

UCLA

UCLA Electronic Theses and Dissertations

Title

Social Context: Doing Human Immunodeficiency Virus Prevention with Black Families

Permalink

<https://escholarship.org/uc/item/35h0j9d4>

Author

Boyd, Donte

Publication Date

2019

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Los Angeles

Social Context: Doing Human Immunodeficiency Virus
Prevention with Black Families

A dissertation submitted in partial satisfaction of
requirements for the degree Doctor of Philosophy
in Social Welfare

by

Donte Travon Boyd

2019

© Copyright by
Donte Travon Boyd
2019

ABSTRACT OF THE DISSERTATION

Social Context: Doing Human Immunodeficiency Virus

Prevention with Black Families

by

Donte Travon Boyd

Doctor of Philosophy in Social Welfare

University of California, Los Angeles, 2019

Professor Todd M. Franke, Chair

Among those that face the greatest risk for contracting Human Immunodeficiency Virus (HIV) are black adolescents between the ages of 13 and 24. Nearly one-third of new infections occur among this demographic. Among all youth, black men have higher rates of contracting HIV in comparison to any other race/ethnicity. This study focuses on the roles of the family, primarily parental communication and relationship factors, and school, primarily peers, and teachers, and how they are associated with sexual health behaviors (condom use, HIV testing, etc.); their impact, in short, on shaping health behaviors. This dissertation study examines the following questions among Black adolescent males: (1) Are there mediational relationships between parent support, self-efficacy beliefs about sex, sense of belonging at school, parent relationships, parent attitudes about sex, peer knowledge, racial discrimination, and HIV sexual risk behaviors? (2) Are self-efficacy, sense of belonging, parent support, parent attitudes towards sex, parental relationships, and peer knowledge predictive of HIV testing (ages 14-26)?

Using longitudinal data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is designed to explore health and social context from adolescence to adulthood (Carolina Population Center). Includes a nationally representative sample of U.S. adolescents from grades 7 through 12, over four waves (1994-95, 1996, 2001-02, 2008) and collects data on respondents' social environment, family environment, behaviors and choices, physical health, education, goals and achievements. The main analytic strategy to addressing research question was a multinomial analysis and a structural equation model.

The results indicated that parent support positively predicted HIV testing among Black males at waves 1 and 3. Results also indicated that parent attitudes was negatively associated with males being tested at both waves 1 and 3. These results our important because the eco-developmental theory suggests that microsystems are the most influential with respect to adolescent HIV/Sexually transmitted disease risk behaviors now extending to HIV testing.

The dissertation of Donte Travon Boyd is approved.

Jorja Jean Manos Leap

Fernando M. Torres-Gil

Darcey Merritt

Todd M. Franke, Committee Chair

University of California, Los Angeles

2019

Table of Contents

Chapter 1: Background	1
Sense of Belonging.....	2
Parent-Youth relationships.....	3
Parent-Adolescent Communication.....	3
Peer Influence.....	4
Self-Efficacy.....	4
Racial Discrimination.....	5
Present Study.....	5
Research Question 1	6
Research Question 2.....	6
Theoretical Perspective	6
Chapter 2: Literature Review	11
Families and Sexual Risk Behaviors.....	11
Parent Bonding and Sexual Risk Behaviors.....	13
Parental Attitudes and Beliefs about Sexual Risk.....	15
Parent-Adolescent Communication.....	16
Mother Communication.....	18
Father Communication	20
Peer Influence and Risky Sexual Behaviors	21
Sense of Belonging.....	24
Racial Discrimination.....	28
Racial Discrimination and the Role of Context.....	32
HIV Testing.....	35
Attitudes towards HIV Testing	36
HIV Knowledge and HIV testing.....	38
Risk Perceptions.....	39
Race.....	40
Age	40
Gender.....	41
Chapter 3: Methodology	42

Sampling Design	43
Measures.....	44
Outcomes	44
Independent Variables	44
Demographic Variables	47
Age was treated as a continuous variable at Waves I and III.	47
Data Analysis Plan	47
<i>Descriptive Analyses.</i>	47
<i>Missing Data.</i>	47
<i>Relationships/Associations.</i>	48
Statistical Analysis	48
<i>Structure Equation Model.</i>	48
<i>Fit Model:</i>	50
<i>Multinomial Analysis.</i>	50
Results Chapter	51
Descriptive Statistics	51
Bivariate Analysis	52
Multinomial Analysis	55
Structure Equation Model	57
Discussion	62
Major Findings of the Study.....	62
Parent Support and HIV testing.....	63
Parent Attitudes towards sex and HIV testing	64
Age and HIV testing.....	66
Doctor Visits and HIV testing.....	66
Sense of Belonging.....	67
Treated Fairly by Teachers	67
Peer Prejudice in School.....	68
Parent Support and Sense of Belonging	68
Peer Knowledge about sex and HIV Sexual Risk Behaviors.....	69
Self-Efficacy- Contracting HIV- and HIV Sexual Risk Behaviors.....	69
Age and Self-Efficacy	70

Age and Parent Relationships	70
Age and Parent Support.....	71
Limitations	71
Implications.....	72
Implications for Research.....	73
Implications for Policy	74
Conclusion.....	79
References.....	81

LIST OF FIGURES

Figure 1 Hypothesized Model	58
Figure 2 Significant Predictors	59

LIST OF TABLES

Table 1 Descriptive Statistics	52
Table 2 Bivariate Regression Analysis on HIV testing.....	53
Table 3 Bivariate Association and Condom Use	54
Table 4 Multinomial Logistic Regression on HIV Testing	56
Table 5 Structure Equation Model.....	60-61

ACRONYMS

Add Health	National Longitudinal Study of Adolescent Health
AIDS	Acquired Immunodeficiency Syndrome
CDC	Centers for Disease Control & Prevention
CD4	Cluster of Differentiation 4 T lymphocytes cells
HIV	Human Immunodeficiency Virus
LGBT	Lesbian, Gay, Bisexual, and Transgender
MSM	Men who have Sex with Men
PrEP	Pre-Exposure Prophylaxis
STD	Sexually Transmitted Disease
U.S.	United States
YBMSM	Young Black Men who have Sex with Men

VITA

EDUCATION

- 2014 M.S.W. Washington University in Saint Louis
- 2011 B.A. Political Science, University of California, Riverside

ACADEMIC EMPLOYMENT

- Fall 2019 Assistant Professor, University of Houston, Graduate College of Social Work
- 2016-2019 Teaching Assistant, UCLA
- Fall 2018 Lecturer, California State University Los Angeles

HONORS, AWARDS, CERTIFICATIONS

- 2015 – 2019 Cota Robles, UCLA Graduate Division, awarded to exceptional applicants who also advance the Regents' goals for diversification of the academy

PUBLICATIONS

Boyd, D., Lea, C., Gilbert, K., & Butler-Barnes, S.T. (2018). Sexual health conversations: Predicting the odds of HIV testing among Black youth and young adults. *Children and Youth and Service Review*.

Holloway, I., Winder, T., Lea, C., Tan, D., **Boyd, D.** (2017). The healthy selfie project: Formative research on African American young men's technology use patterns and preferences for smartphone-based HIV prevention and treatment. *Journal of Medical Internet Research*.

Butler-Barnes, S.T., **Boyd, D.**, Martin, P. (2017). African American Adolescents Psychological Well-Being: The impact of Parents Religious Beliefs and Practices on Adolescents Religiosity. *Journal of Race and Social Problems*

cGowan, K., Wells, A., Hoffmaster, C., & **Boyd, D.** (in press). Hair over Health? Uncovering the Root of Physical Activity among Black Women. *Health Promotion Practice*.

Manuscripts Under Review

Boyd, D & Lea, C. (*under review*). Learning about HIV: Predicting the sources of knowledge that matter for HIV testing among a national sample of Black and Latino youth. *Journal of the Association of Nurses AIDS Care*.

Gilbert, K., **Boyd, D.**, Lightfoot, A., Jones, D., Elvira, M., Fuller, T., & Yung, N. (*revise and resubmit*). Using photovoice methodology to understand risk and opportunities for educational attainment and healthy behaviors for African American males. *Health Education and Behavior*.

Gilbert, K., **Boyd, D.**, McClure. S., Banks, A., & Quinn, K. (*under review*). Examining the intersections of race, education and gender on the health and health care seeking behaviors of Black males: Applying critical race theory in public health to understand inequalities in men's health. *Journal of Ethnicity and Disease*.

Chapter 1: Background

Risky sexual behaviors, such as early sexual initiation and neglect of condom use, result in unexpected health outcomes for some young people. Among those that face the greatest risk for contracting HIV are black adolescents between the ages of 13 and 24. Nearly one-third of new infections occur among this demographic. Among all youth, black men have higher rates of contracting HIV in comparison to any other race/ethnicity. The rates of new HIV infections are 11 times higher for Black men than for young White men and four times higher than it is for their Hispanic counterparts (Schnall et al., 2015; CDC, 2015). While Black men are disproportionately affected by HIV in general, if the current rates remain constant among them, it is found that there are about one in two YBMSM who will be infected by HIV during their lifetime (CDC, 2014). This is a problem for Black male adolescents, and a solution for this is yet to be found.

Researchers report that risk factors (Harris, Sutherland, Sutherland, & Hutchinson, 2013; Henry, Schoeny, Deptula, & Slavick, 2007) or adolescent health behaviors include poor parent-adolescent communication about sex, lack of parent support, lack of sense of belonging to the school, lack of peer knowledge, racial discrimination and low self-efficacy regarding safe sex. Protective factors include the reverse sides of the above-mentioned factors, i.e., parent-adolescent communication, a sense of belonging to school associated with acceptance by peers, and increased self-efficacy beliefs about sex (Cordova et al., 2016; Dishion & McMahon, 1998; Dishion, Nelson, & Bullock, 2004; Harris, Sutherland, Sutherland, & Hutchinson, 2013; Henry, Schoeny, Deptula, & Slavick, 2007). However, there is a gap in our understanding of whether and, if so, how these factors are associated with HIV testing and condom use amongst Black

male youth who are at the greatest risk for HIV and failure to get tested for HIV over the course of their adult life.

Sense of Belonging

A sense of belonging in the school context is also considered protective with respect to safe-sex decision-making amongst adolescents. This refers to students feeling accepted, valued, included, and important in their relations with teachers and peers in the classroom setting (Booker, 2007; Furrer & Skinner, 2003; Osterman, 2000). Studies have found that a decrease in sense of belonging in the school and home environments is associated with feelings of psychological distress, decreased self-efficacy, diminished academic performance, unsafe sexual behaviors, and an increase in the likelihood of contracting STDs (Bauemaester & Leary, 1995; Booker, 2007; Butler-Barnes et al., 2015; Deci, Vallerand, Pelletier, & Ryan, 1991; Goodenow, 1993; Murdock, 1999; Voisin & Elsaesser, 2016). Other researchers have found that having a lack of sense of belonging to peers, parents, and in schools all lead to poor mental health (Oldfield, Stevenson, Ortiz, Haley, 2018). Moreover, adolescents who feel excluded from their peers, or parents tend form relationships with deviant peer, and engage in negative behaviors such as drinking (Scholte et al., 2001).

Some believe that the sense of belonging is important for good health (Goodsby & Walsemann, 2012) and that good health involves preventing HIV/AIDS. Sense of belonging has found to improve mental health, helps manage stress, and shows adolescents they have support. Dimensions of sense of belonging include perceived social isolation and the quality of social relationships. Perceived social isolation and quality of social relationships are important aspects of social integration for adolescents (Goodsby & Walsemann, 2012). Therefore, being accepted by peers might result in healthier sexual behaviors, whereas feeling a lack of belonging from

peers at school might be associated with riskier sexual behavior (Halle-Lande, Eisenberg, Christenson, & Neumack-Sztainer, 2007). The present study will test this notion because school attachment, including feelings of acceptance by peers, is associated with fewer risky behaviors (Mcneely & Falci, 2004).

Parent-Youth relationships

A plethora of literature supports the importance of parent-youth relationships with regard to adolescent health outcomes (DeVore & Ginsburg, 2005; Schoenfeld, McRee, & Eisenberg, 2013). Parent-adolescent connectedness, which can be defined as “the quality of the emotional bond between parent and child” (Lezin, Rolleri, Bean, & Taylor, 2004), may help young people navigate risks and other challenges associated with sexual behaviors (Markham, Lormand, & Gloppen, 2010). This is important because most adolescents in middle and high school look up to their parents as trusted sources for gaining sexual health information (Hutchinson, 1998; Schonfeld et al., 2013) and as purveyors of core values involved in sexual decision-making (Jaccard, Dodge, & Dittus, 2002).

Parent-Adolescent Communication

Research has found that parent-adolescent communication is associated with increased condom usage and a greater likelihood of adolescent–partner discussions regarding safe sex (Noar, Carlyle, & Cole, 2006; Tobin et al., 2014; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2013; Whitaker, 1999). There is evidence that early adolescence might be the best time for a parent-adolescent communication insofar as safe-sex decisions are concerned (Coakley et al., 2011; Villarruel et al., 2010; Wyckoff et al., 2008). Although most previous studies have not included black youth in their samples, a mixed method study conducted by Santa Maria et al. (2014) explored the dynamics of sexual health conversations between 20

single black mothers and their sons who were aged between 11 and 14. It found that boys described their mothers as approachable and reported talking to them prior to their first sexual experience.

Peer Influence

Studies have also found that adolescents frequently name their friends and peers as important sources of information about sex (Andre, Dietsch, & Cheng, 1991; Ballard & Morris, 1998; Brechwald & Prinstein, 2011; Fletcher et al., 2015; Widman, Choukas-Bradley, Helms, & Prinstein, 2015). Although parental monitoring is often associated with a reduction in sexual risk behaviors (DeVore & Ginsburg, 2005), when peers are involved in risky sexual behaviors (see, for example, Arnett, 2007; Wang et al., 2016), the importance of parent-adolescent bonding and communication is reinforced. Even though conformity demands regarding risky sexual activities among peers are important to some, but it is not relevant to all adolescents, as there is evidence that self-efficacy beliefs and parent-adolescent communication and bonding are associated with safer sex (Allen, Porter, & McFarland, 2006; Brechwald & Prinstein, 2011; Widman, Choukas-Bradley, Helms, & Prinstein, 2015). There are gaps in the literature regarding the relations of black men with their friends and peers and the latter's influence on sexual risk behaviors.

Self-Efficacy

Self-efficacy is defined as an individual's beliefs in his/her ability to implement the necessary behaviors required to produce the desired outcomes (Bandura, 2004; Lawrence, & McLeroy, 1986; Rikard, Head, & Thompson, 2016). Research has found that adolescents who possess such beliefs are more likely to avoid STDs, such as HIV than those who do not to take steps (such as consistent condom use) (Ortega, Huang, & Prado, 2012; Nash, McQueen, & Bray, 2005; Pearson, 2006). Shelley et al. (2017) conducted a study with a sample of black YBMSM

who were aged between 18 and 29 and found that self-efficacy beliefs were positively associated with safe-sex practices and HIV testing.

Racial Discrimination

Negative attitudes toward HIV prevention are linked to racism and discrimination for blacks (Ford et al., 2011). Racial discrimination negatively affects the psychological well-being and health of black adolescents (Butler-Barnes et al., 2015; Seaton et al., 2008; Sellers, Copeland-Linder, Martin, & Lewis, 2006). Black youth are more likely to experience racial discrimination and harassment within predominately white schools (Feagin et al., 1996; McCabe, 2009; Goosby & Walsemann, 2012). Past literature found that racial discrimination has a negative influence on the developmental outcomes for black youth in the form of adverse mental health, increased risky behaviors, and diminished academic achievement (Gaylord-Harden & Cunningham, 2009; Seaton & Douglas, 2014). Previous research has also demonstrated that minority teachers are more likely to spend time teaching about topics related to HIV and STDs than their white counterparts; however, the relevance of this information is undercut by the fact that most teachers in the United States are white. Furthermore, research has found that perceived discrimination impacts the learning ability of black youth because they focus on dealing with the stress of discrimination instead of focusing on school lessons and/or tests.

Present Study

This study tested the associations between and among parent-adolescent support, sense of belonging, parent attitudes towards sex, parental relationships, self-efficacy beliefs, on HIV sexual risk behaviors in the middle-school and high-school years among black adolescent men and the relations of these factors with safe-sex attitudes and behaviors, including HIV testing, in early adulthood.

The following questions will be addressed using data from Waves I and III of the National Longitudinal Study of Adolescent Health (Add Health) among black adolescent men between the ages of 11 and 17 at Wave I and between the ages of 18 and 26 at Wave III as follows:

Research Question 1

Are there mediational relationships between parent support, self-efficacy beliefs about sex, sense of belonging at school, parent relationships, parent attitudes about sex, peer knowledge, racial discrimination, and **HIV sexual risk behaviors**?

Research Question 2.

Are self-efficacy, sense of belonging, parent support, parent attitudes towards sex, parental relationships, peer knowledge predictive of **HIV testing** (ages 14-26)?

Theoretical Perspective

The present study has applied two theoretical frameworks that are relevant for understanding both the risk and protective factors that affect the development of black men. These theoretical frameworks comprise the ecodevelopmental theory and the integrative model for the study of developmental competencies in minority children (Cordova, et al.,2014; Garcia Coll et al., 1996; Szapocznik J, & Coatsworth D,1999). A brief background is provided on what is known about how context puts black boys at risk or protects them from HIV.

The ecodevelopmental theory places the family at the center of a child's development. However, even if the family is the principal context in which child development takes place, it is but one of the several environments or ecological systems that influence children's lives. As described by Bronfenbrenner and Ceci (1994), ecodevelopmental theory conceptualizes the ecological environment as a set of "nested structures." Child developmental outcomes are

influenced by interactions within microsystems (immediate settings in which the child grows up during the developmental years, such as the home environment and the background in which the family relationships develop). Other structures include mesosystems (processes between or among two or more microsystems that contain the child, such as relations between parents and school programs), exosystems (processes between or among two or more settings, only one of which contains the child, such as relations between parents and employment attachments or between parents, children, and various community resources), and macrosystems (influences of the broader cultural or socioeconomic environments and belief structures). This study is primarily concerned with the microsystem and mesosystem domains and whether and how conditions and circumstances in these different contexts are associated with HIV risks and protective factors for black male adolescents.

The ecodevelopmental theory posits that microsystems are the most influential with respect to adolescent HIV/STD risk behaviors (Cordova et al., 2014; Szapocznik & Coatsworth, 1999). These are the settings in which an adolescent participates in the most direct manner. Microsystems, which are the most proximal for a developing adolescent, include the family, peers, and the school. Previous research has found that positive bonding experiences at home and school are associated with delayed age of sexual debut, reduced likelihood of risky sexual behaviors, and lower risk of contracting HIV/STDs (Bean, Barber, & Crane, 2006; Coatsworth, Pantin, & Szapocznik, 2002; Cordova et al., 2014; Huei-Li et al., 2017).

Mesosystems include relations between parents and the school and between and among adolescents, their parents, and the school, i.e., two or more microsystems that involve the child (Huei Li et al., 2017; Szapocznik & Coatsworth, 1999). One of the core principles of mesosystems is the linkage between the systems. In the present context, the domains of the

mesosystem include parental monitoring of their adolescent's peer relations and parental involvement in the adolescent's school (Huei Li et al., 2017). Stronger family–child and parent–school bonds are associated with less risky sexual behaviors during adolescence (Commendador et al., 2010; Huei Li et al., 2017).

Family functioning has been linked to a number of adolescent outcomes, including a commitment to school, academic success, and feelings of self-efficacy (Tobler & Komro, 2010). However, there is a dearth of literature on how variables such as parent-child bonding, adolescents' communication about sex, and parent–school involvement impact HIV testing among black male adolescents concurrently and over time. Understanding the role of such variables on HIV testing might add to our understanding of how to intervene to reduce HIV risks and risky sexual behaviors among black male adolescents.

For instance, there is evidence that parents' beliefs about sex might influence their child's psychosexual development, including self-efficacy beliefs regarding sex. In addition, while some have found that MSM are more comfortable disclosing their same-sex attraction to their mothers than their fathers (Hussen et al., 2014; Voisin et al., 2013), others have concluded that positive father-son relationships in predominately heterosexual samples are associated with delayed sexual debuts, fewer partners, and reduced risky sexual behaviors (Brook et al., 2010; Hussen et al., 2014). Concerning the latter, it does not seem to matter whether the father is in residence (living in the household) or not. The level of father-son involvement matters, especially among black men (Husseini et al., 2014). Studies have also found that the level of communication between fathers and sons is associated with more efficacious attitudes and beliefs among boys about less risky (more healthy) sexual behaviors (Guilamos Ramos et al., 2012; Regenrus & Luchies, 2006). Indeed, studies have linked the absence of a father during

childhood to an increase in sexually risky behaviors among black youth, which continues well into adulthood (Willis & Clark, 2009; Caldwell et al., 2009). However, none of these studies have examined if and/or how the father-son relationship influences sexual decision-making among black men concurrently and over time.

The second theoretical framework for this research is the integrative model for the study of developmental competencies in minority children (Garcia Coll et al., 1996). This framework was one of the first to incorporate and emphasize on the fundamental factors for understanding the growth and development of minority children. It acknowledges that there are distinct experiences that children and youth of color encounter and explicitly accounts for the unique ecological contexts within which black youth and other children of color develop.

