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ORIGINAL ARTICLE | SMOKING BEHAVIORS

Smoking-Free Policies and Smoking Behaviors among Historically Black Colleges and Universities Students in the United States

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ABSTRACT

Background: There is limited research on the impact of smoke-free policies on students' attitudes and smoking behaviors at Historically Black Colleges and Universities (HBCUs) in the United States. This study examined African American students' attitudes toward differential smoke-free campus policies and their smoking behavior at two HBCUs in the Mid-Atlantic region.

Methods: In this original study, 202 African American undergraduate and graduate students enrolled at two urban HBCUs participated and completed the online and in-person surveys conducted between October and December 2019. Descriptive statistics (Chi-square χ^2 and t-statistics) and multivariable logistic regression were used to examine differences in smoking attitudes and behaviors prompted by smoking-free policies.

Results: One of the two surveyed HBCUs supported a comprehensive smoke-free policy (CSFP), which prohibits any tobacco use, including smoking, anywhere on campus at any time. The other HBCU followed a regular smoke-free policy (RSFP), which limits smoking to certain designated areas. The majority of students at the two schools reported that the smoke-free policy had not affected their smoking behavior. The multivariable analysis did not indicate a statistically significant association between students' attitudes toward smoke-free policies and their smoking behavior. Furthermore, the difference in smoking prevalence between the two schools was not statistically significant by policy type.

Conclusions and Implications for Translation: Smoke-free policies have the potential to educate students about the risk of smoking and improve their attitudes about it. Implementing and enforcing a comprehensive or regular smoke-free policy is an essential step toward providing a healthy learning environment for students. Understanding the context-specific factors that contribute to smoking behaviors among African American students would provide additional important insights to policymakers in developing more effective programs for students at HBCUs.

Keywords: • Comprehensive or Regular Smoke-Free Policy • Health Equity • Health Disparities • Historically Black Colleges and Universities (HBCU) • Tobacco Control • Student

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I. Introduction

Tobacco use is one of the most preventable leading causes of illness and death. Cigarette smoke has over 60 well-established carcinogens, and, although smoking is decreasing, it is responsible for approximately 30% of all cancer deaths in developed countries.¹ In fact, smoking is known to kill more Americans than alcohol, car crashes, AIDS-related causes, fires, heroin, cocaine, homicide, and suicide combined.² Sadly, tobacco use and addiction mostly start during young adulthood. In 2016, the US Centers for Disease Control and Prevention (CDC) projected that approximately 5.6 million Americans aged 18 years and older would die prematurely from smoking-related illnesses.³

In the United States (US), many lives are severely affected by smoking-related illnesses at a cost of approximately \$300 billion each year, including nearly \$170 billion for direct medical care for adults. Tobacco use is also responsible for more than \$156 billion in lost productivity, with \$5.7 billion attributed to second-hand smoke exposure.^{3,4} Studies have shown that early exposure to tobacco use can lead to devastating long-term health outcomes related to brain development deficits and nicotine addiction.⁵ Comprehensive and long-term initiatives are needed to prevent and reduce the use of all tobacco products among US youths. Ending tobacco use is still the best way to decrease most of the related chronic illnesses that persist around smoking.⁶⁻⁸ Each year, approximately 45,000 African Americans die from smoking-related diseases. The Truth Initiative has declared the disproportionate health impact of smoking on African Americans a social justice issue.⁹ Despite the fact that African Americans usually smoke fewer cigarettes and start smoking cigarettes at later ages, they are more likely to die from smoking-related diseases than Whites.¹⁰⁻¹³

