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## The Break Up: Evaluation of an Anti-Smoking Educational Campaign for Lesbians, Gays, and Bisexuals in Los Angeles County

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### Abstract

Lesbian, gay, and bisexual (LGB) adults in the United States have a higher prevalence of smoking than their heterosexual counterparts. In 2013, the Los Angeles County Department of Public Health launched a social marketing and outreach campaign called *Break Up* to reduce the prevalence of smoking in LGB communities. *Break Up* was evaluated using cross-sectional, street-intercept surveys before and near the end of campaign. Surveys measured demographics, campaign awareness, and self-reported smoking-related outcomes. Bivariate statistics and logistic regression models were used to identify whether campaign awareness was associated with smoking-related outcomes. Calls by LGB persons to a smokers' helpline were also measured. Among those interviewed at endline, 32.7% reported *Break Up* awareness. Awareness was associated with thinking of quitting smoking and ever taking steps to quit but not with smoking cessation (defined as not smoking in the past 30 days among those who had smoked in the past 6 months). There was a 0.7% increase in the percentage of weekly calls by LGB persons to the helpline in the year after the campaign. *Break Up* reached about a third of its intended audience. The campaign was associated with smoking cessation precursors and may have led to an increase in helpline utilization, but there is no evidence it affected quit attempts. This study adds to the limited literature on tobacco programs for LGB persons and, as far as we know, is one of the first to evaluate tobacco-free social marketing in this important yet understudied population.

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Lesbian, gay, and bisexual (LGB) adults in the United States have a higher prevalence of smoking than their heterosexual counterparts (Agaku et al., 2014; Fallin, Neilands, Jordan, & Ling, 2015; Greenwood et al., 2005; Gruskin, Greenwood, Matevia, Pollack, & Bye, 2007; Lee, Griffin, & Melvin, 2009; Ryan, Wortley, Easton, Pederson, & Greenwood,

2001). Data collected in Los Angeles County indicate that the prevalence of current cigarette smoking among gay and bisexual men may be greater than or similar to that among heterosexual men: 15.6% among gay men and 22.8% among bisexual men in comparison to 20.1% among heterosexual men (California Health Interview Survey, 2014) and 21.9% among gay and bisexual men in comparison to 15.9% among heterosexual men (Los Angeles County Health Survey, 2011). Lesbians and bisexual women had a higher prevalence of current smoking than heterosexual women: 29.2% among lesbian women and 21.3% among bisexual women in comparison to 12.2% among heterosexual women (California Health Interview Survey, 2014) and rates of 18.5% among lesbians/bisexuals in comparison to rates of 12.2% among heterosexuals (Los Angeles County Health Survey, 2011). Research has suggested several reasons for the disparity in smoking among LGB persons, including internalized homophobia and higher levels of stress, depression, and victimization (Blosnich, Lee, & Horn, 2013). It is important to note that there is evidence that the tobacco industry heavily targets LGB persons with advertising and promotions (Goebel, 1994; Smith & Malone, 2003; Smith, Offen, & Malone, 2005; Stevens, Carlson, & Hinman, 2004), and some studies suggest that LGB persons may experience greater exposure, and possibly receptivity, to tobacco marketing than heterosexuals (Dilley, Spigner, Boysun, Dent, & Pizacani, 2008; Smith, Thomson, Offen, & Malone, 2008).

Despite the high prevalence of smoking among sexual minorities, relatively few outcome evaluations of smoking cessation interventions targeting LGB persons have been published (Lee, Matthews, McCullen, & Melvin, 2014). Self-reported quit attempts in studies of programs tailored for lesbian, gay, bisexual, and transgender persons ranged from 32% to 89% post-intervention (Covey, Weissman, LoDuca, & Duan, 2009; Eliason, Dibble, Gordon, & Soliz, 2012; Matthews, Li, Kuhns, Tasker, & Cesario, 2013; Walls & Wisneski, 2011). In addition, Los Angeles County and other communities have reported success promoting tobacco cessation using outreach in and around bars catering to the LGB community (Leibel, Lee, Goldstein, & Ranney, 2011).

