

# Perceptions About Flavored Tobacco Policies and Smoking Behaviors by Age, Gender and Sexual Orientation in the LGBTQ Population in Los Angeles County

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## RESEARCH

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## ABSTRACT

**Background:** Current research suggests that tobacco use is considerably high among the American LGBTQ population. The purpose of this study is to assess the LGBTQ community's knowledge and perceptions regarding tobacco and health as well as their attitudes on the adoption of ordinances to prohibit or restrict the sale and distribution of all flavored tobacco products, including menthol cigarettes and electronic smoking devices (ESDs) as well as restrict the redemption of coupons, rebates and other tobacco promotional approaches in Los Angeles County.

**Method:** A public intercept survey was conducted during events with large LGBTQ attendance such as Pride

festivals within Los Angeles County. The survey instrument consisted of a total of eleven (11) questions: four (4) knowledge questions related to tobacco and health; six (6) attitude/belief questions related to their perceptions about 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. Data analysis was conducted using descriptive statistics and chi-square analysis.

**Results:** A convenience sample of 464 participants fully completed the survey. Results showed differences in knowledge, attitudes and behaviors on smoking and health among the LGBTQ population in LA County by gender, sexual orientation and age. Results also showed lack of knowledge among the LGBTQ population, and lack of support for tobacco policies that restrict the sale and distribution of flavored tobacco products. Furthermore, the LGBTQ population was significantly more likely to be current smokers compared to their heterosexual counterparts. Conclusion: The findings suggest that efforts to reduce flavored tobacco use may have the potential to reduce tobacco use and tobacco diseases and death among LGBTQ populations particularly when interventions are tailored to specific age and gender groups. Targeted efforts to educate the LGBTQ population about the positive impact of implementing policies driven systems change interventions that focus on flavored tobacco are imperative. Finally, more research is needed that investigate the psychological, social



and cultural factors underlying LGBTQ smoking behavior.

**Key Words:** 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.

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## INTRODUCTION

Although the prevalence of smoking in the general population is decreasing in the United States, the lesbian, gay, bisexual, and transgender (LGBTQ) community remains a population that has disproportionately high smoking rates compared to their heterosexual counterparts [1-5]. Current research shows that smoking rates of LGBTQ individuals are at least double the smoking rates of the general population [1, 6]. Several factors contribute to this health disparity including LGBTQ victimization, psychological distress, elevated general stress and lack of culturally appropriate smoking cessation services [7-9]. For example, smoking is a common method of self-medication for individuals coping with psychological distress, such as depression, anxiety, and mood disorders and LGBTQ individuals are more likely to experience these stressors than the general population [10]. LGBTQ adolescents are also at elevated risk for substance use [11] and the disparity between LGBTQ and heterosexual adolescents increases as they transition into young adulthood [12]. While research shows that interest in quitting smoking is high in the LGBTQ community, the lack of LGBTQ specific smoking cessation programs hinders both access to and effectiveness of smoking interventions for this population [7, 13]

### Use of Flavored Tobacco among the LGBTQ Population

Flavored tobacco products such as menthol cigarettes are marketed particularly heavily in the LGBTQ community. As a result, flavored tobacco use is markedly high among the LGBTQ population [14-16]. For example, a study conducted by Fallin et al. (2015) to assess current

menthol cigarette smoking by sexual orientation among a nationally representative sample of US adults found that menthol use was significantly higher among LGBTQ smokers, with 36.3% reporting that the cigarettes they usually smoked were menthol compared to 29.3% of heterosexual smokers.

Menthol is a common flavor additive to majority of cigarettes regardless if they are marketed as menthol cigarettes [17]. Menthol has several traits that make it a desirable product to effectively recruit and retain smokers. For instance, menthol covers the harshness of tobacco, provides a cooling sensation which makes it easier and more pleasant to inhale, and thus attracts young and inexperienced smokers [14, 15, 18]. On top of that, 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 than non-menthol smokers [19-22]. Moreover, as consumers' demand for low tar and low nicotine tobacco products increases due to health concerns, menthol is used as an ingredient to make low tar and low nicotine cigarettes more acceptable to smokers. For example, menthol compensated for the reduced taste in 'light cigarettes', which otherwise would have been less satisfying to smokers [23].

In terms of retaining smokers, studies show that menthol smokers have lower motivation to quit because menthol cigarettes are also marketed as a more socially acceptable, milder, healthier, and less noxious smelling than non-menthol cigarettes [18, 23]. It is documented that menthol smokers also have a harder time quitting. Several studies have found that menthol smokers were less likely to successfully achieve smoking cessation compared to non-menthol smokers [24-26].

