

Perceptions about Flavored Tobacco Policies and Smoking Behaviors among African American and Non-African American Adults by Race and Income in the Tri-County South Region of California

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RESEARCH

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ABSTRACT

Background: African Americans are disproportionately affected by flavored tobacco products. Current research suggests that African American adults have higher menthol cigarette use than other racial groups and are more likely to die from tobacco related diseases.

Objectives: The purpose of this study is to assess community knowledge, attitudes, and perceptions regarding tobacco and health as well as the level of support for citywide policies that ban or restrict the sales of flavored

tobacco, the distribution of free or low cost tobacco, coupons among the African American and non-African American communities in the Tri-County South region of California.

Method: Data were collected using a public intercept survey distributed at events selected for their historically high African American attendance. The survey included questions assessing knowledge, attitudes, personal smoking behavior, and levels of support for policies to ban or restrict flavored tobacco products and tobacco coupon redemption. Data analysis was conducted using descriptive statistics and chi-square tests of independence.

Results: A convenience sample of 431 participants completed the survey. Results showed differences by race and income in knowledge, attitudes, and behaviors related to smoking and health among the residents in the Tri-County South region of California. Results also showed that while African Americans were more likely to be current smokers, they were also more supportive of policies that ban or restrict the sales of flavored tobacco products, including menthol cigarettes.

Conclusions: The findings suggest that efforts to regulate flavored tobacco use may reduce tobacco consumption and tobacco related morbidity and mortality among the African American population, particularly when interventions are tailored to specific income groups.

Public Health Implications: The relatively high



levels of knowledge of the health risks posed by menthol products, as well as broad support for policy interventions targeting menthol products, together suggest that future advocacy efforts should focus on community-based mobilization to lobby for policy change related to menthol regulation.

Keywords: advocacy for health and health education; assessment of individual and community needs for health education; epidemiology; planning of health education strategies; interventions and programs; public health or related public policy; systems thinking models (conceptual and theoretical models); applications related to public health.

INTRODUCTION

African Americans are disproportionately affected by diseases associated with smoking such as cancer, hypertension and cardiovascular diseases compared to white smokers despite smoking fewer cigarettes per day and initiating smoking later in life [1-4]. Current research shows that African Americans also have more difficulty quitting smoking [5-7]. They are less likely to be advised to quit smoking by health practitioners [8] and have lower use of nicotine replacement therapy (NRT) compared to their white counterparts [5,6]. Several factors contribute to this health disparity including residential segregation that resulted in poverty and unsafe neighborhoods [9], higher levels of psychosocial stressors experienced by African Americans compared to Whites [10,11], and lack of effective culturally tailored smoking cessation interventions. Racial residential segregation is a mechanism of institutional racism by enforcing residence in order to minimize social interaction of African Americans and Whites [9]. Segregation has substantial adverse effects on African Americans in terms of socioeconomic status, neighborhood safety, housing quality, access to healthcare, and education and employment opportunities. These factors then predispose African Americans to higher levels of psychosocial stressors that have been identified as a risk factor for smoking [12]. Slopen et al. [13] identified seven

psychosocial stressors that were associated with higher odds of being a current smoker including neighborhood, financial, relationship, and psychological work stress, perceived inequality, stressful events, and childhood adversity. Moreover, smoking cessation interventions that include African American smokers in their randomized controlled trials, especially group-based interventions, are very limited [14]. The lack of culturally tailored smoking cessation programs may affect the successful quit rates for this population.

Use of Flavored Tobacco among the African American Population

Menthol is a mint-flavored additive often used to mask the harsh taste of tobacco [15, 16]. Menthol smoking is particularly prevalent among African Americans. National data indicate that 74%–88% of Black/African American adult smokers use menthol cigarettes [1, 16, 17]. African American smokers were 10-11 times more likely to smoke menthol cigarettes compared to their white counterparts [17]. Being Black has been found to be a significant correlate of current menthol cigarette use [18]. Gardiner [19] suggested that this phenomenon was a result of systematic, targeted, and culturally tailored tobacco advertising directed at African Americans since the 1960s. Menthol cigarettes were not only marketed as a safer choice that was “fresh and modern” but also an important part of the “African American experience” [19].

Menthol synergistically interacts with nicotine to create stronger nicotine dependence. Studies have shown that menthol smokers have a significantly shorter time to the first cigarette of the day [20, 21] and are less likely to have a previous quit attempt longer than 90 days [22] compared to non-menthol smokers. In addition, African American menthol smokers have more difficulty quitting. Studies have found that although African American smokers smoke fewer cigarettes per day, those who smoke menthol cigarettes have lower cessation rates than non-menthol smokers even when receiving evidence-based intervention [23, 24]. Similarly, a study by Gandhi et al. [23] found that African Americans who smoked menthol cigarettes were



significantly less likely to remain abstinent both 4-weeks after quitting (AOR = 0.32, 95% C.I. = 0.16-0.62) and 6-months after quitting (AOR = 0.48, 95% C.I. = 0.25-0.90) compared to African Americans who smoked non-menthol cigarettes.

Poverty and Tobacco Use

Previous research has also found that lower socioeconomic status (SES) was associated with higher smoking prevalence [25, 26]. In 2013, the prevalence of smoking among US adults living at or below the US Census poverty threshold was 80% greater than that of those living above the poverty line [27]. Low-income individuals are more likely to initiate smoking in their adolescent years [28] while quit attempts are less likely to be successful [29, 30]. Challenges for those with low SES to quit smoking include lack of social support, low motivation, stronger addiction, higher levels of stress and targeted tobacco marketing [30]. Although low SES is a risk factor for smoking, current research has not found income to be a correlate to current menthol cigarette use [18].

