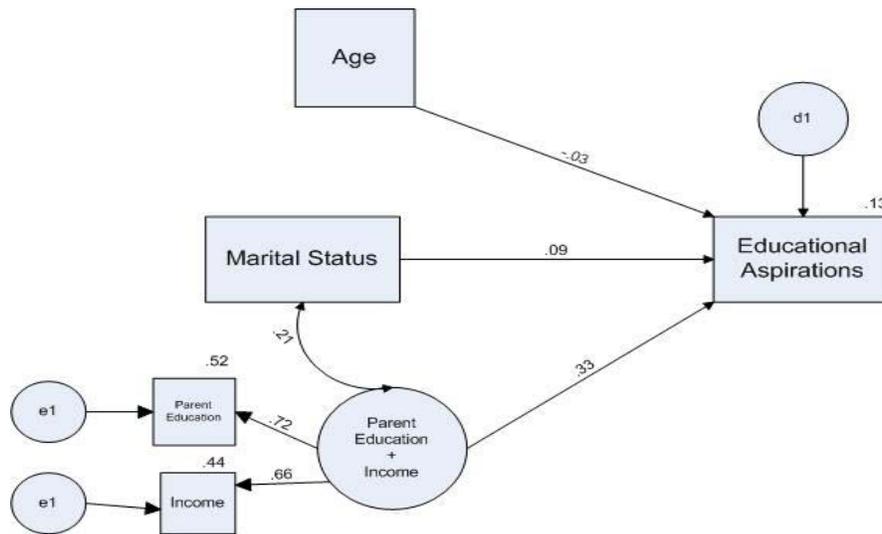


Figure 11. Hypothesis 4 Females

Hypothesis 5 - Positive family contextual factors will be associated with a higher level of educational performance among African American adolescents.

The fifth hypothesis stated that adolescents with positive family contextual factors will be associated with a higher level of educational performance. According to the fit index, the model resulted in $\chi^2 = 16$, $p > .05$. The CFI (comparative fit index) = .959. This indicates that 95.9% of the covariation in the data can be reproduced by the hypothesized model. The RMSEA (root mean square error of approximation) = .033 indicates the discrepancy or lack of fit per degrees of freedom. Using the cutoff of .08, the hypothesized model fits according to the RMSEA. Also, in

model comparison, the lower AIC (akaike information criterion) = 79.942, value indicates the preferred model. In other words the lower the number the better the model fit.

Male Estimates

Figure 12 shows that the age of the male adolescent did not have a significant association with educational performance $\gamma = -.07$, $p = .206$. Parents' marital status did not show a significant association with educational performance $\gamma = -.01$, $p = .894$. Parents level of education and income did not have a significant association with the educational performance of males $\gamma = .08$, $p = .275$. For male adolescents, there was a positive correlation between parents' level of education and income with marital status of the parent $r = .31$, $p < .001$. This suggests that a higher level of parent's education was associated with a higher level of marital status among males. Hypothesis five was not confirmed for adolescent males. The results showed that age of the adolescent, parent's marital status, parent's level of education and income did not have an association with reported educational performance for males.

