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## The Influence of Religious Attendance on Smoking Among Black Men

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### Abstract

**Background:** Cigarette smoking poses a major public health problem that disproportionately affects Blacks and men. Religious attendance has been shown to be positively associated with health promotion and disease prevention among the Black population. In light of this evidence, this study examined if a similar relationship could be found for religious attendance and smoking in Black men.

**Methods:** The National Survey of American Life (NSAL) study sampled 1,271 African American men and 562 Black Caribbean men. Multivariate logistic regression was used to determine the association between religious attendance and cigarette smoking.

**Results:** After adjusting for age, marital status, household income, education, foreign born status, importance of prayer and major stress, men who reported attending religious services almost every day (odds ratio (OR) = 0.21, 95% confidence interval (CI) = 0.07, 0.62) and weekly (OR = 0.47, 95% CI = 0.29, 0.77) had lower odds of being a current smoker compared to men who reported never attending religious services.

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

**Conclusions/Importance:** Findings suggest a health benefit in attending religious services on cigarette smoking among Black men in a nationally representative sample. In spite of lower church attendance in Black men in general, our results demonstrate that religious service attendance may still serve as a buffer against cigarette use. Given the emergent attention on faith-based health promotion among men, this conclusion is relevant and timely.

### Keywords

Religious attendance; smoking; African American; Black; men's health

Cigarette smoking remains a major public health problem. Despite decreases in the prevalence of tobacco use in the United States, approximately 18% of adults smoked in 2013 (Jamal et al., 2014; United States Department of Health Human Services, 2014). National statistics suggest that there are negligible racial/ethnic differences in cigarette smoking among men (Burns et al., 1997). For instance, data from the 2013 National Health Interview Study reveal that 21.8% of Black men and 21.2% of White men are current cigarette smokers (Jamal et al., 2014). While the prevalence of cigarette smoking between White and Black males are comparable, Black men are more vulnerable to adverse health outcomes associated with smoking (Haiman et al., 2006; Mozaffarian et al., 2015; Siegel, Ma, Zou, & Jemal, 2014). Racial disparities in poor outcomes may be related to differences in smoking behavior patterns. For example, compared to White men, Black men initiate smoking later in life, however, they begin smoking cessation, on average, 10 to 20 years later than White men (Burns et al., 1997). Higher prevalence of cigarette smoking may contribute to Black men having the highest mortality and morbidity rates from smoking-related health conditions like lung cancer and fatal coronary heart disease (Haiman et al., 2006; Mozaffarian et al., 2015; Siegel, Ma, Zou, & Jemal, 2014; Thorpe et al., 2013). Given that cigarette smoking, like other addictive behaviors, is often a challenge to quit, it is imperative that public health officials explore strategies that could assist with prevention and cessation among Black men. Religious attendance may be a mechanism activated to abate Black men's smoking behavior.

Religion can facilitate the adoption of health lifestyles as it has been found to be inversely related with the use of harmful substances, such as cigarette smoking (Dermatis & Galanter, 2016; Galbraith & Conner, 2015; Martin, Ellingsen, Tzilos, & Rohsenow, 2015). Religious service attendance is one dimension of religion with implications for smoking prevention and cessation. Earlier studies have produced findings indicating an inverse relationship between frequent religious attendance and cigarette smoking (Brown et al., 2014; F. Gillum, Obisesan, & Jarrett, 2009; Hargrove & Brown, 2015; Timberlake et al., 2006). Gillum et al. (2009), for example, using data from the National Health and Nutrition Examination Survey, demonstrated that those who attend church frequently (>24 times a year) had a decreased odds of being a current smoker compared to those who attended infrequently (<24 times a year). Similarly, findings from Whooley and colleagues (Whooley, Boyd, Gardin, & Williams, 2002), using a sample of young adults (18–30) from the CARDIA study, revealed that those who attended religious services less than once a month or never had almost a two-fold increased odds of being a current smoker compared to those who attended at least once a month. These findings highlight the significance of religious attendance on smoking behavior; however, the evidence linking religious attendance to smoking behavior among

Black men is less definitive, as we found no previous studies that explicitly examined this relationship among Black men. It is imperative to address this gap in the literature, as these findings can be used to inform and develop culturally relevant interventions to abate the adverse health consequences of cigarette smoking among Black men. Further, findings will contribute to the nascent knowledgebase that describes factors associated with cigarette use among Black men (Landrine & Corral, 2016; Parker, Kinlock, Chisolm, Furr-Holden, & Thorpe, 2016; Purnell et al., 2012).

