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The Role of Religious Socialization and Religiosity in African American and Caribbean Black Adolescents' Sexual Initiation

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Abstract

This study determined the nature of the associations between religious socialization, religiosity, and adolescent sexual initiation. Data originated from the National Survey of American Life-Adolescent ($n = 1170$), a nationally representative study of black adolescents. Factor analysis, structural equation modeling, and logistic regression were used to evaluate hypotheses. Results indicated that as black adolescents received more messages about religious beliefs and practices, their religiosity was greater and, in turn, they were less likely to report sexual initiation; findings varied by ethnicity, gender, and age. Findings contribute to understanding religious socialization and its association with sexual initiation.

Keywords

Religious socialization; Religiosity; Black adolescents; Sexual initiation

Introduction

Despite adolescent sexual initiation (i.e., first sexual intercourse occurring during adolescence) being culturally normative among adolescents in the USA, sexual activity

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Conflict of interest The authors declare that they have no conflict of interest.

Human and Animal Rights All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. For this type of study, formal consent is not required.

Informed Consent Informed consent was obtained from all individual participants included in the original study.

during adolescence, regardless of timing, is thought of as age inappropriate and developmentally risky (Golden 2006; Madkour et al. 2010). Adolescent sexual initiation is associated with a host of health issues, including more lifetime sexual partners, increased substance use, negative mental health outcomes, and infrequent condom use, in addition to an increased risk of Human Immunodeficiency Virus (HIV) and sexually transmitted infections (STIs) (Epstein et al. 2014; Madkour et al. 2010; Sandfort et al. 2008). Compared to white and Latino adolescents, black adolescents initiate sex at earlier ages (Cavazos-Rehg et al. 2010). Several factors influence adolescent sexual initiation; one such factor is religiosity. Given that black adolescents are among the most religiously active adolescents in the USA (Gooden and McMahon 2016; Smith 2003), this study seeks to examine the associations between religious socialization, religiosity, and sexual initiation among a nationally representative sample of black adolescents.

Adolescent Religiosity

Religiosity is a complex multidimensional construct that is operationalized and measured in a number of ways (DeHaan et al. 2011; Williams 1994). Despite differences regarding the typology of religiosity, scholars agree that religiosity consists of a number of dimensions including: religious organization participation, spirituality, extrinsic religiosity, spiritual struggle, and religious coping (Allport and Ross 1967; Hill and Pargament 2008; Krause et al. 2001; Pargament et al. 2001; Smith and Denton 2005). A substantial body of literature investigates the associations between various dimensions of religiosity, most notably frequency of religious organization participation, and adolescent sexual, substance use, and general risk behaviors (Barton et al. 2014; Lefkowitz et al. 2004; Nonnemaker et al. 2003). However, findings on the influence of religiosity on adolescent sexual health behaviors are inconsistent, indicating that religiosity may protect against, or be a risk factor for, unsafe sexual practices (Landor et al. 2011; Lefkowitz et al. 2004; Miller and Gur 2002; Zaleski and Schiaffino 2000). These inconsistencies may reflect a need to better understand the sociocontextual processes undergirding associations between religiosity and sexual behaviors, particularly with regards to religious socialization.

Religious Socialization

Religious socialization is the process through which an individual learns and internalizes religious beliefs, attitudes, values, and behaviors (Bengtson et al. 2009; Brown and Gary 1991). This process occurs through interactions with socializing agents, including parents, religious organizations, and peers (Clausen et al. 1968; Landor et al. 2011). Although not well-studied in sexual health research, religious socialization is positively associated with educational attainment (Brown and Gary 1991) and a healthier psychological well-being (Butler-Barnes et al. 2017; Gutierrez et al. 2014). Religious socialization is understood to begin during childhood; however, empirical evidence suggests that religious socialization is a lifelong process with adolescence being a critical period for it to occur (Bengtson et al. 2009; Flor and Knapp 2001).

Research on the role of family in religious socialization has been conducted with white samples, and findings indicate that parents are the primary agents of religious socialization for their children (Gutierrez et al. 2014; Landor et al. 2011). The processes outlined in these

studies may differ for black adolescents given the centrality of religiosity in black culture and history (Gutierrez et al. 2014); and the composition of black families. For black adolescents, extended family members (e.g., aunts, uncles, and grandparents) may also be agents of religious socialization (Bengtson et al. 2009; Taylor et al. 2013). Research on religious socialization beyond parents is limited. Nonetheless, the inclusion of extended family members is warranted in investigations of black adolescent religious socialization.