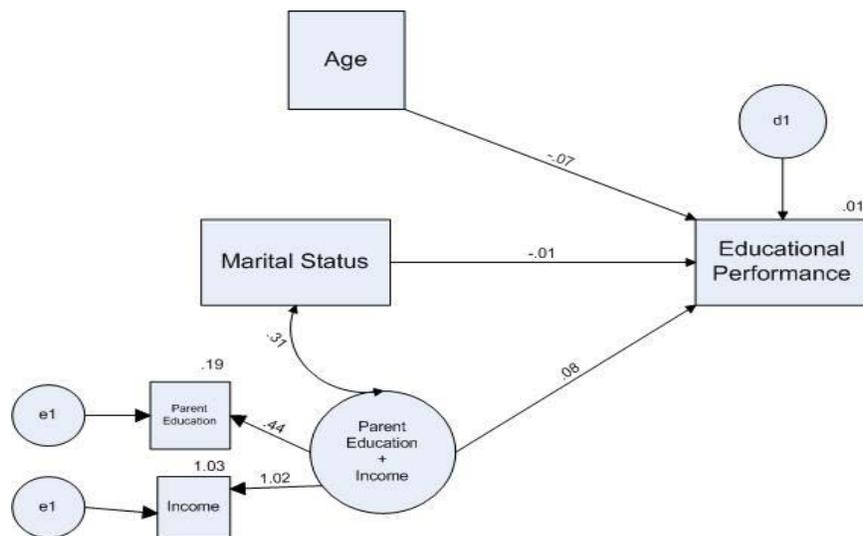


Figure 12. Hypothesis 5 Males

CHAPTER V

DISCUSSION

This study examined how parent's levels of education, income, and marital status in African American families were related to African American adolescent substance use, sexual intercourse, sexually risky behaviors, educational aspirations, and educational performance. The results showed that family contextual factors had varying associations for males and females. Family contextual factors for African American males had a negative association with reported substances use. For African American females, the results showed that family contextual factors have a higher level of association with educational aspirations and performance.

Adolescent Sexual Intercourse

Sexual intercourse and sexual risk did not have an association with family contextual factors for males or females; however, the age of the adolescents was associated with reported sexual intercourse. Developmental trends during adolescence show that older adolescents (16 - 18) are more likely to engage in sexual intercourse than younger age adolescents (12 - 15), and adolescents who engage in sexual intercourse at younger ages appear to be at a greater risk for exposure to sexually transmitted diseases (Bachanas, Morris, Lewis-Gess, Sarett-Cuasay, Flores, Sirl, & Sawyer, 2002; Belgrave & Allison, 2006). The sexual intercourse of adolescents not having an association with family contextual factors appears to be consistent with other studies. Miller, Forehand and Kotchick (1999) found that family structure variables (i.e., family income, parent education, and maternal marital status) of African American males and females did not predict adolescent sexual behaviors. Kowaleski-Jones and Dunifon (2006) also examined an African American sample of adolescents and found that family structure did not have an impact on adolescent outcomes, particularly grade retention, problem behaviors and depression.

It was also hypothesized that adolescent's whose parents have higher levels of education, income and are marital status, would have lower levels of sexual intercourse. The results were not significant for males or females. Fifty-seven percent of the adolescents in the present study reported that they were sexually active, and 36% reported they were condom users. The gender differences showed that while more males reported having sexual intercourse (64% of males and 51% of females), more males reported not using condoms (41% of males and 32% of females). The present study found results similar to Miller et al. (1999), who examined family process (defined in this study as general communication, sexual communication, and monitoring) and found that these variables were related to reported sexual intercourse and number of sexual partners. They did not, however, find that condom use or the age of first sexual intercourse was linked to family process. Davis and Friel (2001) hypothesized that family control, culture, and involvement would explain adolescent sexual behavior better than family structure alone. The authors found that adolescents from single parent families reported earlier ages of sexual debut, but having a single parent did not influence sexual initiation (this variable was constructed by taking sexually experienced adolescents and subtracting the date of the respondent's birth from the date of first sexual intercourse; David and Friel, 2001). Even though the study was developed to examine the adolescent's family contextual factors, the results showed more research is needed to examine the link between family contextual factors and adolescent sexual behaviors.

Hypothesis one stated that adolescents with positive family contextual factors (income, parent level of education, parents' marital status) would have a lower level of association to sexual intercourse. The overall findings for this hypothesis is that the older the adolescent (male or female) is, the more likely they report having sexual intercourse and that family context did not influence adolescents' decision to have sexual intercourse. This hypothesis may not have

been supported because there may be other variables involved, such as parent involvement, support, and monitoring or external factors outside of the home. In addition, adolescent romantic relationships may have more influence over sexual decision-making than a parent's education, marital status or income.

Adolescent Sexual Risk

Hypothesis two states that adolescents with positive family contextual factors will have a decrease in sexual risk. Based on the data, this hypothesis was not supported. Male and female estimates did not show any significant influence in relationship to age, marital status, and parent's level of education and income on sexual risk. One explanation for a null relationship is that the adolescents in the sample were engaging in increased risky behaviors. In this sample, 64% of adolescents reported that they were not using a condom while having sexual intercourse. This is much higher than the national average reported by YRBS (2009), which stated that 37% of African Americans did not use a condom during last sexual intercourse. With 57% of the population reporting being sexually active, and 64% reporting not using condoms, it would appear that this sample appears to engage in risky sexual behavior at a rate much higher than expected.