Religion and religious institutions have played important roles in the provision of health promotion and as a source of social support to Black communities. Black churches have long been regarded as key public health partners in the diffusion of public health information and medical services (Corbie-Smith et al., 2010; J. Levin & Hein, 2012; J. S. Levin, 1984; Peterson, Atwood, & Yates, 2002). Although Black men are less likely to attend religious services relative to females, most research indicates that they may benefit from faith-based health interventions (Drake, Shelton, Gilligan, & Allen, 2010; Holt et al., 2009; Saunders et al., 2013). Limited evidence on religion and cigarette smoking among men coupled with religion's potential ability to protect and buffer negative health behaviors, led us to examine the association between cigarette smoking and religious attendance among a national sample of adult Black men.

## Methods

### Sample

Data for the study came from the National Survey of American Life (NSAL). The NSAL is a national household probability sample of African American ( $n = 3,570$ ), Black Caribbean ( $n = 1,438$ ), and non-Hispanic White ( $n = 891$ ) adults aged 18 years. Using a multistage probability design, data collection was completed between February 2001 and March 2003 through face-to-face and telephone interviewing. The overall interview response rate was 72.3% (Jackson, Neighbors, Nesse, Trierweiler, & Torres, 2004). In this study we excluded all non-Hispanic Whites ( $n = 891$ ), African American women ( $n = 2,299$ ), and Black Caribbean women ( $n = 877$ ). The final sample size amounted to 1,833 men, with 1,271 being African American and 562 being Black Caribbean men. African American men self-identified as African American and did not identify any ancestral ties to the Caribbean. Black Caribbean men were classified as such if they self-identified as Black, and affirmatively reported one of the following: (1) of West Indian or Caribbean descent, (2) from a Caribbean area or country, or (3) related to parents or grandparents who were born in a Caribbean country (Jackson et al., 2004). For the purposes of the manuscript we refer to the total sample as "Black" men. Additional information on the sampling design and procedures of NSAL can be found elsewhere (Heeringa et al., 2004; Jackson et al., 2004; Jackson et al., 2004).

### Study measures

**Cigarette smoking status**—The main outcome variable was current cigarette smoking status. This was derived from the following two items: "Have you smoked at least 100 cigarettes in your life?" ("yes," "no," "do not know") and "Do you currently smoke?"

(“yes,” “no,” “do not know”). Men who responded “yes” to the two items were coded as “current smoker.” Men who responded “no” to the first item, and those who responded “yes” to the first item but “no” to the second were coded as “nonsmoker.” “Do not know” was considered missing.

**Religious attendance**—The primary independent variable was religious attendance. Religious attendance was assessed by combining two questions: “Other than for wedding or funerals, have you attended services at a church or other place of worship since you were 18 years old?” (yes/no) and “How often do you attend religious services?” (attend nearly every day, at least once a week, a few times a month, a few times a year, or less than once a year). Men who responded “no” to the first time were coded as “never attending.” A categorical variable was created by combining the two questions: attend nearly every day, at least once a week, a few times a month, a few times a year, or less than once a year/never.

**Covariates**—Variables found to be associated with religious attendance or current smoking status were included as covariates. Importance of prayer was derived from men’s report of how important prayer was in dealing with stressful situations. The responses included: very important, fairly important, not too important, and not important at all. A binary variable was created to identify men who reported what is coded as important (very important/fairly important = 1), and not important (not too important/not important at all = 0). Major stress was based on men’s report of whether in the last month they had problems with: (1) health, (2) money, (3) job, (4) children, (5) marriage, (6) being a crime victim, (7) the police, (8) love life, and (9) their race. The response items were yes or no. A binary variable was created to reflect men who experienced at least one of the major stressors in the last month compared to those who did not. The demographic variables included age (in years), marital status (1 = married; 0 = not married), household income (1 = ≤\$30,000; 0 = >\$30,000), education (1 = high school graduate or more; 0 = less than high school graduate), foreign born (1 = yes; 0 = no) and self-rated health. Men rated their health as excellent, very good, good, fair, or poor. A dichotomous variable was created to identify those men who reported their health as fair/poor health versus those who did not.