Tobacco prevention and control strategies, including increasing tobacco product prices, adopting comprehensive smoke-free laws, and implementing national public education media campaigns, likely have contributed to the reduction in use of certain tobacco products, including cigarettes, among youths in recent years.¹⁴ However, the lack of decline in

use of cigarettes and cigars from 2014 to 2015 is concerning, as more than 80% of adult smokers begin smoking by age 18.¹⁵ Powe et al. projected that over 1.5 million teenaged African Americans would become regular cigarette smokers, and over a third of them would die of a smoking-related disease.¹⁶ Tobacco use among college students adversely affects their well-being and threatens their future ability to support their families. In addition to shortening lifespans, smoking can also decrease quality of life, and one out of three smokers will die an average of 12 to 15 years sooner than healthy life expectancy.¹⁷ Cigarette smoking is a significant health problem within the African American community.^{18,19} Despite significant progress in reducing tobacco use and eliminating racial and ethnic health disparities over the past decades, inequities persist.²⁰ These racial disparities are widening for low-socioeconomic status populations such as African Americans and Hispanic/Latino students attending higher educational institutions in the US.^{19,21} Rigotti et al. recommended that further research include determining the prevalence of smoke-free college policies (SFPs), identifying factors that facilitate and impede policy adoption, and evaluating the impacts of specific SFPs on smoking prevalence.²² Borders et al.²³ conducted a study on how one tobacco-free policy affected students' decisions to use tobacco, and Burns et al.²⁴ and Cho and DeVaney²⁵ surveyed attitudes of staff and students regarding adopting, implementing, and enforcing a tobacco-free campus policy. Given limited research in this area, this study examined African American students' attitudes toward differential smoke-free campus policies and their smoking behavior at two Historically Black Colleges and Universities (HBCUs) in the Mid-Atlantic region of the United States.

2. Methods

The study was a quantitative, cross-sectional design. A non-random survey of 35 items that included questions about attitudes toward smoke-free policies on campus, smoking behaviors, and demographics was administered between October 2019 and December 2019 to students of the two HBCUs. Participants described their attitudes by indicating their level of agreement with a statement

on a five-point Likert scale: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The survey used items from the Tobacco Use Supplement to the Current Population Survey (TUS-CPS) to collect information on students' smoking history and behaviors, and their knowledge of and attitude towards the smoke-free policies in their institution.²⁷ Data were captured online using the SurveyMonkey tool. The SurveyMonkey questionnaire was available in hard-copy and electronically via a QR code. Initially, the researcher received a total of 250 survey submissions: 135 from the CSFP school and 115 from the RSFP school. However, after data cleaning, six respondents were excluded because their consent forms could not be validated, and 42 respondents were excluded because they did not respond to any of the survey items. Thus, the final sample included 202 male and female African American undergraduate and graduate students and a small number of non-African Americans enrolled at the two HBCUs. Data analysis consisted of descriptive statistics to summarize the survey responses and multivariable logistic regression to analyze differences in smoking attitudes and behaviors by smoking-free policies.

3. Results

3.1. Sociodemographic Characteristics

Table 1 summarizes the surveyed students' responses to demographic and baseline characteristics of respondents. Chi-square (χ^2) with column percentages are used to summarize categorical variables. More than half of the respondents identified as female ($n=132$, 65.7%), and 34.3% ($n=69$) of the respondents identified as male. This sample is representative of the female majority attending both of the surveyed schools (63% at the RSFP school, 53% at the CSFP school) (College Tuition Compare, 2017-2018). The average age of the 202 surveyed students was 23 years ($SD=6.7$). Respondents' ages ranged from 18 to 61 years. The distribution of respondents by race and ethnicity shows that a majority of the respondents identified as African American or Black ($n=181$, 89.6%). The sample results reflect the African American or Black majority attending the surveyed schools (83% at

the RSFP school, 75% at the CSFP school) (College Tuition Compare, 2017-2018). Other respondents reported their race/ethnicity as Asian ($n=5$, 2.5%), White or Caucasian ($n=4$, 2.0%), Hispanic ($n=4$, 2.0%), and other ($n=8$, 4.0%). The number of respondents per grade level included 46 freshmen, 31 sophomores, 46 juniors, 46 seniors, and 33 graduate students. The majority of respondents resided off-campus ($n=134$, 66.3%) as opposed to on-campus ($n=68$, 33.7%). More than three-quarters of respondents reported being single ($n=154$, 76.2%), while 32 (15.8%) reported being in a relationship, 12 (5.9%) reported being married, and 4 (2%) indicated otherwise. Approximately 71% of the respondents were the first person in their family to attend college. Roughly one-third of respondents reported an average family income between \$50,000 and \$100,000 ($n=70$, 35.2%), while 60 (30.1%) reported an average family income between \$25,000 and \$50,000. There were 37 (18.6%) respondents who reported an average family income under \$25,000, and 32 (16.1%) with an average family income of \$100,000 or more.