The integrative model is used as the theoretical framework for examining the view of perceptions of discrimination, sense of belonging, self-efficacy, and other contextual factors in the school context to predict HIV testing among black men (Garcia Coll et al., 1996; Seaton & Douglas, 2014). This model posits that American society stratifies individuals based on their social position, such as race, ethnicity, gender, and social class (Garcia Coll et al., 1996). The social position of the youth of color is then stratified within this social hierarchy of the United States, which, in turn, leads to segregation in physical (e.g., school, hospitals, family, and peer groups), and psychological environments (e.g., sense of belonging) (Garcia Coll et al., 1996; Goosby & Walsermann, 2012). Social position is important for the youth of color because it can alter or influence their psychological and developmental pathways. According to Garcia Coll et al., (1996) these social position variables are dynamic in their contributions, i.e., they can modify the relationships between a range of factors. However, these social factors do not directly impact the developmental outcomes of children and youth of color, but they are instead affected by

racism, prejudice, discrimination, and oppression (Garcia Coll et al., 1996). For instance, racial discrimination is proposed to operate at the macro level through the creation of segregated contexts, which include residential, social, and psychological dimensions that directly influence the development of the youth of color (Garcia Coll et al.1996; Seaton & Douglas, 2014). Thus, social position variables, racial discrimination, and segregated contexts are believed to result in negative outcomes, thereby decreasing the number of positive outcomes for the youth of color (Seaton & Douglas, 2014). In addition, racial discrimination has been normalized and it is frequently directed against children and youth of color (Garcia Coll et al, 1996). Moreover, Alcohol and substance use becomes a coping mechanism for individuals such experiencing discrimination on the basis of race and/or sexuality particularly in response to internalization of negative interpersonal judgments, which leads them to engaging in negative sexual risk behaviors that puts them at risk for HIV (Borrell, Jacobs, Williams, 2007; Kaplan, Hormes, Wallace, Rountree, & Theall, 2016).

Most youths enter schools with unique individual, family, and community backgrounds and characteristics (Garcia et al., 1996). These unique characteristics that the youth possess help them in learning and developing within the school context. However, there are risks and promotive factors that can influence youth behaviors as a set of nested behaviors in their environments. The school district, individual schools, and the classroom (teachers, peers) dynamics can impact the youth's learning experiences within all three environments. These different dynamics within the school can be inhibiting, promoting, or both.

Chapter 2: Literature Review

Families and Sexual Risk Behaviors

Family functioning has been defined in the literature of family support, family communication, parental monitoring of peers, parent-adolescent communication, family cohesion, and positive parenting (Cordova et al., 2016). Prior research has found that parent-adolescent family functioning inconsistencies can be defined as the gap (in either direction) between parent or adolescent reports of family functioning.

Families have a significant impact on adolescents' sexual and romantic relations (Zimmer, Gembeck, & Helfand, 2008; Kerpelman, McElwain, Pittman, & Adler-Baeder, 2013). However, there are modest associations between family process variables and adolescents sexual behavior, but the literature has found that these variables may be more relevant in predicting sexual outcomes (Miller, Benson, & Galbraith, 2001). Parental support has been defined as any behavior that is exhibited by the parent figure that impacts the well-being of the adolescent (Miller, Benson, & Galbraith, 2001). Prior research has found that supportive parents delay the sexual debut of their adolescents (Parkes et al., 2011; Price & Hyde, 2009; Zimmer, Gembeck, & Helfand, 2008).

A plethora of literature supports the importance of parent-youth relationships on adolescent's health outcomes (DeVore & Ginsburg, 2005; Schoenfeld, McRee, & Eisenberg, 2013). Parent-adolescent bonding, defined as "quality of the emotional bond between parent and child," (Lezin, Roller, Bean, & Taylor, 2004), may help navigate sexual risks and other challenges that adolescents deal with including sexuality (Markham, Lormand & Gloppen, 2010). This is important because middle- and high-school adolescents consider their parents to be a trusted source of sexual health information (Hutchinson, 1998; Schonfeld et al., 2013) and expect

to be taught about the core values of sexuality (Jaccard, Dodge, & Dittus, 2002). Parent-teen communication about sexuality and sexual risk have been shown to be associated with an increase in condom usage and teen-partner discussion about safe sex (Whitaker, 1999).

There is a shortage of literature suggesting that strong supportive family relationships may be associated with engagement in prevention methods regarding HIV and other sexual risks (Garafalo, Mustanski, & Donenberg, 2008; LaSala, Siebert, Fedor, & Revere, 2016). On the other hand, family rejection may be related to high-risk sexual behaviors (Ryan, Huebner, Diaz, & Sanchez, 2009). Generally, among heterosexual youth, parent-child interactions that include parental monitoring and communication have been found to be associated with youth engaging lower sexual risk behaviors (DiClemente et al., 2008; LA Sala et al., 2018). Furthermore, strong family relationships, parental monitoring, and parent-child communication may be related to lower rates of drug and alcohol use (Rowe, 2012; Tobler & Komro, 2010), which are factors that have been found to be connected to HIV sexual risk behaviors.

Prior research has also revealed that parental expertise, trustworthiness, and accessibility are factors associated with lower sexual risk behaviors (Guilamo-Ramos, Jaccard, Dittus, & Bouris, 2006). However, findings from previous studies may not be equivocally applicable across all populations of youth. For example, culture may influence how and if parents talk about sex with their children. Moreover, education may be another factor that impacts whether parents engage in conversation around sex with their adolescents. LaSala, Siebert, Fedor, and Revere (2016) conducted a qualitative study of 35 gay and bisexual youth (ages 14-21) and their parents/caretakers living in New Jersey, New York City, Washington D.C., or Philadelphia metropolitan areas to identify how family interactions impact youth's sexual risk behaviors. The authors found that parent-son communication that was mutual and low in conflict was associated

with youth who did not engage sexual risk behaviors frequently. However, this might not apply to all youth, or heterosexual Black males, because of cultural differences and beliefs that impact parent-son communication.

Other researchers have demonstrated that family structure, cohesion, parental monitoring, and engagement, as well as parent-child bonding, positively affect adolescent sexual health (Markhem et al., 2010; Harris, Fanstasia, & Castle, 2018). Miller and his colleagues (1999) conducted a study with African American adolescents to examine family process variables (communication, sexual communication, maternal monitoring, and maternal attitudes toward sex) and family structure variables (income, education, and marital status) in predicting adolescents' sexual activity and sexual risk behaviors. The authors found that the family process was associated with reduced sexual activity and lower sexual risk behaviors. In addition, Huebner and Howell (2003) found similar results regarding family process among Black youth. Langley (2016) conducted a study of 5,600 Black youth and found that youth who reported to a father figure were less likely to report early sexual debut. Furthermore, youth with a father figure found it easier to converse about sex, following family rules, and maternal warmth (Langley, 2016).

Parent Bonding and Sexual Risk Behaviors

Parent bonding has been defined as the degree to which individuals, groups, or families are socially close and interrelated as well as share resources (CDC, 2013a). Parent bonding can potentially be used in interventions as a protective mechanism for youth who are at high risk for STDs (CDC, 2009, 2013a; Foster et al., 2017). However, protective factors are under-utilized in interventions that focus on adolescents health (Prince Embury and Saklofske, 2014) and little is known about their use with vulnerable youth (Brownlee et al., 2013). Furthering our

understanding of parental bonding might benefit youth who are at risk for HIV. Family warmth and cohesion have been found to be important for maintaining healthy connections between youth and their families. Social connections between family and youth have been linked to well-being, and the absences of such connections have also been linked to risk for negative outcomes low self-esteem, depression, and alcohol use. Enhancing youth's bonding with parents and other helping adults may increase the HIV testing rate and reduce risk.

Parents' bonding with their youth have been defined as feeling loved, warmth, cared for, valued, and respected by one's parents (Foster et al., 2017). Soloski and Berryhill (2016) conducted a study using the National Longitudinal Study of Adolescent Health (Add Health) to examine how family cohesion is related to emotional distress and alcohol use and how emotional distress mediates this relationship among 6,504 adolescents. The authors found that close relationships between parents and adolescents reduced drinking, behavioral problems, and emotional distress. Another study was conducted by Li, Liang, Lin, Ji, and Xiao (2015) to examine parent-adolescent bonding, family conflict, and how it relates to child's stress among 118 families in which parents were living with HIV or AIDS. The authors created a two-level bonding score, the average and the difference between parent and adolescent bonding scores. They found that adolescents who perceived to have poor bonding with their parents had higher levels of stress regardless of what their parents thought about bonding. The authors believe that families tend to have their own perceptions of family conflicts and bonding and do not take into consideration the child's opinion.

Research has started to investigate parent-adolescent bonding and sexual behavior. Furthermore, some studies have found that positive parental-adolescent bonding predicted higher self-esteem and more positive health behaviors (Ackard, Neumark-Sztainer, Story, & Perry,

2006; Kerpeleman, McElwain, Pittman & Adler-Baeder, 2013). Kan, Cheng, Landale, and McHale (2010) found that parental bonding was associated with adolescents having fewer sexual partners; similarly, Aspy et al. (2007) found that when parents treated their adolescents with warmth and communicated openly with them about their values on relationships and sexuality, the adolescents were less likely to engage in risky behaviors.

Parental Attitudes and Beliefs about Sexual Risk

Parents have been shown to be an important influence on adolescents' sexual risk behaviors (Bleakley, Hennessy, Fishbein, & Jordan, 2009; Hutchinson & Wood, 2007). Parent-adolescent communication is a mechanism through which beliefs, values, culture, and normative community behaviors are passed on (DiLorio, Hockenberry-Eaton, Maibach, & Miller, 1996). Much of the previous research literature on parental influence covers the impact of the relationship between mothers and daughters (Harris, Sutherland, & Hutchinson, 2015). Prior research has found that mothers are more likely to have sexual health conversations with their children than fathers, and fathers are more likely to discuss sex and other related topics with their sons than their daughters (Dilorio et al., 2000). Prior research studied African American father-son relationships and found that sons who reported their father's abilities to communicate about HIV prevention and sexual risk behaviors were associated with self-efficacy for delayed sex (Glenn, Demi, & Kimble, 2008). Father's involvement with the son influences their sexual behaviors, psychological well-being, and economic and educational achievement (Mullen Harris, Fürstenberg, & Marmer, 1998).

The family shapes the attitudes, beliefs, and norms that impact children's behavior as they transition from adolescence into adulthood (Huebner & Howell, 2003; Ginsburg, 2005; Sutton et al., 2013; Langley, 2016). For example, the authors found in a qualitative study

concerning fathers that they were more likely to talk about sexual activity with their sons and were encouraging of their daughters having sex (Wilson, Dalberth, & Koo, 2010). A more recent study found that permissive attitudes toward sex were associated with a higher number of sexual partners, especially among millennials compared to older generations (Twenge, Sherman, & Wells, 2015). These researchers also suggested that the attitudes of young people might be potentially influencing the attitudes and beliefs of parents who convey permissive messages to their adolescents. Prior studies have found that parental monitoring strategies, knowledge, and attitudes differ based on race, class, gender, and home environment (e.g., number of children in the home and the number of adults in the home) (Crowder & Head, 2002; Gottfried, Gottfried, & K. Bathurst, 2002; Goodnow, 2002). For example, less monitoring happens with single parents, in households with multiple children, and among low-income parents (Crowder & Head, 2002).

Parent-Adolescent Communication

Parent-adolescent communication has been found to be important in a) delaying sex (Lewis, 1973; Wight et al., 2006; Hicks et al., 2013), b) fewer sexual partners (Berenson et al., 2006; Treboux & Busch-Rossnagel, 1990), and c) increased contraceptive use among youth (Maulsby et al., 2013a; Rosenthal, Feldman, & Edwards, 1998; Sorenson, 1973).

Communication is a way in which parents share their attitudes, values, and beliefs about many different topics including sex and sexuality to their teen (Harris et al., 2018; Albert, 2009; Grossman, Jenkins, & Richer, 2018; Ikramullah, Manlove, & Cui, 2009; Ritchwood et al., 2018). A meta-analysis of 52 studies found a significant positive association between parent-adolescent sexual communication and adolescent safe sex behavior. The author's results were found across longitudinal and cross-sectional studies as well as among young adults and adolescents (Wideman, Choukas-Bradley, Noar, Nesi, & Garrett, 2016). Hyde et al., (2013) found that

conversations between parents and adolescents that included learning to say no to sex, delaying sexual debut, the importance of contraception use, and talking about sex with their partners were found to delay vaginal intercourse. However, parents do not usually have conversations with their adolescents about sexuality, STDs, and HIV. Moreover, they might not feel like they are adequately supported by trusted adults or have the knowledge to talk to their child about sexual health or protection against risk behaviors that can lead to HIV and other STDs (Coakley et al., 2016; DiIorio et al., 2007).

Some parents have religious beliefs and values that may dictate whether they talk to their youth about sex. Osafo, Asampong, Langmagne, and Ahiedeke (2014) conducted a qualitative study using focus group interviews, one for mothers and another for fathers in two southern communities in Ghana; further, they also conducted a thematic analysis. The authors found that the religious beliefs of the parents in one community prohibited conversations around sex with their adolescents and parents in the second community felt that such discussions were promotive and regulated youth sexual behaviors. As African American males are disproportionately affected with HIV and growing evidence suggests that parents may influence adolescents' sexual risk behaviors, it is critical to examine the influence African American parents on sexual beliefs and attitudes of their children.

Moreover, specific interventions or programs that include the family, or the guardian, can complement the community that includes schools and healthcare systems that target youth (CDC, 2012). Current and past research demonstrate that youth who communicate with their parents and peers about sexual health topics (e.g., HIV, STIs, and routine testing) are more likely to make safer decisions regarding sexual intercourse, such as using condoms or not engaging in casual sexual encounters (Noar, Carlyle, & Cole, 2006; Tobin et al., 2014; Widman, Choukas-Bradley,

Helms, Golin, & Prinstein, 2013). Communication with parents is important, especially for African-American males. African-American males are more likely to engage in sexual activity at an earlier age (13 years) than their White counterparts (CDC, 2012). Some researchers agree that early adolescence may be the best time for parents to communicate with their youth about preventing at-risk sexual behaviors that can lead to HIV (Coakley et al., 2016; Guilamo-Ramos et al., 2011; Villarruel et al., 2010; Wyckiff et al., 2008).

Mother Communication

Much of the literature on parent-child communication to date has been focused on mother-daughter sexual communication (Harris et al., 2018). Prior research has found that mothers are more likely to talk to their daughters about sex, whereas fathers are more likely to talk to their sons (DiIorio, Kelley, & Hockenberry-Eaton, 1999; Wilson & Koo, 2010). However, mothers are more likely to engage with their children about sex than fathers (Wyckoff et al., 2007). The content, context, and delivery differ according to race and gender (Harris et al., 2018). African-American parents are more likely to believe that it is the responsibility of the mother to talk about sex with their children than fathers. For example, African-American mothers are more likely to have a plethora of conversations with their daughters that focus on pregnancy and practicing abstinence until marriage. This differs from fathers who are more likely to talk to their sons about condom use (Sneed, Somoza, Jones, & Alfaro, 2013).

Studies have also found sexual health conversations to serve as an effective prevention strategy with racial/ethnic minority youth, particularly young Black men. For instance, Santa Maria et al.'s (2014) conducted a mixed method study that explored the dynamics of sexual health conversations between single Black mothers (n = 23) and their sons aged 11 to 14 (n = 25). They found that among mothers and their sons, some were comfortable, and others were not

while discussing sexual health topics. Nevertheless, most of the youth expressed that their mothers were approachable, and some reported talking with their mothers prior to their first sexual experience. However, while findings highlight relationships between Black mothers and their sons and their willingness to talk about the importance of condom usage and other sexual health topics, HIV testing was not considered. Furthermore, this study did not take into consideration the sexual orientation of males in question, which can potentially change their perception of these conversations. These findings need to be extended to the relationship between conversations about sexual health with partners among Black males who are sexually active, who might be having vaginal and or anal sex, and routine HIV testing.

Another research study pointed out that several factors keep these conversations from happening, but one of the most important factors is gender (Schonfeld et al., 2013). Mothers are more likely to communicate with their child about sexuality, and they tend to talk more to their daughters than their sons. When compared to fathers, mothers experience fewer barriers (e.g., lack of sexual health knowledge and finding time to talk) and more facilitators (e.g., shared activities with child) to communicate about protective behaviors (Wilson & Koo, 2010). Even though parent-teen communication is essential, many parents feel that they are unprepared to talk with their teens about sexuality, and even without any discussion about sexuality, parents can influence their child behavior (Schonfeld et al., 2013). If adolescents perceive their parents to have negative attitudes and beliefs towards sex, they may not engage with their parents on these related topics. There is a dearth of literature on HIV prevention regarding how parent-teen communication can impact HIV testing and other STD prevention methods. Furthermore, little is known on how parent communication impacts the rate of HIV testing among young Black MSM.

Father Communication

There is a dearth of literature on father-sexual communication. Prior surveys of adolescents have demonstrated that father-son communication about sex was non-existent (Harris et al., 2018; Raffaelli, Bogenschneider, & Flood, 1998; Sprecher, Harris, & Meyers, 2008). Kapungu et al. (2010) conducted a study of 162 African American parents and their children on sexual communication; males reported frequent conversations around sex (primarily on condom use) with their mothers than females, whereas conversations with fathers were majorly focused on condom use; thereby paternal attitudes toward adolescents sexual were displayed. Other research findings support that most conversations between fathers and sons center about condom use (Bleakley, Hennessy, & Ellithorpe, 2018; Wilson et al., 2010).

It has been documented that some factors affect communication about sex between fathers and sons. Fathers are more likely to engage in sexual health conversations with their sons if they are comfortable talking about sex, if their fathers talked about sex with them when they were younger, if they believe their sons will benefit from having a conversation about sex, and if they have a positive attitude toward adolescents sexual behavior (Harris et al., 2018; Lehr, Demi, DiIorio, & Facticeau, 2005). Randolph, Coakley, Shears, and Thorpe (2017) conducted a qualitative research study among fathers and their sons to explore sexual health communication. The authors found that fathers would be more comfortable talking to their sons about sex if they felt they accepted the role of fatherhood, felt responsible for their child's sexual health education and health, had a positive relationship with their sons, and were able to speak openly and honestly about sex with their sons. The study of factors that influence African American father-son communication related to reducing sexual risk behaviors is a significant gap in the literature.

Parent-child communication about sex is limited, and father-son sexual communication can potentially help reduce risky sexual behaviors and increase HIV testing rates. Harris, Fantasia, and Castle (2018) conducted a study on 96 African Americans and their sons aged 16–21 years using a structural equation model to examine neighborhood characteristics, father-son closeness and parent bonding, father-son communication, sexual permissiveness, condom attitudes, and sexual risk behaviors. The authors found that African American father-son closeness and parent bonding was associated with father-son communication; father-son communication was negatively associated to sons' permissiveness and positively related to condom attitudes, and sons' permissiveness was positively associated with their sexual risk behaviors. Father-son communication and bonding are important because it allows for trust to be built between father and son, and that they can have safe conversations around important topics such as sex. However, we do not know if these relationships affect the rate of HIV testing.

Peer Influence and Risky Sexual Behaviors

Researchers have acknowledged that the social context of adolescence helps shape their sexuality (Smetana, Campione-Barr, & Metzger, 2006). A plethora of studies has researched the role of parenting and family characteristics in adolescents' sexual development (De Graaf, Vanwesenbeeck, Woertman, & Meeus, 2011; Miller, 2002; Miller, Benson, & Galbraith, 2001) and, the role of peers and their influence on adolescents sexual risk behaviors have also been researched. However, peer influence is not surprising because of the interactions between adolescents and their peers. Although parents remain important in shaping adolescents' sexual attitudes and beliefs, it is believed that some peers are critical in providing emotional and social support and become a frame of reference on how adolescents think and act (Bongardt, Reitz, Sandfort, & Dekovic, 2015).

In the prior literature on the role of peers influencing sexual risk behaviors, numerous aspects have been studied related to the peer context and adolescent relationships. Past research has examined the level of peer influence (e.g., Markham et al., 2010;), friends, gender, and age (e.g. Cavanagh, 2004), frequency of peer involvement (e.g., Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007), and communication with peers about sex (e.g., Busse, Fishbein, Bleakley & Hennessy, 2010). These studies have demonstrated the importance of peers in adolescent sexual behavior. However, none of these studies incorporated race and how peers of different racial-ethnic backgrounds interact, stay connected and learn about sex with each other.

Researchers have consistently shown that adolescents' behaviors tend to be very similar to those of their peers (Brechwald & Prinstein, 2011; Heilbron & Prinstein, 2008). Studies have also found that adolescents frequently name their friends and peers as some of the most important sources of information about sex (Andre, Dietsch, & Cheng, 1991; Ballard & Morris, 1998; Brechwald & Prinstein, 2011; Fletcher et al., 2015; Widman, Choukas-Bradley, Helms, & Prinstein, 2015). While parental monitoring is often associated with a reduction in sexual risk behaviors (DeVore & Ginsburg, 2005), peer influence is often associated with riskier sexual behaviors (Arnett, 2007; Wang et al., 2016). This finding reinforces the importance of parent-adolescent bonding and communication regarding sex. Although conformity demands regarding risky sexual activities among peers are important to some, it is not the case with all adolescents; there is evidence that self-efficacy beliefs and parent-adolescent communication and bonding are associated with safer sex among adolescents (Allen, Porter, & McFarland, 2006; Brechwald & Prinstein, 2011; Widman, Choukas-Bradley, Helms, & Prinstein, 2015). However, there is not enough literature on how Black males' friends and peers influence their sexual risk behaviors.