## Data analysis

Sample characteristics were summarized for the study population. Additionally chi square and Student’s *t* test were used to examine proportional and mean differences by current smoking status. A multivariate logistic regression was used to determine the association between current smoking and religious attendance, controlling for importance of prayer, major stress, age, being married, household income, education, fair/poor self-rated health, and being foreign born. All of the analyses incorporated weights and design factors to account for the complex multistage probability sampling design of NSAL. P values less than 0.05 were considered significant. All of the analyses were performed using STATA version 13 (StataCorp LP, College Station, TX).

## Results

The distribution of the select characteristics of Black men for the full sample and by current smoking status is shown in Table 1. Almost one-third (31.3%) of the sample of 1833 men were current smokers, and 22% reported never attending religious services. The majority of the men reported they had experienced major stress in the past month, that prayer was important, a household income greater than \$30,000, and had at least graduated from high school. The average age was 41.9 years, half of the sample was married, 17.4% reported fair/poor health, and 6.7% were foreign born. Examining these characteristics by current smoking status revealed that there was a larger proportion of men who were current smokers who reported never attending religious services, reported experiencing any major stress, and reported fair/poor health relative to men who were not current smokers. A smaller proportion of men who were current smokers had a household income greater than \$30,000, was at least a high school graduate and were foreign born. No differences were observed between men who were current smokers and those who were not current smokers with regard to the importance of prayer, age, and being married.

The association between religious attendance and being a current cigarette smoking among Black men is shown in Table 2. After adjusting for major stress, importance of prayer, age, being married, household income, education, fair/poor health, and foreign born, men who reported religious service attendance almost everyday (odds ratio (OR) = 0.21, 95% confidence interval (CI) = 0.07, 0.62) and weekly (OR = 0.47, 95% CI = 0.29, 0.77) had a lower odds of being a current smoker compared to men who reported never attending religious services. Men who reported religious service attendance monthly or yearly had similar odds of being a current smoker compared to men who reported never attending religious services.

## Discussion

We examined the relationship between religious attendance and cigarette smoking in a sample of Black men using data from the NSAL. This study provides evidence that regular religious attendance might serve as a protective factor against cigarette smoking among Black men. Faith-based institutions might be a viable place for developing health promoting strategies that may lead to improved health of Black men.

Our finding that religious attendance was associated with lower rates of cigarette smoking among this sample of Black males presents additional evidence that regular religious attendance may encourage individuals to reduce negative health behaviors, such as cigarette smoking and to consider positive health practices, like cessation (Brown et al., 2014). Similarly, this result is consistent with previous studies that have demonstrated lower odds of smoking among those who regularly attend religious services (Brown et al., 2014; R. F. Gillum, 2005; Whooley et al., 2002). One example is the study by Whooley et al. (2002) and colleagues. Using a sample of young adults (18–30), the authors found that attending religious services at least once a month was associated with a lower odds of being a current smoker, compared to those who attended less than once a month or never. Studies

have concluded the protective effects among the religious but none of these considered the association of religion and smoking in Black males.

The limited focus on Black men is somewhat surprising given the socioeconomic disadvantages and stressors that Black men endure over the life-course (Gilbert et al., 2015; James et al., 2006). Black males are also faced with disproportional tobacco marketing and tobacco outlet density in the communities in which they reside, and consistently endure high rates of unemployment and poverty (United States Department of Health Human Services, 2014). In the face of mounting environmental cues to smoke and social and personal stressors, religious attendance might be an alternative to cigarette smoking or to succumbing to the pressure to do so. Historically, the Black church has been an institution known to buffer racial, economic, and social stress of the “Black community” (Chatters, Taylor, Woodward, & Nicklett, 2015; Ellison, Musick, & Henderson, 2008; Reese, Thorpe, Bell, Bowie, & LaVeist, 2012; Taylor, Chatters, & Brown, 2014). Explanations for why and how religious service attendance influences positive health practices or functions as a resource for coping with stress are rooted in the belief that regular attendance provides opportunities for social support and social integration (Chatters, Taylor, Jackson, & Lincoln, 2008; Chatters et al., 2015; Pargament, 1997; Taylor et al., 2014). Moreover, people actively engaged in a religious community may be low risk takers (Pargament, 1997). Conditions such as depression and anxiety that may exacerbate the chances of starting smoking or prohibiting quitting, may also be mitigated by this dimension of organized religion. Doctrinal teachings, in many cases, also promote the avoidance of unhealthy behaviors and may advise against the use of cigarette smoking to prevent addiction and harm to self and others. The role of religious attendance and other possible religion domains in mitigating harmful health behaviors, and its association with psychosocial stressors is worthy of further exploration.