Table 2 shows the five survey questions that asked about how much respondents agreed or disagreed with statements about knowledge of their school's smoke-free policy and one question that asked if the smoke-free policy allowed smoking for indoor public or common areas at their school (differences by smoking-free policies were significant; $p<0.001$). For the question, "Smoking is prohibited outside of buildings within 25 feet....." more students in the CSFP school strongly agreed (or agreed) with this statement 33.1% (or 36.4%) compared to students in RSFP school 28.9% (or 24.1%). This difference was significant ($p=0.014$). Overall, the majority of the students either strongly agreed (31.3%: $n=63$) or agreed (31.3%: $n=63$) with this statement. For the question "According to the policy smoking of any kind of tobacco products on campus is banned," there was a significant difference in the responses of CSFP students and RSFP students ($p=0.002$). More CSFP students strongly agreed/agreed 41.0% (or 41.0%) compared to RSFP students 22.6% (or 41.7%). The results of the descriptive analysis for research questions to determine students' attitudes

Table 1: Demographic and baseline characteristics of respondents

Variable	RSFP n (Column %)	CSFP n (Column %)	Total n (%)	P-value
Gender				
Male	27 (32.1)	42 (35.9)	69 (34.3)	0.580
Female	57 (67.9)	75 (64.1)	132 (65.7)	
Age				
Mean (SD)	21 (3.4)	24 (8.0)	23 (6.7)	p<0.001
Race/Ethnicity				
African American or Black	78 (92.9)	103 (87.3)	181 (89.6)	0.192
Asian	1 (1.2)	4 (3.4)	5 (2.5)	
White or Caucasian	0 (0.0)	4 (3.4)	4 (2.0)	
Hispanic	3 (3.6)	1 (0.9)	4 (2.0)	
Other	2 (2.4)	6 (5.1)	8 (4.0)	
Grade Level				
Freshman	30 (35.7)	16 (13.6)	46 (22.8)	p<0.001
Sophomore	13 (15.5)	18 (15.3)	31 (15.3)	
Junior	22 (26.2)	24 (20.3)	46 (22.8)	
Senior	16 (19.0)	30 (25.4)	46 (22.8)	
Graduate	3 (3.6)	30 (25.4)	33 (16.3)	
Residency				
Off campus	39 (46.4)	29 (24.6)	68 (33.7)	p<0.001
On campus	45 (53.6)	89 (75.4)	134 (66.3)	
Marital Status				
Single	68 (81.0)	86 (72.9)	154 (76.2)	0.267
Married	2 (2.4)	10 (8.5)	12 (5.9)	
In a relationship	13 (15.5)	19 (16.1)	32 (15.8)	
Other (e.g., separated or divorced)	1 (1.2)	3 (2.5)	4 (2.0)	
First-Generation College Attendance				
No	22 (27.2)	36 (30.8)	58 (29.3)	0.337
Yes	59 (72.8)	81 (69.2)	140 (70.7)	
Family Income				
Under \$25,000	16 (19.0)	21 (18.3)	37 (18.6)	0.687
25,000–\$50,000	26 (31.0)	34 (29.6)	60 (30.1)	
50,000–\$100,000	29 (34.5)	41 (35.6)	70 (35.2)	
100,000 or more	13 (15.5)	19 (16.5)	32 (16.1)	

Chi-square tests with n and percentages for categorical variables, and independent sample t-test with mean and standard deviation for continuous variables were used.

toward the smoke-free policies (RSFP and CSFP) at their school showed that a majority of the HBCU students surveyed had positive feelings toward their schools' smoke-free policy, and agreed that a smoke-free policy is beneficial in reducing students' exposure to second-hand smoke.