Peer influence has been found to impact adolescents behaviors in the form of risk behaviors (Widman, Choukas-Bradley, Helms, & Prinstein, 2016). Peer influence has been well documented for a range of behaviors (e.g., alcohol use, deviance), and peers may be influential in decision making for adolescents when it comes to engaging in sexual risk behaviors or making use of prevention methods (Prinstein, Brechwald, & Cohen, 2011). A systematic review examining factors that affect adolescents' sexual risk behaviors found that youth's perceptions of sexual behaviors among their peers were a strong predictor of their own sexual intentions and behaviors (Buhi & Goodson, 2007). While perceived peer norms are important to peers decision making, not all adolescents are equally susceptible to peer influence. Some youth and young adults perceive risky behavior among peers but remain resilient to peer pressure, whereas others are more vulnerable to engaging in negative risk behaviors as a result of it (Prinstein, Brechwald, & Cohen, 2011; Buhi & Goodson, 2007).

There is a dearth of literature that has examined how communication with peers may affect young Black men's willingness to engage in or adopt HIV prevention strategies (Mutchler et al., 2015). Prior research has demonstrated that peer norms for safer sex are associated with safer sex practices among young African American MSM (Hart & Peterson, 2004; Jones et al., 2008; Peterson et al., 2011). A study on African Americans revealed that if peers were perceived to use condoms, then the respondents were more likely to report condoms usage. Similarly, if peer norms were perceived to be unsupportive of safer sex, African American MSM would not wear condoms during sex (Jones et al., 2011; Mutchler et al., 2015). Additionally, among African American males and their friends, peers who support safer sex norms may influence each other to engage in healthy sexual behaviors and HIV prevention.

Biomedical HIV prevention strategies, such as HIV testing and PrEP, represent ways to reduce HIV rates among African American males. Muthchler et al. (2015) conducted 24 dyadic qualitative interviews (N=48) in Los Angeles, CA, exploring how young Black MSM and their friends view PrEP and PEP using a grounded theory approach. The authors found that the misconceptions and mistrust of PrEP were common, and concerns were expressed about PrEP-related stigma and the potential gossip among peers who might assume that a person on PrEP was HIV-positive. Peers can be utilized to help promote and educate their friends on the importance of biomedical intervention because peer socialization and influence is not always deleterious. Choukas-Bradley, Giletta, Cohen, and Prinstein (2015) used an experimental “chat room” paradigm to examine in vivo peer influence of prosocial behavior endorsement with a sample of 304 early adolescents. The authors found that adolescents, both male, and females, responded in the chat room positively to the topics being discussed. When exposed to positive messaging, youth would share and internalize the prosocial messaging around health behaviors. Positive messaging between peers may be a way to reduce risky behaviors. Moreover, using prosocial messages may be a way to teach youth about sex and sexuality.

Sense of Belonging

The sense of belonging can be defined as having positive relationships with others, which is a fundamental human need (Miyahita, 2004; Walton & Cohen, 2011). Social isolation, loneliness, and low social status can be harmful to the well-being of individuals (Logothetis & Sheinberg, 1996) and can inhibit their academic achievement, immune function, and overall health status (Walton & Cohen, 2011; Wang & Morris, 2010). Past research has established that a single instance of social exclusion can undermine well-being (Douglas & Martin, 2004; Ohiorhenaun et al., 2010). African Americans who are considered members of a socially

stigmatized group may potentially feel a lot of uncertainty about their social belonging to institutions such as schools and healthcare settings (Walton, & Cohen, 2011). Uncertainty about a sense of belonging, especially when long-lasting, can discourage individuals from learning and performing (Csicsvari, Jamieson, Wise, & Buzaski, 2003) as well as impact their health (Murray, Bussey, & Saksida, 2007).

In the school context, sense of belonging refers to students being accepted, valued, included, and encouraged by others (e.g., teacher and peers) in the academic classroom setting as well as feeling oneself be an essential part of the life and activity of the class (Booker, 2007). Past research has found that students who have a keen sense of belonging to their school report more positive teacher-student interactions, increased academic achievement, and positive peer relations (Furrer & Skinner, 2003; Osterman, 2000). In addition, students who reported feeling alienated within schools often exhibit an increase in psychological, behavioral, and academic problems (Booker, 2007). Lack of sense of belonging has been found to be related to depression, poor psychological adjustment, and anxiety (Baumeister & Leary, 1995). These negative feelings that students might harness can lead to decreased student motivation, engagement, and academic performance (Booker, 2007; Butler-Barnes et al., 2015; Deci, Vallerand, Pelletier, & Ryan, 1991; Goodenow, 1993; Murdock, 1999).

Entering high school may be a time when feeling a sense of belonging to one's school is critically important for youths (O'Neel & Fuilgni, 2013). Youth who attend high school are at an age where education is no longer mandatory, and the extent to which students maintain a sense of belonging at school may predict whether or not they leave school prematurely, which is a decision that can lead to lifelong social, economic, and potential health implications (O'Neel & Fuilgni, 2013; Rouse & Kemple, 2009). More importantly, prior research has established that

school belongingness is critical for adolescent's achievement and motivational beliefs (e.g., Anderman, 2003; Butler-Barnes, Estrada-Martinez, Colin, & Jones, 2015; Libbey, 2004; Stewart, 2007). A strong sense of belonging has often been associated with a higher grade point average, academic motivation, and completion of high school. School belongingness serves as an important source of motivation for youth as they spend most of their time in the school setting from kindergarten to 12th grade (Goodenow, 1992; Juster et al., 2004). In addition, adolescent's beliefs and sense of belonging to their school can serve as a promoting and/or inhibitory environment that may impact their achievement attitude and beliefs (Butler-Barnes et al., 2015; Garcia-Coll et al., 1996).

Past research has explored the importance of the psychological sense of belonging for African American males (Uwah, McMahon, & Furlow, 2008; Connell et al., 1994). Goodenow (1992) defines the psychological sense of belonging as the extent to which students perceive themselves to be accepted, valued, and respected by their peers, teachers, and other community members. Furthermore, past research indicates that the psychological sense of belonging can have a strong influence on school adjustment for youth (Finn, 1989; Uwah, McMahon, & Furlow, 2008). Connell et al. (1994) state that students' achievement is a direct result of the interactions that occur between students and their social context. Uwah, McMahon, and Furlow (2008) conducted a study using a cross-sectional design to examine the relationships between perceptions of school belonging, academic self-efficacy, and educational aspirations among a sample of male African American high-school students. The authors found that encouraging Black males to participate in and increasing their sense of belonging had a positive influence on schooling their experiences and outcomes. Thus, African American male's success may be influenced by their self-perceptions within the school context.

However, there is a shortage of literature on how a sense of belongingness to schools impacts on their sexual health and HIV prevention. Schools can play an instrumental role in health-promoting behavior because schools are multidimensional construct in which students are engaged emotionally, academically, and behaviorally (Voisin & Elsaesser, 2016; Furlong & Christenson, 2008). Past research has only examined the limited dimensions of school engagement. For example, Crosby et al. (2007) found that Black female adolescents who had enrolled in a school were more likely to test positive for STDs than those not in school. Painter et al. (2012) found that Black females (aged 18–24) were less likely to contract an STD if they had a college degree compared to females who had not completed high school. Voisin and Elsaesser (2016) conducted a study using a cross-sectional design by employing self-administered surveys to 219 Black male adolescents from a high school located in Chicago. The authors found that while controlling for socioeconomic status and age, an intense sense of belonging to the school was associated with lower rates of aggressive behavior, lower rates of gang involvement, delayed sexual intercourse, and other unsafe sexual behaviors.

Past research has established the significance of discussion of the presence or absence of school belongingness for Black youth. More specifically, the racial and ethnic composition of the school is a critical factor in the relationship between school belongingness and achievement. In a school setting where Black youth might feel powerless, they may also feel disconnected and lack the sense of belonging to the greater school community (Booker, 2007; Goodenow, 1993; Seaton & Douglas, 2014). However, a school that is supportive of all students, regardless of their racial-ethnic group, is likely to produce students who demonstrate higher levels of achievement. There is a dearth of literature on how the sense of belonging within the school context predicts the rates of HIV testing among youth and young adults. The literature focuses on overall academic

achievement, which is broadly defined. However, many youths are sexually active, and some who may be a part of the LGBT community, such as YBMSM, may not feel the sense of belongingness because of their sexual orientation. Black males who might not feel comfortable within the school might not feel comfortable in a classroom in which the issue of HIV is being discussed.

Racial Discrimination

Despite the overall improvements in the lives of African Americans, racial disparity in their health is still enormous and pervasive in the United States (Mays, Cochran, & Barnes, 2007; Williams & Mohammed, 2008). The health disparities that affect African-American arise from various sources, including cultural differences in lifestyle patterns, inherited health risks, and social inequalities that are reflected in the quality of healthcare, variations in health providers' behaviors, and socioeconomic status (Fiscella & Williams, 2004; Mays, Cochran, & Barnes, 2007; Subramanian et al., 2005). In a way, these health disparities are shaped by the damaging effects of race-based discrimination, which is a burgeoning interest among researchers. Racial discrimination persists in the 21st century, with Whites continuing to self-report that they discriminate against racial-ethnic minorities (Pager & Shepherd, 2008; Williams & Mohammed, 2013). Furthermore, racial discrimination also persists in institutional mechanisms and processes. For example, African American youth who report that their schools are contexts in which they repeatedly experience racial discrimination (Butler-Barnes et al., 2016; Cooper, McLoyd, Wood, & Hardaway, 2008; DeCuir-Gunby, Martin, & Cooper, 2012).

Adolescence is the developmental period when youth may have new experiences as they decide to explore the world outside of their families (Butler-Barnes et al., 2016). For some African American youth, some of these new experiences may include racial discrimination.

Racial discrimination has been defined in the literature as the actions embedded within systems under control by the dominant groups intending to provide differential treatment and ensure negative impacts for subordinate racial groups (Butler-Barnes et al., 2016; Cashmore, 1996; Fishbein, 1996; Seaton, Caldwell, Sellers, & Jackson, 2008). For Black youth, it does not matter whether racial discrimination is overt or covert; recurrent racial discrimination experiences can negatively impact their psychological well-being and other mental health outcomes (Seaton et al., 2008; Sellers, Copeland-Linder, Martin, & Lewis, 2006). Furthermore, past research has found that experiences of racial discrimination have immediate and lasting effects on the mental health of minority group members (Seaton & Douglas, 2014).

Black youth perceive themselves to be victims of racial discrimination since their early middle childhood, and their perceptions of racial discrimination supersede those reported by other racial-ethnic groups (Coker et al., 2009; Seaton & Douglas, 2014). Perceived racial discrimination has been shown to negatively influence the developmental outcomes for Black youth, such as adverse mental health, increased risky behaviors, and diminished academic achievement (Brody et al., 2006; Gaylord-Harden & Cunningham, 2009; Seaton & Douglas, 2014; Wong, Eccles, & Sameroff, 2003). A plethora of literature has shown that Black youth repeatedly experience racial discrimination (e.g., Butler-Barnes et al., 2016; Fisher, Wallace, & Fenton, 2000; Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004). Gibbons et al. (2004) reported that 91% of Black youth stated that they had experienced racial discrimination at least once in their lifetime. Simon et al. (2003) found that 67% of their preadolescents samples indicated that they were insulted because they were Black, 46% stated that they experienced racial name-calling, and 33% of reported that they were excluded from physical activities

(outdoor) due to their racial background, and 18% reported being threatened with physical harm because of their racial background.

Past research has indicated that African American adults who have encountered racial discrimination at least once reported higher levels of negative affect, anxiety, and depressive symptoms (Ong, Fuller-Rowell, Ja, & Sue, 2013). Racial discrimination experiences have also been found to be associated with psychological distress (Pieterse, Todd, Neville, & Carter, 2012). Racial discrimination leads to major depression and nonspecific pain and is deleterious to the physiological and psychological outcomes of African Americans (Harris-Britt, Valerie, Kurtz-Costes, & Rowley, 2007). Harris-Britt et al. (2007) conducted a study with 128 African American eighth graders, who were recruited from two middle schools in the rural south, to test if racial socialization messages would moderate the relationship between perceived discrimination and self-esteem and the moderating effects determined by the type of socialization messages. The authors found that there were adverse effects among adolescents who believed they were victims of racial discrimination, which could have been mitigated if they were adequately socialized. Moreover, African Americans who were adequately racially socialized (racial pride messages) had higher self-esteem and were protected from perceived racial discrimination and low self-esteem; higher levels of discrimination were associated with lower levels of preparation for bias. Another research has documented that race-based treatment can cause severe stress and negative emotional reactions (Jones, Cross Jr., & Defour, 2007). It is important that African Americans are prepared to deal with racism and discrimination to protect themselves.

Researchers have studied the relationship between racism, race-related encounters, stress, and mental health effects. Past research has found that racism and discrimination can reduce the

strength of the identity of African Americans as a protective factor (McCalin, Beasley, Jones, Awosogba, Jackson, & Cokely, 2015). Utsey, Ponterotto, Reynolds, and Cancelli (2000) conducted a study to examine the coping strategies used by 213 African American college students between the ages of 17–60, in dealing with the stressful effects of racism. The researchers furthered examined whether there were different coping strategies for the various racism conditions. They found that African American women sought out social support to cope with behaviors significantly more than men.

Additionally, it was found that African American women were less likely to deal with racism and preferred seeking out social support over individual coping strategies. Lastly, the authors concluded that racism and avoiding coping strategies were predictors for race-related stress and lack of life satisfaction. The effect of discrimination on African Americans may also manifest itself regarding physical symptoms, including feelings of depression or distress. These physical manifestations of discrimination may set the stage for later health-related problems (Huynh & Fuligni, 2010).

Despite the plethora of research literature on how racial discrimination impacts the physical and mental health of African American adolescents, to date, there have been no research studies that have studied how racial discrimination impacts HIV testing over time. Furthermore, most studies have studied the impact of racial discrimination in a context and how it impacts Black youth's psychological well-being over time (Broady et al., 2006; Gibbons et al., 2004; Neblett et al., 2008), but sexual health and HIV education was not considered in any of these studies. It is of interest to ascertain if perceptions of racial discrimination harming African American youths' daily lives and impacting HIV testing at later stages in life.

Racial Discrimination and the Role of Context

There has been recent literature on the importance of school context on perceptions of racial discrimination for African American youth (Chavous, Rivas-Drake, Ciara Smalls, Griffin & Cogburn, 2008; Seaton & Douglas, 2014; Spears Brown & Chu, 2012). Examining school context is vital, given that adolescents spend most of their day in school settings, especially when considering the relationship between racial discrimination and the mental health of Black youth (Jessor, 1993; Seaton & Douglas 2014). Secondary high schools continue to remain extremely segregated in the United States, especially for Black youth due to racial segregation (Orfield & Eaton 1996; Seaton & Douglas, 2014). Racial segregation refers to the physical separation of racial-ethnic groups by enforced residence in restricted areas (Williams & Collins, 2001). Racial segregation is conceptualized as a prominent characteristic for minority children and youth (Garcia-Coll et al., 1996), such that the average Black youth attends a school that is 57% African American (Logan 2002; Orfield & Eaton 1996; Seaton & Douglas, 2014). Racial segregation impedes the learning ability of African American youth in the United States. Minority youth mostly attends schools that are in inner cities and are underfunded well below those in neighboring suburban districts (Darling-Hammond, 1998). It is well documented that schools with high concentrations of low-income and minority students receive fewer instructional resources than others and tracking systems exacerbate these inequalities by segregating many low-income and minority students within schools (Brookings Institute, 2012). However, African American youth indicated frequent encounters of racial discrimination upon entering more diverse schools (Seaton & Yip, 2009).

Past studies have found that adolescents frequently experience racial discrimination within school settings (e.g., Chavous et al., 2008; Fisher, Wallace, & Fenton, 2000; Rosenbloom

& Way, 2004; Scott, 2003; Wong et al., 2003). For example, secondary school context provides classroom and social structures that can result in racial salience and increase the awareness toward racial group stereotypes and social exclusion (Rosenbloom & Way, 2004; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). Within schools, Black adolescents are more likely to have White teachers, even in predominantly Black schools, and teachers, in general, are unlikely to have received extensive training in multicultural education (Chavous et al., 2008; Ford & Harris, 1996). However, there is a dearth of literature on how perceived racial discrimination within the school context impacts the learning experience of Black adolescents when discussing health and HIV.

When examining the classroom experience of Black youth, they tend to report differential treatment because of their race quite frequently (Chavous et al., 2008). Moreover, Black youth perceive that they have received poor evaluations from teachers and other administrations at school or harsher disciplinary actions due to their race (Chavous et al., 2008; Fisher, Wallace, & Fenton, 2000; Greene, Way, & Pahl, 2006; Romero & Roberts, 1998). Furthermore, they also report experiencing discrimination from their peers at school, by being bullied and socially excluded solely based on their race (Fisher, Wallace, & Fenton, 2000; Greene et al., 2006; Wong et al., 2003). Black youth report frequent peer and classroom racial discrimination more so than other racial-ethnic groups (DuBois et al., 2002; Fisher, Wallace, & Fenton, 2000; Romero & Roberts, 1998). Past research has found direct relationships between Black adolescents' perceived racial discrimination at school and lower self-esteem (Fisher et al., 2000), more psychological stress (Scott, 2003), and higher psychological distress. Thus, the school setting is an important context within which Black youth's experiences of racial discrimination needs to be studied, and furthermore, gaining an understanding of adolescents' personal racial discrimination

experiences at school would be an important contribution to the existing research linking race to sexual health and HIV education.

African American youth who are disproportionately affected by HIV potentially attend schools in these districts across the country and may not be receiving a comprehensive sex education due to resources, which puts them at greater risk for HIV and other STDs (Lloyd et al., 2012). Many states followed the U.S. Congress in 2009 by shifting financial support from abstinence-only education to evidence-based programs (Consolidated Appropriations Act, 2010; 2009). However, many schools have not shifted from an abstinence-only program. Lloyd et al. (2012) conducted a study in rural North Carolina, using community-based participatory research method with 11 focus groups with Black adults and youth. The authors found that participants wanted their public schools to provide a comprehensive sex education curriculum for all students. Furthermore, youth participants stated that they had reservations of their students, and the parents expressed having a knowledgeable expert at school for teaching the curriculum related to HIV. However, both expressed the need for more funding in poorer schools to help with implementation of the sex education curriculum. Schools with limited funding might not prioritize health programs for students despite the urgency and might not have resources to train teachers to teach an HIV education program.

HIV stigma still exists in the United States, and comprehensive sex education can potentially address HIV rates and stigma among youth (Kirby et al. 2007; Lloyd et al., 2012; Santelli, Ott, Lyon, Rogers, & Summers, 2006). However, research has found that most teachers providing sexual health education were not trained to do so (Herr et al., 2012). Learning about HIV can potentially be difficult for Black youth, especially if they perceived themselves to be discriminated against within the school and classroom by their teacher and peers, especially at

least diverse schools. One study found that minority teachers were more likely to spend more time teaching about HIV prevention than White teachers in their health classes (Herr et al., 2012). Another study found that teachers are less likely to teach about sexuality and another topic they perceived to be controversial (Ghaith & Yaghi, 1997).

Furthermore, many teachers, however, assume that inequities are inevitable, ignore ethnic and cultural differences, and resist teaching with a multicultural frame (Brown & Chu, 2012; Bryan & Atwater, 2002). This can be detrimental to students of color because they are at substantial risk for HIV and makeup many new cases. Past research has shown that the ways in which schools and teachers value diversity impacts students' academic outcomes. Furthermore, schools that focus on cultural sensitivity, value diversity of their student body and teachers, and endorse culturally responsive pedagogy can increase the academic achievement of students (Bryan & Atwater, 2002; Richards, Brown, & Forde, 2007). This can be potentially true with students learning about HIV prevention including how to use condoms, where to receive condoms from, and the importance of HIV testing within the school context.

HIV Testing

Youth are disproportionately affected by HIV in the United States (Adebayo & Gonzalez-Guarda, 2017; CDC, 2016). Youth aged 13 to 24 currently represent 21% of all new HIV diagnoses in the United States (CDC, 2016). HIV incidence rates in youth have increased at an alarming and exponential rate between 2005 and 2014, especially among gay and bisexual males, and racial-ethnic minorities (Adebayo & Gonzalez-Guarda, 2017; Longmore et al., 2013). Incidence rates of HIV in youth have been linked to many different sexual risk behaviors, such as unprotected sex and increase in the number of sexual partners (Adebayo & Gonzalez-Guarda, 2017; Longmore et al., 2013). Of the youth who have had four or more partners, only 13% have

ever been tested for HIV. Furthermore, approximately 51% of youth between the ages of 13 and 24 are unaware of their HIV status (CDC, 2015; Longmore et al., 2013). HIV positive individuals may inadvertently transmit the infection to others (Harris, Gordon-Larsen, Chantala, & Udry, 2006; Longmore et al., 2013). To prevent new HIV cases, the CDC recommends that all sexually active individuals of ages 13-64 years old be tested for HIV. Given that youth have the highest rate of HIV of any group in the U.S. (Coakley et al., 2017), learning their HIV status will ensure they stay healthy by receiving HIV care and treatment which can improve their health and reduce the risk of transmission to others. HIV testing remains the gateway to primary prevention of HIV transmission and subsequent treatment of the disease (Leblanc, Flores, Barroso, 2015). It is critical for individuals to get tested routinely, yet individuals' understanding of factors associated with youth testing practices is still understudied.

Attitudes towards HIV Testing

Prior research has demonstrated that youth reported an array of attitudes that influenced HIV testing. Positive attitudes have been found to be associated with increased testing and negative attitudes with deterred testing (Adebayo & Gonzalez-Guarda, 2015; Meadowbrooke et al., 2014). Moreover, positive attitudes included perceived benefits of HIV testing such as the reassurance of HIV status; reduced risk of transmission to others; assessment and change of risk behaviors; and starting HIV treatment (Leanord et al., 2014; Schnall et al., 2015; Wallace et al., 2011). Other research has demonstrated that positive attitudes associated with HIV testing included high intention to test, desire to know to HIV status, and self-initiation of testing (Grant et al., 2006; Ma et al., 2016, Mullins et al., 2012; Phillips et al., 2012).

