#### THESIS

## THE ASSOCIATION BETWEEN FATHER INVOLVEMENT AND SEXUAL RISK BEHAVIORS AMONG BLACK AND WHITE ADOLESCENT GIRLS

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#### ABSTRACT

## THE ASSOCIATION BETWEEN FATHER INVOLVEMENT AND SEXUAL RISK BEHAVIORS AMONG BLACK AND WHITE ADOLESCENT GIRLS

This study explored the importance of father involvement for adolescent girls, particularly in the context of sexual risk behaviors. Research is only beginning to explore the effects of fathers on development and the benefits to fathers being more involved with their children. Though there has been a plethora of research on the effects of maternal interactions, there has been less of a proliferation of research on fathers and their interactions with their children. Current research has begun to show an association between father involvement and sexual risk behaviors in adolescents. However, most of this research used a cross sectional design and very few explored racial comparisons in these associations. Using a sample of 2,252 adolescent girls, this study explored the association of father involvement with sexual risk behaviors in these girls. It also further explored the ability of father involvement in adolescence to predict sexual risk behaviors in emerging adulthood, using a longitudinal design. Results indicate that father involvement in adolescence is associated with sexual risk behaviors, particularly condom use and number of sexual partners, in adolescence. The results also indicate that father involvement in adolescence predicts sexual risk behaviors in emerging adulthood for girls. An involved father in adolescence predicted less number of sexual partners and more condom use for females in emerging adulthood. No racial differences were found, and possible contributing limitations were discussed.

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#### INTRODUCTION

The period from birth through adolescence is a time of heightened biological, behavioral and social development. This period is also a time when environmental influences are very salient, affecting whether development progresses typically or atypically (Sloboda, Glantz, & Tarter 2012). Research has shown that parental interactions, creating secure and nurturing environments and fostering emotional stimulation, are the most influential parts of early experiences, and helps to maximize a child's positive development (Thompson, 2015; Cassidy, Jones & Shaver, 2013). Stimulating parent-child interactions have been found to influence children's emotional and social competence, self-regulation, attachment security and internalizing and externalizing behaviors (Cassidy et al., 2013; Denham, Bassett, & Zinsser, 2012; Thompson, 2015; Trevarthen & Aiken, 2001). The importance of how parents interact with their children can therefore not be underestimated. This importance continues into adolescence.

Sloboda et al., (2012) stated that adolescence is a period when youth are starting to assume more adult roles and independence, while simultaneously going through significant brain development. These simultaneous developments create the potential for poor decision making that lead to risky and harmful behaviors such as stunts, risky sexual activities, risky driving, and substance use and abuse (Bjork & Pardini, 2015; Sloboda et al., 2012). However, parents still play an important role in development during adolescence. Griffin and Botvin, (2010) posited that even though peer influence becomes more salient during adolescence than before, relationships with parents are also an important factor influencing development and behavior. Ruhl, Dolan and Buhrmester (2014) stated that adolescent attachment to parents is related to their self-esteem, romantic relationships and being able to adjust to major changes in their lives.

Research has also found that insecure attachment was linked to externalizing and internalizing behaviors (Cassidy et al., 2013). There is also an association between parent interactions and externalizing behaviors, including sexual risk behaviors, in adolescence (Griffin & Botvin, 2010; Nijjar, Ellenbogen & Hodgins, 2016). Although studies on parent-child interactions have primarily focused on mothers, more studies are beginning to show the importance of fathers for children's cognitive and psychological development (Panter-Brick et al., 2014; Jeynes, 2014). Having an interactive and communicative father is associated with better academic performance and reduced externalizing behavior in adolescence (Hawkins, Amato & King, 2007).

Another area of adolescent development that is impacted by parental interactions is sexual risk behaviors. Research has shown that high quality parental interactions and family connectedness, as well as parental monitoring and parent-child communication are protective factors for sexual risk behaviors in adolescents (Kirby, 2007). Research has also found that living in single-parent homes is a risk factor for risky sexual behaviors in adolescents, especially adolescent girls (Kirby, 2007; Langley, 2016). Studies also found that low levels of paternal monitoring were associated with higher sexual risk for adolescent girls while low levels of maternal monitoring had a greater impact on adolescent boys' sexual behaviors, indicating that adolescents may respond better to parental monitoring of the opposite sex parent (Lenciauskiene & Zaborskis 2008). This indicates that fathers may have unique effects on girls which would further strengthen the benefits of having a father present in the home.