Adolescent development posits that, as adolescent's age, they are more likely to engage in a number of activities such as increased sexual intercourse and other risk behaviors. African American adolescents have a higher rate of sexual intercourse (65%) than Hispanics (49%) and Caucasians (42%) (YRBS, 2009). Although more African American adolescents are having sexual intercourse, it appears that they are also not protecting themselves. YRBS (2009) reported that 37% of African American adolescents did not use a condom during their last sexual intercourse, as compared to 45% of Hispanics and 36% of Caucasians. The present study did not

support the hypothesis that positive family contextual factors would show a lower level of association in sexually risky behavior for males or females. Luster and Small (1994) examined factors associated with adolescent sexual risk and found gender differences. Low GPA, frequent alcohol consumption, low levels of parental monitoring, and a lack of communication around birth control all resulted in higher sexual risk among female adolescents (Luster and Small, 1994). For male adolescents, low GPA, frequent alcohol consumption, low levels of parental support, and a history of sexual abuse were associated with sexual risk (Luster and Small, 1994). Parent's level of communication, support and/or monitoring towards their adolescent appears to have a greater impact than family structure on adolescent outcomes (Miller et al., 1999; Davis and Friel, 2001; Luster and Small, 1994; and Nichols, Kotchick, Barry and Haskins, 2010).

Adolescent Substance Use

Adolescents with positive family contextual factors were hypothesized to be associated with a lower level of reported substance use. Based on the various fit indices, this hypothesis was supported by the estimates for both males and females in varying ways. The data showed that the age of the female adolescent had a positive influence on their reported substance use. This suggests that the older females in the sample were more likely to report substance use, which was not true of the data for adolescent males. Previous literature shows that there is no difference between males' and females' cigarette smoking; females (74%) are more likely to drink alcohol than males (70%); and males (39%) are more likely to use marijuana than females (34%; YRBS, 2009). In addition, the present study found that females reported a higher rate of substance use (40% for females and 35% for males). It is important to note that the present study combined substance use scores together, which limits being able to state whether males and females differ

based on the type of substance being used, such as alcohol, cigarettes or marijuana. In this study, substances were not analyzed separately, and this may have influenced the results.

Educational Aspirations and Educational Performance

This study found similar results for African American female adolescents in regards to the relationships of family contextual factors to sexual intercourse, sexual risk, and substance use. There was a statistically significant association between parent's level of education and income with African American females' educational aspirations and educational performance. These findings are consistent with what other researchers have found (Miller et al., 1999; Kowaleski-Jones & Dunifon, 2006; Cahalan et al., 2006; Davis, 2003). These same studies found that African American females were more like to report higher educational aspirations and performance than African American males, which the present study confirmed (Cahalan et al., 2006; Kreider and Elliot, 2009; and Redd et al., 2002). Research from Cahalan et al. (2006) presents a shift from the 1980s, stating that, prior to this time, African American males were doing well in school compared to their African American female counterparts. After the 1980s, African American females began to report higher educational aspirations and performance compared to males. One reason for this shift is that African American female students reported spending more hours doing homework than African American males, and more males reported not being prepared for school (e.g., they went to school without homework, books, or supplies; Cahalan et al., 2006).

The literature is clear that other variables outside of family contextual factors may be associated with adolescent education of both males and females. These variables include: neighborhoods, student attitudes, and parent's communication and monitoring (Davis, 2003; Kowaleski-Jones & Dunifon, 2006). Davis (2003) offers an explanation for the academic

problems experienced by African American males. The author states that student attitudes, the social organization of schools, and masculine identity of males may contribute to lower academic outcomes for males. The author further postulates that African American males are more likely to live in low-income environments (which has a direct link to the quality of education they receive), that, traditionally, schools within the inner city are neglected, under staffed, underfunded and experience little parent or community support, and that these settings impact African American males' risk for low achievement and school disengagement (Davis, 2003). These findings suggest that there are also external variables outside of the school (such as the quality of one's neighborhood) that may have an impact on African American adolescent problem behaviors (Kowaleski-Jones & Dunifon, 2006). Although African American females reside in these same environments, Davis (2003) illustrates that it is the male's perception of school activities being feminine and/or irrelevant to their masculine sense of self and lack of access to African American educators that causes males to perform poorly. Family contextual factors do not appear to have an association with the educational outcomes for African American males, but parent's income and level of education did influence educational outcomes for African American females. It is unclear as to why more females are obtaining educational outcomes at higher rates than males. It could be that African American females are socialized at home and school differently than males, which could result in obtaining a higher education easier for females than males. For example, females may receive messages from parents regarding the importance of their grades and doing well in school, whereas males may hear messages of doing well in sports and more hands-on activities. The messages that these adolescents hear at home may be similar messages that they hear from teachers at school. The star football player may hear from certain teachers to do well in a game, but that same message may not be given before