Tobacco Price Reduction Marketing Tactics

The retail environment is the primary channel for tobacco marketing. In 2014, tobacco companies spent over \$8.2 billion, representing 91% of the annual marketing budget, at point of sale [31]. Majority of the point of sale marketing employs price reduction tactics to lower the price of cigarettes and other tobacco products by offering promotions through coupons, discounts, sweepstakes and free samples. Marketing plays an important role in tobacco use. Exposure to tobacco marketing is associated with higher smoking initiation rates [32] and lower quit rates among adults [33]. Research also shows ethnic and socioeconomic disparities in exposure to tobacco marketing. A meta-analysis conducted by Primack et al. [34] found that African Americans are exposed to a higher volume of tobacco advertising both in concentration and density. African Americans and individuals of lower SES were more likely to recall tobacco ads and report that marketing and promotions impact their tobacco use [35].

Tobacco promotions were more likely to be found in stores within economically disadvantaged neighborhoods with high concentration of African Americans [35, 36].

Flavored Tobacco Related Policy Efforts

Although the 2009 Family Smoking Prevention and Tobacco Control Act banned flavored tobacco in the United States, menthol was excluded from this ban [38]. Considering a ban on menthol cigarettes became a high priority action for the Food and Drug Administration [39, 40]. A menthol ban in cigarettes could potentially save thousands of lives by motivating menthol smokers to quit. In several studies, menthol smokers reported that a menthol ban would motivate them to quit smoking altogether [41, 42]. In 2016, Chicago was the first major city in the US to ban menthol cigarettes within 500 feet of schools with relatively low compliance of 57% [43]. This finding highlights the need to build consensus in the community to increase the compliance and impact of policies that restrict menthol sales. However, it remains unclear if a menthol ban would be accepted and supported by the public. For example, a survey that examined public opinions about a menthol ban found that over half of the respondents reported not having a strong opinion [42]. Interestingly, populations with the highest menthol cigarette use were more likely to support a menthol ban [42]. A ban on menthol cigarettes may have substantial impact on reducing tobacco use and smoking related morbidity and mortality. A study that applied SimSmoke modeling suggested that a menthol ban could approximately prevent 323 000 and 633 000 deaths, almost one third of which would be among African Americans [44].

Study Aims

While research has examined the general population's support for bans and restrictions of menthol products, little is known about the opinions of the African American community which has been heavily affected by flavored tobacco and other tobacco products. In particular, there is relatively little documentation of the African American community's knowledge and attitudes about



flavored tobacco including menthol products and electronic smoking devices (ESDs). Additionally, studies that explored knowledge about tobacco promotional tactics in the African American community have been scant. The purpose of the present study is to better understand the African American community's knowledge, attitudes, and perceptions regarding tobacco and health as well as their opinions regarding ordinances to prohibit or restrict the sale and distribution of flavored tobacco products, including menthol cigarettes, as well as policies restricting the redemption of coupons, rebates, and other promotions offering free or low-cost tobacco products in the Tri County South Region in California. Tri County South includes Riverside, Imperial and San Bernardino Counties.

METHODOLOGY

A public intercept survey (PIS) and protocol were developed from samples derived from the Tobacco Control Evaluation Center (TCEC) at UC Davis and adapted from other project samples and research articles. Inland Empire Smoke Out (I.E. Smoke Out) staff and community members were also consulted on the appropriateness of the questionnaire for intended African American/Black participants.

To test for validity and reliability, the questionnaire was pilot tested with ten (10) participants who were not part of the targeted population. Revisions were made based on feedback from the pilot participants. The final survey instrument consisted of a total of twenty-one (21) questions: twelve (12) knowledge questions related to tobacco and health; four (4) attitude/belief questions related to their perceptions about flavored tobacco and the use of coupons to purchase tobacco products, and four (4) attitude /belief questions related to their support or non-support for policies that ban or restrict the sale of flavored tobacco products including menthol and other Electronic Smoking Devices (ESDs) as well as restricting the distribution and redemption of coupons, rebates, gift cards and other offers, and one (1) behavior question related to smoking behavior. In addition, there were a set of demographic questions such as gender, race/ethnicity, age, education,

and income. The questionnaire was intended to be short and user-friendly.

Six (6) I.E. Smoke Out staff and four (4) community volunteers were trained in scientifically sound survey data collection methods including practical strategies for culturally competent and culturally respectful evaluation. Trainings were conducted with two separate groups for 3 hours per day per group.

Surveys were conducted through paper and pencil method during events with large African American/Black population in attendance including the City of Perris (Unity Day), City of Riverside (Juneteenth, NAACP Awards and the Riverside County Black Chamber of Commerce), City of San Bernardino (C.O.P. Health Fair) and City of Moreno Valley (African American Family Reunion). Data collection was conducted in the months of June-November 2019. The surveys were distributed to a convenience sample of 500 participants, of which 431 questionnaires were fully completed.

Statistical Analyses

All analyses were conducted in SPSS 26.0. Univariate analyses, including the calculation of means, standard deviations, frequencies, and valid percentages, were conducted to describe the sample demographics as well as participants' tobacco use and awareness, knowledge, and attitudes. Tobacco use knowledge and attitude items were compared by a series of chi-square tests of independence, with discrepancies between observed and expected values were examined for statistically significant analyses only.