There is, however, a disproportionately high prevalence of single-parent homes, headed by mothers in Black families in the U.S, compared to other races (U.S Census Bureau, 2007). Research has found that adolescents of racial minorities, especially Blacks, are more likely to engage in risky sexual behaviors (Carlson, McNulty, Bellair, & Watts, 2014). Studies have also

found that Black females have a higher prevalence of STIs and HIV that females of other races (CDC, 2018). This then, indicates the possibility of greater danger of sexual risk behaviors in Black youth and especially females. In their study Alleyne et al., (2016) found that there was a link between sexual risk behavior and father involvement and that this association was stronger for white adolescent girls, than non-white girls. However, the authors did not distinguish between races in the nonwhite category. The current study looked at the effects of father involvement on sexual risk behaviors in adolescent females and later, when they were in young adulthood. The current study also compared differences in this association for Black and White females.

#### **Sexual Risk Behaviors**

Sexual risk behaviors (SRBs) are behaviors of a sexual nature that increase the danger of negative outcomes such as teen pregnancy, STIs and HIV (Nijjar et al., 2016). Research has shown that risk-taking behaviors increase in the adolescent developmental stage and continues into emerging adulthood (Bjork & Pardini, 2015; Sloboda et al., 2012). The prevalence of risky sexual practices by adolescents in the US is being reflected in national health data. In 2015, 43% of all sexually active youth in high schools across the US did not use a condom during their last sexual encounter (CDC, 2018). A high rate of SRB would then be associated with an increase in negative outcomes for both the adolescent and emerging adulthood age groups and this is being reflected in the research. Rates of teen pregnancy are higher in the US than in other parts of the developed world (McKay & Barrett, 2010). Youth between the ages of 20-24, especially minorities, have some of the highest rates of STI in the US. In 2015, youth between the ages of 13-24 only accounted for 16% of the US population, but 22% of all new HIV cases (CDC, 2018). However, these risks seem to be higher for some races than others.

Studies have shown that Black youth are more likely than Whites to have sex during adolescence and have a greater number of sexual partners (Lansford et al., 2010). There are also racial differences in gender groups as well. This is reflected in the fact that Black females, compared to their counterparts of other races, are more likely to become pregnant by the age of 20 (Martin et al., 2012). This racial disparity in sexual risk behaviors is also seen in the prevalence of STIs. Though Blacks make up only 12% of the US population, they accounted for 44% of new HIV cases in one year. In that same year, Black females accounted for 61% of new HIV cases compared to 16% for White females. In recent years, Black women between the ages of 15-24 have also had a higher prevalence of Chlamydia and Gonorrhea than other races (CDC, 2018). The dangers of risky sexual practices are therefore high for Black females in the US.

Many of these risky behaviors in adolescence have been linked to diseases and psychosocial development in emerging adulthood (Dittus et al., 2015). Research has shown that a high number of young adults have reported sexual intercourse without using contraceptives and sexual intercourse with relative strangers (Lansford et al., 2010). In emerging adulthood, Blacks were found to have a greater number of sexual partners than Whites (Paat & Markham, 2016). This is an indication that SRBs, and particularly racial difference in sexual risk behaviors extend into emerging adulthood. Research on factors that influence SRBs in adolescence and young adulthood, especially for Black females, is therefore important to inform interventions and prevention programs.

#### **Father Involvement**

Father involvement is the presence of a father (whether in the home or not) in a child's life, as well as his involvement with the child, reflected by his engagement in frequent activities and communication with this child, thus building a secure father-child relationship (Cookston &

Finlay, 2006). Studies show that father involvement provides protective factors and has positive effects on academic success, social competence, internalizing and externalizing behaviors, and psychopathology from infancy to adulthood (Panter-Brick et al., 2014; Jeynes, 2014). Research has also shown that a daughter's relationship with her father is associated with her intimate relationships in adulthood (Downs & Miller, 1998; Oates, Forrest & Peacock, 1985). Studies have also shown that father-daughter relationships have an impact on the way girls interact and relate to other males in their lives (Flouri, 2001; Leonard, 1998). These studies begin to demonstrate the unique roles that fathers play in their daughter's lives. The absence of a father in the home may therefore lead to negative outcomes for girls.

Research has found that the absence of fathers is associated with negative outcomes for adolescent girls. Father's absence has been linked to feelings of disconnection and being misunderstood in adolescent girls (Downs & Miller, 1998). The absence of a father in an adolescent girl's life has also been associated with early menarche and early sexual debut (Ellis & Gaber, 2000). There is also an association between absent fathers and teen pregnancy (Kim, 2010; Ellis et al., 2003), as well as a greater number of sexual partners (Cleveland & Gilson, 2004). This knowledge is particularly important today because more families are experiencing father absence in this century that in previous centuries (Pew Research Center, 2010). However, this experience of father absence is more pronounced in racial minorities.

