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## Original investigation

# Social Branding to Decrease Lesbian, Gay, Bisexual, and Transgender Young Adult Smoking

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## Abstract

**Introduction:** Lesbian, gay, bisexual, and transgender (LGBT) individuals are more likely to smoke than the general population. This study evaluated a Social Branding intervention, CRUSH, which included an aspirational brand, social events, and targeted media to discourage smoking among LGBT young adults in Las Vegas, NV.

**Methods:** Cross-sectional surveys ( $N = 2,395$ ) were collected in Las Vegas LGBT bars at 2 time points 1 year apart. Multivariate logistic regressions examined associations between campaign exposure, message understanding, and current (past 30 days) smoking, controlling for demographics.

**Results:** LGBT individuals were significantly more likely to report current (past 30 day) smoking than heterosexual/straight, gender-conforming participants. Overall, 53% of respondents reported exposure to CRUSH; of those exposed, 60% liked the campaign, 60.3% reported they would attend a CRUSH event on a night when they usually went somewhere else, and 86.3% correctly identified that the campaign was about “partying fresh and smokefree.” Current smoking was reported by 47% of respondents at Time 1 and 39.6% at Time 2. There were significant interactions between time and campaign exposure and campaign exposure and understanding the message. Among those who understood the CRUSH smokefree message, the highest level of campaign exposure was significantly associated with 37%–48% lower odds for current smoking.

**Conclusions:** While longitudinal studies would better assess the impact of this intervention, CRUSH shows promise to reduce tobacco use among LGBT bar patrons.

## Introduction

Smoking is the leading cause of preventable disease and death in the United States.<sup>1</sup> Exposure to tobacco smoke contributes to multiple chronic diseases, including heart and lung disease and cancer, and there is no risk free level of exposure to tobacco smoke.<sup>2</sup>

Almost all adult daily smokers began before age 26.<sup>3</sup> In addition, lesbian, gay, bisexual, and transgender (LGBT) individuals smoke at higher rates than the general population,<sup>4</sup> and this disparity extends to lesbian, gay, and bisexual young adults.<sup>5</sup> In a recent study by Rath and colleagues,<sup>5</sup> 35% of lesbian and gay young adults and 27% of

bisexual young adults had smoked in the past 30 days, compared to 18% of heterosexual young adults.<sup>5</sup>

There is a need to develop interventions to prevent and reduce smoking among LGBT young adults.<sup>6</sup> Currently, there are few interventions geared toward the LGBT community, and those that exist primarily focus on individual smoking cessation programs.<sup>7–10</sup> Few community-level interventions target the social norms around smoking in the LGBT community. In a study conducted by Remafedi, one third of LGBT youth reported that they did not know an LGBT person who did not smoke.<sup>11</sup>

Although the underlying causes of the disparate smoking rates among LGBT people are not fully understood,<sup>6</sup> consumption of alcohol has been associated with smoking among LGBT individuals.<sup>12,13</sup> In addition, bar attendance and smoking risk has been explored.<sup>13,14</sup> Holloway and colleagues found that among young men who have sex with men, more time spent in a gay bar or club was associated with more cigarette smoking.<sup>14</sup> Stall and colleagues found that, among gay and bisexual men, frequent gay bar attendance was associated with smoking.<sup>13</sup> This is important, as the LGBT bar has played a critical social and political role in the LGBT community.<sup>15</sup>

The tobacco industry has also worked to tailor cigarette marketing to particular LGBT subgroups. For example, in the early 1990s, the Philip Morris tobacco company developed a marketing campaign to target a Benson and Hedges line extension for a gay audience. In internal documents, the company described their audience as “hip, trendy, image/status conscious...and also into clothes, music, liquor and nightlife.”<sup>16</sup> Thus, due to its concentration of risk behavior, community role, and need to counter targeted marketing, the LGBT bar and nightclub is a logical priority setting for tobacco use interventions.