RESULTS

Sample

Table 1 reports on the demographic characteristics of the respondents. As the perceptions of African American respondents were of particular interest in this present study, they were oversampled, as reflected in the race data. The sample was highly educated overall, with the majority of respondents having at least an undergraduate degree, was predominantly female, and had few participants



reporting fair or poor health. A roughly equal distribution of responses was observed for the other demographic characteristics of the sample. For instance, there was a fairly even distribution of participants across the four age groups examined.

Tobacco Use by Demography

As shown in Figure 1, overall tobacco use rates for this sample were largely in line with the rates observed in the general population of California. No significant difference was observed in overall tobacco use rates by race ($\chi^2(1) = 0.03$, $p = .86$), though a significant difference was noted by income ($\chi^2(3) = 16.36$, $p = .001$) with greater risks of smoking seen at the lower income brackets and a markedly lower smoking rate in the highest income bracket.

Tobacco Use and Awareness

Prior to assessing the impact of race and income on respondents' tobacco use and awareness, overall data were first examined (see Table 2).

As shown in the Table 2, menthol cigarette consumption was the most common form of nicotine consumption among respondents, with almost twice as many respondents smoking menthol cigarettes as non-menthol ones. Use of electronic smoking devices was low, overall, though the formatting of this survey item allowed only a single response option to be selected, potentially obscuring occasional electronic smoking device use by participants who smoke cigarettes. Thus, it may be safest to interpret these data as reflecting that about 1.6% of respondents reported exclusively using electronic smoking devices. Interestingly, while only approximately 13% of the sample reported smoking or vaping, nearly half of respondents reported that they, or people they knew, had received tobacco-related promotions.

Tobacco Use and Awareness by Income

As shown in Table 4, several tobacco use and awareness items varied by income. For instance, not only were respondents in the highest income bracket less likely

to smoke overall, but they were also noticeably less likely to smoke menthol cigarettes.

The proportion of homes with at least one smoker was greatest among the lowest income bracket, while the opposite was true for respondents in the highest income bracket. Little difference was seen between the two middlemost income brackets, which had rates between the highest and lowest brackets.

Of note, respondents in the highest income bracket were least likely to have exposure to any of the price reduction policies (e.g. coupons, promotions, etc) used to reduce the cost of cigarettes for consumers.

Curiously, while no respondents in the highest income bracket reported smoking at home, respondents in the next highest income bracket reported noticeably higher smoking at home than the two lowest income brackets.

Tobacco Use Knowledge

Prior to examining the impact of race and income on respondents' tobacco knowledge, overall agreement with a series of knowledge items was first calculated (see Table 5).

As shown in the Table, distrust of electronic smoking devices was substantial, with respondents about 1.5 – 2.7 times more likely to disbelieve statements about the safety these devices. While there was substantial uncertainty about menthol cigarettes overall, respondents were 4 times more likely to mistakenly believe that menthol cigarettes are no harder to quit than non-menthol cigarettes but also 4 times as likely to believe that African Americans prefer menthol cigarettes compared to non-African Americans. In addition, while only half or fewer of respondents indicated awareness of tobacco company policies to reduce the cost of tobacco products, a majority did agree that African Americans are specifically targeted with menthol cigarette advertising.

In order to determine if knowledge varies by race or income, a series of chi-square tests of independence were conducted.

Although response options to the knowledge items included "Yes," "Maybe," "No," and "Not Sure," the decision



was made a priori to restrict these comparisons to those who answered “Yes” or “No” in order to draw more definitive conclusions about those who truly do or do not harbor misperceptions about tobacco use.

Tobacco Use Knowledge by Race

As shown in Table 6, several statistically significant differences in knowledge by race were observed. Specifically, African American respondents were significantly more likely to agree that African Americans prefer menthol cigarettes more than other races, that cigarette companies employ a variety of strategies to reduce cigarette costs to offset tobacco taxes, and that tobacco companies spend a disproportionate amount of their budgets on marketing and promotional discounts.

Tobacco Use Knowledge by Income

As shown in Table 7, several statistically significant differences in knowledge by race were observed. For instance, belief in the safety of vape pens was significantly lower in the highest two income brackets examined compared with the lower two. In addition, respondents in the highest income bracket appeared to be least aware of tobacco industry practices of offsetting price increases from tobacco taxes with promotions, coupons, and similar programs. Interestingly, although confidence in distinguishing the difference between an aerosol and a vapor was low in the lower and upper income brackets, just over half of the respondents in the \$41-60K income bracket expressed confidence in distinguishing between the two. Similarly, participants in that \$41-60K income bracket also were most likely to claim to know that cigarette companies spend a disproportionate amount of their budgets on marketing and promotional discounts.

Attitudes toward Tobacco Use

Prior to examining the impact of race and income on respondents’ tobacco attitudes, overall attitudes were first calculated (see Table 8).

Although response options to the attitude items included “Yes,” “Maybe,” “No,” and “Not Sure,” the decision

was made a priori to restrict these comparisons to those who answered “Yes” or “No” in order to draw more definitive conclusions about those who truly harbored clear opinions on the issues under study.

As shown in Table 8, across the attitudinal items asked, respondents indicated fairly widespread anti-smoking sentiments, with between 82.4 – 94.8% of respondents endorsing anti-smoking beliefs.

Attitudes toward Tobacco Use by Race

As shown in Table 9, no significant differences were observed in responses to the attitudinal items by race.