Studies have found that Black children are more likely than Whites to be born to unmarried parents and more likely to experience the separation of their parents. This creates a greater prevalence of single-parent, female-headed homes among Blacks (Solorio et al., 2008; Osborne, Manning, & Smock, 2007; Ventura, Anderson, Martin, & Smith, 1998), putting them at a greater risk for negative outcomes. Although Black parents may be separated, one study found

that 26% of Black fathers were co-parenting their children (Jones, Shaffer, Forehand, Brody, & Armistead, 2003). This involvement of Black father's in their children's lives, regardless of being resident in the home, has been linked to later sexual debut in adolescence (Ryan, 2015). The involvement of a father, both in being present and in being engaged therefore, plays an important role in adolescent development and sexual behaviors from adolescence into emerging adulthood. More studies providing information on the importance of this involvement would therefore be beneficial to the literature. However, of the few studies in this area, most have only looked at the effects of father involvement at one time point. This study used longitudinal data to explore the effects of father involvement on sexual risk behaviors in females over time. Studies showing the persistence of the effects of father involvement over time and different developmental stages may have implications for interventions involving fathers.

#### **Theoretical Basis**

From an attachment theory perspective, a child's sense of security and trust in others is influenced by their interactions with their parents. These early parent-child experiences are internalized by children and help them create internal working models of how they see themselves and others, and what to expect from others. (Bowlby, 1969; Ainsworth, 1979; Alleyne-Green et al., 2015). Studies have found that these internal working models developed in early parent-child experiences impact intimate relationship functioning in adolescence and adulthood (Scott, Briskman, Woolgar, Humayun, & O'Connor, 2011; Dempster, Rogers, Pope, Snow, & Stoltz, 2015). The quality of parental attachment is then of primary importance if healthy development and social interactions are to occur.

Adolescence and emerging adulthood are developmental stages when other influences, such as peer groups, become more salient. However, research has found that parental attachment

and relationships still play an important role in shaping development and experiences in these stages (Dempster et al., 2015). Relationships with parents therefore remain an influential part of development from early childhood into adulthood. It is therefore important that parents create strong, secure relationships and home environments with their children. Secure parental attachment has been linked to better adjustment in adolescence, less internalizing and externalizing behaviors (Scott et al., 2011; Withers, McWey, & Lucier-Greer, 2016), healthy sexual attitudes and safe-sex beliefs (Dempster et al., 2015; Sprecher, 2013). Better parent-child relationships and attachment are therefore protective factors against negative outcomes in adolescence and emerging adulthood (Kirby, 2007). From this perspective, it can be expected that father involvement would have some effect on sexual risk behaviors for girls in adolescence and into their emerging adulthood.

#### THE CURRENT STUDY

With the increased prevalence of single parent homes, especially in black families, studying the possible effects of father involvement on their daughters' SRBs has taken on greater importance in research. Sexual risk behaviors have been measured by the number of unprotected sexual encounters, number of abortions, and sexual intercourse before the age of 16 (Nijjar et. al., 2016), as well as the number of sexual partners and frequency of condom use in relation to number of sexual encounters in the past 90 days (Hulland et al., 2015). A meta-analysis of studies in this area found that a composite measure of SRB included number of sexual partners and frequency of contraceptive and condom use (Guilamo-Ramos et al., 2012). Most studies that have looked at father involvement and sexual risk behaviors have either looked at contraceptive use only (Alleyne-Green et al., 2015; Alleyne-Green et al., 2016) or at early onset of sexual activity (Ellis et al., 2003; La Guardia, Nelson & Lertora, 2014)). Alleyne et al., (2016) found that SRB had a stronger link with father involvement for non-white adolescent girls than whites, but non-white groups were not separated by race. A comparison of this association for Black and White girls could inform research on specific racial differences. Most studies in this area have also used a cross-sectional design, which limits their ability to examine these associations prospectively. Very few studies have looked at the link between father involvement and sexual risk behaviors from adolescence into emerging adulthood. The current study used a longitudinal design to investigate the association between father involvement and SRBs in adolescent girls and possible effects for these girls in young/emerging adulthood. This then allowed for an exploration of the effects of father involvement over time, looking at possible long-term effects. The study aimed to answer the research questions: Is there a concurrent association between father involvement in the lives of their adolescent daughters and sexual risk behaviors of those

daughters? Is father involvement in adolescence also associated with sexual risk behavior in young /emerging adulthood? Is the association different for Black adolescent girls than for White? The hypotheses are as follows:

- 1. Father involvement is negatively associated with sexual risk behaviors for adolescent girls.
- 2. Father involvement in adolescence is also associated with sexual risk behaviors in young/emerging adulthood.
- The association between father involvement and sexual risk behaviors is stronger for Black than White adolescent girls.
- 4. The association between father involvement in adolescence and sexual risk behaviors in emerging adulthood is stronger for Black girls than White girls.