Youth and young adults are the fastest growing people living with HIV in the United States. However, many young people who engage in high-risk behaviors for HIV are unaware of

their HIV status and have never had an HIV test (Schnall et al., 2015). Schnall et al. (2015) conducted a qualitative study with 41 minority youth to better understand their beliefs, attitudes, and behaviors related to HIV testing. The researchers conducted focus groups to assess youth perceptions using the health belief model as a guide, the findings were triangulated with a 125-question survey suggesting that all of the constructs of the health belief model (i.e., perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action) influenced adolescents' decisions to get tested for HIV (Schnall et al., 2015). Moreover, the authors reported that the focus group and survey data demonstrated that barriers still existed for gaining access to HIV testing. Some of the barriers stated by participants included assurance of confidentiality and family support, similar to findings in other studies (i.e., Hampanda, Ybarra, & Bull, 2014). However, further research is needed to fully understand these barriers.

Prior research has found that sexual health conversations among youth and young adults serve as a protective factor. Youth who have sexual health conversations with their peers, parents, and partners are more likely to use condoms, have fewer partners, and get tested for HIV (Boyd, Lea III, Gilbert, Butler-Barnes, 2018; Crosby et al., 2002; Guilamo-Ramos et al., 2011; Murry et al., 2011; Noar, Carlyle, & Cole, 2006; Hicks, McRee, & Eisenberg, 2013; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014). Boyd et al. (2018) conducted a study using a national representative sample of Black adolescents (n= 270) using logistic regression analysis to examine sexual health conversation, comfortable talking to your partner about HIV, and HIV knowledge and their association with HIV testing. The authors found that Black youth who engaged in sexual health conversation about HIV were comfortable talking to their partner about HIV and had some HIV knowledge were more likely to get tested for HIV

than youth who did not have sexual health conversations. The authors concluded that gender differences might be a reason why some youth do not engage in conversations with their partners about HIV. Furthermore, the authors believed that different levels of sexual experience may also play a role in why youth engage or do not engage in sexual conversations.

Negative attitudes that were associated with HIV testing were multifaceted. These included perceived negative consequences of HIV testing such as fear of a positive test result, stigma of HIV testing, worrying about HIV, thoughts about HIV, and preference for unknown HIV status (Moyer et al., 2007; Phillips et al., 2015; Schnall et al., 2015; Siegel et al., 2010; Wallace et al., 2011). Fear of a positive HIV test has been found to be the most common among individuals (Adebayo & Guarda, 2015; Moyer et al., 2007; Phillips et al., 2015; Schnall et al., 2015; Siegel et al., 2010; Wallace et al., 2011). The concern of confidentiality of HIV test results deterred some youth from testing (Adebayo & Guarda, 2015). Prior research has reported that youth who worried about their friends and family members find out their test results or that they took an HIV test were less likely to test (Schnall et al., 2015). Misconceptions also have been found to be a reason in youth and why young adults do not get tested for HIV (Phillips et al., 2015).

HIV Knowledge and HIV testing.

Previous researchers that have examined the relationship between HIV/STD knowledge reported no relationship between knowledge and HIV testing (Meadowbrook et al., 2014; Mullins et al., 2012; Straub, Pomputius, Boyer, Someillan, & Perrin, 2007; Sumartojo et al., 2008). Three studies have found that HIV/STD knowledge was associated with HIV testing (Boyd et al., 2018; Sabato et al., 2013; Swenson et al., 2009). These studies examined different populations and different kinds of HIV knowledge that included general knowledge about HIV

and more specific knowledge about prevention methods (Mullins et al., 2012; Straub et al., 2007). Two of the studies examined mixed samples of youth and the other study was conducted on a national sample of Black youth. Another study examined HIV testing knowledge and HIV treatment knowledge (Meadowbrooke et al., 2014; Sumartojo et al., 2008). Swenson et al. (2009) reported gender differences in the effect of HIV knowledge. The authors found that HIV knowledge among girls positively impacts HIV testing. In a more recent study, Boyd et al. (2018) found that HIV knowledge was positively associated with HIV testing for Black males and females. Furthermore, Siegel et al. (Year), who conducted a qualitative study with female youth, found that routine gynecological care increased exposure to HIV knowledge on transmission and prevention methods. HIV knowledge and its influence on HIV prevention methods continues to be inconsistent in the literature and needs to be further studied.

Risk Perceptions

Perception of Risk has been shown to be both a barrier and a facilitator to HIV testing (Adebayo & Gonzelez-Guarda, 2015). Research has indicated that one of the major barriers to HIV testing is the lack of perceived HIV risk, and increased perceived HIV risk functioned as a facilitator (Adebayo, &Gonzalez-Guarda, 2015; Dimmitt Champion, Harlin, Collins, 2013; Schwarcz, Hsu, Vittinghoff, Vu, Bamberger, Katz, 2009; Nunn et a., 2009; Schnall et al., 2015). A few studies found that elevated risk perception included concern about contracting HIV and engaging in risky sexual risk behaviors (Grant, 2006; Leonard, Rajan, Gwadz, Aregbesola, 2014). However, these studies were not conducted on a nationally representative group of heterosexual youth. Schwarcz and colleagues (Schwarcz, Hsu, Vittinghoff, Vu, Bamberger, Katz, 2009) found that 11 out of the 14 people who said that they did not get tested because of lack of risk were men who identified as heterosexual. In a study conducted by Nunn and

colleagues (Nunn et al., 2009), it was found that 90% of individuals who stated that they never used a condom also perceived themselves at low to no risk of HIV; however, of the individuals who tested positive for HIV, two-thirds believed they were of low to no risk for HIV. Due to these perceptions of risk, many youths may opt out of being tested for HIV. Our study examines perceived risk in two distinctive ways: first, if youth and young adults are personally concerned with HIV, and second if they think HIV is a fundamental problem for youth their age today.

Race

Race has been shown to be highly associated with HIV incidence, with 45% of new HIV infections occurring among Blacks/African Americans although they only make up 12% of the U.S. population, and 24% among Hispanics/Latinos who make up 18% of the population (CDC, 2012). Given the negative stigma that is often tied to HIV in communities of color due to negatively associated behaviors, such as drug addiction, prostitution, homosexuality, and promiscuity (Gielen, McDonnell, Burke, O'Campo, 2000; Vyavaharkar, Moneyham, Corwin, Tavakoli, Saunders, Annang, 2011), many youths do not talk about or seek out HIV-related services that would imply that they may be at risk for HIV. Structural and individual-level manifestations of societal stigma contribute to racial and ethnic disparities in those who acquire HIV, are aware of their serostatus, receive treatment, and die early (Earnshaw, Bogart, Dovidio, Williams, 2013). Due to this, it is important to examine racial differences in HIV testing behaviors among heterosexual youth.

Age

Past research has shown that HIV testing rates differ between age groups (Grinstead, Peterson, Faigles, & Catania, 1997; Inungu, 2002; Liddicoat et al., 2006; Nguyen et al., 2006). Young adults 18-24 are less likely to have received an HIV test when compared to adults 25 to

49 (Inungu, 2002). Nearly 50 percent of all new HIV infections in the United States are among adolescents (ages 10 to 19 years) and young adults (ages 20 to 24 years) (Nguyen et al., 2002), yet till today among those infected with HIV half have not been tested. The CDC (2012) approximates that most adolescents with HIV (59.5%) aged 13-24 do not know their HIV status and are unlikely to be receiving treatment (Morris, Topete Rasberry, Lessene, Kroupa, & Carver, 2016). This may be due to perceived minimal risk for acquiring HIV among youth populations. The CDC reported that among all U.S. high schools, 47% percent of youth had had sexual intercourse at least once and 41% of currently sexually active students did not use a condom the last time they had sexual intercourse (2013c). Furthermore, 15% had had four or more sex partners, and six had sexual intercourse for the first time before age 13 (CDC, 2013c). Thus, it is imperative that both male and female youth get tested for HIV due to their risky sexual behaviors.

Gender

Gender must be taken into earnest consideration when talking about HIV testing (Roundtree et al., 2009). Research has shown that there are gender differences when it comes to HIV testing (Decker et al., 2015; CDC, 2009), and that risk perceptions vary across genders (Stein & Nyamathi, 2000). Past research has found that perceived risk is associated with HIV testing among both males and females. Even though males engage in greater sexual risk behavior, their perception of their risk of HIV is often lower than that of women (Decker et al., 2015; Stein & Nyamathi, 2000). Women are more likely to get tested based on their perception of their partner's risk, and men are more likely to get tested based on symptoms or self-diagnosis (Siegel, Lekas, Olson, & VanDevanter, 2010). Gender differences are important when providing HIV counseling and understanding the different motivations behind testing for STDs. These

gender difference-based needs can potentially help reduce HIV rates. Thus, it is important to comprehend the gender differences between males and females regarding risk perceptions and stigma of HIV testing.

Chapter 3: Methodology

The National Longitudinal Study of Adolescent to Adult Health (Add Health) is a longitudinal cohort study designed to explore health from adolescence to adulthood (Carolina Population Center). Add Health includes a nationally representative sample of adolescents from grades 7 through 12 over four waves in the United States and their different social contexts. The study also uses a multi-stage, stratified, and cluster sampling design that includes all the private and public secondary schools in the United States, which represent urban, regional, and racial strata. The participating schools needed at least 30 enrollees (N = 526, 666) and the 11th grade had to be the highest achievable grade attainment. Overall, 79% of the selected schools agreed to participate with a final sample of 134 schools. These schools varied in size, ranging from fewer than 100 to more than 3000 students (Sieving et al., 2001). A random sample of 15,243 adolescents stratified by gender and grade was selected for Wave I (W1) for conducting in-home interviews. Of those, 12,118 adolescents (79.5%) completed a 90-minute interview. The first wave of data was collected in April and December 1995 with 20,745 adolescents and 17,500 of their parents. Adolescents' in-home interviews were repeated approximately one year after the W1 in-home surveys from April to August 1996. The primary sample (N = 15,000) for Wave II (W2) in-home interviews comprised all the adolescents who had completed the in-home interviews previously except for the individuals who were in their 12th grade back then and their parents. In Wave III, 15,170 respondents were interviewed again in 2001 and 2002. The respondents were between 7th and 11th grades during Wave I, a year older in Wave II, and

during Wave III, the respondents who were re-interviewed between August 2001 and April 2002 were between the ages of 18 and 26. In the final sample, 53% were women, 31% were in 7th or 8th grade, and 69% were in the 9th to 12th grades. Approximately 64% were white, 19% were African American, 12% were Hispanic, 4% were Asian/Pacific Islander, and 1% were American Indian. The data was weighted to achieve a nationally representative sample of 7th to 12th-grade students in the United States. The restricted data for this study was used for the proposed data analysis.

Sampling Design

The Add Health data set used a complex longitudinal design (Chantala & Tabor, 1999), and the students had an unequal probability of inclusion because of oversampling. Researchers used complex sampling weights to adjust this difference, and the weights reflected the differences in sample sizes among the different racial-ethnic groups (Kaplan & Ferguson, 1999). This method has been the most appropriate for nationally representative samples (Cohen, Cohen, West & Aiken, 2003). The utilization of the sampling weights allows the results of a study to be generalized according to the population (i.e., in this study, black male adolescents in the United States). A cluster design was also used in this study because the individuals were nested in communities and schools.

This study used data that was collected during Waves I and III. This study was exempted from the University of California, Los Angeles Institutional Review Board. The total sample for this study comprised 1,500 black male adolescents aged between 11- and 18-years during Wave I, whereas the sample was composed of 1,250 black men aged between 19- and 26-years during Wave III. The mean age was 15 during Wave I and 24 during Wave III.

Measures

The measures included demographic information, indicators of HIV testing, and HIV sexual risk behaviors, as well as the indicators for parent support, parent attitudes about sex, parent relationships, perceived discrimination, peer knowledge, sense of belonging, and self-efficacy about contraception.

Outcomes

HIV testing (Wave I and III): This dichotomous single item (0 = Not tested for HIV, 1 = Yes tested for HIV) asked the following: Have you been tested for HIV/AIDS in the past 12 months?

HIV Sexual Risk Behaviors (Wave I): This two-item scale (ranging from 0 = None to 4 = Always) asked the respondents the about their sexual behavior regarding the following items: How frequently did (you/your partner) use a condom?

Independent Variables

Parent Support (Wave I): This item was constructed using two variables father support and mother support. Both mother and father support were constructed using mother communication, father communication, mother bonding, and father bonding. Mother and communication consisted of a four-item scale ranging from (0 = No to 1 = Yes) asking the same items to respondents: (1) Did you talk about someone you're dating or a party you went to? (2) Did you talk about schoolwork or grades? (3) Did you have a talk about any personal problems you were facing? (4) Did you talk about other things you're doing at school? Mother-adolescent and father-adolescent bonding both consisted of a three-item scale (ranging from 1 = Strongly Disagree to 5 = Strongly agree) asked the respondents the following: (1) Most of the time, your

mother/father is warm and loving toward you, (2) Overall, you are satisfied with your relationship with your mother/father, (3) You feel close to your biological mother/father.

Parent Attitudes about sex (Wave 1). This six-item scale (ranging from 1 = strongly disapprove to 5 = strongly approve) asked respondents the following questions: (1) “How would she feel about your having sex at this time in your life?” (2) “How would she feel about your having sexual intercourse with someone who was special to you and whom you knew well—like a steady?” (3) “How would she feel about your using birth control at this time in your life?” (4) “How would he feel about your having sex at this time in your life?” (5) “How would he feel about your having sexual intercourse with someone who was special to you and whom you knew well—like a steady?” (6) “How would he feel about your using birth control at this time in your life?”

Parent Relationships (Wave 1). This six-item scale (ranging from 0 = No to 1 = Yes) asked respondents the following questions: (1) “Do your parents let you make your own decisions about what you wear?” (2) “Do your parents let you make your own decisions about the people you hang around with?” (3) “Do your parents let you make your own decisions about the time you must be home on weekend nights?” (4) “Do your parents let you make your own decisions about how much television you watch?” (5) “Do your parents let you make your own decisions about which television programs you watch?” (6) “Do your parents let you make your own decisions about what time you go to bed on weeknights?”

Self-efficacy about contraception (Wave 1): This three-item scale (ranging from 1 = very unsure to 5 = very sure) asked the respondents the following: (1) “How sure are you that you could plan ahead to have some form of birth control available?” (2) “If you wanted to use birth control, how sure are you that you could stop yourself and use birth control once you were highly

aroused or turned on?” (3) “How sure are you that you could resist sexual intercourse if your partner did not want to use some form of birth control?” These items were reverse scored as necessary so that a higher score indicated more of the attribute named in the label.

Sense of Belonging in School (Wave 1): This three-item scale (ranging from 1 = Strongly Disagree to 5 = Strongly agree) asked the respondents the following: (1) Do you feel close to the people at your school? (2) Do you feel like you are a part of your school? (3) Are you happy to be at your school? These items were reverse scored, as necessary so that a higher score indicated the presence of the attribute named in the label more.

Peers Knowledge and Influence (Wave 1): This three-item scale (ranging from 1 = Strongly Disagree to 5 = Strongly agree) asked the respondents the following: (1) Are your closest friends quite knowledgeable about how to use a condom correctly? (2) Are your closest friends know about the rhythm method of birth control and the monthly occurrence of “safe” time for a woman during which she can have sex and not get pregnant? (3) Are your closest friends quite knowledgeable about the withdrawal method of birth control?

Perceived Discrimination (Wave 1): We used separate indicators of unfair treatment and prejudice to assess the perceived discrimination at Wave I. Students were asked how much they agreed (on a scale from 1 to 5, where 1 = Strongly agree and 5 = Strongly disagree) that (1) teacher at your school treat students fairly and (2) students are prejudiced. We reverse-coded the first item, such that higher values reflected greater perceptions of unfair treatment by teachers (see, for example, Goodsby & Walsemann, 2012).

Doctor Visit (wave 3). This item ranging from (0= No and 1 = Yes) asked respondents the following: “Have you ever gone to see a doctor or nurse because you thought you might have a sexually transmitted disease or HIV?”

Chances of Contracting HIV (wave 1). This item ranging from (1= almost no chance to 5= almost certain) asked the respondents the following: “ Suppose that sometime soon you had sexual intercourse for a whole month, as often as you wanted to, without using any protection. What is the chance that you would get the AIDS virus?”

Parent Education (wave 1). This two-item scale (1= eight grade or less to 12= R doesn't know if he went to school.) asked the respondents the following: (1) “How far in school did she go? (2) “How far in school did she go?”

Demographic Variables

Age was treated as a continuous variable at Waves I and III.

Data Analysis Plan

Descriptive Analyses. A univariate analysis was conducted to explore each variable in the dataset, separately. I examined at the range of values as well as the central tendency of the values (mean, median, and mode). A univariate analysis allowed me to examine the frequency distributions, classify variables by name, gave me an idea of the dispersion of the data as well as the minimum and maximum responses. I also examined and screen the variables for skewness and kurtosis, for the presence of outliers, and normality. In cases where the data violate the assumptions of normality, I used appropriate transformations to induce linearity, however, this was not the case (Kline, 2005). I also used scatter diagrams of residuals, partial plots, and normal probability plots of residuals to test the assumptions, such as normality, homoscedasticity, and multicollinearity (Field, 2005).

Missing Data. There were not considerable missing data from the in-home interview. There were some missing data from the parents' interview, but there was a large amount of missing data from friend-network variables (not used in this sample). The percentage of missing

data ranged from 0–56. The missing data bias was explored by computing a dummy variable, reflecting the presence or absence of missing data for each variable in the model, and then this dummy variable was found to be correlated with all the other variables in the model as well as an array of demographic variables.

Relationships/Associations. Analyses were performed to test the associations between my independent variables and outcome variables. The first analyses that were conducted were my sociodemographic variables and HIV Sexual Risk Behaviors and HIV testing. Secondly, I explored the relationship between these independent variables: parental support, sense of belonging, parent attitudes towards sex, parental relationships self-efficacy, racial discrimination, and peers' knowledge and influence on dependent variables: HIV risk sexual behaviors, and HIV testing. A bivariate regression analysis was conducted to test the association between the independent variables and the dependent variable of HIV testing and HIV Risk Behaviors.

Statistical Analysis

Structure Equation Model. Add Health data set used a complex longitudinal design (Chantala & Tabor, 1999) and because of oversampling, students had an unequal probability of inclusion. Researchers used complex sampling weights to adjust for this difference and weights reflect the differences in sample sizes among the different racial-ethnic groups (Kaplan & Ferguson, 1999). This method has been to be the most appropriate for nationally representative samples (Cohen, Cohen, West & Aiken, 2003) and utilization of the sampling weights allows the results of the study to be generalized to the population (i.e., in this study, Black male adolescents in the United States). A cluster design was also used because individuals were nested in communities and schools. As a result, all analyses were performed in Stata Version 15 and

Mplus Version 8 and utilized survey procedures which properly account for both the sampling weights, domain analysis, and nested design.

There were not considerable missing data from the in-home interview, there was some from the parent interview, but there was a large amount of missing data from friend-network variables (not used in this sample). The percentage of missing data ranged from zero percent to 56 %. In order to deal with missing and ensure that the results are not biased, I used a full information maximum likelihood (FIML). Using FIML is appropriate when missing data are expected to be minimal for most variables and is the standard in structural equation modeling (SEM). Given missing data, parameter estimates, and model tests were pursued in the context of FIML methods. Missing data bias was explored by computing a dummy variable reflecting the presence or absence of missing data for each variable in the model and then this dummy variable was correlated with all other variables in the model as well as an array of demographic variables

I examined outliers for before undertaken any major analysis. Multivariate outliers were identified by examining leverage indices based on transformed Mahalanobis D scores for each individual and defining an outlier as a leverage score three times greater than the mean leverage. The data was checked for errors in coding. After all, corrections have been made, the analysis with and without outliers to see if the results are comparable across both. If results differ, then the outliers are consequential and outlier resistant analytic strategies were pursued (Wilcox, 2012).

For all measures with multiple items, the coefficient alphas and factors structures were evaluated to ensure that they are behaving in a way that one would expect. Some of the variables in the path diagrams reflect categories with multiple variables. The intercorrelations of variables were routinely examined and coupled with substantive criteria and the results of exploratory or

confirmatory factor analyses, decisions were made about combining indices or introducing latent constructs into the analysis.

Fit Model: The fit model was evaluated using the recommendations of Bollen and Long (1993). This included the indices of the absolute fit, indices of relative fit and indices of fit with a penalty function for lack of parsimony. I used the root mean square error of approximation (RMSEA), which estimates the covariance matrix in the model and how far it deviates from the covariance matrix observed in the data (RMSEA; should be less than 0.08 to be a satisfactory fit), and the p-value for this test for a close should be non-significant. The chi-square test of model fit (which should be statistically non-significant), the comparative fit index (CFI; greater than 0.95), which compares the hypothesized model to the null hypothesis with no latent or path variables, the standardized root mean square residual (less than 0.08), and the Tucker-Lewis index (TLI), which is relatively unaffected by sample size was used for fit. Therefore, latent-variable analyses were performed using the MPLUS 8 (Muthen & Muthen, 2015) structural equation modeling program.

