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## Church Attendance as a Predictor of Number of Sexual Health Topics Discussed among High Risk HIV Negative Black Women

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### Abstract

Research suggests that sexual health communication is associated with safer sex practices. In this study, we examined the relationship between church attendance and sexual health topics discussed with both friends and sexual partners among a sample of urban Black women. Participants were 434 HIV negative Black women who were at high risk for contracting HIV through heterosexual sex. They were recruited from Baltimore, Maryland using a network-based sampling approach. Data were collected through face-to-face interviews and Audio-Computer-Assisted Self-Interviews (ACASI). Fifty-four percent of the participants attended church once a month or more (regular attendees). Multivariate logistic regression analyses revealed that regular church attendance among high-risk HIV negative Black women was a significant predictor of the number of sexual health topics discussed with both friends (AOR = 1.85,  $p = .003$ ) and sexual partners (AOR = 1.68,  $p = .014$ ). Future efforts to reduce HIV incidence among high-risk Black women may benefit from partnerships with churches that equip faith leaders and congregants with the tools to discuss sexual health topics with both their sexual partners and friends.

### Keywords

Sexual health communication; church; religion; sexual risk reduction; HIV

### Introduction

Hall and colleagues (2008) noted that heterosexual contact accounts for approximately one-third of new HIV diagnoses in the United States annually. Black women are disproportionately affected by HIV infection in the U.S. In 2011, Black women accounted for nearly two thirds (63%) of all estimated new HIV infections among women, while only accounting for 13% of the female population (CDC, 2012a). The rate of new HIV infections for Black women is 20 times higher than the rate for white women (CDC, 2012b). Furthermore, HIV was the 4<sup>th</sup> leading cause of death for Black women aged 15 to 64 at the

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end of 2010 (CDC, 2013). Thus, there is a clear need for HIV risk reduction strategies among Black women.

Sexual health communication, which refers to the ability to talk about sexual issues with another person, is associated with safer sex, (Catania, Coates, Kegeles, Fullilove, Peterson et al. 1992; Noar, Carlyle, & Cole, 2006; Sheeran, Abraham, & Orbell, 1999), which may translate into reduced incidences of HIV. Although nearly 60% of Black women report regular church attendance (Pew Research Forum on Religion & Public Life, 2009), the relationship between church attendance and sexual communication has not been explored. The current study seeks to fill the existing gap in the literature by examining the relationship between church attendance and sexual health topics discussed with both sexual partners and friends among a sample of high-risk HIV negative Black women. For the purposes of this paper, high risk HIV negative women are classified as women who had more than two sex partners in the past 6 months or had a high risk sex partner in the past 90 days (e.g., a male partner who injected heroin or cocaine, smoked crack, is HIV seropositive, or who had sex with a man). A clearer understanding of the additional factors that promote sexual health communication will support the development of more tailored intervention approaches to reduce HIV risk among this group of women.

### **Sexual Health Communication with Sexual Partners and Peers**

In the current study, sexual health communication was defined as talking with partners or friends about specific topics including condoms, testing for sexually transmitted infections (STIs, including HIV) as well as the local STI rates. There is a plethora of empirical evidence outlining the importance of sexual health communication with partners on decreased sexual risk-taking. For example, studies have consistently pointed to the role of sexual health communication in increasing and encouraging condom use among sexual partners (e.g., Bird, Harvey, Beckman, & Johnson, 2011; Noar, Morokoff & Redding, 2002; Sheeran et al, 1999). Discussions about sexual histories, STI (including HIV) status and testing have also been shown to affect sexual risk-taking (DiIorio, Dudley, Lehr, & Soet, 2000; Quina, Harlow, Morokoff, Burkholder & Deiter, 2000). Taken together, these data suggest that verbal communication between sexual partners about sexual health topics is an essential element to HIV risk reduction efforts.