Attitudes toward Tobacco Use by Income

As shown in Table 10, a consistent pattern emerged when attitudes were examined by income bracket. In several instances statistically significant findings emerged, and in each case participants in the lowest income bracket showed markedly less agreement with statements that were antagonistic towards tobacco or electronic smoking device use. It is worth noting, however, that even in the lowest income bracket, anti-tobacco sentiments were widespread, with over two thirds of respondents expressing negative attitudes toward smoking and electronic smoking device use.

Overall Tobacco Policy Positions

Prior to examining the impact of race and income on respondents’ positions on various tobacco control policies, overall positions were first calculated (see Table 11).

Although response options to the attitude items included “Yes,” “Maybe,” “No,” and “Not Sure,” the decision was made a priori to restrict these comparisons to those who answered “Yes” or “No” in order to draw more definitive conclusions about those who truly harbored clear opinions on the issues under study.

As shown in Table 11, while the greatest support was for the regulation of electronic smoking devices and the least support was for outright bans of flavored tobacco



products, the most noticeable pattern in the data is the consistently high overall high levels support observed for all 5 proposed tobacco control policies.

Overall Tobacco Policy Positions by Race

As shown in Table 12, no significant differences were observed in respondents' support for various tobacco control policies by race.

Overall Tobacco Policy Positions by Income

As shown in Table 13, a clear pattern emerged when support of proposed tobacco control policies was examined by Income. In every instance while overall support of the policies was high, approximately 10% fewer of the respondents in the lowest income bracket expressed support for each policy proposal.

DISCUSSION

The results of these data provide a glimpse into the tobacco-related knowledge, attitudes, and policy support of the Tri-County South region of California residents while providing insights into the role of race and income on these issues.

Overall Findings

Taken together, these data illustrate a population that is largely dubious of tobacco use, despite widespread promotions and marketing by tobacco companies and one in five households reporting at least one smoker. With almost 95% of respondents agreeing that tobacco use is an important health problem to address in their communities, even some current smokers embraced the need for tobacco control efforts. This manifested as widespread support for each of the proposed tobacco control policies examined.

While these data are promising, an important caveat exists. These data also highlighted the importance of menthol flavoring as a consideration when weighing tobacco control policies. For instance, while a third of participants were uncertain whether menthol has an effect on smokers' ability to successfully quit and nearly half were uncertain whether African American smokers show a

preference for menthol cigarettes, there was a greater deal of consensus among respondents that African Americans are being targeted with menthol cigarette advertising. This dovetails with the smoking behaviors observed in the study, with menthol cigarettes being the most frequent product used by smokers. It may therefore be unsurprising that proposed policies to ban flavored tobacco products received the lowest support from respondents.

While educational outreach might address some of the knowledge deficits observed regarding the unique risks of menthol cigarettes, such efforts might not be entirely necessary given the overall high levels of support expressed for banning flavored tobacco products. While this was the least popular of the tobacco control policies examined in this study, with 87.5% of respondents with an opinion expressing support, this may be a politically viable proposal without additional intervention.

While in aggregate these data describe a population ready to support a range of new tobacco control policies, the impact of race and income warrant discussion.

The Impact of Race

Perhaps the most interesting outcome of examining respondents' tobacco use, awareness, knowledge, attitudes, and policy support by race was how few outcomes were ultimately impacted by race. In the present study, race was found to make no difference in smoking rates, respondents' tobacco awareness, attitudes towards tobacco use, or support for tobacco control policies. However, African Americans are 3.4 times more likely to use menthol cigarettes compared to non-blacks. This is consistent with the African American smoking paradox which states that African American have comparable smoking rates compared to other races but suffer high proportion of tobacco related morbidity and mortality. The pharmacological and physiological effects of menthol may indirectly contribute to the disproportionate burden of disease among African Americans through several pathways such as covering up the bitter taste of cigarettes, increasing nicotine dependency and difficulty quitting [45].

In fact, the only domains studied that were significantly impacted by race were tobacco use and knowledge, with African American respondents reporting more use of and preference for menthol cigarettes and more familiarity with tobacco companies' promotional practices to control the cost of cigarettes.

The Impact of Income

The impact of income on respondents' tobacco use, awareness, knowledge, attitudes, and policy support was widespread and largely in line with previous literature documenting the disproportionate impact on lower income populations.

Compared with respondents in the higher income brackets, participants in the $\leq \$20k$ bracket were more likely to have at least one household smoker and expressed less awareness of the risks of vape pens. These respondents also expressed the most familiarity with tobacco industry practices of employing promotions, coupons, and similar programs to control tobacco costs and mitigate the impact of tobacco taxes on overall sales, which is unsurprising, as they also were more likely to have been offered these promotions than subjects in the $\$61K+$ income bracket. Interestingly, however, despite their exposure to promotional programs, participants in the lowest income bracket were also the least likely to realize the disproportionate amount of their budgets on these promotional programs.

Across the attitudinal and tobacco control policy items, respondents in the lowest income bracket reported less opposition to smoking and less support of enacting new tobacco control policies.

Ultimately, however, the association between income and tobacco use, knowledge, and attitudes failed to manifest meaningful in community support of tobacco control policies. While there were statistically significant differences in levels of support for tobacco control policies, even in the lowest income bracket the least popular tobacco control proposals were supported by a substantial majority of the respondents.

In short, income-related effects existed in this sample as anticipated, but the presence of these effects is simply outweighed by the magnitude of the overall support for additional tobacco regulations in this population.