Social Branding is a novel intervention strategy designed by Rescue Social Change Group to directly counter tobacco marketing, including tobacco industry techniques to target a psychographic segment of the LGBT population. Psychographics, which can include self-concept, interests, and lifestyle, can be used in addition to demographic or socioeconomic variables to predict behavior more effectively.<sup>17</sup> Similar to commercial targeted marketing including tobacco marketing, public health professionals can use psychographic factors to more effectively design antitobacco messaging.<sup>18</sup> Social Branding interventions use culturally-tailored commercial marketing strategies in a hard-hitting counter-marketing campaign designed to break associations between LGBT culture and smoking.

The purpose of this study was to evaluate CRUSH, a Social Branding intervention targeting LGBT bar-going young adults in Las Vegas, NV. The aims were to: (a) describe campaign reach; (b) examine participants’ opinions of the campaign; (c) determine whether participants’ exposure to CRUSH was associated with current smoking; and (d) determine whether participants’ understanding of the smokefree message was associated with current smoking.

## Methods

### Sample

This intervention targeted the LGBT young adults who frequent bars/clubs. To evaluate the intervention, survey participants ( $N = 2,395$ ) were recruited from LGBT bars using time-location sampling. This method is frequently used to recruit hard-to-reach populations.<sup>19-21</sup> Based on focus groups with key informants, a list of bars frequented by young adult LGBT individuals in Las Vegas, NV, was generated. Venues and times were randomly selected, and data collectors approached all young adults present in the venue at the randomly selected time, and invited those who reported their age was between 21 and 30 to complete a 77-item paper and pen survey. Because bars were not sampled with known probabilities from a finite, known population of bars, the sample is not intended to be locally or nationally representative. However, the intervention occurred in LGBT bars, and there is no reason to expect that individuals exposed to the intervention were not generally representative of the LGBT bar attending community. Survey data were collected in 2011 (Wave 1,  $N = 1,113$ ), and in 2012 (Wave 2,  $N = 1,282$ ). The

response rate was 70% for Wave 1 and 59% for Wave 2. Eligibility criteria included being aged 21–30 years old, attending the bar/club at the randomly selected time, willingness to participate and ability to give verbal informed consent.

### Inclusion Criteria

Individuals who self-reported their age was 21–30 years old were invited to complete the survey; all respondents also reported date of birth on the survey, and only those individuals whose date of birth yielded age 21–30 were included in the analysis.

### Description of the Intervention

CRUSH is a program of the Southern Nevada Health District that was first implemented in 2006, and expanded in 2008, with funding from the American Legacy Foundation, and further expanded in 2011, with funding from the Centers for Disease Control and Prevention’s Community Putting Prevention to Work funding. The basic components of Social Branding interventions have been described previously,<sup>22</sup> but this LGBT tailored campaign was distinctive in several ways (Table 1). The intervention was centered on the development of a Social Brand, “CRUSH,” that targeted young adults in the Las Vegas LGBT bar and nightclub scene. The brand describes its promoted lifestyle as “cute, fresh, and smokefree.” The Social Brand identity was communicated throughout the campaign, which integrated several elements (Table 1), including branded events with live performances, DJs, dancers, and models. Each event highlighted local community leaders that supported both CRUSH and living a tobacco-free lifestyle. At events, CRUSH used games and other interactive activities to encourage patrons to interact with each other about a tobacco prevention fact, building associations between the CRUSH brand and social activity.

CRUSH recruited opinion leaders as part of its events strategy, including promoters, DJs, entertainers, dancers, and socialites, to be “Brand Ambassadors” and trained them to understand CRUSH’s strategy and goals, and then involved them in the planning of a future event. CRUSH hosted all events in partnership with local businesses, so that every event was “owned” by the community and that messages were coming from well-known peers rather than outside marketers. CRUSH-branded t-shirts and accessories were given away to trendsetting and influential nonsmoking individuals who supported the campaign’s tobacco-free message. Community members who were heavily involved in CRUSH also received special prizes and premium branded merchandise.