### Tobacco Promotional Tactics

Tobacco companies spent over \$8.6 billion on marketing in retail establishments in 2014 [27]. Most retailers and wholesalers receive incentives from tobacco companies to promote tobacco products. Promotional incentives lead to increased advertising of cigarettes and



cheaper prices, which potentially lead to higher smoking rates. Incentives can include promotional allowances – or payments made to retail store owners for stocking, shelving, displaying and merchandising brands, which in turn steers to volume discounts and free products that retailers can later sell to consumers. In 2014, companies spent over \$702 million of their \$9.1 billion marketing budget for promotional incentives to wholesalers and retailers [27]. In 2009, the Tobacco Control Act [28] prohibited distribution, marketing or selling of any cigarette or smokeless-branded non-tobacco items such as t-shirts and lighters. The law banned giveaways of any kind of nontobacco items with the purchase of a tobacco product in exchange for a coupon or proof of purchase. Although these restrictions applied to cigarettes and smokeless products, many did not apply to other tobacco products such as cigars, e-cigarettes or hookah.

Currently, tobacco companies continue to use offers such as sweepstakes or discounts to specific audiences such as the LGBTQ and low income populations. Also, the tobacco industry has used promotional (US National Cancer Institute, 2008) and coalition-building tactics to specifically target particular groups including African Americans [29-31], Hispanics [30, 32, 33]; lesbian, gay, bisexual, transgender, queer, and questioning community [34, 35] and women [36-38]. Like other targeted groups, companies aimed at LGBTQ populations using price reductions, coupons and giveaways, promotions, and charitable contributions and sponsorships and indirectly targeted youth (as young as 8 years old) with so-called youth smoking prevention (YSP) efforts. Tobacco companies also have sponsored pride events and given money to LGBTQ and HIV/AIDS organizations [27]. The American Legacy Foundation (2002) [39] uncovered the industry campaign Project SCUM (Sub-Culture Urban Marketing) aimed at gays and the homeless. The tobacco industry's promotional tactics likely contribute to disparities in smoking prevalence and smoking-related diseases among LGBTQ communities.

## Flavored Tobacco Policies

Shortly after passage of the 2009 Family Smoking Prevention and Tobacco Control Act that authorized the Food and Drug Administration (FDA) to regulate tobacco flavored tobacco in the United States, the law was implemented but menthol was excluded from this ban [14, 40, 18]. The FDA's Center for Tobacco Products was then charged with considering a ban on the menthol flavoring in cigarettes as a high priority action [24, 26]. A policy solution such as a menthol ban in cigarettes could potentially save thousands of lives by motivating menthol smokers to quit.

Studies have documented that approximately 40-50% of menthol smokers report that they would quit smoking altogether if menthol cigarettes were banned [41, 42]. However, policies regarding menthol bans remain contentious, with many unsure where they should stand on the issue. For instance, Pearson et al. (2012) examining public opinions about banning menthol cigarettes revealed that only approximately 28% of adults opposed such bans while just 20% supported them. In fact, the most number of people (52%) reported not having a strong opinion about a menthol ban, a finding which may underscore a lack of knowledge about menthol products in the general population. It was also noted that populations with the highest menthol cigarette use were more likely to support a menthol ban [42, 43] claim that a US menthol ban would bring sizable population level benefits based on their work with a validated smoking simulation model that projected that a menthol ban would reduce overall smoking prevalence by 9.7% and avert smoking-attributable deaths for 633,252 people by 2050.

Despite the inaction of the FDA at the federal level, some state and local governments have passed policies to restrict the sales of flavored tobacco products. For example, the city of Boston, Massachusetts, restricted the sales of flavored tobacco products to adult-only retailers [44]. Similarly, San Francisco has banned the sale of all flavored tobacco products [45]. Chicago has taken a more nuance approach to banning flavored tobacco products, and now prohibits the sale of menthol and other flavored projects within 500 feet of certain city schools [46]. Overall, the



implementation of policies like these to restrict the sales of flavored tobacco products has proven effective and resulted in reductions in both the availability and sales of flavored tobacco products [47-49]. These post policy implementation evaluation studies suggest moderate to high levels of retailer compliance to policies that restrict sale of flavored tobacco products and have documented significant reductions in flavored tobacco consumption, especially for young people.

### Study Aims

While research has examined the general population's support for bans and restrictions of menthol products, to date little is known about the opinions of the LGBTQ community. In particular, there is relatively little documentation of the LGBTQ's community's knowledge and attitudes about flavored tobacco which includes menthol products and electronic smoking devices (ESDs). Additionally, studies that explored LGBTQ's knowledge about tobacco promotional tactics have been scant. The purpose of the present study is to better understand the LGBTQ 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 Los Angeles County.

This study was completed in collaboration with Equality California Institute's tobacco control program, Out against Big Tobacco. The coalition is an alliance of LGBTQ individuals and community organizations collectively working to address tobacco control and health inequity issues within Los Angeles County's LGBTQ community. Equality California is the nation's largest statewide LGBTQ civil rights organization. Equality California Institute is the educational nonprofit associated with Equality California.