A number of researchers have called for social marketing approaches, in particular, for LGB persons to offset tobacco industry marketing and to bring down the community prevalence of smoking (Lee, Griffin, & Melvin, 2009; Matthews et al., 2014; Ryan et al., 2001; Stevens et al., 2004). Our literature review, however, found few published studies of the outcomes of tobacco-free marketing campaigns targeting LGB populations. One of the studies found that awareness of a social branding intervention was associated with lower odds of current smoking among a largely LGB sample in Las Vegas, Nevada (Fallin et al., 2015). The present study adds to the limited evidence base on smoking cessation programs for LGB persons, especially with regard to tobacco-free social marketing.

The Los Angeles County Department of Public Health initiated an educational tobacco-free social marketing and outreach campaign called *Break Up* in 2013. Social marketing was selected as it had been used to effectively promote smoking cessation among adults (Gordon, McDermott, Stead, & Angus, 2006), even if not specifically for LGB persons.

## Methods

*Break Up* included a series of colorful, graphic advertisements with bold statements that a smoker might say to a personified cigarette when ending their relationship (see Figures 1 and 2). The statements were followed by a message outlining the desired behavior change (“It’s time to break up with tobacco”), the phone number for the California Smokers’ Helpline, and the campaign website. Ads were designed to be eye-catching and humorous to engage the target audience and to encourage sharing the campaign by word of mouth and through social media. Specific campaign media included posters and digital screens in bathrooms and common areas of bars, clubs, and gyms; website advertisements; and campaign-branded bar napkins and t-shirts. Another key campaign element was an outreach team called the Break Up Squad, which went into the community 27 evenings and held 12 events at bars. The team took more than 4,000 digital photos with LGB persons, which were subsequently e-mailed to these persons for sharing on social media. The campaign ads and Break Up Squad ran from November 21, 2013, through April 27, 2014, in areas of Los Angeles County with the highest concentration of businesses that cater to the LGB population, including parts of West Hollywood, Hollywood, Silver Lake, Long Beach, and the San Fernando Valley.

In this article we report the results of an evaluation designed to (a) measure associations of campaign exposure with key outcomes, including smoking cessation (defined as not smoking in the past 30 days among those who had smoked in the past 6 months), intention to quit smoking, and taking steps to quit smoking; (b) characterize campaign exposure and perceptions of the campaign among the target audience; and (c) compare the percentages of calls by LGB persons from Los Angeles County to the California Smokers’ Helpline before, during, and after the campaign.

### Study Design and Sample Recruitment

The *Break Up* evaluation used a cross-sectional design, with baseline and endline data collected by street-intercept survey. Baseline data were collected from October 17 through November 20, 2013, before the campaign began, and endline data were collected from April 24 through May 10, 2014, when the campaign was nearing completion. The surveys were administered by teams of trained interviewers in the same neighborhoods of Los Angeles County where the campaign media and outreach occurred. Interviewers approached potential participants outside of a venue targeted by the campaign or inside a venue targeted by the campaign with permission from management and asked whether they would be interested in completing an anonymous survey on community health issues. Participants were first screened for eligibility. To be included in the study, an individual had to (a) be lesbian, gay, bisexual, or other non-heterosexual; (b) be 18 years old or older; (c) live in Los Angeles County; (d) have smoked cigarettes within the past 6 months; and (e) not have participated in a recent survey about smoking. Interviewers administered the baseline survey using a paper-and-pencil questionnaire and the endline survey using tablet computers. All interviews were conducted in English. Participants were offered a \$10 incentive for completing the survey, which took approximately 10–15 minutes.