### Measures

#### Dependent Variable: Current Smoking

Survey respondents were asked, “During the past 30 days, on how many days did you do each of the following?” with “smoke at least one cigarette” as one of the choices. Individuals who responded that they smoked at least one cigarette on at least one day of the past 30 days were considered to be current smokers.

#### Independent Variables: Campaign Exposure

Exposure to the campaign was measured using four questions. The first question was, “Thinking about the past three months, have you seen or heard any information about “CRUSH” events?” Answer choices included: “yes,” “no,” and “don’t know.” Individuals responding “yes” were characterized as having seen or heard of CRUSH, whereas those selecting “no” or “don’t know” were characterized as having not seen or heard of CRUSH. In addition, participants

**Table 1.** Social Branding Key Elements and Corresponding Specific Intervention Elements as Executed for the CRUSH Campaign

Social Branding intervention element <sup>22</sup>	CRUSH design <sup>23</sup>
Social brand	The CRUSH brand was described as “cute, fresh, and smokefree” and the tagline for the campaign was “partying fresh and smokefree.” Core brand personality elements: youthful and trendy image oriented and fashionable highly social and extroverted focused on its association with key influencers within the young adult LGBT community oriented towards socializing, going out, making new friends and having a good time against tobacco use because it reduces a person’s attractiveness and social appeal, and against the tobacco industry because their actions do not align with the values of the LGBT community.
Branded events	CRUSH events took place at LGBT bars and clubs, as well as all community events, including Pride festivals. All of the indoor events during this study period were smokefree. The intervention involved 104 nightclub events, which reached 20,000 LGBT young adults. During CRUSH events, bars and clubs were required to be smokefree for the night. In addition, events included social games for participants and highlighted local community leaders that supported CRUSH and its smokefree message.
Brand ambassadors	Brand Ambassadors are local leaders in the community who were recruited to promote the brand and its smokefree message. CRUSH’s Brand Ambassadors were known as “CRUSH Cuties.” Opinion leaders took part in training to ensure they understood CRUSH’s strategy and goals, and the Brand Ambassadors were then involved in the planning and execution of CRUSH events. Brand Ambassadors were required to be smokefree, and it was socially desirable to be chosen for this role.
Hard-hitting messaging	The early CRUSH promotional materials did not contain any antitobacco messaging, but instead focused on establishing CRUSH as an authentic brand accepted within the community. The first tobacco-related messages were introduced at 6 months and mainly emphasized a smokefree lifestyle, with a “cute, fresh and smokefree” tagline. After 2 years, messages included more hard-hitting antitobacco messages including facts about tobacco’s toll on the LGBT community and tobacco industry denormalization, focusing on: social justice issues that LGBT young adults care about, such as environmentalism, against animal testing, and treatment of the LGBT community anti-industry messaging that highlights the tobacco industry’s contributions anti-LGBT political contributions immediate consequences of smoking that affect someone’s social life. Examples: “The tobacco industry has conducted experiments on animals for decades. In some experiments, beagles were strapped down and fitted with face masks which forced them to inhale smoke from lit cigarettes. This research led to discoveries on how to make cigarettes more addictive to our community”; “As the industry disproportionately kills off our community, they turn around and spend their revenues to fund neoconservative candidates who fight against equal rights”; and “Most LGBT partiers prefer to kiss someone who is smokefree. Why? Because smokefree kisses just taste better.” Messages also included less well-known health effects of smoking, such as impotence.
Social rewards	The CRUSH campaign included social activities and games to build an association between social behavior and a smokefree lifestyle, giveaways tailored to the community such as t-shirts, or a chance to win tickets to musicals. Some premium merchandise was given only to brand ambassadors.
Website and social media	Social media campaigns utilized the Crush website, Facebook, YouTube and Twitter to disseminate branded antitobacco messages via videos, digital ads and online conversations. Events were also promoted on the CRUSH website and Facebook. There were 25,000 visits to the website and 100,000 website page views. The brand had 4,500 Facebook friends, 500,000 YouTube video views, and 1,300 YouTube subscribers.