Together these data describe a population that appears ready to support a wide range of tobacco control interventions.

STUDY LIMITATIONS

The present study has a few limitations that warrant consideration. First is the matter of generalizability. As these data were restricted to the Tri-County South Region in California, the results of this study speak primarily to support of tobacco control policies at the county level, as the results may not generalize to other populations.

Another consideration is the effect of the study's recruitment approach on estimates of the effects of race. As one of the goals of the study was to compare the results of African Americans to non-African Americans, the study set out to purposely oversample African American participants by recruiting at events with high anticipated turn outs of African American attendees. However, by also recruiting non-African American participants exclusively at these events, it is possible that this study artificially selected for participants with shared interests that could have masked important racial differences that exist in the broader population. This could explain, in part, why relatively few differences were observed in respondents' tobacco use, awareness, knowledge, attitudes, and policy support by race.

In addition, it should be noted that the scope of the present study was limited to examining the direct effects of race and income independently, however it is plausible that important interaction effects between race and income exist. Future research is warranted to examine how these variables interact to determine whether the impact of income on tobacco use, awareness, knowledge, attitudes, and policy support is further impacted by its interaction with race.

The role of repeated testing also bears consideration. As no corrections were applied to the alpha



level used to establish statistical significance in this study ($\alpha = 0.05$), it is possible that one or more of the significant findings presented here could represent false positives. While the majority of the findings presented here are in line with past research, some of the findings were difficult to explain. For instance, the observation that respondents in the second highest income bracket reported higher at-home smoking rates than the lowest or highest income brackets makes less theoretical sense than other findings, and may represent a false positive or an artifact resulting from the smaller sample size resulting from that analysis's restriction to only past year smokers.

Ultimately, the preponderance of the findings presented here makes theoretical sense and are internally consistent, however, providing some faith in the veracity of these findings. Future research using similar methods to explore support for tobacco control interventions in other settings with other populations may help to build consensus for some of the findings presented here.

CONCLUSION

This study focused on race and income on tobacco awareness, knowledge, attitudes and policy support among a sample of predominantly African American participants in the Tri-County South region of California. First, this study documented very few outcomes that were ultimately impacted by race. Second, the impact of income was widespread and was very much in line with previous literature that documented the disproportionate impact on lower income populations. The disproportionate impact borne by low income and underserved racial/ethnic minority populations is important to remain cognizant of, as it may be obfuscated by the otherwise considerable progress that has been made regarding tobacco use in the United States. While current trends show a continuous decline in prevalence, these findings have not always held true in vulnerable subpopulations. Cigarette use among low income African Americans appears to remain high which is a phenomenon that seems to remain unchanged. Moreover, menthol targeting has seen very little change since the 1960s and African Americans continue to be bombarded

with menthol slogans, advertisements and coupons. This is of grave concern especially because tobacco use is the single, most preventable cause of death which has disproportionately impacted low income African Americans who smoke or are affected by second- and third-hand smoke. The present study highlights the urgent need for public health professionals to pay greater attention to preventing and reducing cigarette smoking among vulnerable populations that do not appear to be benefiting from current interventions. In 2009, New York City was the first to enact a policy restricting the sales of flavored non-cigarette tobacco products and subsequently demonstrated the effectiveness of policy-level interventions in reducing sales of such products [46, 47]. Expanding upon restrictions like this to include flavored cigarette products such as menthol cigarettes and flavored E-cigarettes may further reduce overall tobacco use and improve health outcomes of African Americans, who are disproportionately affected by menthol cigarettes.

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PEER REVIEW

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TABLES

Table 1: Demographic Characteristics of Sample (n =406 - 449).

Demographic Characteristic	M (SD)	N (valid %)
Age		
18-29		79 (18.0)
30-44		111 (25.3)
45-59		149 (34.0)
60+		99 (22.6)
Gender		
Female		291 (66.7)
Male		145 (33.3)
Race		
Black		307 (72.9)
Non-Black		114 (27.1)
Highest Level of Education		
Elementary		2 (0.04)
High School Diploma/GED		63 (14.0)
Some College		127 (28.3)
College		244 (54.3)
Income		
≤ 20K		72 (16.0)
21-40K		115 (25.6)
41-60K		122 (27.2)
61+ K		109 (24.3)
Health, Self-Rated		
Excellent		86 (20.0)
Very Good		156 (36.3)
Good		131 (30.5)
Fair		51 (11.9)
Poor		6 (1.4)
Political View*	5.1 (2.1)	

*Coded as 1 = Very Liberal, 10 = Very Conservative

Table 2: Tobacco Use and Awareness, Overall (n = 56 – 446).

Items	N (valid %)
Smoking Status, Past Year	
Non-smoker	268 (61.6)
Smoked but now quit	109 (25.1)
Smokes, non-menthol cigarettes	18 (4.1)
Smokes, menthol cigarettes	33 (7.6)
Smokes, electronic smoking device	7 (1.6)
Smoking Location, Past Year Smokers	
Outside	46 (82.1)
Car	27 (48.2)
Home	19(33.9)
Other	7(12.5)
Any household smokers	
Yes	86 (19.7)
No	350 (80.3)
Ever offered a tobacco coupon or promotion, Self or Others	
Yes	183 (47.2)
No	205 (52.8)
Awareness of Electronic Smoking Devices	
Seen/heard of e-cigarettes	417 (94.1)
Seen/heard of vape pens	398 (89.6)
Seen/heard of e-hookahs	322 (76.8)

Table 3: Tobacco Use and Awareness by Race (n = 50 – 449).