Sexual health communication with friends may be an important precursor to sexual communication with sexual partners. Peer communication about sexual health topics has been positively linked to sexual health communication among dating partners (Powell and Segrin, 2004). Sexual health communication with friends has also been identified as one way in which sexual scripts are used to generate, transmit and reinforce sexual health norms (Mutchler and McDavitt, 2011). Despite the clear intent to provide support for safer sex norms, sexual health communication between friends might also convey contradictory information related to sexual health (Faulkner and Mansfield, 2002). In these instances, sexual health communication with friends may not always be protective against HIV transmission. Unfortunately, much of the research on peer sexual communication has been limited to youth and men who have sex with men. Additional insight on the topics discussed with friends during sexual health communication as well as factors associated with peer

sexual health communication among a group of high risk Black women fills a necessary gap and may provide a guide to reducing HIV risk through and within friendship networks.

There are a number of factors that influence the frequency and quality of sexual health communication. For example, women are more likely to communicate with their friends and sexual partners about sexual health topics than men (Allen, Emmers-Sommer, & Crowell, 2002; Bowleg et al., 2010; Noar et al., 2002). Communication about general STI rates occurs in a broader sense during casual conversations with loosely connected friends or associates. The quality of sexual health communication intensifies while being in a committed relationship (Wingood & DiClemente, 1998). Adhering to more traditional sex roles, substance use before sex, and having sex in public settings tend to inhibit sexual health communication with partners (Bowleg, Belgraver & Reisen, 2000; Lo, Reisen, Poppen, Bianchi, & Zea, 2011; Morokff, Harlow & Quiana, 1995). What remains to be understood is the frequency and level at which sexual health communication is discussed in other influential and more formal spaces such as churches.

### **Sexual Health Communication and the Black Church**

There is considerable heterogeneity in the types of sexual health communication occurring in Black churches (Berkley-Patton, Thompson, Martinez, Hawes, Moore, Williams et al., 2013; Cunningham, Kerrigan, McNeely, & Ellen, 2011; Francis & Liverpool, 2009; Lease and Shulman, 2003; Williams, Dodd, Campbell, Pichon, & Griffith, 2014). Earlier research has emphasized the less favorable aspect of African American clergy who expressed religious messages that connect HIV with sinful behavior, reinforcing religiously based stigma toward the disease (Fullilove and Fullilove, 1999; Smith, Simmons, & Mayer, 2005). Other studies have shown that faith leaders also have expressed their reticence to discuss issues related to HIV prevention, such as condom use, and sexual behaviors, as they feel that these issues are inappropriate to discuss in their congregations (Adler, Simonsen, Duncan, Shaver, Dewitt & Crookston, 2007; Griffith, Campbell, Allen, Robinson, & Stewart 2010).

More recent research findings reflect a shift in perspective of the faith community. In particular, several studies suggest that some faith leaders view themselves as health promoters (Ammerman, 2005; DeHaven, Hunter, Wilder, Walton & Berry, 2004; Lumpkins, Greiner, Daley, Mabachi, & Neuhaus, 2013), now recognize the need for churches to play a greater role in HIV prevention (Nunn, Cornwall, Chute, Sanders, Thomas, James et al., 2012; Philly Faith Action, 2013), believe that HIV is a priority health issue among African Americans, and possess a desire to institute HIV education and prevention programs in their congregations (Harris, 2010; Pichon, Williams, & Campbell, 2013). More frequent church attendance may offer greater exposure to sexual health messages, making sexual health topics more salient and increasing comfort with sexual health discussions with others (Musick, House, & Williams, 2004; Pichon, Griffith, Allen, Campbell, Williams et al., 2012; Williams, Pichon, Latkin, Davey-Rothwell, 2014). A higher likelihood of regular church attendees discussing sexual health topics with others may be a reflection of the increased attention given to sexual health topics within their congregations (Parrott, 2004). To our knowledge, no studies have considered the potential promotive role of church attendance on sexual health communication with partners or friends, despite the fact that more than eight-

in-ten U.S. Black women said religion is very important to them (Pew, 2009). In the current study, we hypothesized that high risk HIV negative Black women who attended church regularly would discuss more sexual health topics with their sexual partners and friends compared to their peers who do not attend church regularly.