answered three questions with the same response categories: “During the past three months, how often have you been to a CRUSH event?”, “During the past three months, how often have you visited CRUSH’s website ([SoCRUSH.com](http://SoCRUSH.com)) or its Facebook page?”, and “During the past three months, how often have you received a CRUSH mailer in your home mailbox?” The answer choices included: “never,” “rarely,” “sometimes,” “often,” “very often,” and “I don’t know what CRUSH is.” Responses were dichotomized, and individuals selecting an answer other than “never” or “I don’t know what CRUSH is” were categorized as having participated in these activities. An exposure score was created in which each positive response (from the dichotomized categories) to each of the four questions resulted in one point, so the overall exposure score ranged from level 0 (having no exposure to CRUSH on any of the four questions) to level 4 (having heard of CRUSH, and been to a CRUSH event, and visited the website, and received a CRUSH mailer).

### Campaign Liking

The overall popularity of CRUSH was determined using two questions. The first was “If CRUSH hosted an event on a night that you usually go somewhere else, how likely is it that you would go to the CRUSH event?” Answer choices included: “definitely would not go,” “probably would not go,” “no preference,” “I probably would go,” “I definitely would go,” and “I don’t know what CRUSH is.” Participants who reported that they “probably would go” or “definitely would go” to the event were collapsed into a single category, and the “definitely would not go” or “probably would not go” categories were also collapsed. The second measure was: “What is your general impression of CRUSH?” Response choices were: “I really don’t like it,” “I don’t like it,” “neither like nor dislike it,” “I like it,” “I really like it,” and “I don’t know what CRUSH is.” Participants who reported that they “liked” or “really liked” the campaign were collapsed, as well as those who “disliked” or “really disliked” the campaign.

### Understanding the Smokefree Message (“Message Understanding”)

Whether or not the participant understood CRUSH’s smokefree message was assessed with the question “How much do the following phrases describe CRUSH?” followed by several phrases, with one of the phrases being “partying fresh and smokefree.” Responses included: “not at all,” “a little,” “a moderate amount,” “a lot,” “a great deal,” and “I don’t know what CRUSH is.” Individuals who responded: “not at all,” “a little,” or “I don’t know what CRUSH is” were coded as not understanding the smokefree message; all other responses were coded as understanding the message.

### Demographics

Covariates included age, sex, sexual orientation, and race/ethnicity. Sexual orientation was measured with the question, “Do you consider yourself one or more of the following?” Answer choices included: “straight,” “gay,” “lesbian,” “bisexual,” “transgender,” and “other.” Responses other than “straight” were coded as LGBT.

### Data Analysis

Data analysis was conducted using SPSS v22 and SAS 9.3. Descriptive analyses were performed in SPSS with chi-square and *t* tests to identify unadjusted significant differences between the LGBT and heterosexual/straight, gender-conforming participants. Logistic regression was performed to identify statistically significant correlates of past 30-day smoking. Logistic regression models included age, education, race/ethnicity, sex, sexual orientation, wave of data collection, campaign exposure, and understanding the message as independent variables. We began with an initial logistic regression model in SPSS, which included these independent variables as main effects plus all possible two-way interactions between wave, campaign exposure, and message understanding, and a three-way interaction between these variables. Nonsignificant interaction terms at  $p > .05$  were dropped sequentially beginning with the three-way interaction term.

Remaining significant interactions were decomposed with tests of effect slices using SAS 9.3. Wald test results are reported for all interaction tests and omnibus tests of effect slices. Significant omnibus tests of effect slices were followed up with paired comparisons of levels of the first effect within levels of the second effect. Assessment of model fit for the final model was conducted with the Hosmer-Lemeshow test.