Multinomial Analysis. A multinomial logistic regression analysis was used to analyze the following question: Are self-efficacy, sense of belonging, parent support, peer knowledge predictive of HIV testing at waves 1 and 3? Multinomial logistic regression is appropriate for a four-level polytomous response dependent variable used in this study (i.e. Have you ever been tested for HIV) and can accommodate continuous and categorical independent variables. The reference category is never being tested for HIV. The format and interpretation of this analysis are like dummy variable regression and consists of contrast between comparison and an excluded category. However, in a multinomial logistic regression analysis, comparisons between categories and the excluded category involved dependent variable. More specifically, the results

focus on the contrasts involving (1) Never being tested for HIV versus being tested once for HIV at an earlier age, (2) never being tested for HIV versus being tested for HIV at older age, and (3) never being tested for HIV versus being tested for HIV multiple times.

For the multinomial logistic regression analysis, relative risk ratios (RRR) and 95% confidence intervals (CIs) are presented. The analysis was conducted using STATA 15. The analysis consisted of Black males who reported being sexually active and the ages 14-26 years of age. To obtain results that are generalizable to the African American population, the analysis utilized analytic weights. All statistical analysis accounted for the complex multistage clustered design of Add Health sample. All estimates that are reported are weighted.

Results Chapter

Descriptive Statistics

Table 1. summarizes descriptive statistics which includes proportions, means, and standard errors. The average age of the individuals in the sample at wave 1 was 16.18($SE = 0.19$), and the average age of sexual debut was 14.71 ($SD = 1.72$). Seventy-six percent of individuals indicated that they never had been tested for HIV/AIDs, and two percent of individuals have been tested multiple times. Fifty-eight percent of males reported using a condom both times “most recent time they had sexual intercourse” and “during the first time they had sexual intercourse”. Only 15% of the sample reported using a condom during their first time of sexual intercourse and not their most recent time.

Table 1. Descriptive Statistics of Black Males (N= 1145)

	<i>Proportions</i>	<i>Mean (ranges)</i>	<i>SE</i>
HIV Testing			
Never Tested	76%		0.03
Tested Once at Wave 1	5%		0.10
Tested Once at Wave 3	18%		0.03
Tested Both at Waves	2%		0.10
Condom Use		2.43	0.31
Condom use first time not recent	15%		0.02
Condom use recent times	27%		0.02
Condom use both times	58%		0.02
Parent Support		1.89 (1 to 5)	0.40
Parent Attitudes		2.56 (1 to 5)	0.25
Self-Efficacy		4.22 (1 to 6)	0.71
Parent Relationships		4.39 (0 to 6)	0.61
Peer Knowledge		2.16(1 to 5)	0.07
Age		16.18	0.19
Parent Education		5.63(1 to12)	0.14
Doctor Visit		0.32 (0 to 9)	0.30
Chances of Contract HIV		2.12(1 to 5)	0.06

Bivariate Analysis

Tables 2 and 3 presents the bivariate regression analysis on HIV testing and Condom Use. Bivariate analysis (table 2) indicates that parent support, is significant and positively associated, indicating that Black males were 2.3 times more likely to be tested in comparison to those who never been tested at wave 1. Parent relationships were positively associated with HIV testing. Black males whose parents had positive attitudes towards sex were 2.26 times more likely to get tested for HIV multiple times (waves 1 and 3) in comparison to those never been tested for HIV. Black males who visited the doctor were more likely to get tested multiple times than males who never got tested for HIV. Older youth were 1.37 times more likely to get tested for HIV than younger youth. Also, parent education was positively associated with HIV testing at both waves 1 and 3. Youth who believed they had an increase in chances of contracting HIV were 26% less likely to get tested for HIV in comparison those who never got tested for HIV.

Table 3 presents the bivariate analysis with condom use as the outcome. Bivariate analysis indicates that peer knowledge, is significant and positively associated, indicating that Black males who had peers with knowledge about contraception were more likely to use a condom

Table. 2 Bivariate Regression Analysis on HIV testing

	RRR	SE	95% CI
1 Not tested at all			
2 Tested at wave 1			
Parent Support	2.30***	0.48	[1.44-3.68]
Parent Attitudes	1.44	0.50	[0.60-1.27]
Self-Efficacy	1.37	0.52	[0.63-2.96]
Parent Relationships	1.35*	0.21	[0.97-1.83]
Peer Knowledge	0.96	0.13	[0.72-1.27]
Age	1.02	0.25	[0.77-1.80]
Parent Education	0.91	0.10	[0.73-1.13]
Doctor Visit	0.75	0.58	[0.15-3.53]
Chances of contracting HIV	0.72	0.19	[0.42-1.25]
3 Tested at wave 3			
Parent support	1.40	0.28	[0.94-2.10]
Parent attitudes	0.88	0.16	[0.60-1.27]
Self-efficacy	0.98	0.11	[0.79-1.22]
Parent relationships	1.10	0.90	[0.78-1.05]
Peer knowledge	1.00	0.08	[0.87-1.16]
Age	0.86	0.07	[0.73-1.03]
Parent education	1.09	0.06	[0.96-1.23]
Doctor visit	4.47***	1.60	[2.18-9.16]
Chances of contracting HIV	0.74*	0.57	[0.57-0.97]
4 Tested at both waves			
Parent Support	2.07*	0.63	[1.13-3.80]
Parent Attitudes	2.26**	0.67	[1.25-4.06]
Self-Efficacy	0.72	0.20	[0.42-1.24]
Parent Relationships	1.51	0.43	[0.38-1.15]
Peer Knowledge	0.82	0.16	[0.56-1.21]
Age	1.37**	0.35	[1.06-1.77]
Parent Education	1.65**	0.32	[1.12-2.43]
Doctor Visit	6.14*	6.20	[0.82-46.13]
Chances of contracting HIV	1.24	0.57	[0.49-3.11]

p<.05, p<.01, p<.001

their first time having sexual intercourse and their more recent time compared to those who used

it their first time and not recent. Parent education was also statistically significant.

Table 3. Bivariate Associations and Condom USE (Multinomial)

	RRR	SE	95% CI
Condom Use First time, not recent			
Condom Use recent, not First Time			
Parent Support	1.45	0.32	[0.93-2.26]
Parent Attitudes	1.00	0.24	[0.62-1.63]
Self-Efficacy	1.14	0.52	[0.86-1.51]
Parent Relationships	0.97	0.11	[0.78-1.22]
Peer Knowledge	1.47	0.34	[0.92-2.34]
Sense of Belonging	1.19	0.17	[0.90-1.58]
Parent Education	1.11	0.80	[0.97-1.28]
Age	1.05	1.00	[0.87-1.27]
Treated Fairly by Teachers in School	1.20	0.22	[0.83-1.73]
Peers are Prejudice	0.78	0.12	[0.57-1.06]
Condom Use Both Times			
Parent Support	1.25	0.26	[0.82-1.90]
Parent Attitudes	1.14	0.22	[0.76-1.70]
Self-Efficacy	1.04	0.13	[0.81-1.34]
Parent Relationships	1.10	0.90	[0.78-1.05]
Peer Knowledge	1.07**	0.33	[1.15-2.51]
Sense of Belonging	1.21	0.16	[0.92-1.59]
Parent Education	1.13*	0.06	[1.01-1.25]
Age	0.96	0.07	[0.82-1.13]
Treated Fairly by Teachers in School	1.05	0.16	[0.77-1.43]
Peers are Prejudice	0.90	0.11	[0.70-1.16]

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

Multinomial Analysis

Table four presents a multinomial logistic regression to answer the following question: Are self-efficacy, sense of belonging, parent support, parent attitudes towards sex, parental relationships, peer knowledge predictive of HIV testing (four groups: never tested, tested once at wave 1, tested at wave 3, and tested at both waves)? The overall model statistically significant, χ^2 $F(27,38) = 5.70, N= 507, p<.001$). The results revealed, that parent support, is significant and positively associated, indicating that Black males were more likely to be tested in comparison to those who never been tested. Moreover, males who reported positive parent support were 2.16 times more likely to be tested multiple times (waves 1 and 3) in comparison to males who never been tested for HIV. Parent attitudes about sex were negatively associated, indicating that males who had parents with negative attitudes about sex were 52% less likely to get tested for HIV multiple times (waves 1 and 3) in comparison to males who never been tested for HIV. Peer knowledge was negatively associated with never being for HIV, those who had peers with less knowledge about sex were 45% less likely to be tested. Parent education was negatively associated with never being tested for Black males. Older Black males were almost 1.5 times more likely to be tested multiple times (waves 1 and 3) compared to younger Black males. Individuals who visited the doctor office for HIV testing were 4.5 times more likely to get tested at least once in comparison to individuals never got tested. Males who were 5.8 times more likely to be tested multiple times (waves 1 and 3) when compared to those who never received an HIV test also visited the doctor office.

Table 4. Multinomial Logistic Regression on HIV Testing (N= 507)

HIV Testing	RRR	SE	95% CI
1 Not tested at all	(base outcome)		
2 Tested at wave 1			
Parent Support	2.35***	0.56	[1.45-3.81]
Parental Attitudes	0.96	0.23	[0.58-1.57]
Self-Efficacy	1.38	0.58	[0.60-3.17]
Peer Knowledge	0.90	0.39	[0.38-2.12]
Parent Education	0.88	0.09	[0.71-1.08]
Age	1.22	0.27	[0.78-1.90]
Doctor Visit	0.61	0.55	[0.10-3.70]
Chances of Contracting AIDS	0.86	0.23	[0.51-1.45]
3 Tested at wave 3			
Parent Support	1.40	0.28	[0.93-2.10]
Parent Attitudes	1.19	0.28	[0.75-1.89]
Self-Efficacy	1.00	0.14	[0.75-1.30]
Peer Knowledge	0.98	0.18	[0.68-1.43]
Parent Education	1.08	0.07	[0.95-1.23]
Age	0.88	0.07	[0.74-1.04]
Doctor Visit	4.58***	1.76	[2.11-9.93]
Chances of Contract AIDS	0.80	0.12	[0.60-1.09]
4 Tested at both waves			
Parent Support	2.16**	0.34	[1.21-3.86]
Parent Attitudes	0.48*	0.17	[0.24-0.96]
Self-Efficacy	0.71	0.50	[0.38-1.34]
Parent Education	1.47**	0.27	[1.01-2.14]
Peer knowledge	0.55**	0.21	[0.33-0.98]
Age	1.42**	0.18	[1.10-1.83]
Doctor Visit	5.80**	0.64	[1.34-24.93]
Chances of Contracting AIDs	1.04	0.18	[0.94-1.67]

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

Structure Equation Model

Table 5 contains the unstandardized estimates for the structural equation model. A structural equation model was tested to investigate the following question “Are there mediational relations between parent support, self-efficacy beliefs about sex, sense of belonging at school, parent relationships, parent attitudes, and peer knowledge, racial discrimination HIV sexual risk behaviors?” Chance of contracting HIV was modeled as an ordered categorical variable, and HIV sexual risk behaviors were modeled as a nominal variable with “condom use first time not recent” serving as the reference group. All analyses were conducted accounting for the complex sampling design utilized to collect the data. Figure one contains hypothesize model.

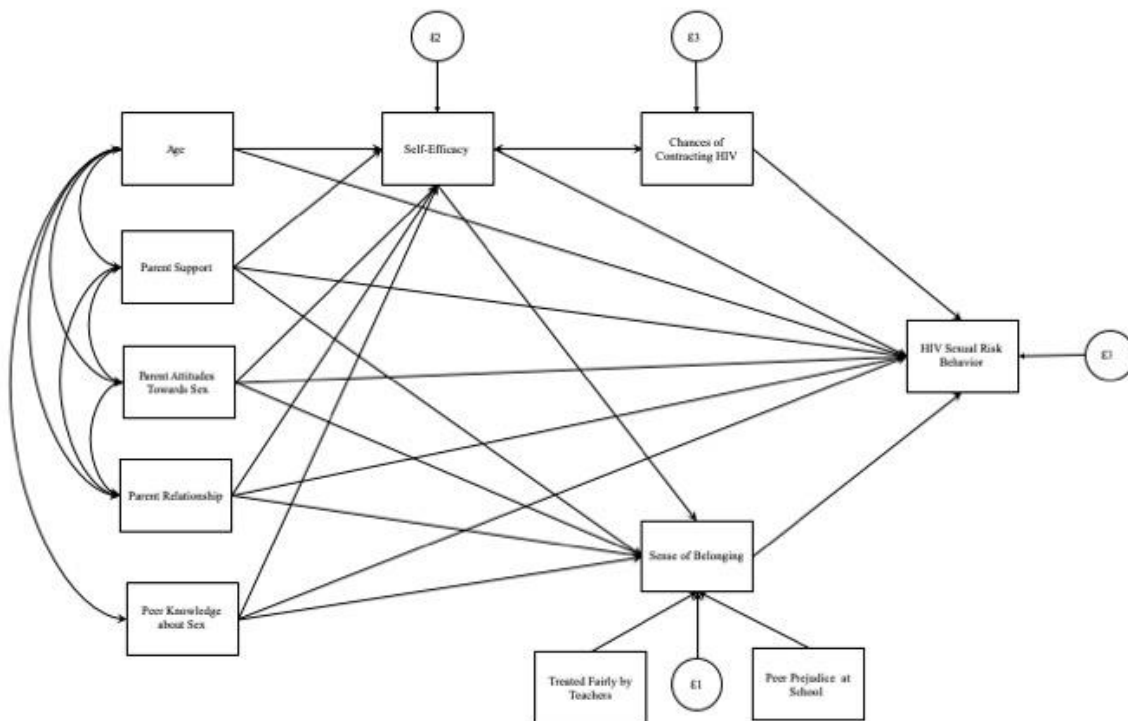


Figure 1. Hypothesized Model. Variables include parent support, parent attitudes about sex, parent relationships, peer knowledge about sex, self-efficacy, chances of contracting HIV, sense of belonging, racial discrimination (treated fairly by teachers, peer prejudice at school) on HIV sexual risk behaviors

The SEM demonstrated good fit based on RMSEA, CFI and TLI, $\chi^2(289) = 896.67, p < .001$, RMSEA = .03, CFI = .93, but not TLI = .80, see figure 2 for model with significant results. Results indicate that age at wave 1 was a statistically significant and positive predictor of self-efficacy ($B = 0.22, p < .001$). Parent support was found to be a statistically significant and positive predictor of sense of belonging ($B = 0.08, p = .045$). Being treated fairly by their teachers in school ($B = 0.27, p < .001$) were significant positive predictors of Sense of belonging. Males perceiving their peers to be prejudiced in school was a significant negative predictor of SB ($B = -0.08, p = .033$). Self-Efficacy was a significant negative predictor of chances of contracting HIV ($B = -0.14, p = .034$), indicating that each one-unit increase in Self-Efficacy lead to participants being 0.88 times as likely to be in a higher category of chances of contracting HIV. Self-Efficacy was a significant negative predictor of chances of contracting AIDs ($B = -0.14, p = .033$), indicating that each one-unit increase in self-efficacy lead to participants being 0.87 times as likely to be in a higher category of chances of contracting AIDs. Chances of contracting AIDs was a significant negative predictor of condom most recent time. Specifically, being in a higher category of chances of contracting HIV lead to participants being 0.80 times as likely to be in the “condom use most recent time” category instead of the “condom use first time not most recent” category ($B = -0.23, p = .031$). Peer knowledge was a significant predictor of using a condom both times ($B = 0.19, p = .049$), indicating that each one-unit increase in peer knowledge lead to participants being 0.81 times as likely to use a condom both times.

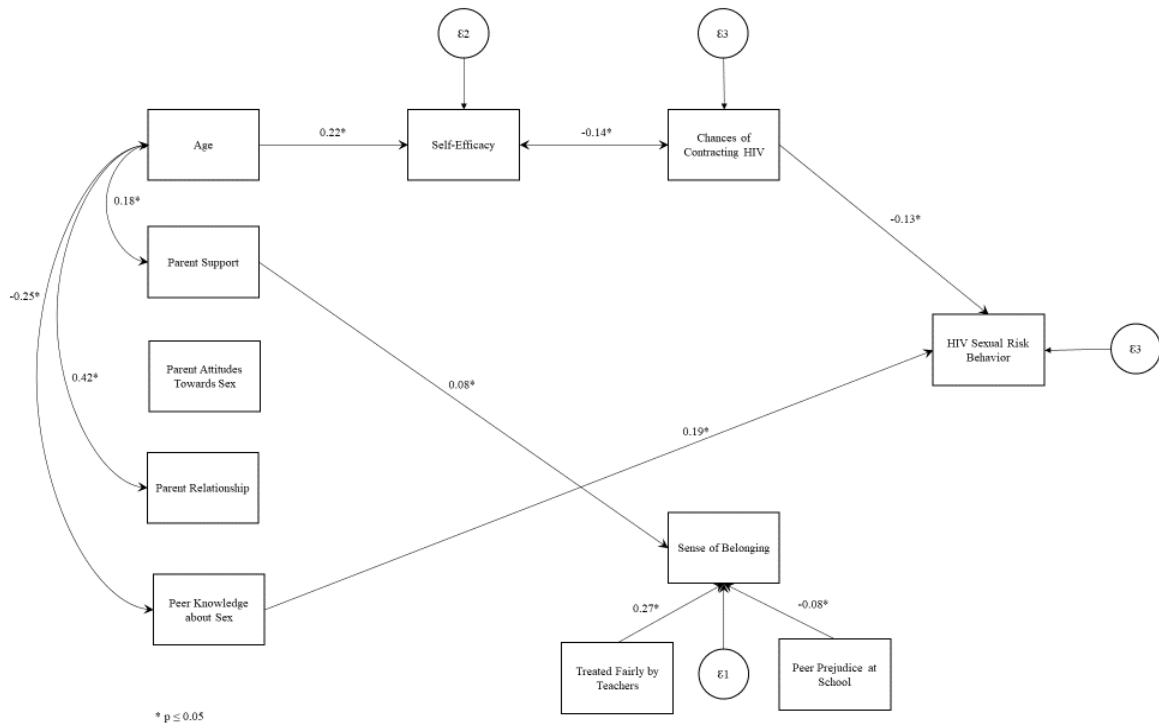


Figure 2. Significant predictors.

Our results also indicated that older youth were 82% more likely to report parent support ($B = .18, p < .017$). There was a negative relationship between age and peer knowledge, indicating a one-year increase in age lead to participants having peers with less knowledge ($B = -.25, p < .041$). Age was positively correlated with parent relationships, indicating that a one unit increase in age, there was a 58% increase in parent relationships with their son ($B = .42; p < .001$). Parent Support was a negative predictor of peer knowledge ($B = -.23, p < .001$). Regarding Research Question 1 (a), there were significant indirect effects of self-efficacy through chances of contracting HIV on sexual risk behaviors (all p -values $> .05$). Therefore, mediation was supported.

Table 5. Structure Equation Model	Estimate	S.E.	<i>p</i>
To Self-Efficacy			
Age	0.22	0.04	< .001
Parent Support	0.05	0.04	.286
Parent Attitudes	-0.13	0.08	.104
Parent Relationships	0.05	0.04	.200
Peer Knowledge	0.04	0.03	.205
To Sense of Belonging			
Parental Support	0.08	0.04	.045
Parental Attitudes	0.04	0.05	.443
Self-Efficacy	0.01	0.04	.734
Treated Fairly	0.27	0.02	< .001
Prejudice in School	-0.08	0.04	.033
To chances of contracting HIV			
Self-Efficacy	-0.14	0.07	.034
To CU (category: CU recent not first)			
Age	0.01	0.12	.952
Parent Support	0.10	0.16	.560
Parent Attitudes	0.06	0.28	.821
Parental Relationships	-0.02	0.11	.857
Peer Knowledge	0.20	0.11	.073
Self-Efficacy	0.16	0.19	.404
Sense of Belonging	-0.17	0.15	.270
Chances of Contract HIV	-0.13	0.11	.031
To CU (category: CU both times)			
Age	-0.06	0.08	.473
Parent Support	0.02	0.16	.892
Parent Attitudes	-0.14	0.21	.520
Parental Relationships	0.03	0.09	.696
Peer Knowledge	0.19	0.10	.049
Self-Efficacy	0.08	0.13	.512
Sense of Belonging	-0.18	0.15	.241
Chances of Contracting HIV	0.14	0.17	.429
Covariance with Age			
Parent Support	0.18	0.07	.017
Parent Attitudes	0.03	0.04	.394

Table 5. Structure Equation Model	Estimate	S.E.	<i>p</i>
Peer Knowledge	-0.25	0.18	.041
Covariance with Parent Support			
Parent Attitudes	-0.01	0.02	.485
Parental Relationships	0.06	0.08	.460
Covariance with Parent Attitudes			
Parental Relationships	0.00	0.03	.880
Covariance with Parent Relationships			
Age	0.42	0.11	< .001
Covariance with Peer Knowledge			
Parent Support	-0.23	0.06	< .001
Parent Attitudes	0.02	0.04	.613
Parent Relationships	-0.11	0.11	.322
Indirect Effects			
Self-Efficacy to CU (category: CU recent not first) through Chances of Contracting HIV	0.02	0.03	.046
Self-Efficacy to CU (category: CU recent not first) through Sense of Belonging	0.00	0.01	.745
Self-Efficacy to CU (category: CU both times) through Chances of Contracting HIV	-0.02	0.02	.429
Self-Efficacy to CU (category: CU both times) through Sense of Belonging	0.00	0.01	.741

Discussion

The purpose of the current study was to gain a more complete understanding of Black males and their risk and protective factors associated with HIV infection rates in a [national] sample of youth in the United States. The findings for this study are consistent with previous research about Black males and their HIV infection rates (Cordova et al., 2016; Dishion & McMahon, 1998; Dishion, Nelson, & Bullock, 2004; Harris, Sutherland, Sutherland, & Hutchinson, 2013; Henry, Schoeny, Deptula, & Slavick, 2007). Results indicate that Black males are disproportionately affected by HIV, and past research suggests that HIV testing rates remain low and sexual risk behaviors are high among this population. Research has to continue to identify how select social domains (family and school) can serve as risk and protective factors for Black males to help reduce infection rates (Herronkohl, 2010). Expanding the empirical literature on the importance of how family and school domains can inform HIV prevention and intervention programs to help Black males stay healthy is needed. For instance, these study findings highlight the importance of family and school context in the matter of increasing HIV testing rates and condom use guided by the eco-developmental theory and integrative model for the study of developmental competencies in minority children as a guide.