This study is one of a few that seeks to understand the association between religious service attendance and cigarette smoking among Black men and uses data from a national sample of Black men. Nevertheless, the NSAL is a cross-sectional study that limits generalizability. Measures of cigarette smoking were self-reported and no objective biological measures confirmed participant responses. Religion as measured by frequency of attendance is also a limitation because of potential selection bias. Men who attend religious services regularly may differ from non-church-goers as they may be inclined to adhere to a lifestyle devoid of unhealthy behaviors. Multiple dimensions of religion are also needed for a more comprehensive understanding of its impact on health and health behaviors, including cigarette smoking. Still, the NSAL provides an opportunity to understand additional relationships between other religious measures and health related outcomes in Black men. Moving forward research could examine if shifts in religious service attendance in Black men is associated with cigarette smoking over their life-course. Studies that include doctrinal tenets and how they influence the health beliefs and habits of congregants may also improve our knowledge of the religious landscape. We know less about these males on several levels and their religiousness is of growing importance if its influence can demonstrate and encourage use of greater health promotion, self- health care and wellbeing.



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**Table 1.**

Distribution of weighted select characteristics of Black men in the National Survey of American Life ( $n = 1,833$ ) for the full sample and by current cigarette smoking status.

Characteristics	Full sample	Current cigarette smoker	
		Yes	No
Current cigarette smoker (%)		31.3	68.7
Religious service attendance (%)			
Never	22.8	26.8	21.0 *
Almost every day	4.1	1.3	4.9
Weekly	24.8	17.0	28.4
Monthly	23.9	26.8	22.5
Yearly	24.3	28.2	23.2
Any major stress (%)	69.5	79.6	65.1 *
Importance of prayer (%)			
Not important	5.9	4.8	6.1
Important	94.1	95.2	93.9
Age, mean (SE)	41.9 (0.6)	42.4 (0.9)	41.3 (0.8)
Married (%)	50.1	48.7	51.1
Household income (%)			
>\$30,000	42.9	52.8	37.9 *
<\$30,000	57.1	47.2	62.1
Education, (%)			
< High school graduate	23.1	31.6	18.5 *
High school graduate	76.9	68.4	81.5
Fair/Poorself-rated health (%)	17.4	23.2	14.5 *
Foreign born (%)	6.7	2.5	8.7 *

Note: All estimates account for the multistage probability sampling design by applying the appropriate weights and strata variables. *SE*, standard error. Any major stress defined as having any major stressful events versus none.

\*  $p < .05$ .

**Table 2.**

Weighted logistic regression depicting the association between religious attendance and current cigarette smoking among 1,833 Black men in the National Survey of American Life.

	Odds ratio	95% confidence interval
Religious service attendance		
Never	1.00	
Almost everyday	0.21	(0.07–0.62)
Weekly	0.47	(0.29–0.77)
Monthly	0.91	(0.62–1.34)
Yearly	0.99	(0.67–1.48)
Any major stress	1.88	(1.39–2.55)
Importance of prayer		
Not important	1.00	
Important	2.01	(1.13–3.55)
Age	1.00	(0.99–1.01)
Married	1.18	(0.83–1.66)
Household income		
>\$30,000	1.00	
<\$30,000	1.41	(1.05–1.91)
Education		
< High school graduate	1.00	
High school graduate	0.64	(0.47–0.88)
Fair/Poor self-rated health	1.19	(0.86–1.66)
Foreign born	0.29	(0.15–0.58)

Note: All estimates account for the multistage probability sampling design by applying the appropriate weights and strata variables.