To determine students' reported tobacco use behaviors, summaries of the respondent's history, and

initiation of smoking by school are shown in Table 3. To address this question, Chi-square statistics with numbers and percentages for categorical variables were calculated. Most respondents indicated they currently smoked no tobacco products at all. Questions about the respondent's history and initiation of smoking by school reported one significant association regarding quit attempts. More RSFP students responded that

Table 2: Students' knowledge of the smoke-free policy/smoking at the RSFP and CSFP HBCU

Variable	RSFP n (%)	CSFP n (%)	Total n (%)	P-value
Smoking is prohibited outside of buildings within 25 feet of any building entrance, air intake duct, or window				
Strongly agree	24 (28.9)	39 (33.1)	63 (31.3)	
Agree	20 (24.1)	43 (36.4)	63 (31.3)	
Neither agree nor disagree	15 (18.1)	23 (19.5)	38 (18.9)	
Disagree	16 (19.3)	11 (9.3)	27 (13.4)	
Strongly disagree	8 (9.6)	2 (1.7)	10 (5.0)	p=0.014
According to the policy, smoking of marijuana on campus is banned				
Strongly agree	22 (26.2)	47 (40.2)	69 (34.3)	
Agree	35 (41.7)	41 (35.0)	76 (37.8)	
Neither agree nor disagree	14 (16.7)	20 (17.1)	34 (16.9)	
Disagree	11 (13.1)	9 (7.7)	20 (10.0)	
Strongly disagree	2 (2.4)	0(0.0)	2 (1.0)	0.108
According to the policy, smoking of any kind of tobacco products on campus is banned				
Strongly agree	19 (22.6)	48 (41.0)	67 (33.3)	
Agree	29 (34.5)	48 (41.0)	77 (38.3)	
Neither agree nor disagree	20 (23.8)	12 (10.3)	32 (15.9)	
Disagree	12 (14.3)	8 (6.8)	20 (10.0)	
Strongly disagree	4 (4.8)	1 (0.9)	5 (2.5)	p=0.002
Smokers are less likely to get lung cancer than non-smokers				
Strongly agree	7 (8.4)	10 (8.7)	17 (8.6)	
Agree	18 (21.7)	13 (11.3)	31 (15.7)	
Neither agree nor disagree	11 (13.3)	12 (10.4)	23 (11.6)	
Disagree	23 (27.7)	33 (28.7)	56 (28.3)	
Strongly disagree	24 (28.9)	47 (40.9)	71 (35.9)	0.232
Which of these best describes the smoke-free policy at your school for indoor public or common areas, such as lobbies, rest rooms, and lunchroom?				
Not allowed in any public areas	25 (30.5)	87 (75.7)	112 (56.9)	
Allowed in some public areas	30 (36.6)	10 (8.7)	40 (20.3)	
Allowed in all public areas	1 (1.2)	3 (2.6)	4 (2.0)	
Not applicable	26 (31.7)	15 (13.0)	41 (20.8)	p<0.001
Within the past 12 months, the school offered stop smoking program or other help to students who want to quit smoking				
Strongly agree	4 (4.9)	6 (5.2)	10 (5.1)	
Agree	14 (17.1)	14 (12.2)	28 (14.2)	
Neither agree nor disagree	46 (56.1)	61 (53.0)	107 (54.3)	
Disagree	11 (13.4)	23 (20.0)	34 (17.3)	
Strongly disagree	7 (8.5)	11 (9.6)	18 (9.1)	0.706

*Association is significant at the .05 level (2-tailed). Chi-square tests with n and percentages for categorical variables were used.

in the last 12 months they had more quit attempts compared to CSFP students.