## Method

The current study is a part of a larger randomized clinical control trial of an HIV prevention intervention for women and their social network members. Study details and findings on the intervention outcome have been published elsewhere (Davey-Rothwell, Tobin, Yang, Sun, & Latkin, 2011). The current study focuses on data collected during the 18 month follow-up assessment.

## Data Collection

Women were recruited through street outreach, word-of-mouth, advertisements, and referrals from health clinics and other local community agencies. Interested persons were given a card with a toll-free number to call for a screening assessment, which lasted about 10 minutes. Eligible participants were scheduled for a baseline visit.

Data were collected at a community-based research center, affiliated with an academic institution, but located in the community. No churches were directly involved in the study as recruitment sites or research partners; thus, the information regarding churches was based on self-report data. All participants provided written consent. A range of demographic, sexual health and religiosity data were collected from participants about themselves as well as their social network members who provided them with functional support (see Davey-Rothwell et al., 2011 and Grieb, Davey-Rothwell & Latkin, 2012 for additional data collected). A portion of the interview was administered by a trained interviewer and part was administered through Audio-Computer-Assisted Self-Interview. The study visits lasted approximately 2.5 hours.

The network inventory utilized in the current study has been validated by earlier studies (e.g., Davey-Rothwell, Kurmoto & Latkin, 2008; Latkin, Kuramoto, Davey-Rothwell, & Tobin, 2010; Neblett, Davey-Rothwell, Chander, & Latkin, 2011) and is available from the authors upon request. Based on this network inventory, eligible social network members were identified. Eligibility criteria for social network members were: 18 years or older, and one of the following: someone who injected drugs, sex partner of index, or social network members whom the index participants felt comfortable talking to about HIV or STIs. Index participants were allowed to refer up to five network members to the study. Index participants received a remuneration of \$10 for each network member who completed a baseline visit.

Baseline data were collected from September 2005 through July 2007. Data for this present study were collected during the 18 month follow-up assessment because this was the only assessment that included questions about religious participation in addition to their HIV prevention behaviors. The 18 month follow-up assessments were conducted from May 2007 through February 2010. Participants received \$45 for completion of the visit.

## Participants

The study sample consisted of women at high risk for contracting HIV through sexual transmission and their social network members. The eligibility criteria included: (1) female, (2) age 18–55 years old, (3) self-reported sex with at least one male partner in the past 6 months, and (4) had at least one of the following sexual risk factors: (a) more than two sex partners in the past 6 months, or (b) had a high risk sex partner in the past 90 days (i.e., male partner who injected heroin or cocaine, smoked crack, HIV seropositive, or man who has sex with men). A total of 567 women completed the baseline visit.

The sample for the current study was limited to study participants who completed an 18-month follow-up assessment ( $N=506$ ). The sample was further reduced because of the intentional focus on high risk, HIV negative Black women. Focusing on high risk, HIV negative Black women allowed us to highlight the role that religious participation might play in prevention among a high-risk, yet uninfected group of women. Therefore, to be included in the current analysis, respondents had to meet the following criteria: (a) self-reported African American; (b) self-reported HIV negative status; (c) self-reported sex with at least one male partner in the past 6 months; and (d) have at least one sexual risk factor. Among the 506 female participants with 18-month assessment data, 434 women met these criteria.

## Measures

The current study focused on two dependent variables (sexual health topics discussed with friends and sexual health topics discussed with sexual partners) and one independent variable (church attendance). All study variables are described below in detail.

**Sexual Health Topics Discussed with Friends**—Four items assessed sexual health topics discussed with friends. Specifically, items asked whether participants had talked to friends about the following topics in the past six months: 1) getting tested for HIV, 2) getting tested for STDs, not including HIV, 3) using condoms, and 4) high rates of HIV and STIs in Baltimore. This dichotomous measure asked participants to respond with “yes” or “no” to the questions. “Yes” responses were given a value of one and “no” responses were given a value of zero. Items were summed to create a scale with a maximum value of four ( $M = 1.79$ ,  $SD = 1.63$ ). Cronbach’s alpha for this scale was .86.