Major Findings of the Study

As noted in chapter 2, analyzing known risk and protective factors provides information about the context and possible influences on HIV infection rates for Black males. Similarly, this study analyzed risk factors, as well as protective factors. Major findings include a) parental support and HIV testing, b) parenting attitudes towards sex and HIV testing, c) Parent education and HIV testing, d) age and HIV testing, e) doctor visits and HIV testing, f) racial discrimination and sense of belonging, g) chances of contracting HIV and HIV sexual risk behaviors, and h)

parent support and sense of belonging. Each major study finding includes implications of findings for theoretical frameworks. Lastly, there is a review of the study limitations, implications for practice, research and policy, and the conclusion.

Parent Support and HIV testing

The results in the multinomial analysis revealed that parent support was positively associated with the increased likelihood of HIV testing at waves one and being tested at both waves for Black males. This is important because the eco-developmental theory suggests that microsystems are the most influential with respect to adolescent HIV/STD risk behaviors now extending to HIV testing (Cordova et al., 2014; Szapocznik & Coatsworth, 1999). Positive parent support for Black parents may mean more than just bonding, or communication about sex but also includes roles, behaviors, and values that are associated with growing up to be a man. Educating their child about sexual health is an important part of their healthy development.

There is a dearth of literature on how parent support impacts HIV testing among adolescents. Most studies that have examined how families influence sexual risk behaviors with respect to adolescents focus primarily on mother-daughter communication about sex and father-son communication is very limited (Harris et al., 2018). Moreover, African American males are more likely to talk to their mothers; however, fathers were more likely to discuss condoms and sexual activity with their sons and include parental attitudes about sex (Kupungu et al., 2010). These findings highlight that it does not matter where the parent support comes from as long as Black males receive some form of support. This can also mean both parents or it only takes one of them to potentially have a positive impact on HIV prevention and intervention efforts as Black males receive support earlier in their lives.

An increase in positive support led males to getting tested at wave. Parents are the most important sexuality educators for their children. Parent support may have influenced positive sexual behaviors among Black males because they have communicated their beliefs about sex with an open mind and have kept an open mind about sex and sexuality. Moreover, parents may have reinforced positive messages about sex, love, and express interest in other activities . Previous research has found that positive bonding experiences at home were associated with the delayed sexual debut, and lower risk of contracting STDs/HIV (Bean, Barber, & Crane, 2006; Coatsworth, Pantin, & Szapocznik, 2002; Cordova et al., 2014; Huei-Li et al., 2017). Consequently, parent support may also have a lasting effect on youth as they get older regarding making healthy choices.

The results revealed that an increase in parent support led to youth being tested at both waves as well, meaning a potential pattern of being tested for HIV has started. This can mean that parents are truly influential in their children's' lives and have the potential to shape their behaviors from early on. This can also mean that males trust their parents on topics about sex, and perceive their parents' support of them emotionally, physically, and have a healthy relationship them. This study adds a significant contribution to the literature because the findings suggest that it does not matter if Black males receive support from either their mother or father but if they receive some form of support to have a positive impact on HIV testing.

Parent Attitudes towards sex and HIV testing

Past research has found that parents shape the attitudes, beliefs, and norms that impact youth behaviors as they go through the developmental stages (Huebner & Howell, 2003; Sutton et al., 2013). Parents' attitudes towards sex were found to be negatively associated with HIV testing for males, indicating that Black males were less likely to get tested multiple times. This can

potentially mean that parents negative attitudes toward sex are impacting their sons with or without conversation, which is consistent with the literature. Also, African Americans are the most religious group in the country (Pew Research, 2015) and may be unwilling to talk to their children about sex and the importance of condom use and HIV testing. Black males may take on these beliefs and grapple with them as they continue to develop mentally and physically, which in turn impacts their sexual behaviors and puts them at risk for HIV (Ginsburg, 2005). Since some Black males may perceive their parents as unapproachable due to their attitudes about sex, they may feel extremely uncomfortable when talking to them about personal issues such as sex and sexuality, and therefore might not ask for advice on where to seek HIV testing, and or treatment.

Parent education and HIV testing

Parent education was found to be a positive predictor of being tested for HIV at wave 1 and wave 3 for males. Increasing parent education may be a way to improve health outcomes for Black males and improve HIV testing rates. Improving parent education may improve parents sense of self and competency, and parental satisfaction. It can also improve parent attitudes toward sex and sexuality. Parent education can enhance parent-youth communication about sex and other things to help foster a healthy relationship. Parents with knowledge about sex and STDs may be helpful when talking about sex with their sons without making them feel uncomfortable or alienating them. However, it is important that researchers develop community and structural interventions that help parents develop knowledge around HIV and other STDs, especially Black parents due to the disproportionate rates of Black boys and young adults that are infected. An intervention in which the parent is comfortable in delivering the information in an unharmed manner and one that is going to encourage HIV testing as parent education can a

protective mechanism for this population. Parent education on health can potentially help youth develop lifetime behaviors that are positive and routine testing.

Age and HIV testing

Consistent with the literature, results revealed that older youth are more likely to get tested for HIV in comparison to younger individuals (Hick et al., 2013). Older youth may get tested for HIV repeatedly because they may feel more comfortable engaging in conversations around testing and nowhere to access health centers that provide HIV testing (Boyd et al., 2018). Also, older youth may have more sexual experiences and therefore feel more comfortable with sharing that information with individuals who may suggest receiving an HIV test. Older youth may have more information about where to get tested and may not fear what their parents may say because they do not need their parent's permission to receive an HIV test at a clinic (Decker et al., 2015). In accessing a health clinic, older youth may be more comfortable sharing with the provider they are sexually active and in need of test in comparison to younger youth. Older youth are sexually active and may be aware of the importance of practicing routine testing. It is important to find the best ways to increase HIV testing among sexually active individuals no matter the age to ensure it becomes a part of their routine health care to ensure a long and healthy life.

Doctor Visits and HIV testing

The multinomial analysis revealed a positive association between going to the doctor's office or seeing a nurse for HIV. Black males had an increase in the likelihood of being tested for HIV at waves 1 and 3 and at wave 3 if they made a visit to the doctor's office. Youth may benefit from sexual health conversations and frequent visits to see their doctor (Swenson et al., 2015). Making frequent doctor appointments for sexual health can mean that youth are

concerned about themselves sexually and maybe also concerned about other health issues. The CDC recommends routine testing for all sexually active individuals between the ages of 13-64 (CDC, 2015). Black males who visit the doctor's office might also be learning about the importance of routine and sexual health from their provider, which may increase their likelihood of being tested. Doctors and other providers may also be reinforcing positive messages on sexual health that youth may have received from their parents, friends, and other trusting adults.

Sense of Belonging

Treated Fairly by Teachers

The study results revealed that Black males perceptions of being treated fairly by their teachers were a positive predictor of sense of belonging. This is important because most teachers in the United States are White. The findings come as researchers emphasize the importance of students' perceptions of their teachers and school in its entirety, culture and how these perceptions may affect their motivation. A student who feels like the school environment is just or designed for them and their cultural background may engage with other students and their teachers and begin to recognize their potential. Teachers could create a safe environment, in which Black males can feel like they can express themselves culturally, though their different identities, and sexual orientation, all which can impact their sexual risk behaviors. This is important as some schools try to implement a comprehensive sex education curriculum for adolescents and teenagers. Black males are disproportionately affected by HIV, and one study found that minority teachers were more likely to spend more time teaching about HIV prevention than White teachers in their health classes (Herr et al., 2012), in order to curtail the spread of this disease. White teachers will have to make them feel like they belong, and it will probably help with comfortability of teaching about HIV and other health outcomes.

Peer Prejudice in School

Black males perceiving their peers to be prejudice in school was a negative predictor of sense belonging, which is consistent with the current literature (DuBois et al., 2002; Fisher, Wallace, & Fenton, 2000; Romero & Roberts, 1998). Black youth report frequent peer and classroom racial discrimination more so than other racial and ethnic groups (Wallace, & Fenton, 2000). Black youth who experience some form of racial discrimination in the classroom or school at large have been found to have low self-esteem. If Black males feel their peers are prejudice and attend a diverse school or a school that is not predominately Black, they might not feel connected to the school or the classroom, which can have a significant impact on their mental and physical health. Learning about HIV can potentially be difficult for Black youth as HIV is highly stigmatized, especially if they perceived themselves to be discriminated against within the school and classroom by their teacher and peers, especially in schools that are less diverse. They may feel their peers might judge them because they are disproportionately affected by HIV as a group.

Parent Support and Sense of Belonging

Our results revealed that parent support was a positive predictor of sense of belonging in schools for Black males. This may mean that Black males feel a sense of belonging within the family context. Black Males feeling, they are accepted with a sense of belonging to their family might be fundamental to their well-being and happiness, and also to the development of a positive identity. Sense of belonging lays the foundation for a strong and resilient sense of self – a self that can be sustained through transitions into the wider context such as schools (Woodhead and Brooker, 2008). A supportive home may also mean that parents are supportive of the child or teen throughout their education and listen to their needs and experiences. Black males may feel

supported by their parents in the sense of not feeling alienated and that they can share their experiences around racial discrimination and are unclear cope with their parents.

Peer Knowledge about sex and HIV Sexual Risk Behaviors

Peer knowledge about sex was a positive predictor of HIV sexual risk behaviors for Black males. This is consistent with other study findings that found adolescents frequently name their friends and peers as important sources of information about sex (Brechtwald & Prinstein, 2011; Fletcher et al., 2015; Widman, Choukas-Bradley, Helms, & Prinstein, 2015). Black males are disproportionately affected by HIV and may have conversations about the importance of condom use and protecting oneself from HIV and other STDs. There has been a strong push through public health campaigns in promoting the importance of condom use, and HIV testing among all youth, which may increase dialogue among Black males. Schools have also developed comprehensive sex education curriculums that may impact how peers and friends impact one another through their increase of knowledge on sex. However, there is a dearth of literature on how peers and friends of Black males impact sexual risk behaviors and more has to be studied to better understand these relationships.

Self-Efficacy- Contracting HIV- and HIV Sexual Risk Behaviors

The results revealed that self-efficacy about condom use and chances of contracting HIV was statistically significant, as was chances of contracting HIV and HIV sexual risk behaviors. Black males may not perceive themselves to be at risk for contracting HIV (Boyd et al., 2018). If they do not perceive themselves to be at risk for contracting HIV, it might impact how often they engage in risky sexual risk behaviors (lack of condom use). Black males who do not identify as gay might feel they cannot contract HIV because they engage in heterosexual sex, which will be due to lack of knowledge on how the spread of HIV works. Their perceived

chances of contracting HIV might impact their self-efficacy on contraception and condom use. Black males may be more concerned about wearing condoms to prevent pregnancy unless identified as gay or bisexual than HIV.

Age and Self-Efficacy

Age in our structure equation model has been found to be a significant predictor of self-efficacy of condom use. Prior literature has found that adolescents who possess such high self-efficacy are more likely to avoid STDs, such as HIV than those who do not to take these steps (such as consistent condom use) (Ortega, Huang, & Prado, 2012; Nash, McQueen, & Bray, 2005; Pearson, 2006). However, age has not been considered in most studies on self-efficacy and sexual risk behaviors. It is possible that older youth might be more efficacious around condom use because they have more sexual experience than younger youth. It is also possible older Black males possess higher self-efficacy around condom use because of health classes, and programs, or peers and partners who have discussed the importance of wearing condoms.

Age and Parent Relationships

Age was found to be a significant predictor of parent relationships (e.g. youth allowed to make their decisions regarding outside activities). The relationship between youth and their parents or caregivers (such as guardians, aunts, and uncles, or grandparents) is one of the most important relationships in their lives, often lasting well into adulthood (Steinberg, 2001). During adolescence, this relationship changes dramatically as youth seek increased independence from their families and begin to make their own decisions (Butler-Barnes et al., 2016). With increased independence comes the possibility of increased risk, both positive and negative, and teens need parents or caregivers to help them navigate the challenges that adolescence presents. Age may play an important role throughout the development stages mentally, physically, and sexually. As

relationships change due to youth getting older and they may feel as if they should be able to make their own decisions including sexual decisions. They may also feel they should be able to talk to their parents about sexual experiences and other things that they are experiencing. Youth may feel they can trust their parents may start trusting them at a younger age so the nature of the relationship only changes because the topics and interactions change between the parent and child.

Age and Parent Support

Age and parent support were predictors of each other. Parent support may change and look different depending on the situation and circumstance. Just as close parent-youth relationships are linked to the healthy development of adolescents, positive parent support is linked to increased parent-child closeness (Longmore, Manning, & Giordano, 2012). There are many positive parenting techniques for parents who want to build stronger parent-child relationships. For instance, adolescents may have more interest in romantic relationships and sexuality, and show more independence from parents (Butler-Barnes, et al., 2015), therefore, increasing support around sex, and sexuality and paying attention to any changes in their behavior, is a good technique and one that does not alienate them (CDC, 2016).

Limitations

This study is not without limitations. The need for sexual risk behaviors associated with HIV exposure longitudinally and explore, identify and/or confirm young Black males' pathways to HIV infection is a topic to consider for future research studies. Also, this study did not include Black males who identified as gay, bisexual, or same gender loving. Consequently, generalizability may be a limitation in this study. The data is dated in some ways because wave 1 was collected in 1995-1996 and wave 3 was collected in 2008. This study did not include wave

2, which would have provided one-year change. This may be a limitation as to the advancement in HIV medications, reduction in stigma, and research advancement on families. Also, like other subsamples of the general population, generalizability may be further limited because the data for the study was restricted to these time periods. Therefore, findings need to be generalized with caution. Finally, the measures that were used in this study were significant for other populations, so they were not for this unique population.

Despite these limitations, the findings from this study offer practical significance and important implications for social work practice, research, and policy that will benefit the young Black males and those that work with them.

Implications

This findings from this dissertation study have implications for social work, as well as public health practice and policy. Unlike other studies focusing on risk and protective factors, this study also identified some protective factors that social workers and practitioners could develop and enhance to reduce young Black males' risky behavior, especially those at risk of HIV infection. Findings from this dissertation confirm that the young Black males have several protective factors that could impact their HIV status. Specifically, this sample of Black male youths may be more likely to have strong relationships with parents, peers, and teachers. Consequently, social work and public health professionals have an opportunity to reinforce these positive relationships while they foster positive relationships with them as well.

The identification of specific factors may also promote the targeting of appropriate services and the future prevention of risky sexual behavior of young Black males. Consequently, having a greater understanding of the environmental context, as well as the structural and systemic factors that impact their decision making will better prepare social workers and others

to ensure that they have the knowledge and needed reinforcement from their peers, parents and teachers. This knowledge is especially prudent when considering Black males who may also be involved with the educational systems that warrant special consideration and/or may have parents with histories of HIV infection. Both circumstances indicate areas where parents may struggle and need customized services. Specifically, social workers that are versed in family focused interventions will be better able to address the complex needs of young Black males and their families.

Social workers and practitioners can help bridge the gap between practice and research. Social workers are trained to work with vulnerable populations within the families and schools. In using their training to help develop a more culturally sensitive HIV prevention and intervention programs they can help reduce the HIV rates among Black males. Ensuring that families can trust they are working with proficient and trustworthy practitioners who will be effective guides for them while providing them with accurate health information is key to reducing HIV rates among this population.

Implications for Research

Results from this study reflect the need for culturally tailored family focused interventions for this population. The next step is to conduct a multivariate analysis of a sample of young Black males that both identify and do not identify as gay, bisexual and/or same gender loving to assess variation within the population. Researchers should continue to investigate the ways that modern families can be used in HIV prevention and intervention programs. Modern families are defined as any child that has a provider who loves and protects their child mentally, physically, and emotionally. The family can consist of two biological parents, single parents (i.e., mother, father), siblings, caregivers, extended family (e.g., friends, community) or fictive kin.

This is important for Black adolescents as 60% of them live in a single-headed household (Hussein et al., 2014). Adolescents prefer to learn about sex from their parents, and so we must find creative ways to ensure that parents have the correct information to be comfortable enough to discuss (safe) sex with their child/ren. The family is the most important unit to any one individual and shapes their beliefs, and values. Families can serve as a protective or risk factor for adolescents sexual risk behaviors especially the Black family.

Implications for Policy

Based on the findings of this study, the following policy actions are suggested to bolster HIV testing rates among Black males and subsequently reduce their rates of infection. Policy makers need deeper knowledge about prevention efforts because they influence the operation of health care providers and the creation of new prevention programs. In turn, these facets of the healthcare system directly influence the implementation and efficacy of interventions to reduce HIV rates in populations at the greatest risk of infection. Informed policy decisions need to be made with the aim of promoting the health equity for high-risk youth. Policy makers need to be exposed to knowledge that promotes a comprehensive understanding of multi-tiered prevention approaches; additional knowledge should be gained related to efficacious methods for improving knowledge about HIV testing. This deeper knowledge base will help policy makers allocate funding to maintain, improve or create effective programs. For instance, this information could aid the development of new early intervention programs that produce long-term benefits by altering the life paths of Black and Latino youth at risk of HIV infection.

The U.S. laws and policies can serve as facilitators or barriers to effective HIV prevention and care activities. For instance, 46 states plus the District of Columbia require reporting of all CD4 and viral load laboratory data to HIV surveillance programs. This helps with

the federal government to be able to monitor the number of HIV cases, the number of people virally suppressed, and determine funding priorities for certain regions.

While all states now have HIV testing laws that are consistent with the CDC's recommendations, states can provide more guidance to enhance efforts and embrace new HIV prevention advances. For example, few states or cities in the U.S. have a large segment of their HIV population that is virally suppressed. A policy solution is for states to ensure that anyone diagnosed with HIV is immediately linked to care and provided HIV treatment, thus significantly decreasing risk for new infections. One study indicated that most people did not receive HIV treatment until 130 days after their diagnosis, so offering PrEP to any one individual who is a high risk of HIV infection can protect them from contracting the virus. This will require close collaboration with local health care providers and community based organizations to increase the number of providers who are aware of and can prescribe PrEP.

The U.S. needs to also first reauthorize the Ryan White Medical Act for 2019. The Act ensures that HIV positive individuals receive medications and other medical services to maintain a healthy life across the U.S., despite income. Increasing funds for medications and other health needs will help with viral load suppression and potentially stop the spread of HIV. Individuals who are virally suppressed have a 1% chance in passing the virus to someone else. The Ryan White Act is considered a "last resort", but it provides funding for states that do not provide resources to reduce the spread of HIV. The Act ensures people who are HIV positive have access to medical care and HIV treatment, which is important because African Americans in the South tend to have less access to care.

Major Findings and Policies

The Federal government has invested a lot of money to increase funding for HIV medications, treatment and care through Ryan White programs, and HIV prevention and interventions efforts through the CDC. Now, only 1 in 7 in the US are aware of their HIV status. However, there is much work to be done in order to reduce HIV rates among the most vulnerable population. Black male adolescents are still burdened by HIV in 2019. One way to potentially reduce HIV rates, may be a larger investment in family and community level interventions from federal and state entities to better provide sexual health and HIV education to not only adolescents but to families. This study revealed that an increase in parent support for Black males predicted HIV testing for both waves. An investment in educating parents on sexual health HIV will be able to provide better support to their teen who is sexually active. With an investment in educating parents, it may extend parent support around sex and sexuality. Our results also revealed that parents' attitudes about sex were negatively associated with getting tested for HIV. Investing in parent education on HIV and sexual health, can potentially decrease negative attitudes that parents may have about sex and HIV because of more knowledge and comfortability with discussing sex with their child. Policy changes to support sex education and HIV intervention and prevention programs for parents will potentially improve parent relationships holistically, reduce parent attitudes, and increase parent support.

Federal policymakers enforcing states to develop comprehensive sex education will ensure that students have some knowledge of sex and HIV. Being a teenager is associated with so many physical and mental changes, and so it is vital to provide enough sexual health education to help them with these changes and appropriate health behaviors. This study revealed that peer knowledge on sex positively predicted HIV sexual risk behaviors among Black males. Peer education in schools can informally enhance the knowledge towards positive sexual

behaviors and HIV for males. Also, a peers can informally help each other learn the different types of preventive methods such as HIV testing and condom use. However, the results revealed that peer knowledge was negatively associated with HIV at both waves. It is increasing important that policymakers consider comprehensive sex education, to help educate youth on the importance of HIV testing. Understanding the importance of HIV testing can potentially reduce infections rates among vulnerable populations. Also, the more youth learn about HIV, potentially the less stigmatized HIV might become. Passing policies at the federal level on a comprehensive sex education and HIV, may also increase the self-efficacy on condom use and HIV testing because of the know that youth will accrue throughout their education.

Lastly, the results revealed that Black males who visited the doctor for HIV were more likely to be tested at both waves. Policymakers should recommend that all physicians or other health care providers ask individuals if they are sexually active, if they know their HIV status and if they ever been tested for HIV. Physicians can play a large role in helping reduce HIV rates. Physicians not only can provide HIV testing for youth but can also provide knowledge on the importance of safe sex practices, and the importance of HIV testing in a non-bias manner. This will give youth another trusting adult to share their sexual experiences with and be provided with accurate information without being judged. Policies can be passed to help reduce the spread of HIV by investing more funds in school health and family interventions.