## Measures

The survey instrument assessed demographics and several smoking-related outcomes. Because of eligibility criteria, all respondents reported smoking cigarettes in the past 6 months. Current smoking was assessed by asking participants whether they had smoked cigarettes in the past 30 days. The instrument also measured current intention to quit smoking and whether participants had taken any steps to quit smoking among current smokers. At both baseline and endline, unaided awareness of tobacco-free campaigns in general was assessed in an open-ended manner by asking respondents to name any advertisements, events, or promotional teams they could recall that provided information about health issues during the past 6 months in Los Angeles County. If individuals did not specifically mention a tobacco-free campaign, they were asked whether they could recall any advertisements, promotional teams, or campaigns about “quitting smoking” or “stopping tobacco use.” This approach also captured unaided awareness of the *Break Up* campaign at endline. In addition, aided awareness of *Break Up* was measured in the endline survey by showing respondents campaign advertisements and photos of the Break Up Squad and asking whether they recalled seeing either or both of these. Respondents who reported either unaided or aided awareness of *Break Up* were asked about sources of campaign exposure; number of times exposed; their perceptions of the main campaign messages; whether they felt that the campaign was relevant, motivational, and appealing; and whether they discussed the campaign with anyone or shared the campaign using social media. In addition, the number of weekly LGB callers to the California Smokers’ Helpline and the percentage of all callers who were LGB were collected and compared for the year before *Break Up*, the months while the campaign ran, and 1 year after the campaign. The study was approved by the Los Angeles County Department of Public Health Institutional Review Board.

## Analysis

Frequencies and measures of central tendency were calculated to describe demographics and multiple measures of campaign exposure and perceptions. Bivariate analysis using chi-square tests was conducted to assess associations between campaign awareness at endline and outcome measures. We conducted binary logistic regressions to assess the effect of campaign awareness on outcome measures while controlling for age, sex, race/ethnicity, sexual orientation, and exposure to other tobacco-free campaigns. A time covariate was included to indicate baseline and endline data were combined and included in these logistic regressions as well. Chi-square tests were used to assess differences in percentages of weekly calls by LGB persons between time periods. Statistical significance was set at  $p < .05$ . All statistics were conducted with SPSS Version 22.0 for Macintosh (IBM, Armonk, NY).

## Results

For baseline data collection, 2,413 persons were approached. Of these, 956 (39.6%) refused to participate and 452 (31.0%) did not meet eligibility requirements, for a total sample size of 1,005. For endline data collection, 1,051 persons were approached. Of these, 361 (34.3%) refused to participate and 180 (26.1%) did not meet eligibility requirements, for a total sample size of 510. Respondents in the baseline and endline samples were comparable in

terms of sex, age, race/ethnicity, and sexual orientation (see Table 1). The median age of respondents in both the baseline and endline samples was 28 years. Males made up more than 70% of both samples. In terms of sexual orientation, the majority of respondents in the baseline and endline samples reported being gay (72.4% and 69.4%, respectively), followed by bisexual (16.1% and 15.9%), lesbian (10.3% and 12.4%), and queer (1.2% and 2.4%).

### Educational Campaign Awareness and Perceptions

The majority of baseline and endline respondents reported exposure to tobacco-free campaigns other than *Break Up*, with unaided recall of 58.6% and 78.8%, respectively. At endline, 5.9% of the sample demonstrated unaided recall of *Break Up*. As expected, respondents made no mentions of *Break Up* at baseline. An additional 26.9% of endline respondents had aided awareness of *Break Up*, bringing total campaign awareness (aided plus unaided) to 32.7%. Gay and bisexual males (36.8%) were significantly more likely to be aware of *Break Up* compared to lesbian and bisexual females (18.6%; see Table 1).

Among those aware of the campaign, the most common source of exposure was through the Break Up Squad (41.2%), followed by posters in restaurants, bars, or clubs (30.5%); social media (4.8%); bar coasters and napkins (3.0%); video screens at bars, clubs, or restaurants (2.4%); and the Web (non-social media; 1.8%). On average, aware respondents were exposed to campaign ads 10.6 times and to the street team 4.3 times. The majority (74.3%) correctly perceived the campaign message to be about quitting smoking; only 10.8% did not know or could not remember what the campaign was about. Among those who were exposed to the campaign, the majority agreed or strongly agreed that the campaign was appealing (69.3%), relevant (72.4%), and motivational (50.9%) to them.