#### Method

**Participants.** The data used in this study were part of public use data of the National Longitudinal Study of Adolescent Health (Add Health). The Add Health study was conducted in 4 waves between 1994 and 2008, in response to a congressional mandate to study adolescent health. This study used a multi-disciplinary approach examining social, behavioral and biological factors. The purpose of the study was to examine causes of health and health-related behaviors that affect adolescence and possible effects in young adulthood. The study also examined social contexts, such as family life, school and peers and their effects on adolescent health and later outcomes in young adulthood. It was primarily funded by the National Institute of Child Health and Human Development (NICHD) and co-funded by 23 other organizations and federal agencies (Harris et. al, 2009). From a list of all the high schools in the United States, a random

sample of 80 high schools was selected. To be included in the list, the high school had to have an 11<sup>th</sup> grade and have more than 30 students (Popkin & Udry, 1998). For each high school selected, a middle school was also randomly selected from a list of feeder middle schools who provided at least 5 students to the high school, resulting in 80 pairs of schools. To ensure national representation, the sample was stratified for region, whether rural or urban, school size and type, and ethnic composition (Harris, 20009; Alleyne-Green, et al., 2015)

A list of enrolled students was obtained from each of the 80 pairs of schools and students were randomly selected from this list. This resulted in a sample of adolescents from grades 7 to 12. The study also provided a sample of high ethnic diversity, by oversampling for Blacks with at least one higher-educated parent, having at least a college degree, Asian/Pacific Islander, and Native Americans adolescents. Data were also collected from school administrators, as well as participants' parents, and partners in later waves. The sample was stratified to ensure national representation. The participation rate for Wave I was 79%, with a follow-up rate for Wave II of 88% and 77% for Wave III (Harris, 2013; Popkin & Udry, 1998).

The current study comprised data from Wave I and III of the Add Health public use data. The public use data sample size for Wave I included 6,504 adolescents from grades 7 to 12, and Wave III includes 4,882 of these same participants, now young adults between the ages of 18-26 (Harris, 2013). To be included in this study, participants had to identify as either White or Black females between the ages of 15-18 in Wave I, and between the ages of 22-24 in Wave III. Wave II was excluded because it studied youth only a year after the first Wave, which was still in midlate adolescence. The exclusion of males, races other than Black or White, and the targeting of specific age groups for this study, resulted in a possible sample size of 2,252 participants in Waves I and 1,333 possible participants in Wave III. The sample was 73.4% White and 28.3% Black. The mean age at Wave I was 16.67 years.

**Procedures.** The Add Health study used a longitudinal research design, where the participants were given an in-home interview in multiple waves, one to seven years apart. The design included self-reported data in all waves. It also included parent data and school administrator data in Wave I and partner data in Wave III. As most participants were minors, parental consent was obtained from parents for students to be listed in the directory and participate in the study. For the in-home interview portion of the study, written consent was obtained from parents, to participate (Harris, 2013).

After consent was received, adolescents in grades 7 to 12 were asked to complete a selfadministered 45-minute questionnaire, which was administered in school (Harris, 2013). This questionnaire collected descriptive information about the background of students and parents, students' friends, school life and activities, health status in general and health-related behaviors. This was conducted between September 1995 and April 1995. Every participating school also completed an administration questionnaire about their school (Harris, 2013).

Adolescents from grades 7 to 12 who had participated in the in-school questionnaire and from the school rosters were randomly selected to participate in the in-home interview (Harris, 2013). This became the core sample. Adolescents were then given questionnaires, one to two hours long, completed at the participants' homes. The In-home interview was conducted in two ways: using Computer-Assisted Personal Interview (CAPI), with an interviewer present, and Audio Computer-Assisted Self- Interview (ACASI), which the participant could take in private for more sensitive topics (Harris, 2013). For this in-home interview, no paper questionnaires were collected. This helped to protect participants' privacy. These were done on laptop

computers. The ACASI was conducted using earphones to ensure participants' privacy. This collected data about topics which included sexual experience, peers, health, substance use and criminal behaviors. Parents were then interviewed to gain information about family composition, adolescent, and parent health history and demographics. In-home questionnaires were administered between April and December 1995 (Harris, 2013).