Cultural Factors

In ensuring we reduce the spread of HIV; we must address the cultural factors in the US. There are still issues around parent-adolescent communication on sex and sexuality, parent attitudes about sex and learning about sex in schools. These issues regarding talking and learning about sex in schools may be because parents are key voters and influence in policy decisions at

state, and local levels. Moreover, issues such as parent support around sex, racial discrimination, and general discomfort with public listening sessions and discussions about sexuality and HIV may be more widespread in the U.S. and can lead to higher levels of stigma, which may limit people's willingness to seek HIV testing, care, and/or prevention services. These challenges can also limit access to accurate sexual health information from providers, clinicians, and others, which people need to protect themselves from infection. In order to reduce these cultural issues, we must continue to educate the population about HIV and the importance of routine testing. We must ensure that parents are comfortable enough to have conversations about sex and can deliver information in an unharmed manner. Policies must be passed on the state and local levels to ensure that funding is available for structural and community-level HIV prevention and interventions to help educate the population.

Southern States

Southern states now face the greatest burden of HIV infection, illness, and deaths of any US region, and is the worst region in terms of providing quality HIV prevention and care to its citizens. Closing these gaps is critical to the health of people in the region and to our nation's long-term success in ending the epidemic. HIV infection rates in the U.S. south varies by racial-ethnic groups. Due to the lack of state policies and funding in southern states and cities, there are fewer education programs around HIV prevention and programs. Southern states typically rely on federal dollars to provide HIV prevention programs. A small number of people living with HIV in the south are aware of their infection than in any other region. Subsequently, so few people in the south living with HIV receive timely medical care or treatment, are virally suppressed, and a disproportionate number of people are unhealthy and are at high risk for transmitting HIV to their partners.

The disproportionate burden of HIV among Black males in this region is also driven by socioeconomic factors. These factors include lack of parent education, poverty, income inequality, and poorer health outcomes, which is wider spread in the south compared to the rest of the nation. In most states comprehensive sex education is not taught because of federal policy and strict state policies of schools and public funding agencies are requiring these institutions to teach abstinence-only, when more than half of adolescents are engaging in sexual activity that puts them at risk for HIV. Black Americans who make up a significant portion of these poorer cities in the U.S. south are not benefiting from education on sex and HIV that can help curtail infection rates. Southern states and local governments must continue to pass policies to ensure that these regions have access to health care services that will help reduce the spread of HIV and other health needs. Southern states must catch up to the rest of the U.S. and adopt new HIV prevention advances, such as antigen/antibody combination HIV tests that can detect infection in its early, or acute stages when it is most easily transmitted in order to reduce the spread of HIV.

Conclusion

This study contributes to the literature by focusing on the social context of Black male adolescents and this different context protects or puts them at risk for HIV. The family has been proven to be impactful for the development of adolescents' physical and mental health. Research that illuminates the needs of Black male youth and their parents is critical to effective social work practice with them as it provides insight to better understand a population with unique needs that could greatly influence existing policies that govern the juvenile justice system. The eco-development model states that family facilitates risk for HIV for adolescents through parent communication about sex, parent attitudes about sex, and overall parent functioning. The integrative model centers the family and child by considering their social position (i.e., race and

gender) into consideration for mental and physical health. Due to youth wanting to learn about sex from parents, we have to develop culturally competent interventions that involve both the parent and child to teach them how to have conversations about sex, sexuality, and HIV without alienating one another. In teaching parents and children how to talk about sex, we can potentially increase parent support on sex and sexuality, parent attitudes towards sex, self-efficacy, parent relationships and hopefully in doing so reducing the spread of HIV of young Black males.

References

- Adebayo, O. W., & Gonzalez-Guarda, R. M. (2017). Factors associated with HIV testing in youth in the United States: An integrative review. *Journal of the Association of Nurses in AIDS Care*, 28(3), 342–362. Retrieved from <https://doi.org/10.1016/j.jana.2016.11.006>
- Bauermeister, J., Leslie-Santana, M., Johns, M., Pingel, E., & Eisenberg, A. (2011). Mr. Right and Mr. Right Now: Romantic and casual partner seeking online among young men who have sex with men. *AIDS & Behavior*, 15(2), 261–272.
- Bleakley, A., Hennessy, M., Fishbein, M., & Jordan, A. (2009). How sources of sexual information relate to adolescents' beliefs about sex. *American Journal of Health Behaviours*, 33, 37–48.
- Brody, G. H., Chen, Y., Murry, V. M., Ge, X., Simons, R. L., Gibbons, F. X., Gerrard, M., & Cutrona, C. E. (2006). Perceived discrimination and the adjustment of African American youths: A five-year longitudinal analysis with contextual moderation effects. *Child Development*, 77.
- Butler-Barnes, S. T., Martin, P. P., Copeland-Linder, N., Seaton, K. E., Matusko, N., Caldwell, H. C., & Jackson S. J. (2015). The protective role of religious involvement in African American and Caribbean black adolescents' experiences of racial discrimination. *Journal of Youth and Society*, 1–29.
- Butler-Barnes, S. T., Estrada-Martinez, L., Colin, R., & Jones, B. (2015). School and peer influences on the academic outcomes of African American adolescents. *Journal of Adolescence*, 44, 168–181.

- Centers for Disease Control and Prevention. (2009). Sexual and reproductive health in persons aged 10–24 years: United States, 2002–2007. *MMWR*, 58(SS-6).
- Centers for Disease Control and Prevention. (2011). Disparities in diagnoses of HIV infection between Blacks/African Americans and other racial/ethnic populations—37 States, 2005–2008. *MMWR*, 60(4).
- Centers for Disease Control and Prevention. (2011). HIV risk, prevention, and testing behaviours among men who have sex with men—National HIV behavioural surveillance system, 21 U.S. Cities, United States, 2008. *MMWR*, 60(14).
- Centers for Disease Control and Prevention. (2012). Vital signs: HIV infection, testing, and risk behaviours among youths—United States. *MMWR*, 61.
- Centers for Disease Control and Prevention. (2013b). HIV and AIDS among gay and bisexual men. *CDC*, 1–3.
- Chavous, T. M., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters, too: The influences of school racial discrimination and racial identity on academic engagement outcomes among African Americans. *Journal of Developmental Psychology*.
- Coates, T. J., Richter, L., & Caceres, C. (2008). Behavioural strategies to reduce HIV transmission: How to make them work better. *The Lancet*, 372(9639), 669–684.
- Coakley, T. M., Randolph, S., Shears, J., Beamon, E. R., Collins, P., & Sides, T. (2017). Parent-youth communication to reduce at-risk sexual behaviour: A systematic literature review.

Journal of Human Behaviour in the Social Environment, 27(6), 609–624. Retrieved from <https://doi.org/10.1080/10911359.2017.1313149>

Coker, T. R., Elliott, M. N., Kanouse, D. E., Grunbaum, J. A., Schwebel, D. C., Gilliland, M. J., & Schuster, M. A. (2009). Perceived racial/ethnic discrimination among fifth-grade students and its association with mental health. *American Journal of Public Health*, 99, 878–884.

Córdova, D., Schwartz, S. J., Unger, J. B. et al. (2016). A longitudinal test of the parent-adolescent family functioning discrepancy hypothesis: A trend toward increased HIV risk behaviors among immigrant Hispanic adolescents. *Journal of Youth and Adolescence*, 45(10), 2164–2177. Retrieved from <https://doi.org/10.1007/s10964-016-0500-8>

García-Coll, C. T., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic K, Wasik B. H., Vazquez García, H. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891–1914.

Cooper, S. M., McLoyd, V., Wood, D., & Hardaway, C. (2008). The mental health consequences of racial discrimination for African American adolescents. In S. Quintana & C. McKown (Eds.), *Handbook of race, racism and the developing child* (278–312). New York, NY: Wiley.

D'Angelo, L., Abdalian, S., Sarr, M., Hoffman, N., Belzer, M. (2001). Disclosure of serostatus by HIV infected youth: The experience of the REACH study. Reaching for Excellence in Adolescent Care and Health. *Journal Adolescent Health*, 29(3), 72–79.

Decker, M. R., Rodney, R., Chung, S-E., Jennings, J. M., Ellen, J. M., & Sherman, S. G. (2015).

HIV testing among youth in a high-risk city: Prevalence, predictors, and gender differences. *AIDS Care*, 27(5), 555–560. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25495522>

DiIorio, C., Hockenberry-Eaton, M., Maibach, E., & Miller, K. (1996). The content of African American mothers' discussions with their adolescents about sex. *Journal of Family Nursing*, 2, 365–382.

DiIorio, C., Lehr, S., Wasserman, J. L., Eichler, M., Cherry, C., & Denzmore, P. (2006). Fathers are important people: A study of father-son sexual communication. *Journal of HIV/AIDS Prevention in Children & Youth*, 7, 55–72.

Dimmitt Champion, J., Harlin, B., & Collins, J. L. (2013). Sexual risk behavior and STD health literacy among ethnic minority adolescent women. *Appl Nurs Res*, 26(4), 204–209. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/23867137>

DeCuir-Gunby, J. T., Martin, P. P., & Cooper, S. M. (2012). African American students in private, independent schools: Parents and school influences on racial identity development. *The Urban Review*, 44, 113–132.

Eisenberg, A., Bauermeister, J., Johns, M., Pingel, E., & Santana, M. (2009). Achieving safety: Safer sex, communication, and desire among young gay men. *Journal of Adolescent Research*, 26(5), 645–669.

Fiscella, K., & Williams, D. R. (2004). Health disparities based on socioeconomic inequities: Implications for urban health care. *Acad. Med.*, 79, 1139–1147.

- Gaylord-Harden, N. K., & Cunningham, J. A. (2009). The impact of racial discrimination and coping strategies on internalizing symptoms in African American youth. *Journal of Youth and Adolescence*, *38*, 532–543.
- Gibbons, F. X., Gerrard, M., Cleveland, M. J., Wills, T. A., & Brody, G. (2004). Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology*, *86*, 517–529.
- Grant, A., Jamieson, D., Elam-Evans, L., Beck-Saque, C., Duerr, A., & Henderson, S. (2006). Reason for testing and clinical and demographic profile of adolescents with non-perinatally acquired HIV infection. *Pediatrics*, *117*(3), e468–e475. Retrieved from <http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2005-0142>
- Guilamo-Ramos, V., Jaccard, J., Dittus, P., Bouris, A., Gonzalez, B., Casillas, E., & Banspach, (2011). A comparative study of interventions for delaying the initiation of sexual intercourse among Latino and Black youth. *Perspectives on Sexual and Reproductive Health*, *43*(4), 247–254. doi:10.1363/4324711
- Guzman, R., Colfax, G. N., Wheeler, S., Mansergh, G., Marks, G., Rader, M., & Buchbinder, S. (2005). Negotiated safety relationships and sexual behaviour among a diverse sample of HIV-negative men who have sex with men. *Journal of Acquired Immune Deficiency Syndromes*, *38*, 82–86.
- Harris, A. L., Sutherland, M. A., & Hutchinson, M. K. (2013). Parental influences of sexual risk among urban African American adolescent males. *Journal of Nursing Scholarship*, *45*(2), 141–150. Retrieved from <https://doi.org/10.1111/jnu.12016>

- Harris-Britt, A., Valrie, C. R., Kurtz-Costes, B., & Rowley, S. J. (2007). Perceived racial discrimination and self-esteem in African American youth: Racial socialisation as a protective factor. *Journal of Research on Adolescence, 17*(4), 669–682.
- Harris, K.M., C.T. Halpern, E. Whitsel, J. Hussey, J. Tabor, P. Entzel, & J.R. Udry. (2009). The National Longitudinal Study of Adolescent to Adult Health: Research Design [WWW document]. URL: <http://www.cpc.unc.edu/projects/addhealth/design>
- Herr, S. W., Telljohann, S. K., Price, J. H., Dake, J. A., & Stone, G. E. (2012). High school health-education teachers' perceptions and practices related to teaching HIV prevention. *Journal of School Health, 82*, 514–521. doi:10.1111/j.1746-1561.2012.00731.x
- Hussen, S. A., Gilliard, D., Caldwell, C. H., Andes, K., Chakraborty, R., & Malebranche, D. J. (2014). A qualitative analysis of father-son relationships among HIV-positive young black men who have sex with men. *Journal of Urban Health, 91*(4), 776–792. Retrieved from <https://doi.org/10.1007/s11524-013-9864-1>
- Hutchinson, M. K. (1998). Something to talk about: Sexual risk communication between young women and their partners. *Response, 27*(2), 127–133.
- Jones, H. L., Cross, W. E., & DeFour, D. C. (2007). Race-related stress, racial identity attitudes, and mental health among Black women. *Journal of Black Psychology, 33*(2), 208–231.
- Kaplan, K. C., Hormes, J. M., Wallace, M., Rountree, M., & Theall, K. P. (2016). Racial Discrimination and HIV-related Risk Behaviors in Southeast Louisiana. *American journal of health behavior, 40*(1), 132–143. doi:10.5993/AJHB.40.1.15

- Kerpelman, J. L., McElwain, A. D., Pittman, J. F., & Adler-Baeder, F. M. (2016). Engagement in risky sexual behaviour: Adolescents' perceptions of self and the parent-child relationship matter. *Youth & Society*, *48*(1), 101–125. Retrieved from <https://doi.org/10.1177/0044118X13479614>
- Leonard, N., Rajan, S., Gwadz, M., & Aregbesola, T. (2014). HIV testing patterns among urban YMSM of color. *Health Education & Behavior*, *41*(6), 673–681. Retrieved from <http://dx.doi.org/10.1177/1090198114537064>
- Longmore, M., Johnson, W., Manning, W., & Giordano, P. (2013). HIV testing among heterosexual young adults: The influence of individual attitudes and behaviours, partner's risk-taking, and relationship dynamics. *Journal of Sex Research*, *50*(5), 489–501. Retrieved from <http://dx.doi.org/10.1080/00224499.2012.661101>
- Ma, M., Malcolm, L., Diaz-Albertini, K., & Klinoff, V. A. (2016). HIV testing characteristics among Hispanic adolescents. *Journal of Community Health: The Publication for Health Promotion and Disease Prevention*, *41*(1), 11–14. Retrieved from <http://dx.doi.org/10.1007/s10900-015-0056-7>
- Mays, V. M., Cochran, S. D., & Barnes, N. W. (2007). Race, race-based discrimination, and health outcomes among African Americans. *Annual Review of Psychology*, *58*(1), 201–225.
- Meadowbrooke, C. C., Veinot, T. C., Loveluck, J., Hickok, A., & Bauermeister, J. A. (2014). Information behaviour and HIV testing intentions among young men at risk for HIV/AIDS. *Journal of the Association for Information Science & Technology*, *65*(3), 609–620. Retrieved from <http://dx.doi.org/10.1002/asi.23001>

- Miller, B., Benson, B., & Galbraith, K. (2001). Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental Review, 21*(1), 1–38.
- Millett, G., Flores, S., Peterson, J., & Bakerman, R. (2007). Explaining disparities in HIV infection among Black and White men who have sex with men: A meta-analysis of HIV risk behaviours. *AIDS, 21*(15), 2083–2091.
- Millett, G., Peterson, J., Wolitski, R., & Stall, R. (2006). Greater risk for HIV infection of Black men who have sex with men: A critical literature review. *American Journal of Public Health, 96*(6), 1007–1019.
- Moyer, M., Silvestre, A., Lombardi, E., & Taylor, C. (2007). High-risk behaviours among youth and their reasons for not getting tested for HIV. *Journal of HIV/AIDS Prevention in Children & Youth, 8*(1), 59–73. Retrieved from http://dx.doi.org/10.1300/J499v08n01_04
- Mullins, T., Braverman, P., Dorn, L., Kollar, L., & Kahn, J. (2012). Adolescents' agreement to test for HIV when different testing methods are offered. *International Journal of STD & AIDS, 23*(3), 173–176. Retrieved from <http://dx.doi.org/10.1258/ijrsa.2009.009035>
- Nunn, A., Cornwall, A., Chute, N., Sanders, J., Thomas, G., James, G., Lally, M. et al. (2012). Keeping the faith: African American faith leaders' perspectives and recommendations for reducing racial disparities in HIV/AIDS infection. *PLoS One, 7*(5), e36172. Retrieved from <http://dx.plos.org/10.1371/journal.pone.0036172>
- Ong, A. D., Burrow, A. L., Fuller-Rowell, T. E., Ja, N. M., & Sue, D. W. (2013). Racial microaggressions and daily well-being among Asian Americans. *Journal of Counselling Psychology, 60*, 188–199.

- Pager, D., & Shepherd, H. (2008). The sociology of discrimination: Racial discrimination in employment, housing, credit, and consumer markets. *Annual Review of Sociology*, *34*, 181–209.
- Pieterse, A. L., Todd, N. R., Neville, H. A., & Carter, R. T. (2012). Perceived racism and mental health among Black American adults: A meta-analytic review. *Journal of Counseling Psychology*, *59*(1), 1.
- Phillips, G., Hightow-Weidman, L. B., Arya, M., Fields, S. D., Halpern-Felsher, B., Outlaw, A. Y., & Hidalgo, J. (2012). HIV testing behaviours of a cohort of HIV-positive racial/ethnic minority YMSM. *AIDS and Behaviour*, *16*(7), 1917–1925. Retrieved from <http://dx.doi.org/10.1007/s10461-012-0193-2>
- Schwarcz, S. K., Hsu, L. C., Vittinghoff, E., Vu, A., Bamberger, J. D., & Katz, M. H. (2009). Impact of housing on the survival of persons with AIDS. *BMC Public Health*, *9*(1), 220. Retrieved from <http://dx.doi.org/10.1186/1471-2458-9-220>
- Shackleton, N., Farah, J., Russell, V., Dickson, K., Hinds, K., Patton, G., & Bonell, C. (2016). Systematic review of reviews of observational studies of school-level effects on sexual health, violence, and substance use. *Journal of Health & Place*, *39*, 168–176.
- Sawyer, M.G., Pfeiffer, S., Spence, S. H., Bond, L., Graetz, B., Kay, D., Patton, G., & Sheffield, J. (2010). Sheffield school-based prevention of depression: A randomised controlled study of the beyondblue schools research initiative. *Journal of Child Psychology and Psychiatry*, *51*(2), 199–209.

- Schnall, R., Rojas, M., & Travers, J. (2015). Understanding HIV testing behaviours of minority adolescents: A health behaviour model analysis. *Journal of the Association of Nurses in AIDS Care*, 26(3), 246–258. Retrieved from <https://doi.org/10.1016/j.jana.2014.08.005>
- Schonfeld Hicks, M., McRee, A-L., & Eisenberg, M. E. (2013). Teens talking with their partners about sex: The role of parent communication. *American Journal of Sexuality Education*, 8(1–2), 1–17. doi:10.1080/15546128.2013.790219
- Siegel, K., Lekas, H-M., Olson, K., & VanDevanter, N. (2010). Gender, sexual orientation, and adolescent HIV testing: A qualitative analysis. *J Assoc Nurses AIDS Care*, 21(4), 314–26. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20303793>
- Seaton, E. K., & Douglass, S. (2014). School diversity and racial discrimination among African American adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 20(2), 156–165.
- Smetana, J., Metzger, A., & Campione-Barr, N. (2004). African American late adolescents' relationships with parents: Developmental transitions and longitudinal patterns. *Child Development*, 75, 932–947.
- Straub, D., Arrington-Sanders, R., Harris, D., Willard, N., Kapogiannis, B., Emmanuel, P., & Ellen, J. (2011). Correlates of HIV testing history among urban youth recruited through venue-based testing in 15 U.S. cities. *Sexually Transmitted Diseases*, 38(8), 691–696. Retrieved from <http://dx.doi.org/10.1016/j>
- Subramanian, S. V., Chen J. T., Rehkopf, D. H, Waterman P. D., & Krieger, N. (2005). Racial disparities in context: A multilevel analysis of neighbourhood variations in poverty and

excess mortality among black populations in Massachusetts. *Am. J. Public Health* 95, 260–65.

Swenson, R., Rizzo, C., Brown, L., Payne, N., DiClemente, R., Salazar, L., & Hennessy, M. (2009). Prevalence and correlates of HIV testing among sexually active African American adolescents in 4 U.S. cities. *Sexually Transmitted Diseases*, 36(9), 584–591. Retrieved from <http://dx.doi.org/10.1097/OLQ>

Wallace, S. A., McLellan-Lemal, E., Harris, M. J., Townsend, T. G., & Miller, K. S. (2011). Why take an HIV test? Concerns, benefits, and strategies to promote HIV testing among low-income heterosexual African American young adults. *Health Education & Behaviour*, 38(5), 462–470. Retrieved from <http://dx.doi.org/10.1177/1090198110382501>

Walsh-Buhi, E. R., Dao, B., Salgin, L., Marshall, J., Miller, R., Fisher, D., & Walsh-Buhi, M. (2017). Sexuality and HIV education in charter schools: An exploratory study with principals in San Diego County, California. *J School Health*, 87, 262–268. doi:10.1111/josh.12492

Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health*, 58(3), 323–329.

Williams, R. D., & Mohammed, A. S. (2013). Racism and health, I: Pathways and scientific evidence. *American Behavioural Scientist*, 57(8), 1152–1173.