Question	Valid %		χ^2	df	Cramer's V	p
	Black	Non-Black				
Smoking Status, Past Year			9.42	4	.15	.05
Non-smoker	62.3	62.3				
Smoked but now quit	24.8	25.4				
Smokes, non-menthol cigarettes	3.0	7.0				
Smokes, menthol cigarettes	8.9	2.6				
Smokes, electronic smoking device	1.0	2.6				
Smoking Location, Past Year Smokers						
Outside	78.9	91.7	1.00	1	.14	.31
Car	47.4	53.8	0.16	1	.06	.69
Home	31.6	46.2	0.90	1	.13	.34
Other						
Any household smokers			0.67	1	.04	.41
Yes	17.3	20.9				
No	82.7	79.1				
Ever offered a tobacco coupon or promotion, Self or Others			0.45	1	.04	.50
Yes	47.4	43.4				
No	52.6	56.6				
Awareness of Electronic Smoking Devices						
Seen/heard of e-cigarettes	95.0	93.8	0.28	1	.03	.60
Seen/heard of vape pens	91.5	87.4	1.57	1	.06	.21
Seen/heard of e-hookahs	75.7	83.0	2.40	1	.08	.12

Table 4: Tobacco Use and Awareness by Income (n = 53 - 418).

	Income (Valid %)							
Question	≤ 20k	21-40K	41-60K	61K+	χ^2	df	Cramer's V	p
Smoking Status, Past Year					21.62	12	.13	.04
Non-smoker	55.7	53.1	64.2	70.6				
Smoked but now quit	25.7	25.7	23.3	25.7				
Smokes, non-menthol cigarettes	2.9	7.1	3.3	1.8				
Smokes, menthol cigarettes	11.4	11.5	8.3	1.8				
Smokes, electronic smoking device	4.3	2.7	0.8	0				
Smoking Location, Past Year Smokers								
Outside	84.6	87.5	75.0	100	1.76	3	.18	.62
Car	46.2	41.7	69.2	25.0	3.60	3	.26	.31
Home	30.8	20.8	69.2	0	11.26	3	.46	.01
Other	15.4	8.3	23.1	0	2.30	3	.21	.51
Any household smokers					8.40	3	.14	.04
Yes	27.8	21.9	22.1	11.2				
No	72.2	78.1	77.9	88.8				
Ever offered a tobacco coupon or promotion, Self or Others					15.65	3	.21	< .001
Yes	55.0	59.2	48.0	33.0				
No	45.0	40.8	52.0	67.0				
Awareness of Electronic Smoking Devices								
e-cigarettes	94.2	95.7	96.7	94.4	0.93	3	.05	.82
vape pens	84.5	92.9	93.4	90.8	5.04	3	.11	.17
e-hookahs	71.2	77.4	79.5	82.5	3.19	3	.09	.36

Table 5: Tobacco Knowledge, Overall (n = 441 - 449).

	Valid %		
Statement	Agree	Disagree	Maybe/ Unsure
Know the difference between aerosol and vapor	32.7	46.4	20.9
Vape Pens have no tobacco, odor, tar, fire, ash, or secondhand smoke	29.0	43.0	28.0
E-cigarettes are safe to use anywhere and have less nicotine than a real cigarette	21.5	57.3	21.2
Menthol cigarette smokers are less likely to successfully quit than non-menthol smokers	18.3	49.0	32.7
African American smokers prefer menthol cigarettes more than non-black smokers	41.3	10.0	48.7
The tobacco industry targets African Americans with menthol cigarette marketing	65.9	9.0	25.1
Do you know that tobacco companies find ways to reduce the cost of cigarettes to compensate for tobacco taxes	50.3	16.3	33.4
Do you know that tobacco companies spend ~70% of their budget on marketing & promotional discounts paid to cigarette retailers to reduce the cost of cigarettes to the consumer	42.1	28.0	29.9

Table 6: Tobacco Knowledge, by Race (n = 441 - 449).

		Valid %					
Question	Response	Black	Non-Black	χ^2	df	Cramer's V	p
Know the difference between aerosol and vapor	Agree	41.4	39.8	0.07	1	.02	.79
	Disagree	58.6	60.2				
Vape Pens have no tobacco, odor, tar, fire, ash, or secondhand smoke	Agree	39.1	40.0	0.02	1	.01	.89
	Disagree	60.9	60.0				
E-cigarettes are safe to use anywhere and have less nicotine than a real cigarette	Agree	25.6	26.7	.04	1	.01	.84
	Disagree	74.4	73.3				
Menthol cigarette smokers are less likely to successfully quit than non-menthol smokers	Agree	28.9	19.2	2.64	1	.10	.10
	Disagree	71.1	80.8				
African American smokers prefer menthol cigarettes more than non-black smokers	Agree	94.2	71.2	29.82	1	.31	<.001
	Disagree	5.8	28.2				
The tobacco industry targets African Americans with menthol cigarette marketing	Agree	83.5	75.6	1.40	1	.08	.24
	Disagree	16.5	24.4				
Do you know that tobacco companies find ways to reduce the cost of cigarettes to compensate for tobacco taxes	Agree	79.9	62.3	8.61	1	.18	.003
	Disagree	20.1	37.7				
Do you know that tobacco companies spend ~70% of their budget on marketing & promotional discounts paid to cigarette retailers to reduce the cost of cigarettes to the consumer	Agree	65.3	47.4	7.64	1	.16	.006
	Disagree	34.7	52.6				

Table 7: Tobacco Knowledge, by Income (n = 212 - 332).