his math test. If these are some of the messages that young African American males and females are hearing, how could this be shaping their educational aspirations and performance?

Male and Female Educational Aspirations and Performance

Hypothesis four stated that adolescents with higher family contextual factors will have an increase in educational aspirations. Based on various fit indices, hypothesis four was partially supported by the data. Males did not show a level of association with any of the measured family contextual factors. Females did experience a positive level of association with parent's education/income on their educational aspirations. This indicates that for this sample, female parent's education and income had a positive association with educational aspirations. This hypothesis appears to be consistent with the literature which reports that although current statistics reflect an increase in the number of African American men currently attending college, females across all racial groups report graduating from high school and attending college more than their male counterparts (Cahalan et al., 2006). Likewise, there are more females than males graduating from college and attending post-secondary education, whereas only a few decades ago, these same professions were will with Caucasian males (Cahalan et al., 2006).

Hypothesis five stated that adolescents with positive family contextual factors will have higher levels of association with educational attainment. Similar to hypothesis four, hypothesis five was partially supported by the data. Although there was no association with male adolescents, female adolescents showed that parent's level of education and income had a positive association with educational performance. Based on the higher rate of females attending college, it is not surprising that the results of the sample for African American females are reporting that parent level of education and income have a positive correlation with educational performance. Davis (2003) states that it is clear that public schools are not meeting the social,

developmental, and academic needs of young African American males. It appears that there is not one explanation for the varying levels of associations for African American males and females among the literature, but what is known is that exposing young males to other positive males in the educational setting can provide males with models to counter inappropriate sex-role socialization and maladaptive masculine identity (Davis, 2003).

Surprising Findings

Although the literature has varying reviews on family structure and the impact of adolescent sexual behavior (Davis and Friel, 2001; Miller et al., 1999), the present study examined parent's level of education and income in relation to adolescent behaviors. One surprising finding was that African American males in this sample had no significant relationship between their parent's level of education/income or parent's marital status with their sexual intercourse, sexually risky behaviors, educational aspirations or educational performance. Having a higher education can lead to having a higher income, which in turn, impacts the available resources parents can provide for their adolescents. This income could also have a direct association to the neighborhood and educational setting that the adolescent has access to. It is this access that might be believed to have an association with male, but in the present study, family contextual factors did not support this presumed association. Among African American adolescents, 65% are having sex, and of this 65%, 37% are not using condoms (YRBS, 2009). The present study found that 57% of the sample reported being sexually active and 37% reporting not using condoms. It is surprising to see 186 (out of 508 sexually active) adolescents not using condoms with the rates of STI's and pregnancy among this age group. This could be a contributing factor to the high rates of STI's and high HIV infection among this population.

Limitations

A few limitations of the current study should be noted. First, when using archival data, there are always limitations to what can be extracted from the data when the original intent of the data may have been different than its current use. Add Health was a longitudinal study geared towards examining health behaviors among adolescents and their parents. Since examining parent's backgrounds was not the original intent for the original data, this may have impacted the results. Also, when using archival data, statistics can be difficult to compute because of the way the data was originally coded. For the present study, many of the variables had to be recoded to fit the research questions. Secondly, it is important to note that adolescent outcomes were gathered through self-report measures. Although this can be viewed as a limitation, it is important to note that self-report measure continue to show validity among the literature (Brener, Billy, & Grady, 2003; Siegel, Aten, and Roughmann, 1998; Shaw, Remafedi, Bearinger, Faulkner, Taylor, Potthoff, and Resnick, 1997). Siegel et al. (1998) specifically examined self-reported measures among middle and high school students responding to sexual behavior and found the highest rate of honesty in reporting to be among high school females (94%). There was evidence of some over-and under-reporting in this study, but the authors pointed out that it was not high enough to invalidate the overall findings, in which validity was confirmed for the self-report measures among this population (Seigel et al., 1998). In the present study, adolescents were the most reliable reporters about their own substance use and sexual history. Third, although the purpose of the Add Health study was to assess adolescent health and risky behaviors across a number of domains (communities, families, siblings, friends, schools and neighborhoods), the researchers were not looking at an exclusively African American sample. The present study may have framed questions differently or perhaps even added questions had it