### Sharing of Educational Campaign Messages

More than one third of endline participants aware of *Break Up* (37.7%) reported discussing the campaign with someone else, including friends (25.7%), partners (6.0%), and/or family (4.8%). One quarter (25.1%) used their smartphone or a computer to share the campaign on a social media platform, including on Facebook (9.0%), Instagram (7.2%), or Twitter (1.8%).

### Educational Campaign Awareness and Smoking Behaviors

In a bivariate analysis there was no significant association between awareness of *Break Up* among participants and not smoking in the past 30 days. However, there were significant bivariate associations between campaign awareness and precursors to smoking cessation. Among current smokers (respondents who had smoked in the past 30 days), campaign awareness was significantly associated with seriously thinking of quitting ( $p = .005$ ), with more respondents who were aware of the campaign indicating that they were seriously thinking of quitting (68.0%) compared to respondents who were not aware of the campaign (54.2%). Similarly, among current smokers, campaign awareness was significantly associated with ever having taken steps to quit smoking ( $p = .008$ ), with more respondents who were aware of the campaign reporting that they had taken steps to quit (68.0%) compared to respondents who were not aware of the campaign (55.0%).

We conducted binary logistic regressions for the outcomes of seriously thinking of quitting smoking and ever taking steps to quit smoking among current smokers while controlling for demographics as well as exposure to tobacco-free campaigns other than *Break Up*. The odds of seriously thinking about quitting smoking was 1.69 times higher among respondents who were aware of *Break Up* compared to those who were unaware (see Table 2). In addition, the odds of seriously thinking about quitting was lower among Hispanics and endline respondents. Similarly, the odds of having taken steps to quit smoking was 1.62 times higher among respondents who were aware of *Break Up* compared to those who were unaware (see Table 3). The odds of having taken steps to quit smoking was lower among Hispanics and Asians than among Whites. Endline respondents were less likely than baseline respondents to have taken steps to quit. Conversely, the odds of having taken steps to quit were higher among older age groups compared to 18- to 24- year-olds.

### Helpline Calls

The average number of calls per week to the California Smokers' Helpline by LGB persons from Los Angeles County in the year before the educational campaign was 18.6 (7.4% of all callers). This number decreased to 17.7 during the campaign (7.9% of all callers) and dropped to 16.2 calls per week (8.1% of all callers) in the year after the campaign ended. The increases in the percentages of calls from LGB persons per week from before to during the campaign and from during to after the campaign were not statistically significant ( $p = .30$  and  $p = .56$ , respectively); however, the increase from before to after the campaign was statistically significant ( $p = .04$ ).

### Discussion

The campaign evaluation showed that *Break Up* had a relatively strong brand that resonated with the target audience. Nearly one third of the respondents in the endline sample had been exposed to the campaign despite a short but very concentrated presence in selected areas of Los Angeles County, an especially competitive landscape for tobacco-free campaigns. In addition, *Break Up* was generally well received by the target audiences, with more than half saying that it was appealing, relevant, and/or motivational to them. More than one third of those aware of *Break Up* reported discussing the campaign or sharing it on social media, which was a goal of the program. At endline, 76.5% of respondents recalled seeing a tobacco-free campaign other than *Break Up*, and exposure to other tobacco-free campaigns was significantly associated with thinking about quitting and taking steps to quit.

Gay and bisexual men were significantly more likely to have awareness of *Break Up* than were lesbian or bisexual females. We expected that *Break Up* would reach more male members of the target audience overall because the campaign targeted mostly venues and neighborhoods where gay and bisexual men out-number women. However, lesbian and bisexual women intercepted for interviews in areas or venues where the campaign ran would be expected to have a level of campaign awareness comparable to that of their male counterparts. Further research into why men had higher awareness than women would be useful to ensure that future campaigns more effectively reach all segments of the target audience.