Wilson, E. K., & Koo, H. P. (2010). Mothers, fathers, sons, and daughters: Gender differences in factors associated with parent-child communication about sexual topics. *Reproductive Health*, 7, 31. doi:10.1186/1742-4755-7-31

- Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality, 71*, 1197–1232.
- Wyckoff, S. C., Miller, K. S., Forehand, R., Bau, J. J., Fasula, A., Long, N., & Armistead, L. (2008). Patterns of sexuality communication between preadolescents and their mothers and fathers. *Journal of Child and Family Studies, 17*(5), 649–662. doi:10.1007/s10826-007-9179-5
- Villarruel, A. M., Loveland-Cherry, C. J., & Ronis, D. L. (2010). Testing the efficacy of a computer-based parent-adolescent sexual communication intervention for Latino parents. *Family Relations, 59*(5), 533–543. doi:10.1111/j.1741-3729.2010.00621.x
- Uwah, C., McMahon, H., & Furlow, C. (2008). School belonging, educational aspirations, and academic self-efficacy among African American male high school students: Implications for school counsellors. *Professional School Counselling, 11*(5), 296–305.
- Zimmer-Gembeck, M. J., & Helfand, M. (2008). Ten years of longitudinal research on U.S. adolescent sexual behaviour: Developmental correlates of sexual intercourse, and the importance of age, gender and ethnic background. *Developmental Review, 28*(2), 153–224. Retrieved from <https://doi.org/10.1016/J.DR.2007.06.001>
- Ackard, D. M., Ackard, D. M., Neumark-Sztainer, D., Story, M., & Perry, C. (2006). Parent-child connectedness and behavioural and emotional health among adolescents. *American Journal of Preventive Medicine, 30*(1), 59–66.

- Albert, B. (2009). *With one voice: A 2009 survey of adults and teens on parental influence, abstinence, contraception, and the increase in the teen birth rate*. Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy.
- Allen, J. P., Porter, M. R., & McFarland, F. C. (2006). Leaders and followers in adolescent close friendships: Susceptibility to peer influence as a predictor of risky behaviour, friendship instability, and depression. *Development and Psychopathology, 18*(1), 155–172.
- Andre, T., Dietsch, C., & Cheng, Y. (1991). Sources of sex education as a function of sex, coital activity, and type of information. *Contemporary Educational Psychology, 16*(3), 215–240.
- Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives, 1*, 68–73.
- Aspy, C. B., Vesely, S. K., Oman, R. F., Rodine, S., Marshall, L., & McLeroy, K. (2007). Parental communication and youth sexual behaviour. *Journal of Adolescence, 30*, 449.
- Ballard, S. M., & Morris, M. L. (1998). Sources of sexuality information for university students. *Journal of Sex Education and Therapy, 23*(4), 278–287.
- Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2007). Adolescents' time use: Effects on substance use, delinquency and sexual activity. *Journal of Youth and Adolescence, 36*(5), 697–710.
- Berenson, A. B., Wu, Z. H., Breitkopf, C. R., & Newman, J. (2006). The relationship between source of sexual information and sexual behaviour among female adolescents. *Contraception, 73*(3), 274–278.

- Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, 21(1), 166–179.
- Borrell L.N., Jacobs, D.R., Williams, D.R, et al.(2007) Self-reported racial discrimination and substance use in the Coronary Artery Risk Development in Adults Study. *American Journal of Epidemiol.* 166(9):1068–1079
- Brownlee, K., Rawana, J., Franks, J., Harper, J., Bajwa, J., O'Brien, E., & Clarkson, A. (2013). A systematic review of strengths and resilience outcome literature relevant to children and adolescents. *Child and Adolescent Social Work Journal*, 30(5), 435–459.
- Buhi, E. R., & Goodson, P. (2007). Predictors of adolescent sexual behaviour and intention: A theory-guided systematic review. *Journal of Adolescent Health*, 40(1), 4–21.
- Busse, P., Fishbein, M., Bleakley, A., & Hennessy, M. (2010). The role of communication with friends in sexual initiation. *Communication Research*, 37(2), 239–255.
- Cashmore, E. (1996) *Making sense of sport*. Routledge, London.
- Cavanagh, S. E. (2004). The sexual debut of girls in early adolescence: The intersection of race, pubertal timing, and friendship group characteristics. *Journal of Research on Adolescence*, 14(3), 285–312.
- Choukas-Bradley, S., Giletta, M., Cohen, G. L., & Prinstein, M. J. (2015). Peer influence, peer status, and prosocial behaviour: An experimental investigation of peer socialization of adolescents' intentions to volunteer. *Journal of Youth and Adolescence*, 44(12), 2197–2210.
- Coker, T. R., Elliott, M. N., Kanouse, D. E., Grunbaum, J. A., Schwebel, D. C., Gilliland, M. J., ... & Schuster, M. A. (2009). Perceived racial/ethnic discrimination among fifth-grade

- students and its association with mental health. *American Journal of Public Health*, 99(5), 878–884.
- Coker, T. R., Elliott, M. N., Kataoka, S., Schwebel, D. C., Mrug, S., Grunbaum, J. A., ... & Schuster, M. A. (2009). Racial/ethnic disparities in the mental health care utilization of fifth grade children. *Academic Paediatrics*, 9(2), 89–96.
- de Graaf, H., Vanwesenbeeck, I., Woertman, L., & Meeus, W. (2011). Parenting and adolescents' sexual development in western societies. *European Psychologist*.
- DeVore, E. R., & Ginsburg, K. R. (2005). The protective effects of good parenting on adolescents. *Current Opinion in Paediatrics*, 17(4), 460–465.
- DiClemente, R. J., Crittenden, C. P., Rose, E., Sales, J. M., Wingood, G. M., Crosby, R. A., & Salazar, L. F. (2008). Psychosocial predictors of HIV-associated sexual behaviours and the efficacy of prevention interventions in adolescents at-risk for HIV infection: What works and what doesn't work? *Psychosomatic Medicine*, 70(5), 598–605.
- DiIorio, C., Hockenberry-Eaton, M., Maibach, E., Rivero, T., & Miller, K. (1996). The content of African American mothers' discussions with their adolescents about sex. *Journal of Family Nursing*, 2(4), 365.
- DiIorio, C., Kelley, M., & Hockenberry-Eaton, M. (1999). Communication about sexual issues: Mothers, fathers, and friends. *Journal of Adolescent Health*, 24(3), 181–189.
- DiIorio, C., McCarty, F., Denzmore, P., & Landis, A. (2007). The moderating influence of mother-adolescent discussion on early and middle African American adolescent sexual behaviour. *Research in Nursing & Health*, 30(2), 193–202.

- DiIorio, C., McCarty, F., Resnicow, K., Lehr, S., & Denzmore, P. (2007). REAL men: A group-randomized trial of an HIV prevention intervention for adolescent boys. *American Journal of Public Health, 97*(6), 1084–1089.
- Fishbein, H. (1996). *Peer prejudice and discrimination*. Boulder, CO: Westview Press.
- Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence, 29*(6), 679–695.
- Garofalo, R., Mustanski, B., & Donenberg, G. (2008). Parents know and parents matter; is it time to develop family-based HIV prevention programs for young men who have sex with men? *Journal of Adolescent Health, 43*(2), 201–204.
- Glenn, B. L., Demi, A., & Kimble, L. P. (2008). Father and adolescent son variables related to son's HIV prevention. *Western Journal of Nursing Research, 30*(1), 73–89.
- Goodnow, J. J. (2002). Parents' knowledge and expectations: Using what we know. *Handbook of Parenting, 3*, 439–460.
- Gottfried, A. E., Gottfried, A. W., & Bathurst, K. (2002). Maternal and dual-earner employment status and parenting. *Handbook of Parenting. Volume 2: Biology and Ecology of Parenting, 206*.
- Grossman, J., Jenkins, L., & Richer, A. (2018). Parents' perspectives on family sexuality communication from middle school to high school. *International Journal of Environmental Research and Public Health, 15*(1), 107.
- Guilamo-Ramos, V., Bouris, A., Jaccard, J., Gonzalez, B., McCoy, W., & Aranda, D. (2011). A parent-based intervention to reduce sexual risk behaviour in early adolescence: Building alliances between physicians, social workers, and parents. *Journal of Adolescent Health, 48*(2), 159–163.

- Guilamo-Ramos, V., Jaccard, J., Dittus, P., & Bouris, A. M. (2006). Parental expertise, trustworthiness, and accessibility: Parent-adolescent communication and adolescent risk behaviour. *Journal of Marriage and Family*, *68*(5), 1229–1246.
- Guilamo-Ramos, V., Jaccard, J., Dittus, P., Bouris, A., Gonzalez, B., Casillas, E., & Banspach, S. (2011). A comparative study of interventions for delaying the initiation of sexual intercourse among Latino and black youth. *Perspectives on Sexual and Reproductive Health*, *43*(4), 247–254.
- Harris, A. L., Fantasia, H. C., & Castle, C. E. (2019). Father 2 son: The impact of African American father-son sexual communication on African American adolescent sons' sexual behaviours. *American Journal of Men's Health*, 1557988318804725. Retrieved from <https://doi.org/10.1177/1557988318804725>
- Harris, A. L., Sutherland, M. A., & Hutchinson, M. K. (2013). Parental influences of sexual risk among urban African American adolescent males. *Journal of Nursing Scholarship*, *45*(2), 141–150.
- Harris, K. M., Furstenberg, F. F., & Marmer, J. K. (1998). Paternal involvement with adolescents in intact families: The influence of fathers over the life course. *Demography*, *35*(2), 201–216.
- Hart, T., Peterson, J. L., & The Community Intervention Trial for Youth Study Team. (2004). Predictors of risky sexual behaviour among young African American men who have sex with men. *American Journal of Public Health*, *94*(7), 1122–1124.
- Heilbron, N., & Prinstein, M. J. (2008). A review and reconceptualization of social aggression: Adaptive and maladaptive correlates. *Clinical Child and Family Psychology Review*, *11*(4), 176–217.

- Heilbron, N., & Prinstein, M. J. (2008). Peer influence and adolescent non-suicidal self-injury: A theoretical review of mechanisms and moderators. *Applied and Preventive Psychology, 12*(4), 169–177.
- Hicks, M. S., McRee, A. L., & Eisenberg, M. E. (2013). Teens talking with their partners about sex: The role of parent communication. *American Journal of Sexuality Education, 8*(1–2), 1–17.
- Huebner, A. J., & Howell, L. W. (2003). Examining the relationship between adolescent sexual risk-taking and perceptions of monitoring, communication, and parenting styles. *Journal of Adolescent Health, 33*(2), 71–78.
- Hutchinson, M. K., & Cooney, T. M. (1998). Patterns of parent-teen sexual communication: Implications for intervention. *Family Relations, 47*(2), 185–194.
- Huynh, V. W., & Fuligni, A. J. (2010). Discrimination hurts: The academic, psychological, and physical well-being of adolescents. *Journal of Research on Adolescence, 20*(4), 916–941.
- Hyde, A., Drennan, J., Butler, M., Howlett, E., Carney, M., & Lohan, M. (2013). Parents' constructions of communication with their children about safer sex. *Journal of Clinical Nursing, 22*(23–24), 3438–3446.
- Ikramullah, E., Manlove, J., Cui, C., & Moore, K. A. (2009). Parents matter: The role of parents in teens' decisions about sex. *Child Trends Research Brief, 45*, 1–7.
- Jaccard, J., Dodge, T., & Dittus, P. (2002). Parent-adolescent communication about sex and birth control: A conceptual framework. *New Directions for Child and Adolescent Development, 2002*(97), 9–42.

- Kan, M. L., Cheng, Y. H. A., Landale, N. S., & McHale, S. M. (2010). Longitudinal predictors of change in number of sexual partners across adolescence and early adulthood. *Journal of Adolescent Health, 46*(1), 25–31.
- Kapungu, C. T., Baptiste, D., Holmbeck, G., McBride, C., Robinson-Brown, M., Sturdivant, A., ... & Paikoff, R. (2010). Beyond the “birds and the bees”: Gender differences in sex-related communication among urban African American adolescents. *Family Process, 49*(2), 251–264.
- Hutchinson, M. K., & Wood, E. B. (2007). Reconceptualizing adolescent sexual risk in a parent-based expansion of the theory of planned behaviour. *Journal of Nursing Scholarship, 39*(2), 141–146.
- Kerpelman, J. L., McElwain, A. D., Pittman, J. F., & Adler-Baeder, F. M. (2016). Engagement in risky sexual behaviour: Adolescents’ perceptions of self and the parent-child relationship matter. *Youth & Society, 48*(1), 101–125.
- Langley, C. (2016). Father knows best: Paternal presence and sexual debut in African American adolescents living in poverty. *Family Process, 55*(1), 155–170.
- LaSala, M. C., Siebert, C. F., Fedor, J. P., & Revere, E. J. (2016). The role of family interactions in HIV risk for gay and bisexual male youth: A pilot study. *Journal of Family Social Work, 19*(2), 113–131.
- Lehr, S. T., Demi, A. S., DiIorio, C., & Facticeau, J. (2005). Predictors of father-son communication about sexuality. *Journal of Sex Research, 42*(2), 119–129.
- Lewis, R. A. (1973). Parents and peers: Socialisation agents in the coital behaviour of the young adult. *The Journal of Sex Research, 9*(2), 156–170.

- Lezin, N., Roller, L. A., Bean, S., & Taylor, J. (2004). *Parent-child connectedness. Implications for research, interventions, and positive impacts on adolescent health*. Santa Cruz, CA: ETR Associates.
- Li, L., Liang, L., Ji, G., Lin, C., & Xiao, Y. (2016). Perceived bonding by parents living with HIV and their adolescent children. *J Res Adolesc, 26*, 880–888. doi:10.1111/jora.12236
- Markham, C. M., Lormand, D., Gloppen, K. M., Peskin, M. F., Flores, B., Low, B., & House, L. D. (2010). Connectedness as a predictor of sexual and reproductive health outcomes for youth. *Journal of Adolescent Health, 46*(3), S23–S41.
- Maulsby, C., Millett, G., Lindsey, K., Kelley, R., Johnson, K., Montoya, D., & Holtgrave, D. (2013). A systematic review of HIV interventions for black men who have sex with men (MSM). *BMC Public Health, 13*(1), 625.
- Miller, B. C., Benson, B., & Galbraith, K. A. (2001). Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental Review, 21*(1), 1–38.
- Mutchler, M. G., McDavitt, B., Ghani, M. A., Nogg, K., Winder, T. J., & Soto, J. K. (2015). Getting prepared for HIV prevention navigation: Young black gay men talk about HIV prevention in the biomedical era. *AIDS Patient Care and STDs, 29*(9), 490–502.
- Neblett Jr., E. W., White, R. L., Ford, K. R., Philip, C. L., Nguyen, H. X., & Sellers, R. M. (2008). Patterns of racial socialisation and psychological adjustment: Can parental communications about race reduce the impact of racial discrimination? *Journal of Research on Adolescence, 18*(3), 477–515.
- Noar, S. M., Carlyle, K., & Cole, C. (2006). Why communication is crucial: Meta-analysis of the relationship between safer sexual communication and condom use. *Journal of Health Communication, 11*(4), 365–390.

- Ong, A. D., Burrow, A. L., Fuller-Rowell, T. E., Ja, N. M., & Sue, D. W. (2013). Racial microaggressions and daily well-being among Asian Americans. *Journal of Counseling Psychology, 60*(2), 188.
- Osafo, J., Asampong, E., Langmagne, S., & Ahiedeke, C. (2014). Perceptions of parents on how religion influences adolescents' sexual behaviours in two Ghanaian communities: Implications for HIV and AIDS prevention. *Journal of Religion and Health, 53*(4), 959–971.
- Parkes, A., Henderson, M., Wight, D., & Nixon, C. (2011). Is parenting associated with teenagers' early sexual risk-taking, autonomy and relationship with sexual partners? *Perspectives on Sexual and Reproductive Health, 43*(1), 30–40.
- Price, M. N., & Hyde, J. S. (2009). When two isn't better than one: Predictors of early sexual activity in adolescence using a cumulative risk model. *Journal of Youth and Adolescence, 38*(8), 1059–1071.
- Prince-Embury, S., & Saklofske, D. H. (Eds.). (2014). *Resilience interventions for youth in diverse populations*. New York, NY: Springer.
- Prinstein, M. J., Brechwald, W. A., & Cohen, G. L. (2011). Susceptibility to peer influence: Using a performance-based measure to identify adolescent males at heightened risk for deviant peer socialization. *Developmental Psychology, 47*(4), 1167.
- Raffaelli, M., Bogenschneider, K., & Flood, M. F. (1998). Parent-teen communication about sexual topics. *Journal of Family Issues, 19*(3), 315–333.
- Randolph, S. D., Coakley, T., Shears, J., & Thorpe Jr, R. J. (2017). African American fathers' perspectives on facilitators and barriers to father-son sexual health communication. *Research in Nursing & Health, 40*(3), 229–236.

- Ritchwood, T. D., Metzger, I. W., Powell, T. W., Corbie-Smith, G., Wynn, M., Lin, F. C., & Akers, A. Y. (2018). How does pubertal development impact caregiver-adolescent communication about sex in rural, African American families? an examination of mediation effects. *The Journal of Early Adolescence*, 0272431618806054.
- Ritchwood, T. D., Peasant, C., Powell, T. W., Taggart, T., Corbie-Smith, G., & Akers, A. Y. (2018). Predictors of caregiver communication about reproductive and sexual health and sensitive sex topics. *Journal of Family Issues*, 39(8), 2207–2231.
- Rosenthal, D. A., Feldman, S. S., & Edwards, D. (1998). Mum's the word: Mothers' perspectives on communication about sexuality with adolescents. *Journal of Adolescence*, 21(6), 727–743.
- Rowe, C. L. (2012). Family therapy for drug abuse: Review and updates 2003–2010. *Journal of Marital and Family Therapy*, 38(1), 59–81.
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics*, 123(1), 346.
- Seaton, E. K., Caldwell, C. H., Sellers, R. M., & Jackson, J. S. (2008). The prevalence of perceived discrimination among African American and Caribbean Black youth. *Developmental Psychology*, 44(5), 1288.
- Sellers, R. M., Copeland-Linder, N., Martin, P. P., & Lewis, R. L. H. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence*, 16(2), 187–216.
- Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annu. Rev. Psychol.*, 57, 255–284.

- Sneed, C. D., Somoza, C. G., Jones, T., & Alfaro, S. (2013). Topics discussed with mothers and fathers for parent-child sex communication among African American adolescents. *Sex Education, 13*(4), 450–458.
- Soloski, K. L., & Berryhill, M. B. (2016). Gender differences: Emotional distress as an indirect effect between family cohesion and adolescent alcohol use. *Journal of Child and Family Studies, 25*(4), 1269–1283.
- Sorenson, R. (1973). *Adolescent sexuality in contemporary America*. New York: World Publishing.
- Sprecher, S., Harris, G., & Meyers, A. (2008). Perceptions of sources of sex education and targets of sex communication: Sociodemographic and cohort effects. *Journal of Sex Research, 45*(1), 17–26.
- Tobler, A. L., & Komro, K. A. (2010). Trajectories of parental monitoring and communication and effects on drug use among urban young adolescents. *Journal of Adolescent Health, 46*(6), 560–568.
- Treboux, D., & Busch-Rossnagel, N. A. (1990). Social network influences on adolescent sexual attitudes and behaviours. *Journal of Adolescent Research, 5*(2), 175–189.
- Twenge, J. M., Sherman, R. A., & Wells, B. E. (2015). Changes in American adults' sexual behavior and attitudes, 1972–2012. *Archives of Sexual Behaviour, 44*(8), 2273–2285.
- Utsey, S. O., Ponterotto, J. G., Reynolds, A. L., & Cancelli, A. A. (2000). Racial discrimination, coping, life satisfaction, and self-esteem among African Americans. *Journal of Counselling & Development, 78*(1), 72–80.

- Van de Bongardt, D., Reitz, E., Sandfort, T., & Deković, M. (2015). A meta-analysis of the relations between three types of peer norms and adolescent sexual behaviour. *Personality and Social Psychology Review, 19*(3), 203–234.
- Villarruel, A. M., Loveland-Cherry, C. J., & Ronis, D. L. (2010). Testing the efficacy of a computer-based parent-adolescent sexual communication intervention for Latino parents. *Family Relations, 59*(5), 533–543.
- Whitaker, D. J., Miller, K. S., May, D. C., & Levin, M. L. (1999). Teenage partners' communication about sexual risk and condom use: The importance of parent-teenager discussions. *Family Planning Perspectives, 117*–121.
- Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health, 58*(3), 323–329.
- Widman, L., Choukas-Bradley, S., Helms, S. W., Golin, C. E., & Prinstein, M. J. (2014). Sexual communication between early adolescents and their dating partners, parents, and best friends. *The Journal of Sex Research, 51*(7), 731–741.
- Widman, L., Choukas-Bradley, S., Noar, S. M., Nesi, J., & Garrett, K. (2016). Parent-adolescent sexual communication and adolescent safer sex behaviour: A meta-analysis. *JAMA Paediatrics, 170*(1), 52–61.
- Wight, D., Williamson, L., & Henderson, M. (2006). Parental influences on young people's sexual behaviour: A longitudinal analysis. *Journal of Adolescence, 29*(4), 473–494.
- Wilson, E. K., & Koo, H. P. (2010). Mothers, fathers, sons, and daughters: gender differences in factors associated with parent-child communication about sexual topics. *Reproductive Health, 7*(1), 31.

Wilson, E. K., Dalberth, B. T., & Koo, H. P. (2010). "We're the heroes!": Fathers' perspectives on their role in protecting their pre-teenage children from sexual risk. *Perspectives on Sexual and Reproductive Health*, 42(2), 117–124.