been an all African American sample. Lastly, perhaps other variables should have been included in the family context construct that could have resulted in a more complete conceptualization of family context. For instance, the role of extended family members on adolescent development or parents' level of supervision, monitoring, and communication could have been worth exploring.

Future Research

Future research might focus on variables that are estimates of family context and look more closely at the interactions within the household and the adolescents' external environment, such as their peers, schools and/or neighborhoods. The literature suggests that additional factors, such as an adolescent's neighborhood, low income school district, parent's level of communication regarding sexual activity, role models, and parent's level of expectation do have an impact on adolescent outcomes (Kowalski-Jones and Dunifon, 2006; Nichols et al., 2010; Miller et al., 1999; and Davis, 2003).

More research is needed to determine why there are differences in educational aspirations and performance between male and female African American adolescents. Is this educational difference related to how males and females are socialized in this country? Are African American females treated differently by teachers in schools? Can the educational aspirations and performance differential explained because of who is teacher the classes? Currently the teaching profession is dominated by White women. There does not appear to be one explanation among the literature as to why African American males' educational outcomes are disproportionate to females'.

Among the African American community, extended family is sometimes a critical part of the child's development; thus, additional research is needed to address extended family. The present study, which used archival data, was unable to examine the role of the extended family

members (such as aunts, uncles, and grandparents) who may also influence African American children's development. More qualitative information is needed to help unpack what is going on with African American family contextual factors and risky behaviors among African American adolescents. In the future, researchers might examine other ways to categorize family income and parent's level of education among African Americans because these variables could be having an impact, but need to be coded according to racial background.

Conclusion

With African American adolescents in this sample, it appears that family contextual factors (defined as parents' level of education, parents' level of income and parents' marital status) may not have as great of an individual impact on adolescent outcomes. However, for educational aspirations and educational performance for African American females, parent's income and education do matter. Researchers must begin to examine the mechanisms that are driving African American males to have different educational outcomes, as compared to adolescent females. This study found similar results with sexually risky behaviors and intercourse as national statistics, but HIV/AIDS continues to devastate the African American community. African American adolescents and youth are the fastest growing group to acquire HIV/AIDS. Interventions are needed that address unprotected sex and substance use in this population. In addition, if African American adolescents want to be contributing members of society, education will be an important indicator of their success. Thus, more effort is needed to address neighborhood factors and other organizational factors that are interfering with the development of African American adolescents. Because African American male and female adolescents are socialized and develop differently, gender-specific programs are needed to help them to develop into positive young adults.