## METHODOLOGY

A public intercept survey (PIS) and protocol were developed in consultation with the Tobacco Control

Evaluation Center (TCEC) at UC Davis and adapted from samples from other projects and research articles. Equality California staff and community members were also consulted on the appropriateness of the questionnaire for intended LGBTQ participants.

The questionnaire was pilot tested with ten (10) participants who were not part of the targeted population to test for validity and reliability. The questionnaire was then revised according to feedback from the pilot participants. The final survey instrument consisted of a total of eleven (11) questions: four (4) knowledge questions related to tobacco and health; six (6) attitude/belief questions related to their perceptions about 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, sexual orientation, race/ethnicity, age, city, and zip code. The questionnaire was intended to be short and user-friendly.

Two (2) Equality California staff and eight (8) community volunteers were trained in scientifically sound survey data collection methods including practical strategies for culturally competent and culturally respectful evaluation. Trainings were conducted face to face during a four-hour period in one day.

Surveys were conducted through paper and pencil survey method during events with large LGBTQ populations in attendance including the Los Angeles Pride, Downtown Los Angeles PROUD, and Long Beach Pride. Data collection at the Los Angeles PRIDE event took place from June 9-10, 2018. Data from the Long Beach PRIDE event were collected on May 19-20, 2018 and surveys in downtown Los Angeles were collected on Aug 25-26, 2018. The surveys were distributed to a convenience sample of 500 participants, of which 464 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 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

Of the 500 surveys distributed, 464 were returned with at least partial data, resulting in a 92.8% overall response rate. Table 1 reports on the demographic characteristics of the respondents. Of note, the sample showed considerable heterogeneity in terms of sexual orientations reported with about a quarter of respondents identifying as heterosexual. "Other" responses to sexual orientation included identities such as pansexual, demisexual, and asexual.

### Tobacco Use by Demography

As shown in Figure 1, tobacco use was high across the examined demographic groups with over a third of respondents, overall, having reported using a tobacco product in the past year. As shown by the reference line, all demographic groups save the 51+ year old category exceeded smoking rate estimates for Californians from the CDC's Behavioral Risk Factor Surveillance System (CDC, 2017).[50]

### Tobacco Use Knowledge

Prior to examining the impact of sexual orientation, gender, age, or race on respondents' tobacco knowledge, overall agreement with each knowledge question was first calculated (see Figure 2).

In order to determine if knowledge of tobacco use varies by sexual orientation, gender, age, or race, a series of chi-square tests of independence were conducted.

### Tobacco Use Knowledge by Sexual Orientation

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.

As shown in Table 2, only a single question, "Members of the LGBTQ community smoke at higher rates than the general population," elicited statistically significantly different responses across the sexual orientation groups. Straight and bisexual respondents were noticeably less likely to state that the LGBTQ community smokes more than the general population, with only approximately 1 in 3 respondents stating this, as compared to over half of respondents in all other sexual orientation categories.

### Tobacco Use Knowledge by Gender

Prior to analyzing tobacco use knowledge by gender, the decision was made to combine the categories for transgender men ( $n = 6$ ) and transgender women ( $n = 4$ ) and exclude genders of "other" ( $n = 2$ ) due to low sample sizes. As shown in Table 3, no statistically significant differences were observed in responses across the gender groups examined.

### Tobacco Use Knowledge by Age

Prior to analyzing tobacco use knowledge by age, the decision was made to combine the categories for "31-40" ( $n = 8$ ), 41-50 ( $n = 1$ ) and 51+ ( $n = 4$ ) due to low sample sizes. As shown in Table 4, no statistically significant differences were observed in responses across the age groups examined.

### Tobacco Use Knowledge by Race

As shown in Table 5, no statistically significant differences were observed in responses across the racial groups examined.



### Policy Attitudes

Prior to examining the impact of sexual orientation, gender, age, or race on respondents' tobacco knowledge, overall agreement with each knowledge question was first calculated (see Figure 3).

In order to determine if tobacco use attitudes vary by sexual orientation, gender, age, or race, a series of chi-square tests of independence were conducted.

### Policy Attitudes by Sexual Orientation

As shown in Table 6, no statistically significant differences in attitudes towards tobacco policies were observed across the sexual orientation groups examined.

### Policy Attitudes by Gender

As shown in Table 7, support for tobacco control policies statistically significantly varied by gender for two policies statements. Specifically, male and female respondents were approximately twice as likely to support a policy that restricts the distribution of ESDs (Electronic Smoking Devices) as were transgender respondents. Similarly, while about three quarters of male and female respondents supported a policy that restricts the distribution and/or redemption of coupons, coupon offers, gift certificates, gift cards, and rebate offers for tobacco and ESD (Electronic Smoking Devices), less than half of transgender respondents indicated support for such a policy.

Apart from the aforementioned two policies, no other statistically significant differences in attitudes towards tobacco policies were observed by gender.