Ethnicity, Adolescent Religiosity, and Sexual Health Behaviors

Assumptions about the homogeneity of black Americans are a limitation and do not recognize the varying beliefs, and cultural norms that exist within black subpopulations (Oppenheimer 2001; Williams 1997). Recognition of this variation has implications for understanding religious socialization and religiosity. Although differences in dimensions of religiosity have been documented for Caribbean black and African American adults (Chatters et al. 2009; Waters 2001), little is known about religiosity among Caribbean black adolescents. In the USA, Caribbean blacks are the largest subgroup of black immigrants (Census 2011; Kent 2007). Further, foreign-born black adults and adolescents comprise a significant proportion of new HIV diagnoses in the USA, with the majority being born in the Caribbean (Johnson et al. 2010). Despite marked differences in HIV incidence, we have limited knowledge on Caribbean black adolescent sexual initiation (Ojikutu et al. 2013).

Gender, Adolescent Religiosity, and Sexual Health Behaviors

Gender differences in adolescent religiosity and sexual health behaviors are well documented. Adolescent girls, more than boys, find religion to be a mainstay in their lives—frequently attending religious organizations, praying, and reading religious texts (King and Roeser 2009; Smith and Denton 2005). Additionally, gender differences in adolescent sexual initiation are supported in the literature suggesting that boys initiate sex at earlier ages than girls (Cueto and Leon 2016; Cuffee et al. 2007). Two common perspectives addressing gender differences in religiosity and adolescent sexual initiation are: (1) gender role norms in which girls, compared to boys, are socialized to avoid risk and are thus less likely to experience conflict with religious messages that promote moral obedience and abstinence; and (2) differential parental monitoring which emphasizes religious organization participation for girls more so than boys and more monitoring of girls' behaviors and peer networks (Ethier et al. 2016; Smith et al. 2002).

Purpose

The purpose of this study is to determine if religious socialization and religiosity are associated with sexual initiation among black adolescents. We use social control theory (SCT) and empirical evidence to frame our research hypotheses. SCT has been used in previous studies of religiosity and adolescent health, including sexual risk behaviors, substance use, and anti-social behaviors (Kim-Spoon et al. 2015; Simons et al. 2016). According to SCT, the likelihood of committing a deviant act increases when an individual's bonds to a group are weak or broken (Hirschi 1969). For adolescents, family bonds reinforce non-deviant roles and values (Reiss 1951). Religious socialization by family members not only reinforces the transmission of religious beliefs, but it also embeds adolescents into

conservative moral contexts (Gutierrez et al. 2014; Smith and Denton 2005). In the present study, we operationalize religiosity as the by-product of religious socialization from parents and extended family members. We posit that this socialization is reinforced through dimensions of religiosity in ways that diminish the likelihood of adolescent sexual initiation. As an overarching research aim, we seek to determine the measurement properties of a multidimensional measure of black adolescent religiosity.

Black adolescents with higher levels of religious socialization are expected to have higher religiosity and, in turn, are expected to be less likely to report sexual initiation than black adolescents with less religious socialization (Hypothesis 1). The structural relationships between religious socialization, religiosity, and sexual initiation are expected to be stronger for black adolescent girls than for boys (Hypothesis 2). The structural relationships between religious socialization, religiosity, and sexual initiation are expected to differ for African American and Caribbean black adolescents (Hypothesis 3).

Methods

Participants and Procedure

Data for this study were from African American and Caribbean black adolescents who had a parent or guardian who was a respondent in the National Survey of American Life (NSAL). The NSAL is part of the National Institute of Mental Health Collaborative Psychiatric Epidemiology Surveys initiative (Pennell et al. 2004). The NSAL is a nationally representative survey of African American, Caribbean black, and non-Hispanic white adults. The NSAL sample was based on a multi-stage area probability sample using a stratified and clustered sample design (Jackson et al. 2004). The survey gathered information about the physical, emotional, mental, structural, and economic conditions of black American adults and their families (Jackson et al. 2004). Data were collected from February 2001 to June 2003.