For Wave III, the participants from the in-home interview (core sample) from Wave I were located and re-interviewed between August 2001 and April 2002. The participants were then between the ages of 18-26. The interviews were administered using the same format as in Wave I. This interview took 90 minutes and collected data that included romantic relationships, cohabitation and child bearing. Fifty percent of participants from Wave I were selected to provide partners who had been with them for at least three years. These partners were interviewed at the same time in Wave III (Harris, 2013).

#### Measures

*Father involvement.* The independent variable, father involvement, for this study, was operationally defined as activities engaged in and perceived closeness (from the adolescent's perspective). Participants were asked if they engaged in a selection of activities with their fathers, either resident, step, biological father, or non-resident biological father. These activities included going shopping, playing a sport, going to a church service or religious event, going to a play, concert, movie or sports event and working on a school project. Participants also recorded how close they felt to their father, again both resident and non-resident fathers, on a five-point Likert scale, where 1= not close at all and 5 = extremely close (Alleyne-Green, et al., 2015; Harris, 2013). These scores were then standardized and combined to create a composite father involvement variable.

A father status variable was also created to identify participants who either had a resident biological father, a resident non-biological father or a non-resident biological father. Participants were asked if they had a biological father in their home. If they indicated that they did not, they were then asked if they had a step-father, foster father or adoptive father in the home. For participants who indicated no biological father in the home, they were asked if they had contact with their biological father. The current study then coded resident biological father as 1, resident non-biological father as 2, and non-resident biological father as 3. This variable was then used as a control variable and was also used to investigate possible difference between father status and the other variables (father involvement and SRB variables).

*Sexual risk behaviors*. There have been varied compositions of SRBs across studies. Alleyne-Green, et al., (2015), defined sexual risk behaviors as the use of birth control in the last sexual encounter and over the past 18 months. The current study therefore measured the dependent variables of SRBs as the number of sexual partners and frequency of condom use, which were tested separately.

Participants in the parent study were asked to give the number of sexual partners they had in the past year. Participants were also asked the proportion of the times they used a condom during sex overall (1=none, 5=all of the times).

*Control variables.* Basic demographic information was collected from youth and parent. In this study, the variables of youth age, and race (black or white) were drawn from interviews with the youth. Youth who identified as Black or African American during the interview were coded as "black" and youth who identified as "white" were coded as white. Bi-racial youth, those who identified as white or black plus another race, were excluded. Parents reported on their

household income and this variable was used to indicate socioeconomic status. Father status, as described above, was also included as a control variable.

#### Results

Preliminary analyses were conducted to examine the distributions of and intercorrelations among the study variables (see Table 1). All study variables showed relatively normal distributions with skew/Standard Error of skew less than 1.96. Correlations among variables and each variable's mean and standard deviation are presented in detail in Table 1. As indicated, the correlations showed small to modest associations among the variables, ranging from near 0 to .30. Because of the size of the sample, many correlations that would be considered small effects (e.g., .10) were statistically significant. Therefore, attention is focused on the stronger correlations. The strongest association was between father involvement and father status (r = -.30), indicating that families with resident biological fathers also had higher father involvement. Sexual risk variables, number of partners and condom use, showed different associations across time. They were modestly and negatively correlated at Time 1 but showed a small positive correlation at Time 3. Sexual risk variables were not significantly associated with race at time 1, but at time 3 both number of partners (r=.10) and condom use (r=.17) were significantly, but weakly associated with race. Black girls, compared to White girls, reported more partners but also more condom use at Time 3. Race also had a significant positive correlation with father status, such that Black girls were more likely than White girls to have a non-resident biological father. Father Involvement was weakly associated with sexual risk variables at Time 1 both for condom use number of sexual partners. Father involvement at time 1 was not significantly associated with sexual risk at time 3.

Differences by father status were tested by using an ANOVA model for all dependent variables. Results indicated that father status was associated with father involvement and sexual risk variables at Time 1, but not with sexual risk variables at Time 3. Results indicated differences across all three father status groups for father involvement (F (2, 1957) = 94.37; p<.001). Post hoc tests (Bonferonni) indicated that all groups differed from all other groups. Differences were also evident for number of partners at Time 1, (F (2, 940) = 3.32; p<.05). Girls who lived with their biological fathers had fewer partners than girls in any other father status group. Finally, differences were also found for condom use in Time 1 F (2, 2047) = 7.18; p<.001), with girls having a non-resident biological father having lower condom use than girls with resident biological father.