Teens demonstrate a higher frequency of addiction to smoking, despite smoking less than adults.²⁷ Thus,

it is important to explore the smoking behaviors of students to gain a better understanding of how the habit can be mediated or prevented altogether. When asked about their smoking behaviors, a majority of the 202 HBCU students who were surveyed responded

Table 3: Students' reported smoking individual behaviors at the RSFP and CSFP HBCU

Variable	RSFP n (Column %)	CSFP n (Column %)	Total n (%)	P-value
How old were you when you first started smoking cigarettes regularly?				
Under 18	7 (8.3)	3 (2.5)	10 (4.9)	
18-24	7 (8.3)	6 (5.1)	13 (6.4)	
25-34	1 (1.2)	2 (1.7)	3 (1.5)	
Other	61 (72.6)	94 (79.7)	155 (76.7)	0.243
If you said that you never smoked regularly, how old were you the first time you smoked part or all of a cigarette?				
Other	58 (69.1)	90 (76.3)	148 (73.3)	
Under 18	8 (9.5)	10 (8.5)	18 (8.9)	
18-24	7 (8.3)	3 (2.5)	10 (4.9)	
25-34	1 (1.2)	2 (1.7)	3 (1.5)	
Missing	10 (11.9)	13 (11.0)	23 (11.4)	0.426
Has the smoke-free policy impacted your smoking?				
Yes	6 (7.8)	13 (11.1)	19 (9.8)	
No	71 (92.2)	104 (88.9)	175 (90.2)	0.447
How has the school's smoke-free policy affected your smoking?				
I have reduced the amount i smoke	7 (21.9)	4 (7.8)	11 (13.3)	
I have tried to quit	2 (6.3)	0 (0.0)	2 (2.4)	
I go off campus to smoke	6 (18.8)	11 (21.6)	17 (20.5)	
I have increased the amount i smoke	3 (9.4)	3 (5.9)	6 (7.2)	
I quit but started again	1 (3.1)	0 (0.0)	1 (1.2)	
Other	13 (40.6)	33 (64.7)	46 (55.4)	0.071
Has the enforcement of the smoke-free policy impacted your smoking?				
Yes	10 (12.2)	14 (12.1)	24 (12.1)	
No	72 (87.8)	102 (87.9)	174 (87.9)	0.979
Do you currently smoke any tobacco products?				
Everyday	1 (1.2)	2 (1.7)	3 (1.5)	
Somedays	13 (15.5)	15 (12.8)	28 (13.9)	
Not at all	70 (83.3)	100 (85.5)	170 (84.6)	0.834
Have you smoked at least 100 cigarettes in your lifetime?				
Yes	5 (6.3)	4 (3.5)	9 (4.6)	
No	75 (93.8)	112 (96.6)	187 (95.4)	0.357
If you answered everyday or some-days to currently smoking any tobacco products, what do you smoke?				
Cigarettes	5 (7.1)	3 (3.3)	8 (4.9)	
E-cigarettes	0 (0.0)	1 (1.1)	1 (0.6)	
Shisha/hookah	2 (2.9)	4 (4.4)	6 (3.7)	
I don't smoke	46 (65.7)	64 (69.5)	110 (67.9)	
Other	17 (24.3)	20 (21.7)	37 (22.8)	0.660
On average, how many cigarettes do you smoke each day?				
Other	14 (25.0)	14 (16.1)	28 (19.6)	
None at all	42 (75.0)	73 (83.9)	115 (80.4)	0.190

(Contd...)

Table 3: (Continued)

Variable	RSFP n (Column %)	CSFP n (Column %)	Total n (%)	P-value
Do you usually smoke menthol or non-menthol cigarettes?				
Menthol	4 (6.4)	4 (4.7)	8 (5.4)	
Non-menthol	6 (9.5)	3 (3.5)	9 (6.1)	
No usual type	53 (84.1)	78 (91.8)	131 (88.5)	0.278
Around this time 12 months ago, were you smoking cigarettes every day, some days, or not at all?				
Everyday	5 (6.1)	1 (0.9)	6 (3.1)	
Somedays	6 (7.3)	7 (6.3)	13 (6.7)	
Not at all	71 (86.6)	104 (92.9)	175 (90.2)	0.109
During the past 12 months, have you tried to quit smoking?				
Yes	15 (22.7)	10 (10.3)	25 (15.3)	
No	51 (77.3)	87 (89.7)	138 (84.7)	p=0.031
Did you use any of the following?				
A telephone help line or quit line	2 (2.9)	1 (1.0)	3 (1.8)	
Internet or web-based program or tool	5 (7.3)	4 (4.2)	9 (5.5)	
Internet or web-based program or tool	62 (89.9)	91 (94.8)	153 (92.7)	0.457
Are you planning to quit within the next 30 days?				
Yes	11 (18.6)	9 (10.5)	20 (13.8)	
No	48 (81.4)	77 (89.5)	125 (86.2)	0.161