### Policy Attitudes by Age

As shown in Table 8, only a single policy elicited statistically significantly different responses across the age groups examined. Specifically, support of a policy that bans the sale and distribution of all flavored products including menthol cigarettes varied, with over three fifths of respondents in the 31+ age range supporting such a policy, but only half of the youngest age group, and just over a third of 21-30 year-olds, supporting it.

### Policy Attitudes by Race

As shown in Table 9, no statistically significant differences in attitudes towards tobacco policies were observed across the racial groups examined.

## DISCUSSION

The results of this survey provide information regarding differences in perceptions about flavored tobacco policies and smoking behaviors by age, gender and sexual orientation among the LGBTQ population in Los Angeles County. This fills a critical gap in the literature regarding policy-level support among the LGBTQ community for various tobacco regulations and highlights several avenues for future research and community-level policy advocacy.

Of note is that tobacco use continues to remain high across all LGBTQ demographic groups, with 1/3 of respondents having reported using tobacco product in the last year. In our results, all demographic groups exceeded the smoking rate estimates for Californians [50] except for the 51+ category. These outcomes are similar to a study conducted by the American Lung Association (2018) that found cigarette smoking among LGB individuals in the U.S. is higher than among heterosexual/straight individuals. About 1 in 5 LGB adults smoke cigarettes compared with about 1 in 6 heterosexual/straight adults. Additionally, even though the rates of smoking are down 6%, smoking rates among LGBTQ youth have been estimated to be considerably higher [51].

In terms of tobacco use knowledge by sexual orientation, statistically significant differences were found across sexual orientation groups. Straight and bisexual respondents were less likely to know that the LGBTQ community smoked more than the general population. Future research is warranted to explore why these differences exist, what factors influence LGBTQ knowledge about smoking, and how these disparate views could be addressed. Because LGBTQ populations face a wide range of health disparities, the findings in this study could provide evidence for public health agencies and health care organizations to develop culturally competent tobacco





education and prevention programs targeting diverse sexual orientations among LGBTQ communities.

Support for tobacco control policies showed statistically significant differences by gender. While male and female respondents were more likely to support policies that restrict the distribution/redemption of coupons, less than half of transgender respondents indicated support for such policy, although transgender respondents were more likely to support policies that restrict the distribution of ESDs. While these results are intriguing and hint to avenues for future research, some caution should be taken in interpreting these findings. While the findings were statistically significant, only 14 transgender respondents participated in this study, and some caution should be taken in extrapolating from 14 respondents to the entire transgender community. Future research is warranted using oversampling of transgender respondents to corroborate the findings presented here. If these findings are corroborated, future research to explore the reasoning for their lack of support for policies restricting the distribution/redemption of coupons.

For instance, it could be that a variety of policies were not consistently inclusive of all tobacco products, or that respondents were more informed about ESD products than they were of coupon redemption. These findings again may suggest the heterogeneity of factors associated with support/non-support for tobacco policies among male, female, and transgender groups.

With regards to support/non-support for tobacco policies by age, only a single policy showed differing levels of support by age. Specifically support for policies restricting flavored/menthol tobacco products was highest in the 31 + age group. One explanation may be that younger people are more likely to be smokers of menthol cigarettes [52] and that their smoking behaviors in turn influence their refusal to support tobacco policy bans or restrictions. Alternatively, this finding could be attributable, in part, to the double-barreled nature of the survey item, which explored both flavored tobacco products and menthol products. Research has documented concerted efforts to market flavored vaping liquid to youths [53], with youths who use fruit or

candy flavored vaping products ultimately consuming more and maintaining the vaping longer than those who use unflavored or menthol vaping [54]. Future research is warranted to examine youth's support of policies restricting just menthol compared to broader restrictions of other flavors to tease apart the influence of the newer flavored products being offered via e-cigarettes. While both traditional menthol products and newer flavors pose significant risks for tobacco product uptake, continuation, and difficulty quitting, it may be that more common ground can be found in policy restrictions focused on menthol products for the time being.

Further research examining support for policies and their association with potential factors of social denormalization beliefs of smoking, tobacco industry denormalization and harm perceptions of smoking is warranted. For example, more specific questions relating to tobacco policies such as covered smoke-free areas, tobacco packaging regulations, combatting illicit trade, as well as rewards and penalties associated with policy compliance/noncompliance could yield engaging results such as those from Chen, Ho, Leung, Wang, & Lam (2019) [55]. Particular questions such as "Would you support a policy that restricts tobacco redemption within 20 feet of a school ground?" or "would you support a policy that steps up efforts to combat illicit tobacco products?" could yield more detailed results that could be used as basis to tailor tobacco education and interventions toward LGBTQ populations. It could also be valuable to push tobacco use outside the realm of normal practice and expose the tobacco industry's malpractices in order to increase public support for regulations of tobacco products and the industry.