The NSAL adolescent sample was drawn from households that included an adult participant and an eligible adolescent living in the household (Heeringa et al. 2004). Adolescents were selected to participate in the study using a random selection procedure. If more than one adolescent resided in the household, up to two adolescents were selected to participate. The adolescent supplement was weighted to adjust for non-independence in selection probabilities within households, as well as non-response rates across households and individuals. The weighted data were post-stratified to approximate the national population distributions for gender and age (13, 14, 15, 16, and 17 years) subgroups among African American and Caribbean black adolescents. The overall response rate was 80.6% (80.4% African American and 83.5% Caribbean black) (Joe et al. 2009). The original adolescent sample consisted of 1193 participants; however, 23 participants were removed because they were 18 or older during their interview. Details of the sampling design used to create the NSAL adolescent sample can be found elsewhere (Heeringa et al. 2004).

All interviewers were trained at the Institute for Social Research at the University of Michigan at Ann Arbor. Interviewers completed four training sessions over 14 months. Prior to the interview, informed consent was obtained from the adolescent's legal guardian and

assent from the adolescent. Interviews were conducted face-to-face using a computer-assisted instrument. Approximately 18% of the interviews were administered via telephone. The African American interviews were slightly shorter than the Caribbean black adolescent interviews at 1 h 40 min and 1 h 50 min, respectively. Respondents were compensated \$50.

Measures

Sexual initiation—Sexual initiation was assessed by, “Have you ever had sex?” Sexual initiation was coded 0 (“no sexual initiation”) and 1 (“had a sexual encounter”).

Religious socialization—Religious socialization was assessed using two items, “How often do your parents or the people who raised you talk with you about religion?” and “Not including your parents or the people who raised you, how often do other close relatives such as your brothers, sisters, aunts, uncles, and grandparents talk with you about religion?” These two questions were measured using a Likert response scale consisting of responses ranging from 1 (“very often”) to 5 (“never”). Response categories were reversed so that higher scores represented more religious socialization. Responses were combined to create a religious socialization variable. Pearson correlation was 0.87.

Religiosity—Religiosity is a higher-order variable measured by 17 indicators. Exploratory and confirmatory factor analysis was used to develop a parsimonious measure of religiosity. Items were used to measure organizational religious participation (5 items), non-organizational religious participation (5 items), subjective religiosity (2 items), religious guidance (2 items), and religious support (3 items). Sample questions (see Table 2) include “How important is religion in your life?” The Likert response scale consisted of responses ranging from 1 (“very important”) to 4 (“not important”) or from 1 (“nearly every day”) to 6 (“never”). Factor analyses revealed a multidimensional construct with 10 items and 4 factors (process described in detail below). We aggregated factor scores for each dimension of religiosity to make a composite religiosity index that accounts for global religiosity for each adolescent. Cronbach’s α was 0.89.

Several sociodemographic variables that potentially confound the proposed relationships were controlled for in our analyses. These variables included family income, mother’s education, parent’s nativity, and ethnicity.

Analysis Strategy

Analyses were conducted on weighted data. All analyses adjusted standard errors, confidence intervals, and significance tests to account for the complex sample design of the NSAL. Path analysis was used to test for mediation (MacKinnon 2008). We used religiosity scores and standardized scale scores for religious socialization in regression models, and modeled household income, ethnicity, mother’s education, and parent nativity as control variables. Moderated-mediation tests were used to test whether the mediated relationship varied by ethnicity, gender, or age (Preacher et al. 2007; Kline 2015). The variable with the greatest number of missing values was mother’s education, which was missing for 42% of the sample. Multiple imputation procedures were used to address missing data in all regression models that included mother’s education. We specified 40 imputations, as this is

the accepted number of imputations needed to adequately represent 40–50% missing information (Graham et al. 2007; White et al. 2011). Missing data for the outcome variable was approximately 4% and thus did not necessitate the use of multiple imputations. Data analyses were performed in Mplus 7.4 using maximum likelihood estimation with robust standard errors estimator (Muthén and Muthén 2007).