Table 1:

Correlation, means and standard deviation for all variables										
	1	2	3	4	5	6	7			
1. Father status	1									
2. Father Involvement	30***	1								
3. Proportion of Condom Use	.08**	.12**	1							
4. Number of sexual partners		12**	18**	1						
5. Num. of Sexual Partners (12mths) WaveIII		02	05	.08*	1					
6. Race	.23**	01	.04	05	.010**	1				
7. Num. of Times Condom Use (12mths) Wave III	.04	.05	.09**	04	.11**	.17**	1			
M	1.71	.08	3.77	3.08	1.51	1.28	1.50			
SD	.90	1.60	1.12	4.25	1.85	.45	1.51			
$*= p \le .05, **= p \le .01, ***= p \le .001$										

## Testing whether father involvement predicts sexual risk for girls in adolescence and emerging adulthood.

Hierarchical regression analyses were conducted to test all four hypotheses. Hypothesis 1 and 2 were each tested in two separate regression analyses with father involvement predicting: 1) number of partners, and 2) condom use. In each regression equation, step 1 included control variables of race, age, SES and father status and then father involvement was entered in step 2. To test hypotheses 3 and 4, a similar strategy was used, but an additional step in the regression equation was included to test the interaction between father involvement and race. *Father involvement is negatively associated with sexual risk behaviors for adolescent girls.* 

Results from the hierarchical regression model testing the concurrent associations between father involvement and sexual risk (e.g., number of partners and condom risk) for adolescent girls are presented in Table 2. The results indicate the overall model predicting condom use is statistically significant; F (5, 1652) = 8.88, p< .001, and the model predicting number of partners was also statistically significant; F (5,729) = 3.74, p< .005. The models accounted for statistically significant, but small percentages of variance in sexual risk; .03 for both models. As indicated in Table 2, for the outcome of condom use, age was the only significant predictor in step 1. When entered in step 2, father involvement was statistically significant ( $\beta$  = .10; T = 3.69; p< .001) and accounted for an additional 1 percent of the variance. A similar pattern was found for the outcome of number of partners. Age, but not SES and race, was a significant predictor in step 1. Father involvement, when entered in step 2, accounted for a small and significant amount of variance (1%) and was a significant independent predictor beyond those entered in step 1 ( $\beta$  = ..11; T = .2.79; p< .005).

	Prop	Number of Sexual Partners									
Variable	Bivariate R	$\Delta R^2$	В	SE B	β	Bivariate R	$\Delta R^2$	В	SE B	β	
Step 1 – Demographics		.02***					.02*				
Race	.01		.07	.06	03	04		42	.34	05	
Age	10***		08	.02	010***	.08**		.29	.13	.08*	
Father Status	08***		11	.03	19***	.07*		.38	.17	.08*	
SES	03		-9.06	.00	03	01		-1.85	.00	01	
Step 2 – Independent Variable Father Involvement	.12***	.01***	.06	.02	.010***	12***	.01**	29	0.1	11**	
Total R <sup>2</sup>	.03***					.03***					
Adjusted R <sup>2</sup>			.02***			.02***					

 Table 2:

 Hierarchical Regression Analyses – Hypothesis 1 – Father Involvement & Sexual Risk Behaviors in Wave I (Adolescence)

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

# Father involvement in adolescence is also associated with sexual risk behaviors in young/emerging adulthood.

Table 3 presents results from the hierarchical regression model testing the prospective associations between father involvement at time 1 and sexual risk at time 3 (e.g., number of partners and condom use). The results indicate the overall model predicting condom use is statistically significant; F (4, 1245) = 9.94, p< .001, and the model predicting number of partners was also statistically significant; F (4, 1328) = 7.76 p< .001. The models accounted for statistically significant, but small percentages of variance in sexual risk; .03 and .02 for condom use and number of partners, respectively. As shown in Table 3, when predicting number of sexual partners, there were no significant predictors in step 1. When entered in step 2, father involvement showed a statistically significant additional 1 percent of the variance (F (1, 1328) = 14.17; p < .001). When predicting condom use, age and race were significant predictors in step 1.

In step 2, father involvement showed a weak, marginally significant association ( $\beta = .05$ ; T = 1.73; p< .10) and accounted for less than 1 percent additional variance in condom use.

	Tir	nes Condo	m Used (1	2 months)	Number of Sexual Partners (12 months)					
Variable	Bivariate R	$\Delta R^2$	В	SE B	β	Bivariate R	$\Delta R^2$	В	SE B	β
Step 1 – Demographics		.03***					.02***			
Race	.16***		.51	.01	.15***	.09***		.38	.12	.09**
Age	07**		08	.03	07*	09***		13	.04	09**
Father Status	.06*		.04	.05	.03	.002		04	.06	02
Step 2 – Independent Variable Father Involvement	.05*	.002	.05	.03	.05	02	.001	05	.03	04
Total R <sup>2</sup>			.03					.02		
Adjusted R <sup>2</sup>			.03					.01		

Hierarchical Regression Analyses – Hypothesis 2 – Father Involvement Predicting Sexual Risk Behaviors in Wave III (Emerging Adulthood)

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

Table 3:

# The association between father involvement and sexual risk behaviors is stronger for Black adolescent girls than for White adolescent girls.