## STUDY LIMITATIONS

This study has a few limitations. First, our sample size was limited to respondents who live in and around the Los Angeles County geographical area, which prevents generalization of results to LGBTQ communities who live outside of the area. Second, there are also limitations as a result of our study design and recruitment procedures. Our



sample was recruited in major LGBTQ events such as Los Angeles Pride, and we used public intercept surveys rather than a probability-based sampling, and therefore our findings may not generalize to all LGBTQ young and older adults. Lastly, many respondents were recruited at social venues, such as LA Pride, where tobacco and ESD use are more acceptable than other public community areas compared to the general population, potentially threatening external validity.

This study is unique in that although the sample was drawn from participants from predominantly LGBTQ represented events such as LA Pride, both LGBTQ and heterosexual individuals participated in the study, which allows for interesting subgroup analyses and in-depth exploration of tobacco use by demographic variables. Our findings also underscore differing tobacco knowledge, attitudes and behavior profiles based on sexual and gender identity and highlight an important reason to avoid treating LGBTQ individuals as embracing a monolithic culture [56].

## IMPLICATIONS AND FUTURE DIRECTIONS

As noted in the discussion section, the current study highlights several promising avenues for future research. For instance, although the present study hints at potential differences in tobacco regulation policy support in the transgender community, it would be premature to advocate for targeted interventions due to the limited study sizes attained in the study. Rather, further research using oversampling of the transgender community to ensure high representation is warranted. Similarly, disambiguation of questions regarding regulation of menthol and flavored tobacco products may help to disentangle and explain the differences in support across age groups documented here.

Overall, these data do highlight and corroborate past research documenting the vulnerability of the LGBTQ community to tobacco use. The sample was found to smoke at higher rates than the general population and to have limited awareness of the risks of menthol products. One clear implication of this finding is the need to integrate information about the risks of menthol products into information campaigns and smoking cessation programs

targeting LGBT. While the present study did not track menthol consumption among respondents, from a policy standpoint, the passage of restrictions on menthol products must first be predicated on awareness of the risks of menthol products pose, even among non-users.

Promising findings also emerged from this study. For instance, despite high rates of tobacco use among respondents, the majority of respondents indicated support for 5 of the 6 tobacco regulation policies presented, and lower levels of support for regulation of flavored products might be attributable, in part, to the aforementioned decision to group menthol products with other flavored products. Based on these data, efforts at community organization among LGBTQ to connect with existing policy change advocacy groups and to lobby for policy-level tobacco regulation may be feasible and warranted in Los Angeles County. Whether similar efforts are warranted more broadly remains dependent on the degree to which these findings generalize to the sentiments of other LGBTQ communities, and remains to be borne out by further research.

## CONCLUSION

For many years, the tobacco industry has focused their efforts on appealing to LGBTQ consumers through targeted advertisements in the LGBTQ press, cigarette giveaways and free tobacco merchandise. While the harmful effects of tobacco have been communicated in many ways, efforts at communicating how tobacco industries have targeted the LGBTQ population have been limited. In California, efforts specifically tailored for the LGBTQ community have been effective. For example, the California Tobacco Control Program found that ¾ of the LGBTQ population recalled having seen an anti-tobacco message in the last 30 days, which is the same level as the general populations. However, many of those LGBTQ adults also reported “they did not find messages appealing” [57]. This suggests that there is a need for antismoking campaigns that are consistent with their perceptions and beliefs in order for interventions to be more effective.



Efforts at addressing the social and psychological determinants that influence LGBTQ communities' beliefs, perceptions and fears have been daunting. Traditional anti-tobacco education geared towards LGBTQ populations, specifically younger adults were limited and somehow need to be broadened to include the understanding how social and health determinants influence their beliefs and perceptions. Education and tactics that counter the substantial proportions of young adults who consider the tobacco industry to be quite credible and respectable also need to be widely implemented. Using the media to counter the industry's misleading arguments against tobacco control policies could be valuable [58, 59].

Proven operative interventions are slowly but steadily reducing the rate of tobacco use nationwide. However, more rigorous interventions targeted at pockets in the population, such as the LGBTQ community, must be developed and implemented. The Centers for Disease Control (2014) [60] has demonstrated that a comprehensive approach works best: a combination of policy change, prevention messaging campaigns, and tobacco cessation services. Progress in these areas would advance more quickly if the LGBTQ communities are involved in all stages of planning and implementation to ensure their needs are being met.

Finally, it is important to reiterate the importance of public support in order to advance tobacco control policies that will have vast community health impacts. Strong public support such as signature petitions and policy education has helped legislative processes to succeed. Equally, some failures were partly due to inadequate public support, which left policymakers succumbing to tobacco industry influence. A need exists to continually recognize public opinions as valuable inputs that help mobilize public resistance to tobacco control policies and help shift the social norms around smoking towards being an abnormal and undesirable behavior. And only when communities truly understand what they are supporting, will they most likely move towards cooperation and collaboration.

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## PEER REVIEW

Not commissioned. Externally peer reviewed.