*Association is significant at the .05 level (2-tailed). Chi-square tests with n and percentages for categorical variables were used.

that they were not currently smoking, had not smoked at least 100 cigarettes in their lifetime, and had never smoked regularly. These responses reflect how smoking is not a widespread phenomenon at HBCUs, nor is the activity likely encouraged in these schools.²⁸ As shown in Table 3, a very small number of respondents (n=18, 8.9%) indicated they were under 18 years old when they first started smoking cigarettes regularly.

Respondents' reported smoking behavior, including smoking cessation, are also shown in Table 3. Quit attempts showed one significant difference at (p=0.031), in the responses of CSFP students versus RSFP students. More RSFP (n=15, 22.7%) students responded that in the last 12 months they had more quit attempts compared to (n=10, 10.3%) CSFP students. An overwhelming number (n=131, 88.5%) of the responding students indicated they did not regularly smoke either menthol or non-menthol cigarettes. A majority (n=175, 90.2%) of the 202 students responded that they did not smoke cigarettes "at all" this time 12 months ago. Most respondents (n=153, 92.7%) of the 202 students

indicated they had reviewed information about smoking on the internet or web-based program.

Bivariate and multivariable logistic regression models were conducted to compare the smoking behavior of students at the CSFP school with those at the RSFP school. The results of the regression analysis indicated no association between students' attitudes toward their HBCUs' smoke-free policies and students' reported smoking behavior. The results also indicated that there was no significant difference in the smoking behaviors between the two schools with different smoke-free policies. The difference in smoking prevalence and odds between the two schools by policy type was not statistically significant (data not shown).

The overall smoking prevalence for students at the CSFP and RSFP is similar to the prevalence in Maryland and the US population (data not shown). A small number of respondents (n=31, 15.4%) reported smoking. A majority of the CSFP respondents (n=100, 85.5%) and RSFP respondents (n=70, 83.3%)

indicated that they were not smoking at the time of the survey, while 17 (14.5%) CSFP students and 14 (16.7%) RSFP students said that they were smoking.

4. Discussion

The purpose of this study was to investigate the association of smoke-free policies on HBCU students' attitudes and smoking behaviors. We hypothesized that there would be a significant association between students' attitudes toward smoke-free policies and students' reported smoking behavior. Students were recruited at two HBCU campuses in the Mid-Atlantic region to participate and fill out a self-administered survey. Our study found that there was not a statistically significant difference between the smoking behavior of HBCU students at the school with a comprehensive smoke-free policy (CSFP) and students at the school with a regular smoke-free policy (RSFP). This study contributes to the existing literature on tobacco prevention and

control and empowers students, parents, and college communities to create healthier environments on college campuses.²⁹

4.1. Limitations

A limitation of this study is the degree to which a non-random sample of students can support the identification of statistically significant associations. These concerns were paramount in conducting the study due to the financial and time-specific resources of the principal investigator. Of the four HBCUs located in the Mid-Atlantic region, only two urban campuses are represented here. This limits the number and diversity of participants and excludes data collected in a non-urban settings and from the larger pool of HBCUs in the US (Table 4). Underrepresentation of students from varied demographic backgrounds, such as students of different ethnicities and nationalities, can lead to bias. The survey results are also subject to non-random biases.