REFERENCES

REFERENCES

- Astone, N.M., & McLanahan, S.S. (1991) Family structure, parental practices and high school completion. *American Sociological Review*, 56, 309 – 320.
- Bachanas, P.J., Morris, M.K., Lewis-Gess, J.K., Sarett-Cuasay, E.J., Flores, A.L., Sirl, K.S. & Sawyer, M.K. (2002) Psychological Adjustment, Substance Use, HIV Knowledge, and Risky Sexual Behavior in At-risk Minority Females: Developmental Differences During Adolescence. *Journal of Pediatric Psychology*, 27, (4), 373 – 384.
- Barrett, A.E. & Turner, R. J. (2006) Family Structure and Substance Use Problems in Adolescence and Early Adulthood Examining Explanations for the Relationship. *Addiction*, 101, 109 – 120.
- Belgrave, F.Z., & Allison, K.W. (2006) *African American Psychology: From Africa to America*. Thousand Oaks, California: Sage Publication, Inc.
- Blum, R.W., Beuhring, T., Shew, M.L., Bearinger, L.H., Sieving, R.E., & Resnick, M.D. (2000) The Effects of Race/Ethnicity, Income, and Family Structure on Adolescent Risk Behaviors. *American Journal of Public Health*, 90, 1879 – 1884.
- Brener, N. D. and Billy, J.O.G. (2003) Assessment of Factors Affecting the Validity of Self-Reported Health-Risk Behavior Among Adolescents: Evidence From the Scientific Literature. *Journal of Adolescent Health*, 33, (6), 436 – 457.
- Browning, C.R., Leventhal, T. & Brooks-Gunn, J. (2004) Neighborhood Context and Racial Differences in Early Adolescent Sexual Activity. *Demography*, 41 (4), 697 – 720.
- Byrne, B. M. (2010) *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. New York, New York: Taylor and Francis Group, LLC.
- Cahalan, M.W, Ingels, S.J., Burns, L.J., Planty, M., & Daniel, B. (2006) *United States high school sophomores: A twenty-two year comparison, 1980-2002*. U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Carlson, M.J. (2006) Family structure, father involvement, and adolescent behavioral outcomes. *Journal of Marriage and Family*, 68, 137 – 154.
- Centers for Disease Control and Prevention. *2009 Youth Risk Behavior Survey*. Available at: www.cdc.gov/yrbss, Accessed on February 26, 2011
- Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States, - 2007. [Pdf 1m] *Morbidity & Mortality Weekly Report* 2008; 57 (SS-4): 1 – 31.

- Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2006. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2008; 18:11.
- Centers for Disease Control and Prevention. Healthy Topics Sexual Risk Behaviors 2007. Retrieved August 22, 2009 from <http://www.cdc.gov/HealthyYouth/sexualbehaviors/index.htm>.
- Centers for Disease Control and Prevention. Healthy Topics Alcohol & Drug Use 2007. Retrieved August 22, 2009 from <http://www.cdc.gov/HealthyYouth/alcoholdrug/index.htm>
- Davis, E. C. and Friel, L.V. (2001) Adolescent Sexuality: Disentangling the Effects of Family Structure and Family Context. *Journal of Marriage and Family*. 63 (3), 669 – 681.
- Davis, J. E. (2003) Early Schooling and Academic Achievement of African American Males. *Urban Education*. 38 (5), 515 – 537.
- Dickson, L. (1993) The Future of Marriage and Family in Black America. *Journal of Black Studies*, 23 (4), 472 – 491.
- Dixon, P. (2009) Marriage Among African Americans: What Does the Research Reveal? *Journal of African American Studies*, 13, 29-46.
- Flewelling, R.L. & Bauman, K.E. (1990) Family Structure as a Predictor of Initial Substance Use and Sexual Intercourse in Early Adolescence. *Journal of Marriage and the Family*, 52, 171 – 181.
- Garg, R., Melanson, S. & Levin, E. (2007) Educational Aspirations of Male and Female Adolescents from Single-Parent and Two Biological Parent Families: A Comparison of Influential Factors. *Journal of Youth and Adolescence*, 36, 1010 – 1023.
- George, D. & Mallery, P. (2004) *SPSS For Windows Step By Step: A Simple Guide and Reference 12.0 Update 5th Edition*. Columbus, Ohio: Allyn and Bacon.
- Ginther, D.K. & Pollak, R.A. (2004) Family Structure and Children's Educational Outcomes: Blended Families, Stylized Facts, and Descriptive Regressions. *Demography*, 41, 671 – 696.
- Gonzales, N.A., Cauce, A.M., Friedman, R.J. & Mason, C.A. (1996) Family, Peer, and Neighborhood Influences on Academic Achievement Among African-American Adolescents: One-Year Prospective Effects. *American Journal of Community Psychology*, 24 (3), 365 – 387.
- Green, A.E., Gesten, E.L., Greenwald, M.A. & Salcedo, O. (2008) Predicting Delinquency in Adolescence and Young Adults. *Youth Violence and Juvenile Justice*, 6 (4), 323 – 342.