## TABLES

**Table 1:** Demographic Characteristics of Sample (n = 227- 464)

Demographic Characteristic	M (SD)	N (valid %)
Age	25.2 (9.3)	
Gender		
Male		180 (39.7)
Female		251 (55.4)
Transgender Male		7 (1.5)
Transgender Female		7 (1.5)
Other		8 (1.8)
Sexual Orientation		
Straight		115 (26.3)
Gay		139 (31.8)
Lesbian		79(18.1)
Bisexual		77 (17.6)
Other		27 (6.2)
Race/Ethnicity		
Asian		22 (9.7)
Black		26 (11.5)
Hispanic		74 (32.7)
White		75 (33.2)
Biracial		27 (11.9)
Other		2 (0.9)
Past Year Tobacco Use		
Yes		162 (37.9)
No		265 (62.1)
Survey Location		
Long Beach		227 (48.9)
Los Angeles, LA Pride		229 (49.4)
Los Angeles, DTLA PROUD		8 (1.7)

**Table 2:** Tobacco Use Knowledge by Sexual Orientation (n = 202 - 383)

		Valid %							
Question		Straight	Gay	Lesbian	Bisexual	Other	$\chi^2$	df	p
LGBTQ smoke more than the general population	No	66.7	42.5	41.0	65.8	38.5	12.78	4	.01*
	Yes	33.3	57.5	59.0	34.2	61.5			
E-cigs contain nicotine & are addictive	No	6.3	4.0	5.9	4.2	0	2.12	4	.71
	Yes	93.7	96.0	94.1	95.8	100			
Menthol users are less likely to quit	No	56.3	62.9	65.8	69.7	61.5	1.71	4	.78
	Yes	43.8	37.1	34.2	30.3	38.5			
Tobacco affects local community health	No	6.3	5.3	12.1	9.2	0	5.11	4	.28
	Yes	93.8	94.7	87.9	90.8	100			

**Table 3:** Tobacco Use Knowledge by Gender (n = 201 - 391)

		Valid %					
Question		Male	Female	Transgender	$\chi^2$	df	p
LGBTQ smoke more than the general population	No	50.5	54.3	30.0	2.25	2	.32
	Yes	49.5	45.7	70.0			
E-cigs contain nicotine & are addictive	No	3.7	5.5	16.7	4.04	2	.13
	Yes	96.3	94.5	83.3			
Menthol users are less likely to quit	No	62.0	64.2	33.3	1.22	2	.54
	Yes	38.0	35.8	66.7			
Tobacco affects local community health	No	5.8	8.2	11.1	.96	2	.62
	Yes	94.2	91.8	88.9			



**Table 4:** Tobacco Use Knowledge by Age (n = 95 - 197)

		Valid %					
Question		< 21	21-30	31+	$\chi^2$	df	p
LGBTQ smoke more than the general population	No	65.5	49.2	61.5	2.21	2	.33
	Yes	34.6	50.8	38.5			
E-cigs contain nicotine & are addictive	No	5.1	7.2	0	2.18	2	.34
	Yes	94.9	92.8	100			
Menthol users are less likely to quit	No	38.1	63.3	64.3	4.34	2	.11
	Yes	61.9	36.7	35.7			
Tobacco affects local community health	No	5.8	10.8	0	3.36	2	.19
	Yes	94.2	89.2	100			

**Table 5:** Tobacco Use Knowledge by Race (n = 94 - 195)

		Valid %							
Question		Asian	Black	Hispanic	White	Biracial	$\chi^2$	df	p
LGBTQ smoke more than the general population	No	57.1	90.0	47.1	50.0	64.3	6.69	4	.15
	Yes	42.9	10.0	52.9	50.0	35.7			
E-cigs contain nicotine & are addictive	No	0	4.8	6.6	4.2	13.0	3.90	4	.42
	Yes	100	95.2	93.4	95.8	87.0			
Menthol users are less likely to quit	No	66.7	75.0	57.6	53.1	58.3	1.54	4	.82
	Yes	33.3	25.0	42.4	46.9	41.7			
Tobacco affects local community health	No	0	0	12.3	8.2	9.1	4.50	4	.34
	Yes	100	100	87.7	91.8	90.9			

**Table 6:** Policy Attitudes by Sexual Orientation (n = 271 - 323)

		Valid %							
Question		Straight	Gay	Lesbian	Bisexual	Other	$\chi^2$	df	p
Tobacco bans infringe on the right to choose	Agree	71.6	65.9	69.2	73.2	76.9	1.30	4	.86
	Disagree	28.4	34.1	30.8	26.8	23.1			
Restrict free/low cost tobacco products	Agree	78.3	80.4	69.6	82.8	73.7	3.61	4	.46
	Disagree	21.7	19.6	30.4	17.2	26.3			
Restrict Electronic Smoking Device distribution	Agree	65.9	71.1	57.7	55.1	52.9	5.71	4	.22
	Disagree	34.1	28.9	42.3	44.9	47.1			
Restrict coupon/gift card/rebates for tobacco	Agree	79.1	78.7	66.7	71.4	61.1	5.82	4	.21
	Disagree	20.9	21.3	33.3	28.6	38.9			
Restrict flavored/menthol	Agree	60.3	63.6	46.8	56.0	50.0	5.21	4	.27
	Disagree	39.7	36.4	53.2	44.0	50.0			

tobacco products									
Ban flavored/menthol tobacco products	Agree	52.6	55.1	38.3	39.6	52.6	6.54	4	.16
	Disagree	47.4	44.9	61.7	60.4	47.4			