Table 4: List of Historically Black Colleges and Universities (HBCUs) in the United States (as of October 6, 2020)

Region	State	HBCU	Students enrolled
California	California	Charles R. Drew University of Medicine and Science	656
Mid-Atlantic	Delaware	Delaware State University	4,872
Mid-Atlantic	Maryland	Bowie State University	5,561
Mid-Atlantic	Maryland	Coppin State University	2,724
Mid-Atlantic	Maryland	Morgan State University	7,747
Mid-Atlantic	Maryland	University of Maryland Eastern Shore	2,334
Mid-Atlantic	Pennsylvania	Cheyney University of Pennsylvania	755
Mid-Atlantic	Pennsylvania	Lincoln University of Pennsylvania	2,361
Mid-Atlantic	Virginia	Hampton University	4,619
Mid-Atlantic	Virginia	Norfolk State University	5,616
Mid-Atlantic	Virginia	Saint Paul College	556
Mid-Atlantic	Virginia	Virginia State University	5,414
Mid-Atlantic	Virginia	Virginia Union University	1,678
Mid-Atlantic	Virginia	Virginia University of Lynchburg	597
Mid-Atlantic	Washington D.C	Howard University	10,002
Mid-Atlantic	Washington D.C	Howard University College of law	473
Mid-Atlantic	Washington D.C	Howard University College of Medicine	120
Mid-Atlantic	Washington D.C	University of the District of Columbia	5,667
Midwest	Missouri	Harris- Stowe State University	1,390
Midwest	Missouri	Lincoln University of Missouri	3,156
Midwest	Ohio	Central State University	2,033
Midwest	Ohio	Wilberforce University	500

(Contd...)

Table 4: (Continued)

Region	State	HBCU	Students enrolled
South	Alabama	A&M University	6,001
South	Alabama	Alabama State University	5,475
South	Alabama	Bishop State Community College	3,982
South	Alabama	Concordia College- Selma	546
South	Alabama	Gadsden State Community College	7,031
South	Alabama	H Councill Trenholm State Technical College	1,758
South	Alabama	JF Drake State Technical College	1,384
South	Alabama	Lawson State Community College- Birmingham Campus	5,460
South	Alabama	Miles College	1,500
South	Alabama	Oakwood University	1,711
South	Alabama	Selma University	547
South	Alabama	Shelton State Community College	5,307
South	Alabama	Stillman College	615
South	Alabama	Talladega College	350
South	Alabama	Tuskegee College	3,117
South	Arkansas	Arkansas Baptist College	990
South	Arkansas	Philander Smith College	996
South	Arkansas	Shorter College	569
South	Arkansas	University of Arkansas at Pine Bluff	2,382
South	Kentucky	Kentucky State University	1,926
South	Kentucky	Simmons College of Kentucky	216
South	Louisiana	Dillard University	1,301
South	Louisiana	Grambling State University	4,863
South	Louisiana	Southern University and A & M College	6,489
South	Louisiana	Southern University at New Orleans	3,165
South	Louisiana	Southern University at Shreveport	2,834
South	Louisiana	Southern University of Louisiana	6,489
South	Louisiana	Xavier University of Louisiana	3,231
South	Mississippi	Alcorn State University	3,523
South	Mississippi	Coahoma Community College	2,999
South	Mississippi	Hinds Community College	12,811
South	Mississippi	Jackson State University	9,811
South	Mississippi	Mississippi Valley State University	21,622
South	Mississippi	Rust College	1,064
South	Mississippi	Tougaloo College	809
South	Tennessee	American Baptist College	5,319
South	Tennessee	Fisk University	853
South	Tennessee	Knoxville College	28,894
South	Tennessee	Lane College	2,200
South	Tennessee	Lemoyne-Owen College	987
South	Tennessee	Meharry Medical College	835
South	Tennessee	Tennessee State University	9,027
South	West Virginia	Bluefield State College	2,063

(Contd...)