Table 4 presents results from the hierarchical regression model testing whether the concurrent association of father involvement and sexual risk is moderated by race, with stronger associations for black than for white girls. Results indicate that the interaction was not statistically significant when predicting number of partners ( $\beta = .04$ ; T = 1.13; ns) and marginally significant when predicting condom use ( $\beta = -.05$ ; T = -1.89; p<. 10). The interaction accounted for less than 1 percent of the variance in each of the sexual risk outcomes.

	Pro	portion of	Times Co	ndom Used	đ		Number o	f Sexual P	artners	
Variable	Bivariate R	$\Delta R^2$	В	SE B	β	Bivariate R	$\Delta R^2$	В	SE B	β
Step 1 – Demographics		.02***					.02***			
Race (Standardized)	.02		.04	.03	.04	06*		23	.13	07*
Age	11***		09	.02	11***	.08**		.29	.11	.08*
Father Status	.09***		12	.03	01***	.08**		.42	.15	.010*
Step 2 – Independent Variable		.007***					.01**			
Father Involvement (standardized)	.12***		.09	.03	.09***	12***		26	.09	10*
Step 3 – Moderation		.002					.001			
Race X Father Involvement	04		04	.02	04	.02		.10	.13	.03
Total R <sup>2</sup>			.03					.03		
Adjusted R <sup>2</sup>			.03					.02		

 Table 4:

 Hierarchical Regression Analyses – Hypothesis 3 – Race as Moderator of Father Involvement & SRB in Wave I (Adolescence)

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

The association between father involvement in adolescence and sexual risk behaviors in emerging adulthood is stronger for Black girls than White girls.

Table 5 presents results from the hierarchical regression model testing whether the prospective association between father involvement in adolescence and sexual risk in emerging adulthood is moderated by race, with stronger associations for black than for white girls. Results indicate that the interaction was not statistically significant when predicting number of partners ( $\beta = .02$ ; T = 0.67; ns) or when predicting condom use ( $\beta = -.01$ ; T = -0.56; ns). The interaction accounted for less than 1 percent of the variance in each of the sexual risk outcomes.

	Times	Number of Sexual Partners (12 months)								
Variable	Bivariate R	$\Delta R^2$	В	SE B	β	Bivariate R	$\Delta R^2$	В	SE B	β
Step 1 – Demographics		.03***					.02***			
Race (standardized)	.16***		.22	.04	.15***	.09***		.17	.05	.09**
Age	07**		08	.03	07*	09***		13	.04	09**
Father Status	.06*		.04	.05	.03	.002		04	.06	02
Step 2 – Independent Variable		.002					.001			
Father Involvement	.05*		.05	.03	.05	02		05	.03	04
		.000								
Step 2 – Moderator								.000		
Race X Father Involvement	-0.02		03	.04	02	.01		.03	.05	.02
Total R <sup>2</sup>			.03					.02		
Adjusted R <sup>2</sup>			.03					.01		

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

Table 5:

#### DISCUSSION

In this study, I examined the association between father involvement and sexual risk behaviors in adolescent girls and whether father involvement in adolescence would predict sexual risk behaviors in emerging adulthood. This longitudinal design was particularly important since most studies in this area used cross sectional designs. Results from this study indicate concurrent associations, longitudinal associations and racial differences.

#### Concurrent association of father involvement and sexual risk

The first hypothesis was that fathers' involvement with their daughters in adolescence would be negatively associated with sexual risk behaviors for adolescent girls. This hypothesis was supported. For adolescent girls, fathers being more involved was associated with less number of sexual partners and more condom use. However, father involvement was different in each father status group, with resident biological fathers being more involved than either resident non-biological fathers or non-resident biological fathers. This may indicate a tendency for biological fathers living in the home to be more engaged with their children than a nonbiological father would be. It also indicated that resident non-biological fathers may be more involved with their children than a non-resident biological father would be. This may be indicative of being in the home with the child which would make regular interactions more likely than a non-resident father having to schedule time. The study also found having a non-resident biological father is associated with less condom use and more sexual partners in adolescence. Findings from this study are in accordance with research that has found that father involvement has positive effects on externalizing behaviors (Jeynes, 2014), and that absent fathers, is associated with a greater number of sexual partners (Cleveland & Gilson, 2004). It may therefore

prove beneficial to have more interventions focusing on increasing and improving the involvement of biological fathers who do not live with their daughters.