**Table 7:** Policy Attitudes by Gender (n = 281 - 332)

		Valid %					
Question		Male	Female	Transgender	$\chi^2$	df	p
Tobacco bans infringe on the right to choose	Agree	72.3	68.7	75.0	0.54	2	.76
	Disagree	27.7	31.3	25.0			
Restrict free/low cost tobacco products	Agree	80.4	77.3	53.8	4.90	2	.09
	Disagree	19.6	22.7	46.2			
Restrict Electronic Smoking Device distribution	Agree	68.0	60.5	33.3	6.12	2	.04*
	Disagree	32.0	39.5	66.7			
Restrict coupon/gift card/rebates for tobacco	Agree	76.7	74.6	41.7	7.09	2	.03*
	Disagree	23.3	25.4	58.3			
Restrict flavored/menthol tobacco products	Agree	62.6	54.4	35.7	4.74	2	.09
	Disagree	37.4	45.6	64.3			
Ban flavored/menthol tobacco products	Agree	52.6	44.6	30.8	3.43	2	.18
	Disagree	47.4	55.4	69.2			

**Table 8:** Policy Attitudes by Age (n = 133 - 162)

		Valid %					
Question		< 21	21-30	31+	$\chi^2$	df	p
Tobacco bans infringe on the right to choose	Agree	62.9	71.8	70.0	0.91	2	.63
	Disagree	37.1	28.2	30.0			
Restrict free/low cost tobacco products	Agree	80.0	77.9	78.3	0.08	2	.96
	Disagree	20.0	22.1	21.7			
Restrict Electronic Smoking Device distribution	Agree	59.5	54.8	69.6	1.65	2	.44
	Disagree	40.5	45.2	30.4			



Restrict coupon/gift card/rebates for tobacco	Agree	73.2	67.7	78.3	1.15	2	.56
	Disagree	26.8	32.3	21.7			
Restrict flavored/menthol tobacco products	Agree	58.3	49.5	57.1	1.15	2	.56
	Disagree	41.7	50.5	42.9			
Ban flavored/menthol tobacco products	Agree	47.8	36.3	64.0	6.55	2	.04*
	Disagree	52.2	63.7	36.0			

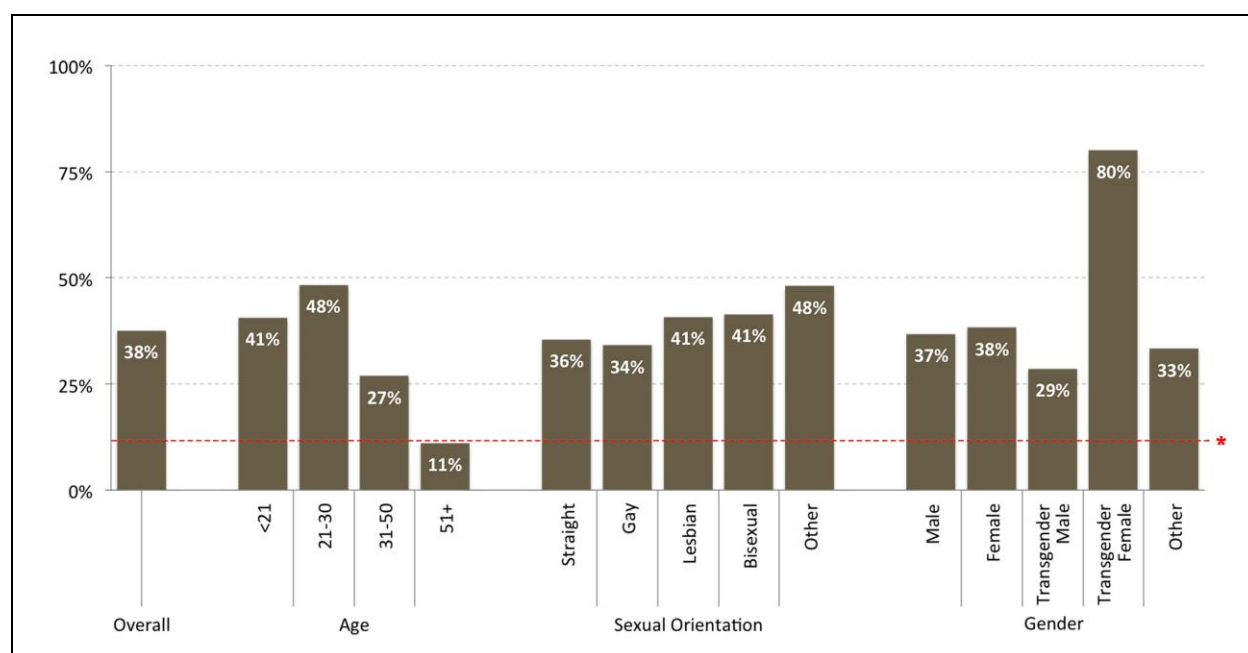
**Table 9:** Policy Attitudes by Race (n = 131 - 160)