## Results

### Sample Characteristics

Overall, the participants most frequently reported they were in college (38.8%), Hispanic (42.7%), male (66.3%), and LGBT identified (79.2%; Table 2). Compared with their heterosexual counterparts, the LGBT participants had a higher percentage of smokers (44.0% vs. 37.3%,  $p = .005$ ) and males (74.9% vs. 32.5%,  $p < .001$ ). The breakdown of smoking prevalence based on sexual orientation was: lesbian 39.2%, gay 42%, bisexual 45.1%, transgender 54.2%, and other 53.3%. In our final multivariate model, consistent with previous research findings, LGBT participants had a higher odds of current (past 30-day) smoking ( $\chi^2(1) = 7.18$ ,  $p = .007$ ).<sup>4,5</sup>

### Campaign Exposure and Liking

Overall, 53% of the participants in the survey sample reported exposure to CRUSH. Among those exposed, 60.3% of the participants reported they probably would or definitely would attend a CRUSH event on a night when they usually went somewhere else. Only 12.1% reported that they probably or definitely would not attend CRUSH on a night when they usually went somewhere else, and 23.5% reported no preference. Among those exposed to CRUSH, 60.8% reported that they liked or really liked the campaign, 24.5% were neutral, and 8.1% reported that they disliked or really disliked the campaign.

**Table 2.** Sample Characteristics

	Total sample N = 2,395	Non-LGBT N = 496	LGBT N = 1,892	<i>p</i>
Age	25.1 (±2.7)	24.6 (±2.6)	25.2 (±2.7)	<.001
Highest level of education				
High school	790 (33.0)	154 (31.0)	633 (33.5)	.24
In college	929 (38.8)	209 (42.1)	718 (38.0)	
College graduate	674 (28.2)	133 (26.8)	539 (28.5)	
Race/ethnicity				
White	664 (27.7)	506 (26.7)	155 (31.3)	.003
Black	260 (10.9)	212 (11.2)	47 (9.5)	
Hispanic	1,023 (42.7)	830 (43.9)	191 (38.5)	
Asian	208 (8.7)	148 (7.8)	60 (12.1)	
Other <sup>a</sup>	239 (10.0)	198 (10.4)	43 (8.7)	
Sex				
Male	1,581 (66.3)	1,418 (74.9)	161 (32.5)	<.001
Female	803 (33.7)	465 (24.6)	335 (67.5)	
Sexual orientation				
Heterosexual/straight	496 (20.8)	–	–	–
LGBT	1,892 (79.2)	–	–	–
Past 30 day smoking				
Yes	998 (43.0)	814 (44.0)	179 (37.3)	.005
No	1,321 (57.0)	1,018 (55.6)	301 (62.7)	
Wave				
1	1,113 (46.5)	875 (46.2)	236 (47.6)	.596
2	1,282 (53.5)	1,017 (53.8)	260 (52.4)	

Mean (SD) or N(%). LGBT = lesbian, gay, bisexual, and transgender sexual orientation, by self report.

<sup>a</sup>Refers to individuals who selected Hawaiian/Pacific Islander, American Indian, or Alaskan Native or other.

### Understanding of Smokefree Message

Overall, 86.3% of participants understood the campaign message. The initial logistic regression model revealed no evidence of a three-way interaction between wave, campaign exposure, and message understanding ( $\chi^2(4) = 1.25, p = .87$ ), so the three-way interaction was dropped and a second logistic regression model was fitted containing main effects plus the three two-way interactions between wave, campaign exposure, and message understanding. In this second model, the interaction between wave and message understanding was nonsignificant ( $\chi^2(1) = 3.50, p = .061$ ) and was subsequently dropped, yielding the final logistic regression model whose main effects are presented in Table 3. Remaining significant two-way interaction effects included campaign exposure by wave ( $\chi^2(4) = 19.64, p = .0006$ ) and campaign exposure by message understanding ( $\chi^2(4) = 10.13, p = .04$ ). The final logistic model fit the data well overall, as indicated by the Hosmer-Lemeshow test ( $\chi^2(8) = 5.85, p = .66$ ).