**Sexual Health Topics Discussed with Sexual Partners**—The same four items assessed sexual health topics discussed with sexual partners. Specifically, items asked whether participants had talked to sexual partners about the following topics in the past six months: 1) getting tested for HIV, 2) getting tested for STDs, not including HIV, 3) using condoms, and 4) high rates of HIV and STIs in Baltimore. This dichotomous measure asked participants to respond with “yes” or “no” to the questions. “Yes” responses were given a value of one and “no” responses were given a value of zero. Items were summed to create a scale with a maximum value of four ( $M = 1.80$ ,  $SD = 1.57$ ). Cronbach’s alpha for this scale was .81.

**Church Attendance**—One item assessed church attendance. Responses to this Likert-type question ranged from “never” to “everyday”. Responses to this question were dichotomized into two groups: regular attendees and non-regular attendees. Regular attendees reported attending church once a month or more; non-regular attendees reported attending church services less frequently than once a month.

## Data Analysis

The analyses were conducted with SPSS 22.0 for Windows (SPSS Inc., Chicago, IL). Univariate statistics were used to describe basic demographic data. Measures of association between sexual health topics discussed with social network (i.e. friend and sexual partner) and church attendance were analyzed using independent sample *t*-tests and chi-squares. Based on the distribution of responses, both dependent variables were dichotomized to create two groups that represented the number of sexual health topics discussed. Those in the low group discussed 0–1 topics, while those in the high group discussed 2–4 topics. Multiple logistic regression analyses were used to explore the relationship between sexual health topics discussed with social networks (e.g., partner, friend) and church attendance. Several demographic characteristics were hypothesized to be associated with the outcomes and we wanted to control for them in the analyses. Thus, in addition to study condition (intervention and no intervention), age, relationship status, and highest grade in school were also included as covariates in analyses to control for possible confounders.

## Results

Table 1 describes the demographic characteristics of the final sample. The majority of the sample was over 35 years of age ( $M = 43$  years). Nearly 50% of the women reported having graduated from high school; however, 9% of women who did not receive a high school diploma reported that they had earned a GED. Most of the women were either single (43%) or married/in a committed relationship (43%). Nearly 40% reported that they had used heroin or cocaine in the past six months. Over one quarter of participants reported having a risky partner in the past 90 days ( $n = 114$ ). Over 50% ( $n = 233$ ) of participants reported regular church attendance (i.e., once a month or more). Although the women in the sample represented 10 different denominations (e.g., Catholic, Methodist, Nondenominational and Pentecostal), most reported their religious affiliation as Baptist (64.1%). Roughly one-third of participants had not communicated with their friends (36%) or sexual partners (30%) about sexual health topics (see Table 2).

Independent sample *t*-tests comparing the number of sexual health topics discussed with friends and sexual partners were analyzed separately by church attendance. The mean number of sexual health topics discussed with friends [ $t(407)=2.034, p=0.043$ ] and sexual partners [ $t(394)=2.463, p=0.014$ ] were significantly lower for non-regular church attendees. Chi-squared analyses found that regular church attendees were significantly more likely than non-regular attendees to talk with a sexual partner about HIV testing and STI testing ( $\chi^2 = 9.929, p = .002$  and  $\chi^2 = 7.269, p = .007$ , respectively). Regular church attendees were also significantly more likely than non-regular attendees to talk with a friend about HIV testing



and the high rates of HIV and STDs in Baltimore ( $\chi^2 = 5.970$ ,  $p = .015$  and  $\chi^2 = 3.941$ ,  $p = .047$ , respectively).