		Income (Valid %)							
Question	Response	≤ 20k	21-40K	41-60K	61K+	χ^2	df	Cramer's V	p
Know the difference between aerosol and vapor	Agree	34.0	37.8	54.7	38.5	8.76	3	.16	.03
	Disagree	66.0	62.2	45.3	61.5				
Vape Pens are safe	Agree	46.0	50.6	31.2	36.3	7.95	3	.16	.05
	Disagree	54.0	49.4	68.8	63.7				
E-cigarettes are safer than real cigarettes	Agree	24.0	37.1	21.6	25.3	6.46	3	.14	.09
	Disagree	76.0	62.9	78.4	74.7				
Menthol cigarette smokers are harder to quit	Agree	27.7	34.3	28.7	21.3	3.05	3	.11	.38
	Disagree	72.3	65.7	71.3	78.7				
African American smokers prefer menthol cigarettes more than non-black smokers	Agree	84.3	89.3	93.7	88.1	3.41	3	.10	.33
	Disagree	15.7	10.7	6.3	11.9				
The tobacco industry targets African Americans with menthol cigarette marketing	Agree	73.0	83.6	89.9	75.6	6.32	3	.17	.10
	Disagree	27.0	16.4	10.1	24.4				



Tobacco companies reduce the cost of cigarettes to compensate for tobacco taxes	Agree	73.3	78.8	86.1	66.7	8.44	3	.18	.04
	Disagree	26.7	21.3	13.9	33.3				
Tobacco companies spend ~70% of their budget on marketing & promotional discounts	Agree	42.4	64.3	74.3	56.8	14.97	3	.23	.002
	Disagree	57.6	35.7	25.7	43.2				

Table 8: Tobacco Use Attitudes, Overall (n = 392 - 427).

Items	N (valid %)
Bothered by preteen/teen using an electronic smoking devices	
Agree	383 (92.5)
Disagree	31 (7.5)
Bothered if someone uses an electronic smoking device around you	
Agree	352 (85.2)
Disagree	61 (14.8)
Cheap tobacco products increases tobacco use, especially among kids/young adults	
Agree	362 (91.4)
Disagree	34 (8.6)
Tobacco products negatively affect the local community's health	
Agree	399 (93.7)
Disagree	27 (6.3)
It is important to address tobacco use as a health problem in your community	
Agree	405 (94.8)
Disagree	22 (5.2)
Parents who live with their children should not be allowed to smoke in their home	
Agree	323 (82.4)
Disagree	69 (17.6)

Table 9: Tobacco Use Attitudes, by Race (n = 375 - 403).

Item	Response	Valid %		χ^2	df	Cramer's V	p
		Black	Non-Black				
Bothered by preteen/teen using an electronic smoking devices	Agree	93.0	91.4	0.26	1	.03	.61
	Disagree	7.0	8.6				
Bothered if someone uses an electronic smoking device around you	Agree	87.1	84.5	0.45	1	.03	.50
	Disagree	12.9	15.5				
Cheap tobacco products increases tobacco use, especially among kids/young adults	Agree	93.0	92.1	0.09	1	.02	.76
	Disagree	7.0	7.9				
Tobacco products negatively affect the local community's health	Agree	95.3	93.3	0.63	1	.04	.43
	Disagree	4.7	6.7				
It is important to address tobacco use as a health problem in your community	Agree	95.9	93.5	1.03	1	.05	.31
	Disagree	4.1	6.5				
Parents who live with their children should not be allowed to smoke in their home	Agree	82.5	86.1	0.72	1	.04	.40
	Disagree	17.5	13.9				

Table 10: Tobacco Use Attitudes, by Income (n = 371 - 402)

Item	Response	Income (Valid %)				χ^2	df	Cramer's V	p
		≤ 20k	21-40K	41-60K	61K+				
Bothered by preteen/teen using an electronic smoking devices	Agree	86.7	92.5	96.5	95.1	6.97	3	.14	.07
	Disagree	13.3	7.5	3.5	4.9				
Bothered if someone uses an electronic smoking device around you	Agree	70.3	85.6	89.7	91.1	16.37	3	.21	.001
	Disagree	29.7	14.4	10.3	8.9				
Cheap tobacco products increases tobacco use, especially among kids/young adults	Agree	87.1	91.3	91.8	98.9	8.79	3	.15	.03
	Disagree	12.9	8.7	8.2	1.1				
Tobacco products negatively affect the local community's health	Agree	92.3	91.7	97.4	97.2	6.00	3	.12	.11
	Disagree	7.7	8.3	2.6	2.8				
It is important to address tobacco use as a health problem in your community	Agree	86.4	98.2	98.3	97.2	19.46	3	.22	< .001
	Disagree	13.6	1.8	1.7	2.8				
Parents who live with their children should not be allowed to smoke in their home	Agree	80.3	79.8	83.3	84.7	1.06	3	.05	.79
	Disagree	19.7	20.2	16.7	15.3				

Table 11: Support of Tobacco Control Policies, Overall (n = 375 - 406).