		Valid %							
Question		Asian	Black	Hispanic	White	Biracial	$\chi^2$	df	p
Tobacco bans infringe on the right to choose	Agree	61.5	81.3	64.3	73.8	66.7	2.40	4	.66
	Disagree	38.5	18.8	35.7	26.2	33.3			
Restrict free/low cost tobacco products	Agree	100	77.3	83.3	75.4	60.0	7.04	4	.13
	Disagree	0	22.7	16.7	24.6	40.0			
Restrict Electronic Smoking Device distribution	Agree	57.1	47.1	60.8	61.7	46.2	2.01	4	.73
	Disagree	42.9	52.9	39.2	38.3	53.8			
Restrict coupon/gift card/rebates for tobacco	Agree	71.4	60.0	75.0	73.7	56.3	3.36	4	.50
	Disagree	28.6	40.0	25.0	26.3	43.8			
Restrict flavored/menthol tobacco products	Agree	50.0	57.9	59.6	50.9	36.8	3.23	4	.52
	Disagree	50.0	42.1	40.4	49.1	63.2			

Ban flavored/menthol tobacco products	Agree	40.0	45.0	50.0	38.9	35.3	1.95	4	.74
	Disagree	60.0	55.0	50.0	61.1	64.7			

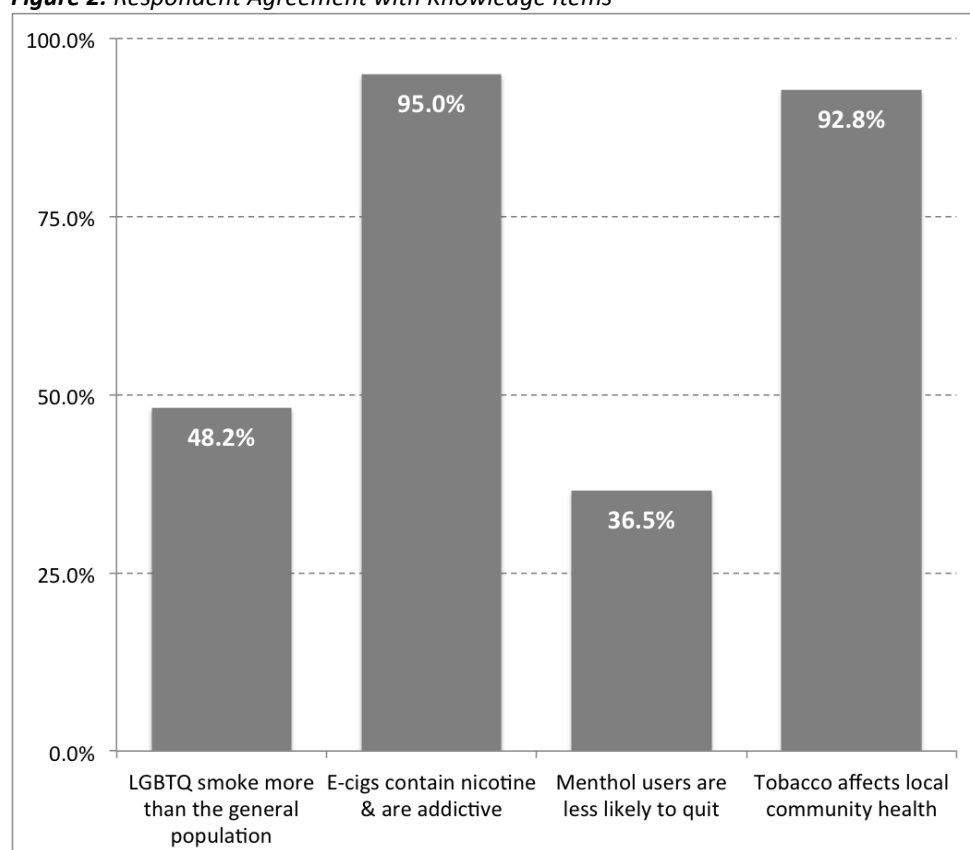
## FIGURES

**Figure 1:** Past Year Tobacco Use by Respondent Demographics



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

**Figure 2:** Respondent Agreement with Knowledge Items



**Figure 3:** *Respondent Agreement with Policy Statements*