Unfortunately, *Break Up* campaign awareness was not significantly associated with smoking cessation among participants. This could have been due to current smokers being more likely to pay attention to the campaign, which would be consistent with another study that found that current LGB smokers were more likely than nonsmokers to be aware of tobacco-free messages in the media (Matthews et al., 2014). However, when we controlled for the effects of demographics and exposure to other smoking campaigns, *Break Up* was associated with precursors to smoking cessation that included seriously thinking about quitting and ever taking steps to quit smoking.

There was no increase in the absolute number of helpline calls from LGB persons during the campaign. This may have been due to cutbacks in the general helpline advertising campaign, which led to reduced overall call volume. LGB call volume tends to track the overall call volume because LGB persons call in response to all promotion efforts, not just those that are targeted at LGB persons. It is possible that calls generated by *Break Up* were masked by the overall decline in helpline call volume. The percentage of calls by LGB persons increased from 7.4% before the campaign to 8.1% afterward, which supports this possibility.

### Limitations

This study has several limitations. Because of the street-intercept survey methodology used, the results of the study may not be generalizable to LGB persons other than those in Los Angeles County who attend the venues where the surveys were conducted. Furthermore, the reliance on self-report from participants in a face-to-face interview could have resulted in recall or social desirability bias. However, the open-ended method of measuring unaided awareness strengthens our findings with regard to accurate assessment of campaign exposure, as participants were asked to recall campaigns without prompting. Refusal rates for baseline and endline samples were moderately high. However, the refusal rate included anyone approached by interviewers, even those who walked away immediately. The refusal rate among those who listened to the interviewer describe the study was less than 5% for both the baseline and endline surveys. It is important to note that associations between campaign awareness and outcomes do not necessarily imply a causal relationship. To increase our ability to make stronger inferences from the findings, we included an online follow-up study component to allow individual-level changes in participants' outcomes to be assessed. However, the follow-up response rate was too low to provide sufficient power for meaningful statistical analysis.

Although *Break Up* had good reach and was well received by the LGB population in Los Angeles County, the campaign was associated only with precursors to quitting smoking rather than actual smoking cessation. However, this study adds to the limited literature on tobacco programs targeting LGB populations and is among the first studies to examine the effects of a tobacco-free social marketing campaign in this important and understudied population. Additional studies would allow experts to examine how social marketing can be used to achieve smoking cessation among all segments of the LGB population.

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**Fig. 1.**  
*Break Up* campaign advertisement. Reprinted with the permission of the Los Angeles County Department of Public Health.



**Fig. 2.**  
*Break Up* campaign advertisement. Reprinted with the permission of the Los Angeles County Department of Public Health.

Demographic characteristics for baseline and endline samples and by *Break Up* campaign awareness among LGB persons in Los Angeles County, 2013–2014

**Table 1.**

Characteristic	Baseline (%)		Endline (%)		p <sup>a</sup>
	Total (N = 1,005)	Total (N = 510)	Aware (n = 167)	Total (N = 510)	
Total	100	100	32.7		
Sex					<.001
Male	79.5	77.8	36.8		
Female	20.5	22.2	18.6		
Age (years)					.73
18–20	1.0	3.7	26.3		
21–25	33.7	32.5	31.9		
26–30	28.4	27.3	33.1		
31–35	16.9	15.5	29.1		
36–40	8.6	8.4	30.2		
41–45	5.6	5.3	48.1		
46–50	3.5	4.3	36.4		
51 or older	2.2	2.9	40.0		
Race/ethnicity					.16
White	38.2	37.8	31.1		
Black	8.9	9.2	43.5		
Hispanic/Latino <sup>b</sup>	30.7	33.9	34.1		
Asian	5.3	8.4	19.0		
Mixed/biracial	11.5	7.4	40.5		
Native American	1.1	1.8	33.3		
Pacific Islander/Hawaiian	2.0	1.4	14.3		
Middle Eastern	2.2	0.2	100.0		
Sexual orientation					.02
Gay	72.4	69.4	37.1		
Lesbian	10.3	12.4	20.6		
Bisexual	16.1	15.9	24.7		