Factor Analysis

Exploratory factor analysis (EFA) was used to determine the most plausible factor structure for the dimensions of religiosity and the best performing items to retain. A scree plot was used as a starting point to determine the number of factors for extraction (DeVellis 2012). Factors were retained based on the following criteria: (1) interpretability, or the extent to which items in the same factor are tapping into the same theme (i.e., a dimension of religiosity); (2) significance of factor loadings, only items with factor loadings that are significant at $p < 0.05$ across most factor solutions are retained; and (3) goodness of fit. We used EFA to identify each dimension, and removed items based on the above criterion and model fit statistics. Decisions about model fit were made based on the following commonly used indices and their cutoffs for good fit: (1) A root-mean-square error of approximation (RMSEA) that is 0.08 or less; (2) A Tucker-Lewis (TLI) and Comparative Fit (CFI) that are 0.90 or greater; and (3) the normed χ^2 (NC), the ratio of χ^2 to degrees of freedom, NC ratio < 2 (Hooper et al. 2008; Kline 2015). Model fit indices were used to make decisions about what parameters to retain from the model; however, theoretical and conceptual knowledge of religiosity were the final deciding factor when selecting what items to retain. Second-order confirmatory factor analysis (CFA) was used to determine the validity of the factor structure from EFA, and to test the hypothesized structure of religiosity. CFA was used to establish a baseline model for religiosity in the total sample of black adolescents. Model fit indices were evaluated using the aforementioned cutoff criteria. We also reviewed modification indices, and generated factor score estimates for each factor.

Measurement Invariance

Tests for measurement invariance were conducted to determine if our measure of religiosity could be used across the four ethnicity-gender subgroups. First, we tested for configural invariance, a model in which the latent variables are constrained to be equal across the four subgroups. Second, we tested for weak factorial invariance, which tests a model in which the factor loadings are equivalent across subgroups. Third, we tested for strong factorial invariance, which restricts item intercepts to be equivalent across subgroups. Tests for weak factorial invariance in the first-order factors did not result in a proper solution, despite the configural and strong factorial invariance models being supported. As such, we did not test for weak factorial invariance in the second-order CFA model. Due to the complexity of testing measurement invariance in a second-order CFA model, we first tested invariance in the first-order factors, generated factor scores from these first-order factors, and used the factor scores to test for invariance in the second-order factor, religiosity. Model fit was evaluated using Akaike information criterion (AIC) and Bayesian information criterion (BIC) at each stage; lower AIC and BIC values indicated better model fit (Schwarz 1978). We started with the configural model and then moved to more restrictive models thereafter. Chi-square difference tests were conducted to determine if the equality constraints added to the

new model caused a significant decrement in model fit. A statistically significant ($p < 0.05$) Chi-square value indicated that the newest model had a significantly poorer fit than the previous model.

Results

Table 1 shows the sample characteristics. The overall sample was 1170 African American ($n = 810$) and Caribbean black ($n = 360$) adolescents. The mean age of the sample was 15.03 ± 1.42 years. The majority of the sample identified their religious denomination as Protestant (71%). Approximately 35% of the sample had initiated sex by the time of the survey.

Religiosity

The scree plot suggested a five-factor solution. Examination of factor loadings from the EFA showed that all items had positive loadings. Additionally, two items had non-significant factor loadings across factor solutions, and these items were dropped. After assessing the interpretability of various factor structures, we decided the four-factor solution consisting of organizational religious participation, non-organizational religious participation, subjective religiosity, and religious support, was the most interpretable and thus we dropped the religious guidance factor. We then re-ran the EFA for each factor to arrive at the best fitting model before running a second-order CFA. Five additional items were removed because they failed to load significantly on the higher-order factor. Results from the second-order CFA are presented in Table 2. The standardized factor loadings were relatively high across all factors (0.66–0.99). All factor loadings for the final items were significant at $p < 0.05$. Modification indices did not reveal any plausible correlated errors; therefore, correlated errors were not added to the final model. Overall, the final second-order religiosity model consisted of 10 items measuring four first-order factors, each an indicator of the second-order construct, religiosity. The final model demonstrated excellent fit based on a priori model fit cutoff points, $\chi^2(45) = 92.964$, $p = 0.000$, CFI = 0.990, TLI = 0.986, RMSEA = 0.041 RMSEA 90% CI [0.032, 0.051].

Tests for measurement invariance revealed that religiosity had strong factorial invariance. Table 3 shows the model fit indices and results from measurement invariance testing across the four ethnicity-gender subgroups. We tested measurement invariance in organizational religious participation and religious support factors first, and then tested for invariance in the second-order religiosity model where items for organizational religious participation and religious support loaded directly onto the second-order religiosity construct, along with the non-organizational religious participation and subjective religiosity factors. We used AIC, BIC, and Chi-square difference tests to evaluate model fit.