### Understanding the Smokefree Message, Exposure, and Smoking: Decomposing Significant Interaction Effects

#### Exposure by Wave Interaction

The overall test of differences in the odds of being a current smoker at Wave 1 by campaign exposure was not statistically significant ( $\chi^2(4) = 0.68, p = .95$ ). However, the overall test of any difference in the odds of being a current smoker at Wave 2 based on campaign exposure was significant ( $\chi^2(4) = 21.62, p = .0002$ ). Compared to no exposure (level 0), smokers indicated more exposure to this intervention. Significant pairwise differences for the odds of current smoking at Wave 2 included campaign exposure level 1 versus level 0 ( $OR = 2.06; 95\% CI = 1.38, 3.07; p = .0004$ ), level 2 versus level 0

( $OR = 1.79; 95\% CI = 1.11, 2.89; p = .017$ ), and level 3 versus level 0 ( $OR = 2.17; 95\% CI = 1.35, 3.50; p = .002$ ).

#### Exposure by Message Understanding Interaction

The overall test of campaign exposure differences in the odds of current smoking for respondents who did not understand that CRUSH messaging was about living smokefree was significant ( $\chi^2(4) = 11.67, p = .02$ ). There was one significant difference in the odds of current smoking involving campaign exposure level 1 versus level 0 ( $OR = 1.97; 95\% CI = 1.22, 3.19; p = .006$ ). The overall test of differences in the odds of being a current smoker among respondents who understood that the CRUSH message was about a smokefree lifestyle was significant ( $\chi^2(4) = 16.35, p = .003$ ). Among those who understood the smokefree message, campaign exposure was negatively associated with smoking. Significant differences in the odds of being a current smoker were found for campaign exposure level 4 versus level 0 ( $OR = 0.58; 95\% CI = 0.42, 0.81$ ), level 4 versus level 1 ( $OR = 0.63; 95\% CI = 0.43, 0.92, p = .02$ ), level 4 versus level 2 ( $OR = 0.52, 95\% CI = 0.36, 0.74; p = .0003$ ), and level 4 versus level 3 ( $OR = 0.63, 95\% CI = 0.46, 0.88; p = .007$ ).

### Discussion

This study expands the existing literature by presenting the results of a Social Branding intervention focused on LGBT bar culture. We found that the intervention had a wide reach, was liked by those exposed, and among those who understood its message, higher levels of exposure to the campaign were associated with significantly decreased odds of current smoking. We observed a positive association between exposure to CRUSH and smoking at Time 2. However, CRUSH was designed to appeal to smokers, so the positive association between exposure and smoking seen in this analysis may simply indicate that the campaign successfully reached smokers. Thus, the effect of the combined campaign exposure and message understanding is important. In the analysis taking exposure and message understanding into account, we found that among those who understood the smokefree message, higher exposure to CRUSH was consistently and significantly negatively associated with smoking. This suggests that understanding the smokefree message of CRUSH and similar interventions is a critical consideration in ensuring that smokefree interventions have their intended effect. It is feasible to convey the smokefree message through a Social Branding intervention: in our study over 86% of survey respondents understood the CRUSH smokefree message.

The results of this work are similar to the findings of other Social Branding bar interventions that target social norms about smoking. A Social Branding bar based intervention designed to reduce smoking rates among Hipsters, a primarily heterosexual young adult peer crowd, in San Diego, was similarly successful. Compared to baseline, post-intervention both current smoking (56% vs. 48%,  $p = .002$ ) and daily smoking (22% vs. 15%,  $p < .001$ ) were significantly lower, and among Hipster binge drinkers both daily and nondaily smoking were significantly lower at follow up in controlled analyses.<sup>22</sup> This study adds to the literature due to its focus on the LGBT population, and a further analysis of response to campaign exposure and understanding the smokefree message. This study is also consistent with another study of an intervention in gay bars that targeted sexual behaviors.<sup>24</sup> Kelly and colleagues trained key opinion leaders in gay bars to interact with patrons and provide safe sex education, and found that after the intervention, condom usage increased 16% and