Multivariate analyses are presented in Table 3. Compared to women who did not attend church regularly, women who attended church regularly were nearly twice as likely to discuss two or more sexual health topics with their friends. Similarly, regular church attendees were 85% more likely to discuss two or more topics than non-regular church attendees. Age was significantly related to the number of sex topics discussed by participants with partners; older women discussed fewer sexual health topics than younger women. Study condition was significantly related to the number of sex topics discussed by participants with friends; participants who did not receive the intervention discussed fewer sexual health topics than those who were in the intervention group.

## Discussion

Findings from the current study provide evidence that religious attendance is related to increased sexual health communication with both partners and friends among a group of high risk HIV negative Black women. This finding contradicts the perception that there are social norms against discussing sexual health and HIV among religious individuals. Study findings suggest that Black female congregants who attend church regularly have the capacity to serve as sexual health resources for their sexual partners and friends, some of which might also be fellow congregants. Although it is not clear that regular church attendees were discussing sexual health topics with their church-attending social network members, the possibility cannot be ruled out completely. Regular church attendees might be viewed as members of a trusted social network, whose responsibility is to help one another. Krause (2006) noted church attendance may protect health through its emphasis on caring for community members, especially friends and sexual partners. Because churches tend to foster health information sharing, opportunities to share information about health issues through informal conversations are available (Southwell, 2011). Thus, social networks among regular church attendees may be a viable source for diffusing HIV risk reduction messages.

Women who are both at risk for contracting HIV and regular church attendees might be an ideal group to train as peer educators. They are in a unique position to disseminate sexual health messages to their sexual partners, friends, and their fellow congregants, who also may be at risk, but perceive that they are not. High risk HIV negative Black women who feel like people in their congregation love and listen to them are more likely to feel comfortable discussing HIV prevention and treatment within their congregations (Williams et al., 2014). Given that the social networks of regular church attendees tend to be larger and denser and involve more frequent exchanges of information than do those of less frequent attendees (Ellison and George, 1994; Koenig, McCullough, & Larson, 2001), churches could serve an essential role in the diffusion of sexual health communication information.

Religion has been and will likely continue to be a central role in the lives of African American women (Eke, Wilkes & Gaiter, 2010; Lincoln and Mamiya, 2001; Wimberly, 2001). Campbell and colleagues (2007) noted that churches have played important roles in

disseminating health information, conducting health education and screening programs, and undertaking other health education efforts among African-Americans. Given the power of social networks within churches as well as an increase in public health partnerships with faith based organizations, additional research and theories about the intersection of the two is essential. However, there may be organizational, institutional, and cultural values in some churches that hinder more effective and consistent HIV prevention and treatment efforts (Merson, O'Malley, Serwadda, & Apisuk, 2008; Piot, Bartos, Larson, Zewdie, & Mane, 2008). For example, attempting to reconcile some religious teachings and doctrines with the behaviors that may increase one's risk for transmission of HIV may discourage some faith leaders from making HIV prevention a priority and contribute to HIV stigma among congregants (Tyrell, Klein, Gieryic, Devore, Cooper, et al., 2008; Williams, Palar, & Derose, 2011). The collaborative history between churches and public health professionals around sexual health issues suggests that these barriers are not insurmountable. Instead, such partnerships have the capacity to lead the exploration of the role of sexual health communication in faith-based HIV prevention efforts. Furthermore, federal funding streams are earmarked to include academic- and faith-based partnerships to equitably involve churches in the research process and to provide support to implement church-based interventions.

### Strengths and Limitations

This study is not without limitations. This study was a cross-sectional analysis, which limited our ability to make causal links between church attendance and sexual health communication. Additionally, the data were based on self-report, which may be prone to social desirability bias. Women self-selected to participate in the study, and we did not assess the difference in behaviors between participants and non-participants. Finally, the generalizability is limited by the demographic characteristics of the sample and our sampling method. Data were collected from a convenience sample of women who lived in an impoverished inner-city and were at high risk for contracting HIV. To obtain a more representative sample, future researchers might consider using a respondent driven sampling approach, which uses a mathematical probability model that weights the participant-recruited sample to compensate for its nonrandom collection (Salganik & Heckathorn, 2004).