- Gutman, L.M., Sameroff, A.J., & Eccles, J.S. (2002) The Academic Achievement of African American Students During Early Adolescence: An Examination of Multiple Risk, Promotive, and Protective Factors. *American Journal of Community Psychology*, 30 (3), 367 – 399.
- Hancock, G.R. and Freeman, M.J. (2001) Power and Sample Size for the Root Mean Square Error of Approximation Test of not Close Fit in Structural Equation Modeling. *Educational and Psychological Measurement*, 61: 741 – 758.
- Harris, K.M., C.T. Halpern, E. Whitsel, J. Hussey, J. Tabour, P. Entzel, and J.R. Udry. 2009. The National Longitudinal Study of Adolescent Health: Research Design: <http://www.cpc.unc.edu/projects/addhealth/design>.
- Haveman, R., Wolfe, B. & Spaulding, J. (1991) Childhood Events and Circumstances Influencing High School Completion. *Demography*, 28 (1), 133 – 157.
- Hawkins, D.J., Catalano, R.F., & Miller, J.F. (1992) Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, 112, 64 – 105.
- Hoffman, J.P. (2006) Family Structure, Community Context, and Adolescent Problem Behaviors. *Journal of Youth and Adolescence*, 35, 867 – 880.
- Hoffman, J.P. (2002) The Community Context of Family Structure and Adolescent Drug Use. *Journal of Marriage and Family*, 64, 314 – 330.
- Hoffman, K., Llagas, C., & Snyder, T.D. (2003) *Status and trends in the education of blacks* (NCES 2003 – 034) Washington, DC: U.S. Government Printing Office.
- House, J.S., Kessler, & Herzog, A.R. (1990) Age, Socioeconomic Status, and Health. *The Milbank Quarterly*. 68, (3), 383 – 411.
- James, A.D. (1998) What's love got to do with it? Economic viability and the likelihood of marriage among African American men. *Journal of Comparative Family Studies*, 29 (2), 373 – 386.
- Kantomaa, M.T., Tammelin, T.H., Nayha, S. & Taanila, A.M. (2007) Adolescents' Physical Activity in Relation to Family Income and Parents Education. *Preventive Medicine*, 44, (5), 410 – 415.
- Kowaleski-Jones, L. and Dunifon, R. (2006) Family Structure and Community Context: Evaluating Influences on Adolescent Outcomes. *Youth & Society*. 38 (1), 110 – 130.
- Kreider, R.M., & Elliott, D.B. (2009) *America's Families and Living Arrangements: 2007*. Current Population Reports, P20-561. U.S. Census Bureau, Washington, DC.

- Leiber, M.J., Mack, K.Y. & Featherstone, R.A. (2009) Family Structure, Family Processes, Economic Factors, and Delinquency Similarities and Differences by Race and Ethnicity. *Youth Violence and Juvenile Justice*, 7 (2), 79 – 99.
- Littlejohn-Blake, S.M. & Darling, C.A. (1993) Understanding the Strengths of African American Families. *Journal of Black Studies*, 23 (4), 460 – 471.
- Luster, T. and Small, S.A. (1994) Factors Associated with Sexual Risk-Taking Behaviors Among Adolescents. *Journal of Marriage and the Family*. 56 (3), 622 – 632.
- McLanahan, S. (1985) Family structure and the reproduction of poverty. *American Journal of Sociology*, 90 (4), 873 – 901.
- McLanahan, S. & Booth, K. (1989) Mother-only Families: Problems, Prospects and Politics. *Journal of Marriage and Family*, 51, 557 – 580.
- McLoyd, V.C. (1998) Socioeconomic Disadvantage and Child Development. *American Psychologist*, 53, 185 – 204.
- Miller, K.S., Forehand, R., and Kotchick, B.A. (1999) Adolescent Sexual Behavior in Two Ethnic Minority Samples: The Role of Family Variables. *Journal of Marriage and the Family*. 61 (1), 85 – 98.
- Moore, L.D. & Elkavich, A. (2008) Who's Using and Who's Doing Time. *American Journal of Public Health*, 98 (5), 782 – 786.
- Moynihan, D.P. (1965) *The Negro Family: Case for national action*. Washington, DC. U.S. Department of Labor, Office of Policy, Planning and Research.
- Mulkey, L.M., Crain, R.L. & Harrington, A.J.C. (1992) One-Parent Households and Achievement: Economic and Behavioral Explanations of a Small Effects. *Sociology of Education*, 65, 48 – 65.
- Nichols, T.M., Kotchick, B.A., Barry, C.M., and Haskins, D.G. (2010) Understanding the Educational Aspirations of African American Adolescents: Child, Family, and Community Factors. *Journal of Black Psychology*. 36 (1), 25 – 48.
- Payne, C.M. (2008) *So much reform, so little change: The persistence of failure in urban schools*. Cambridge, MA: Harvard Education Press.
- Redd, Z., Brooks, J., & McGarvey, A. (2002) *Background for community-level work on educational adjustment in adolescence: Reviewing the literature on contributing factors*. Report prepared for the John S. and James L Knight Foundation. Washington, DC: Child Trends.

- Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Tabor, J., Beuhring, T., Sieving, R.E., Shaw, M., Ireland, M., Bearinger, L.H., Udry, R. (1997) Protecting Adolescents From Harm: Finding From the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 278 (10), 823 – 832.
- Ruggles, S. (1994) The Origins of African American Family Structure. *American Sociological Review*, 59, 136 – 151.
- Siegel, D.M., Aten, M.J., & Roughmann, K.J. (1998) Self-Reported Honesty Among Middle and High School Students Responding to a Sexual Behavior Questionnaire. *Journal of Adolescent Health*, 23, (1), 20 – 28.
- Shaw, M.L., Remafedi, G.J., Bearinger, L.H., Faulkner, P.L., Taylor, B.A., Potthoff, S.J. & Resnick, M.D. (1997) The Validity of Self-Reported Condom Use Among Adolescents. *Sexually Transmitted Diseases*, 24, (9), 503 – 510.
- Vereen, L.G. (2007) African American Family Structure: A Review of the Literature. *The Family Journal: Counseling and Therapy for Couples and Families*, 51, 282 – 285.
- Williams, D.R. & Collins, C. (1995) US Socioeconomic and Racial Differences in Health: Patterns and Expectations. *Annual Review of Sociology*, 21, 349 – 386.
- Willie, C.V. (1993) Social Theory and Social Policy Derived From The Black Experience. *Journal of Black Studies*, 23(4), 451 – 459.

APPENDICES

APPENDIX A

SURVEY RESPONSE CHOICES FAMILY CONTEXTUAL FACTORS

Family Contextual Factors

Income

1. About how much total income, before taxes did your family receives in 1994?
Response – range \$0 to \$999 thousand

Parent Level of Education

2. How far did you go in school?
Response – **1**= 8th grade or less
2= more than 8th grade, but did not graduate high school
3= went to a business, trade or vocational school instead of high school
4= high school graduate
5= completed a GED
6= went to a business, trade or vocational school after high school
7= went to college, but did not graduate
8= graduated from a college or university
9= professional training beyond a 4-year college or university
10= never went to school

Marital Status

3. What is your current marital status?
Response – **1**= single
2= married
3= widowed
4= divorced
5= separated.

APPENDIX B

SURVEY RESPONSE CHOICES ADOLESCENT EDUCATION

Adolescent Education

Educational Aspiration

1. On a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college?
2. On a scale of 1 to 5, where 1 is low and 5 is high, how likely is it that you will go to college?

Educational Performance

1. At the most recent grading period, what was your grade in each of the following subjects?

Response – English/Language Arts; Math; History/Social Studies; and Science

1= A

2= B

3= C

4= D or lower

5= I didn't take that subject

APPENDIX C

SURVEY RESPONSE CHOICES RISKY BEHAVIORS

Risky Behaviors

Sexual Intercourse Questions

1. Have you ever had sexual intercourse?

Response - 0= No

1= Yes

Sexual Risk Questions

2. What method of birth control did you or your partner use the first time you had sexual intercourse?

Response – 1= condoms (rubbers)

2= withdrawal

3= rhythm (safe time)

4= birth control pills

5= vaginal sponge

6= foam, jelly, crème, suppositories

9= norplant

10= ring

11= Depo Provera

12= contraceptive film

13= some other method

Substance Use Questions (All Responses were a Number Choice)

1. During the past 30 days, on how many days did you smoke cigarettes?
2. During the past 30 days, on how many days did you use chewing tobacco or snuff?
3. During the past 12 months, on how many days did you drink alcohol?
4. During the past 30 days, how many times have you used marijuana?
5. During the past 30 days, how many times have you used cocaine?