Logistic Regression

Standardized results from the multivariate models predicting sexual initiation from religious socialization and religiosity are presented in Fig. 1. The multivariate models were adjusted for sociodemographic variables (ethnicity, household income, mother's education, and parent nativity). Black adolescents with more religious socialization reported greater

religiosity ($b = 0.40, p = 0.02$), and in turn were less likely to report sexual initiation ($b = -.19, p = 0.00$). Restated, black adolescents with greater religiosity had 2.58 odds of not reporting sexual initiation, while adolescents with lesser religiosity had a 1.15 odds of not reporting sexual initiation. The direct effect of religious socialization on sexual initiation, controlling for religiosity, was not significant ($b = 0.07, p = 0.174$). The total effect of religious socialization on sexual initiation was significant ($b = -.002, p = 0.04$), suggesting that the relationship between religious socialization and sexual initiation was completely mediated by religiosity.

Tests for moderated-mediation by gender, ethnicity, and age are presented in Table 4 and indicated moderation. Gender moderated the relationship between religious socialization and religiosity such that the relationship between religious socialization and religiosity was stronger for black adolescent girls than for boys ($b = 0.06, p = 0.00$). Gender also moderated the relationship between religiosity and sexual initiation indicating that the relationship was stronger for adolescent boys than girls ($b = -0.90, p = 0.00$). Ethnicity moderated the relationship between religious socialization and religiosity ($b = -.21, p = 0.00$), indicating that the effect of religious socialization on religiosity was stronger for African American adolescents than for Caribbean black adolescents. Ethnicity did not moderate the relationship between religiosity and sexual initiation ($b = -.04, p = 0.42$). Age moderated the relationship between religious socialization and religiosity such that the relationship between religious socialization and religiosity was stronger for older adolescents than for younger adolescents ($b = 0.99, p = 0.00$). Age also moderated the relationship between religiosity and sexual initiation indicating that the relationship was weaker for older adolescents than for younger adolescents ($b = -0.63, p = 0.00$).

Discussion

Building on empirical and theoretical evidence, we used data on black adolescents ($n = 1170$) to examine three key hypotheses. The results indicate an association between religious socialization, religiosity, and sexual initiation and this association varies by particular background factors. Tests for measurement invariance support the use of one religiosity measure across the four ethnicity-gender subgroups in the study sample. Our results provide support for using social control theory to examine the associations between religious socialization, religiosity and sexual initiation. Specifically, religious socialization is a process that fosters the adoption of religiosity which endorses certain norms and values that, in turn, delay adolescent sexual initiation. Our findings for the direct association between religious socialization and sexual initiation is supported in the literature—family interactions can help shape adolescents' values and attitudes consistent with delayed adolescent sexual initiation (Ethier et al. 2016). Further, our measure of religious socialization supports considering extended family members as agents of religious socialization for black adolescents.

Existing models of religious socialization describe a process that accounts for message content and reciprocal exchanges between adolescents and socializing agents. Although our two-item measure demonstrated strong internal reliability, it did not account for the content or quality of religious messages. Knowing the content may reveal if messages endorsed

certain dimensions of religiosity more or encouraged abstinence, which may provide insight into the underlying processes of religious socialization. An important next step would be to expand our measure to include message content and some metric of message quality.

Our findings also draw attention to gender differences in the associations between religious socialization, religiosity, and sexual initiation. Gender differences in religiosity and sexual risk-taking may be partially attributable to differences in gender role norms and socialization. Our findings suggest two additional plausible explanations for why the association between religiosity and sexual initiation is stronger for adolescent boys compared to girls. First, extant literature examining gender differences in religious socialization and religiosity emphasizes religious organization participation. These practices may be out of the control of the adolescent, and girls may be encouraged to participate in these activities more than boys (Miller and Hoffmann 1995; Hunt 2013). However, the measure in this study also assessed internal components of religiosity—beliefs and practices that move beyond religious organization participation—which may more accurately depict the religious perspective of black adolescents. Second, adolescent girls receive more frequent pro-religious messages that may be more diffusely applied to every aspect of their life (Ingersoll-Dayton et al. 2002). For adolescent girls, the frequency and universality of pro-religious messages may dilute their salience. In contrast, adolescent boys are generally socialized to be less religiously active (Smith and Denton 2005). As such, when opportunities arise for religious socialization, adolescent boys may receive more messages that directly connect religiosity to delayed sexual initiation. It may also be the case that adolescent girls are more likely to receive secular messages about abstinence, while adolescent boys are expected to experiment and initiate sexual activity.