Despite these limitations, the current study makes several important contributions to the literature. First, study findings reveal that among high-risk HIV negative Black women, discussions about sexual health were not limited to partners, but also included friends. Previous studies have typically highlighted the importance of sexual communication with sexual partners within adult female samples. The strong relationship between sexual health communication with friends and partners suggests that the effects of social network interventions can be broad and inclusive of all network members. Second, even in this sample that has lower than average church attendance for African American women (Pew, 2009), results suggest that churches may still be an important venue for recruiting and potentially training female community members to promote HIV prevention in high risk African American urban communities. Finally, we expand the conversation about the potential health promotion benefits associated with church attendance to include health



communication, which may be a key mediator in the documented associations between religion and health. Understanding the mechanisms behind such relationships will enable researchers to better tailor intervention and programmatic efforts to address HIV prevention within churches.

### Future Research

Future researchers might consider building on this work by examining how congregants use sexual health communication from their churches to both maintain and change the norms around their sexual health behaviors. Such research might offer additional insights into the role of sexual health communication in influencing health behaviors and the potential for interventions among other groups disproportionately affected by HIV. Likewise, changing the social norms of churches to include more acceptable sexual health discussions is warranted for further consideration. It is also likely that there is variability in the willingness of churches to address HIV prevention. As such, future research should prioritize the development of measures to identify churches willing to promote HIV prevention and sexual health and the barriers for developing HIV risk reduction programs, as well as strategies to engage churches that are less interested in sexual health promotion efforts within their congregations.

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**Table 1**

## Characteristics of Study Participants (N=434)

Variable	N	%
Age ( $M = 43, SD = 8.23$ )		
19–23	11	2.5
24–35	52	12
36–49	278	64.1
50+	93	21.4
Education <sup>a</sup>		
Grade 1–11	215	49.5
12 <sup>th</sup> /Diploma	156	35.9
>High School	61	14.0
Relationship Status <sup>b</sup>		
Single	188	43.3
Married/Committed	185	42.6
Other	49	11.2
Recent Injection Drug Use		
No	267	61.5
Yes	167	38.5
Presence of Risky Partner		
No risky partners	320	73.8
Any risky partners (1 or more)	114	26.2
Church Attendance <sup>c</sup>		
Regular (once a month or more)	233	56.6
Not regular (less than once a month)	178	43.4
Study Condition		
Intervention	70	16.1
No intervention <sup>d</sup>	364	83.9

<sup>a</sup>Two women did not report their education level

<sup>b</sup>Twelve women did not report their relationship status

<sup>c</sup>Twenty-three women did not report their church attendance

<sup>d</sup>Includes control group as well as index members who were in the not randomized as well as all network members.

**Table 2**

Distribution of the number of sexual health topics discussed with friends and partners.

# of topics Discussed	with Friends n (%)	with Partners n (%)
0	154 (35.5)	133 (30.6)
1	56 (12.9)	64 (14.7)
2	61 (14.1)	63 (14.5)
3	50 (11.5)	62 (14.3)
4	111 (25.6)	94 (21.7)

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Table 3

Multivariate logistic regression predicting sexual health communication

Predictors	Partner			Friends		
	AOR	C.I.	p	AOR	C.I.	p
Age	.972	(.947, .997)	<b>.031</b>	1.01	(.982, 1.03)	.589
Education	1.08	(.854, 1.36)	.645	1.15	(.909, 1.45)	.248
Relationship Status						
- Married/Committed (ref)						
- Single	1.16	(.761, 1.78)	.489	1.50	(.982, 2.30)	.060
- Other	1.02	(.504, 2.05)	.994	1.40	(.704, 2.76)	.325
Intervention	.696	(.401, 1.21)	.197	.397	(.223, .708)	<b>.002</b>
Regular Church Attendance	1.68	(1.11, 2.52)	<b>.014</b>	1.85	(1.23, 2.78)	<b>.003</b>