#### Longitudinal association of father involvement and sexual risk

The second hypothesis was that father involvement in adolescence would be associated with sexual risk behaviors in emerging adulthood. This hypothesis was also supported, but only for number of sexual partners. Having a more-involved father in adolescence predicted less number of sexual partners in emerging adulthood for women. These findings are also in accordance with the literature. Research has found that for females, interactions with fathers affects intimate relationships into adulthood (Flouri, 2001; Leonard, 1998; Panter-Brick et al., 2014). These findings may also indicate a secure attachment being formed between the adolescent girl and her father, resulting in healthy sexual attitudes and safe-sex beliefs (Dempster et al., 2015; Sprecher, 2013). Interventions around helping fathers to not just engage with their adolescent daughter, but also discuss sex and sexual attitudes may prove beneficial in helping these girls to form healthy sexual beliefs that affect their sexual behaviors.

## Race as a moderator of concurrent and longitudinal associations between father involvement and sexual risk behaviors

The third and fourth hypotheses of this study examined race as a moderator of thee interaction between father involvement and sexual risk behaviors. There was no significant racial difference in the association between father involvement and either condom use or number of sexual partners in adolescence.

With regards to racial differences in father involvement in adolescence predicting sexual risk behaviors in emerging adulthood, this hypothesis was not supported. Father involvement in adolescence predicting sexual risk behaviors in emerging adulthood was not stronger for Black

girls than for White. The findings of this study regarding racial differences in the association between father involvement is contrary to research which found a stronger association between father closeness and sexual risk behaviors for non-White than for white adolescent females (Alleyne-Green et al., 2016). This difference between the studies may be due to the Alleyne-Green et al. study not differentiating between non-white races. Another difference in the studies that may account for our differing results is how our variables were operationalized. Alleyne-Green et. al. only looked at father closeness and contraceptive use, while this study looked at father involvement comprising closeness and activities. This study also looked at different group of sexual risk behaviors, number of partners and condom use.

#### Limitations

The current study added valuable research to the literature on the ability of father involvement to predict sexual risk behaviors for girls in adolescence and in emerging adulthood, but there were some limitations in this study. Firstly, this study relied on data that were all selfreported. It may have been more beneficial to have both self-reported and parent- reported data on father involvement. This may provide a more accurate measure of father involvement than just self-reported information from either the child or the parent. Another limitation is the measure of father involvement is this study, in that participants only reported if they had engaged in select activities with their father, but not the frequency of these activities. Although there were questions asking the frequency of contact with non-residential biological fathers, there was no question that measured the frequency of engagement with residential fathers. This is problematic as fathers may be present in the home but spend little time engaging with their children. Also, the activities engaged in may have happened once over a very large period of time, but this also was not measured. A third limitation is that with the wide range of variables in the parent study, this

research may have omitted variables, such as questions around contraceptive use and age of sexual debut, that may have been able to add to the understanding of the association between father involvement and sexual risk behaviors. A fourth limitation of this study was the relatively smaller sample size of Black girls compared with the much larger sample size of White girls. This may have affected the ability of this study to find racial differences. Another limitation regarding race is that this study used data that oversampled for Blacks adolescents with parents having a higher education. This may have resulted in a unique sample, and not necessarily represented sample of Blacks. Finally, the sexual nature of the questions asked of participants and the fact that these were also self-reported data, may have resulted in participants giving less than accurate responses due to social desirability.

#### **Future Research**

The findings of this study indicate that father involvement does predict sexual risk behaviors in adolescent females. It would therefore be beneficial to further investigate an operational definition of father involvement that included both parent and child data, as well as a more accurate measure of frequency of involvement. Additional research is also needed to investigate if there is a similar association for adolescent males. With the change in the structure of families, it may be valuable for future research to investigate homes with two mothers, whether lesbian couples or extended families to see if this predictive ability may be more about two parents, rather than a father. A study by Silverstein and Auerbach (1999) found that different variations in family structures can provide positive benefits for children. Silverstein and Auerbach (1999) also posited that it was not necessarily essential to have a mother and a father, but that children need to have at least one emotionally available and interactive parent to support

positive outcomes. Further research is also needed on possible racial difference, using Different methodologies and also looking at races other than Black or White.

This study has added to the growing body of research on fathers and their role in families and development. It has shown the importance of involved fathers and how involvement affects the sexual development of the daughters. It also illustrates that this link continues into adulthood, showing that interactions with parents in adolescence continues to affect individuals even into adulthood.

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