**Table 3.** Adjusted Odds Ratios for Demographic Factors Associated With Current Smoking (Main Effects)

Independent variable	N = 2,395, AOR (95% CI)
Age	0.98 (0.95–1.01)
Education	
High school	Ref
In college	0.58 (0.47–0.71)**
College graduate	0.69 (0.55–0.86)**
Race/ethnicity	
White	Ref
Black	0.56 (0.41–0.77)**
Hispanic	0.81 (0.66–0.99)*
Asian	0.64 (0.46–0.89)**
Other <sup>a</sup>	0.95 (0.70–1.29)
Sex	
Male	Ref
Female	0.90 (0.74–1.09)
Sexual orientation	
Heterosexual/straight	Ref
LGBT	1.38 (1.09–1.74)**

AOR = adjusted odds ratio; CI = confidence interval.

The omnibus test of differences for education ( $\chi^2(2) = 28.17, p < .0001$ ) and race/ethnicity ( $\chi^2(4) = 17.21, p = .002$ ) were statistically significant. The model also includes main effects and interactions for campaign exposure, measurement wave, and message understanding; see results text for findings for those variables.

<sup>a</sup>Other refers to individuals who selected the Hawaiian/Pacific Islander, American Indian/Alaskan Native, or other on the questionnaire.

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .

unprotected anal sex decreased (36.9% vs. 27.5%).<sup>25</sup> Despite the success of interventions in LGBT bars and nightclubs to reduce HIV/AIDS, a focus on bars to promote tobacco cessation has been largely unexplored.<sup>26</sup>

The findings of this study complement other studies that suggest LGBT specific smoking cessation interventions may be optimal to address tobacco use among this group. Levinson and colleagues found that one in four LGBT smokers in Colorado were uncomfortable seeking smoking cessation assistance from their physician.<sup>27</sup> Gay men in Switzerland reported support for gay specific smoking cessation interventions, particularly to derive support for stopping smoking while still continuing to engage in gay social circles.<sup>10</sup> CRUSH is an example of an LGBT specific intervention that promotes a tobacco-free lifestyle using a population-level approach.

CRUSH is an example of a community level intervention designed to promote a tobacco-free lifestyle. More research is needed on effective means to target the pro-tobacco social norms in the LGBT community and if complementary policy interventions would enhance the effects of Social Branding campaigns. In addition to the high smoking rates among this population,<sup>4,28-30</sup> patrons of LGBT bars report more exposure to secondhand smoke than patrons of non-LGBT bars.<sup>20</sup> Relevant policies that might further enhance the intervention could include smokefree policies in LGBT bars and nightclubs in areas not already covered by a local smokefree ordinance. Smokefree policies have been associated with reductions in smoking rates.<sup>31</sup> These policies may be particularly important in the LGBT community, as the LGBT bar holds a social, historical, and political importance to the community.<sup>15</sup> Similarly, interventions focused on reducing pro-tobacco social norms in the community, such as the adoption of tobacco-free policies at LGBT Pride festivals,<sup>32</sup> are warranted.

Our study has several significant strengths, including a large sample size, the measurement of both intervention exposure and comprehension of the intervention message, and the examination of their interactive effects. The main limitation to this study is the timing of the data collection: both waves were collected after the beginning of the campaign due to logistical limitations. A more ideal design would use a pre-post evaluation across multiple locations with intervention launch times being randomly assigned (e.g., stepped wedge design). In addition, the cross sectional data collection limits our ability to assess the directionality of associations. Another limitation was the use of time-location sampling. Though this method is commonly used to recruit hard to reach populations, and the randomized selection of survey venues is more rigorous than convenience sampling, it is possible that certain relevant venues were unintentionally omitted. An additional limitation is that our sample is predominately male. Finally, this intervention focused on the young adult bar and nightclub scene, and might not be relevant to LGBT individuals who are not part of this scene.

## Conclusions

Bar-based interventions have the potential to reduce smoking among LGBT individuals, especially given the political and social importance of bars for the LGBT community. CRUSH, a bar-based Social Branding Intervention, has promise as a program to reduce smoking in this population.

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## Declaration of Interests

None declared.

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