Table 4: (Continued)

Region	State	HBCU	Students enrolled
South	West Virginia	West Virginia State University	3,879
Southeast	Florida	Bethune-Cookman University	3,773
Southeast	Florida	Edward Waters College	769
Southeast	Florida	Florida A&M University College of Law	529
Southeast	Florida	Florida Agricultural and Mechanical University	9,614
Southeast	Florida	Florida memorial University	1,339
Southeast	Georgia	Albany State University	6,122
Southeast	Georgia	Clark Atlanta university	3,920
Southeast	Georgia	Fort valley State University	2,624
Southeast	Georgia	Interdenominational Theological Center	265
Southeast	Georgia	Morehouse College	2,167
Southeast	Georgia	Morehouse School of medicine	329
Southeast	Georgia	Morris Brown College	240
Southeast	Georgia	Paine College	370
Southeast	Georgia	Savannah State University	10,517
Southeast	Georgia	Spelman College	2,120
Southeast	North Carolina	Barber-Scotia College	120
Southeast	North Carolina	Bennett College for Women	780
Southeast	North Carolina	Elizabeth City State University	2,002
Southeast	North Carolina	Fayetteville State University	6,020
Southeast	North Carolina	Johnson C Smith University	1,620
Southeast	North Carolina	Livingstone College	1,156
Southeast	North Carolina	North Carolina A & T State University	12,754
Southeast	North Carolina	North Carolina Central University	8,096
Southeast	North Carolina	North Carolina Central University School of Law	364
Southeast	North Carolina	Saint Augustine's College	1,508
Southeast	North Carolina	Shaw University	1,660
Southeast	North Carolina	Winston-Salem State University	5,190
Southwest	Oklahoma	Langston University	2,219
Southwest	Texas	Huston-Tillotson University	1,160
Southwest	Texas	Jarvis Christian College	905
Southwest	Texas	Paul Quinn College	424
Southwest	Texas	Prairie View A & M University	8,940
Southwest	Texas	Southwestern Christian College	224
Southwest	Texas	St. Philips College	11,198
Southwest	Texas	Texas College	972
Southwest	Texas	Texas Southern University	10,514
Southwest	Texas	Texas Southern University- Thurgood Marshall School of law	573
Southwest	Texas	Wiley College	1,400
Virgin Islands	Virgin Islands	University of the Virgin Islands	2,138
Virgin Islands	Virgin Islands	University of the Virgin Islands-Kingshill	1,850

5. Conclusions and Implications for Translation

The findings of the present study show that students generally had positive perceptions of their schools' smoke-free policies. However, only a few respondents reported that these smoke-free policies had an impact on their smoking behaviors. Most respondents were non-smokers or had smoked at least once in the 12 months preceding the survey. The results of the regression analysis showed although students' attitudes toward smoke-free policies were not significantly associated across all of the policy variables, there were at least two instances where the students' attitudes toward the smoke-free policies were significantly associated with students' reported smoking behaviors. It is critical to understand the impact of smoke-free policies at institutions of higher education and how they positively influence the tobacco smoking decisions of young adults. Racial/ethnic minority populations are at high risk for using tobacco and tend to bear an unequal share of the human and economic cost of tobacco use. Racial/ethnic health disparities have persisted for African Americans and other racial/ethnic students attending higher education institutions in the United States. The changing social surroundings in which college students find themselves contribute to self-exploration and smoking behaviors can become involved in this process.

Compliance with Ethical Standards

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Key Messages

- ▶ Comprehensive smoke-free policy (CSFP) prohibits any tobacco use, including smoking, anywhere on campus at any time, while regular smoke-free policy (RSFP) limits smoking to certain designated outside areas. There were no significant difference between the smoking behavior of HBCU students at CSFP school with students at RSFP school.
- ▶ Majority of the respondents indicated that they were not regular smokers; however, they were still aware of the smoke-free policies at their campuses.
- ▶ An understanding of smoke-free policy enforcement efforts could substantially advance our knowledge of their impact on the smoking of African American students at HBCUs.
- ▶ An examination of the attitudes and perceptions of smoke-free policies with a focus on staff, faculty, and management at HBCUs is warranted to understand how professors, staff, or school leaders feel about the effectiveness of smoke-free policies.

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