Tests of moderation by ethnicity showed that the association between religious socialization and religiosity was weaker for Caribbean black adolescents than for African American adolescents. Given the paucity of research on Caribbean black adolescents, it is difficult to assess whether these findings are novel. Research on African American and Caribbean black adults suggest that religiosity is stronger for African American adults than Caribbean black adults (Chatters et al. 2009; Waters 2009). Perhaps, our findings support similarities between parent and adolescent religiosity (Barton et al. 2014), and therefore the expectation is for religiosity to be stronger for African American adolescents than Caribbean black adolescents. Another plausible explanation for ethnic differences may be due to differences in religious tradition and exposure to certain socializing agents. African American religious tradition has historically been involved in advocating for human and civil rights, and is recognized as a central component of African American cultural identity (Lincoln and Mamiya 1990). Caribbean black adolescents may not experience this particular racial-religious narrative, which may alter the attachment of pro-religious messages to religiosity. Nevertheless, observed differences underscore the importance of accounting for ethnic heterogeneity among black adolescents in studies of sexual initiation.

Tests of moderation by age are consistent with the literature. The more years of religious socialization an adolescent receives (i.e., older age), the more religiosity they will exhibit (Bengtson et al. 2009; Cornwall 1989). Our finding that the association between religiosity and sexual initiation was weaker for older adolescents was expected as older adolescents are

more likely than younger adolescents to be exposed to situations and opportunities (e.g., dating and reduced parental monitoring) to initiate sexual activity (Yonker et al. 2012). Under these conditions, other cultural and developmental norms, such as premarital sex, may become more socially permissive and normative. An important next step is to determine the temporality of this relationship, and if there are certain aspects of religiosity that should be emphasized at a particular age.

Several limitations should be noted when interpreting findings. Structural equation modeling implies directionality that, when using cross-sectional data, warrants a conservative lens to interpreting findings. As such, it is not unreasonable to expect sexual behavior to influence either religious socialization or religiosity. This study may not be generalizable to the larger Caribbean black population. Significant diversity exists between Caribbean countries, and in immigrant communities in the USA. This diversity poses a challenge for understanding differences in adolescents' levels of acculturation that may operate to maintain or diminish cultural norms, and subsequently have an effect on the measured constructs. Much of the importance of religiosity among black adolescents is attributed to involvement with the Black Church. Our study did not measure exposure to the Black Church which may be a limitation; however, information on denominational affiliation indicates that most African Americans in our study belonged to historically black denominations and congregations, while Caribbean Blacks were members of congregations comprised of immigrants. Another limitation is that we assessed sexual initiation by asking adolescents if they ever had sex. Although, adolescents had an opportunity to request clarification, and other items assessed sexual intercourse, not clarifying sexual intercourse for this question is a limitation. Lastly, there are other factors associated with black adolescent sexual behavior that were not measured in this study (e.g., sexual orientation and relationship status). Such factors are important to the study of black adolescent sexual initiation to the extent that they may be confounders. Despite these limitations, this study contributes to the literature on religious socialization, religiosity, and sexual initiation.

This study offers new insight into how religious socialization, vis-à-vis dimensions of religiosity, is associated with black adolescent sexual initiation. Study findings on how these relationships vary by background factors like gender, ethnicity, and age are equally important for research and practice efforts to delay adolescent sexual initiation among black adolescents. These findings also contribute to the larger discussion of faith-based and faith-placed public health interventions (Campbell et al. 2007; DeHaan et al. 2011). Specifically, study findings demonstrate the protective roles of religious socialization and religiosity in delaying sexual initiation and support the inclusion of both religious organizational involvement (faith-placed) and religious contextualization (faith-based) in interventions to delay adolescent sexual initiation among black adolescents. Finally, due to conservatism and stigma, black churches are often resistant and ambivalent about addressing issues of sexual abstinence (Coyne-Beasley and Schoenbach 2000; Woods-Jaeger et al. 2014), although some have begun discussions of sexual health with their adolescent and adult congregants (Isler et al. 2014; Stewart and Thompson 2015; Woods-Jaeger et al. 2014). It is important to acknowledge that stigmatizing messages about sexuality from faith communities may leave adolescents ill-equipped to negotiate and make decisions in sexual situations. These observations suggest that in addition to incorporating religiosity and religious socialization

elements, faith-based and faith-placed interventions should incorporate developmentally appropriate and non-stigmatizing content focused on adolescent sexual health.