Items	N (valid %)
Would you approve of or support a policy that...	
...Restricts/limits distribution of free and low-cost tobacco products	351 (89.3)
...Restricts coupons, gift certificates, or rebates for tobacco and ESD	348 (89.2)
...Regulates electronic smoking devices just like cigarettes how are regulated	376 (92.6)
...Restricts/limits the sale of all flavored products, including menthol cigarettes	349 (89.0)
...Bans the sale of all flavored products, including menthol cigarettes	328 (87.5)

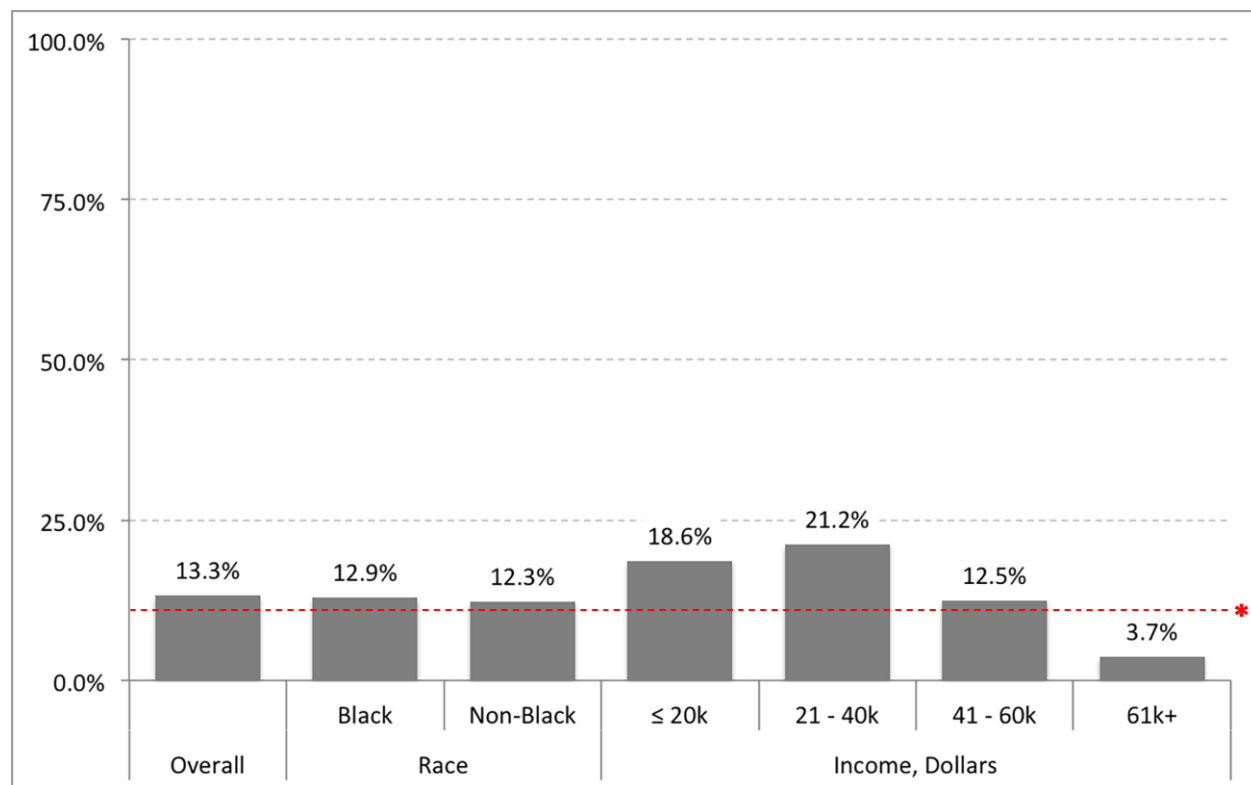
Table 12: Support of Tobacco Control Policies, by Race (n = 357 – 385).

Item	Valid %		χ^2	df	Cramer's V	p
	Black	Non-Black				
Would you approve of or support a policy that...						
...Restricts/limits distribution of free and low-cost tobacco products	90.1	91.1	0.09	1	.02	.77
...Restricts coupons, gift certificates, or rebates for tobacco and ESD	88.8	93.1	1.52	1	.06	.22
...Regulates electronic smoking devices just like cigarettes how are regulated	92.5	94.3	0.41	1	.03	.52
...Restricts/limits the sale of all flavored products, including menthol cigarettes	90.4	88.3	0.33	1	.03	.56
...Bans the sale of all flavored products, including menthol cigarettes	89.4	86.2	0.69	1	.04	.41



Table 13: Support of Tobacco Control Policies, by Income (n = 349 - 381).

Item	Income (Valid %)				χ^2	df	Cramer's V	p
	≤ 20k	21-40K	41-60K	61K+				
Would you approve of or support a policy that...								
...Restricts/limits distribution of free and low-cost tobacco products	80.3	90.8	93.6	92.9	9.20	3	.16	.03
...Restricts coupons, gift certificates, or rebates for tobacco and ESD	80.0	90.1	91.6	93.8	8.43	3	.15	.04
...Regulates electronic smoking devices just like cigarettes how are regulated	79.4	94.4	95.5	98.0	23.73	3	.25	< .001
...Restricts/limits the sale of all flavored products, including menthol cigarettes	78.0	91.0	90.8	93.9	10.90	3	.17	.01
...Bans the sale of all flavored products, including menthol cigarettes	75.9	90.3	86.7	95.7	14.20	3	.20	.003

Figure 1: Smoking by Demographics (n =412 - 435).

* Reference Line at 11.3% represents the proportion of Californians in the general population who smoke (CDC, 2017)