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Fig. 1. Mediation model between religious socialization, religiosity, and sexual initiation. *Note* * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1

National Survey of American Life-Adolescent Sample Characteristics, $n = 1170$ African American and Caribbean Black Adolescents

Variable	Total %
Ethnicity	
African American	69.2
Caribbean Black	30.8
Gender	
Male	47.6
Female	52.4
Education grade level	
5th–8th	25.6
9th	23.2
10th	21.5
11th	16.0
12th +	13.7
Religious denomination	
Protestant	71.1
Catholicism	10.9
Judaism	0.09
Eastern	0.09
Other	6.1
No religious preference/no religion	7.9
Don't know/refuse	3.8
Adult respondent's household income	
\$0–\$17,999	27.2
\$18,000–\$31,999	23.9
\$32,000–\$54,999	28.6
\$55,000	20.3
Mother's education	
< High School	13.2
High school graduate/GED	26.8
Some college	10.8
College graduate+	7.4
Adult respondent's nativity	
Born in the USA	60.4
Born outside the USA	39.6

Table 2

Confirmatory factor analysis results for the final religiosity model

Factor and item	Factor loading
<i>Organizational religious participation</i>	0.77
How often do you usually attend religious services?	0.75
Do you do things like sing in the choir, read scripture or other things like that during service?	0.75
Besides regular service, how often do you take part in other activities in your place of worship?	0.80
<i>Non-organizational religious participation</i>	0.99
How often do you read religious books or other religious materials?	0.68
How often do you listen to religious music?	0.66
<i>Subjective religiosity</i>	0.80
How important is religion in your life?	0.92
How important is prayer when you deal with stressful situations?	0.75
<i>Religious support</i>	0.70
How often do people in your place of worship make you feel loved and cared for?	0.84
How often do people in your place of worship listen to you talk about your private problems and concerns?	0.73
How often do people in your place of worship express interest and concern in your wellbeing?	0.82
Dropped items	
Do you go to religious services because you want to, or because your (parents/guardians) make you?	
Do you go to these other activities because you want to or because your (parents/guardians) make you go?	
How often do you watch or listen to religious programs on TV or radio?	
How often do you pray?	
How often do you ask someone to pray for you?	
Would you say your religion provides some guidance in your day-to-day living?	
How religious would you say you are?	

Note. Bolded factor loadings indicate loadings on the second-order construct, religiosity; all factor loadings are standardized

Table 3

Measurement invariance tests for religiosity

	Configural factorial invariance			Strong factorial invariance				
	AIC	BIC	Chi-Square Value	AIC	BIC	Chi-Square Value	– 2LL	– 2L L <i>p</i> value
Organizational religious participation	10,552.20	10,693.93	359.71	10,545.44	10,656.81	348.78	10.93	0.090
Religious support	9480.17	9613.713	357.01	9472.67	9576.53	367.47	10.43	0.108
Religiosity	14,056.39	14,253.85	257.95	14,047.33	14,184.03	270.39	12.44	0.053

For model comparisons, the model tested in strong factorial invariance is more restrictive than, and is nested within, the model tested in configural factorial invariance. “Religiosity” indicates that tests were conducted on the second-order religiosity model where the first-order factors and items load directly onto the second-order construct, religiosity. *AIC* Akaike information criterion, *BIC* Bayesian information criterion; lower AIC and BIC values indicate better model fit. – 2LL = Log-likelihood, a non-significant *p*-value ($p > 0.05$) indicates that the constrained model is preferred

Table 4

Main regression effects and moderated-mediation effects on sexual initiation

	Model 1 (Main effects)		Model 2 (Gender)		Model 3 (Ethnicity)		Model 4 (Age)	
	β	<i>P</i> value	β	<i>P</i> value	β	<i>P</i> value	β	<i>P</i> value
Effects on religiosity	0.40	0.02	0.06	0.00	−0.21	0.00	0.99	0.00
Ethnicity	0.09	0.081	−0.03	0.16	0.02	0.03	−0.02	0.47
Household income	0.01	0.89	0.37	0.00	−0.01	0.96	−0.04	0.20
Mother's education	0.12	0.05	−0.07	0.03	0.13	0.01	0.01	0.81
Parent nativity	0.18	0.00	0.01	0.02	0.42	0.04	−0.01	0.69
Effects on sexual initiation	0.07	0.17	−0.90	0.00	−0.04	0.42	−0.63	0.00