Characteristic	Baseline (%)		Endline (%)		<i>p</i> <sup>a</sup>
	Total ( <i>N</i> = 1,005)	Total ( <i>N</i> = 510)	Total ( <i>n</i> = 167)	Aware	
Queer	1.2	2.4	25.0		
Education					.28
Some high school	1.7	1.4	28.6		
High school diploma	12.0	13.7	34.8		
Some college/trade school	34.1	32.1	37.0		
College graduate	42.4	45.5	27.8		
Graduate school/degree	9.8	7.3	40.5		
Annual income					.48
Less than \$15,000	16.9	19.4	27.1		
\$15,000–\$25,000	13.5	13.3	33.3		
\$25,000–\$35,000	17.1	13.9	31.9		
\$35,000–\$50,000	19.3	16.5	42.7		
\$50,000–\$75,000	16.4	21.0	33.7		
\$75,000–\$100,000	9.9	8.1	35.0		
More than \$100,000	6.8	7.9	28.2		
Smoking frequency during past 30 days					.48
Every day	46.4	36.7	35.8		
Some days	50.0	51.2	31.0		
Not at all	3.6	11.4	29.3		
Don't know/refused	0.0	0.8	0.0		

*Note.* LGB = lesbian, gay, bisexual.

<sup>a</sup> *p* values refer to chi-square tests of association between campaign awareness at endline and demographic characteristics. Significant values are shown in bold.

<sup>b</sup> Data were not collected to capture ethnicity and race as separate variables.

**Table 2.**

Binary logistic regression of predictors for seriously thinking about quitting smoking among smokers for *Break Up* program evaluation among LGB persons in Los Angeles County, 2013–2014 ( $n = 1,369$ )

Variable	Odds ratio	95% CI		<i>p</i>
		Lower	Upper	
Age (years)				
18–24	REF			
25–30	1.03	0.78	1.37	.82
31–34	1.34	0.92	1.95	.13
35–40	1.33	0.89	1.99	.16
41 or older	1.43	0.95	2.14	.08
Sex (0 = male, 1 = female)	1.05	0.68	1.61	.81
Race/ethnicity				
White	REF			
Black	0.93	0.61	1.41	.72
Hispanic/Latino	0.65	0.49	0.85	.002
Asian	0.70	0.43	1.14	.15
Mixed/biracial	0.99	0.66	1.49	.98
American Indian/Native American	1.19	0.41	3.43	.75
Pacific Islander/Hawaiian	1.20	0.48	2.98	.69
Middle Eastern	1.40	0.50	3.95	.52
Sexual orientation				
Gay	REF			
Lesbian	0.84	0.49	1.44	.53
Bisexual	0.94	0.66	1.35	.75
Queer	0.58	0.24	1.39	.22
Time interval (0 = baseline, 1 = endline)	0.61	0.46	0.80	<.001
Other tobacco-free awareness (0 = not aware, 1 = aware)	1.36	1.07	1.73	.011
<i>Break Up</i> awareness (0 = not aware, 1 = aware)	1.69	1.11	2.59	.015

Note. LGB = lesbian, gay, bisexual; CI = confidence interval; REF = reference group.



**Table 3.**

Binary logistic regression of predictors for having taken steps to quit smoking among smokers for *Break Up* program evaluation among LGB persons in Los Angeles County, 2013–2014 ( $n = 1,369$ )

Variable	Odds Ratio	95% CI		<i>p</i>
		Lower	Upper	
Age (years)				
18–24	REF			
25–30	1.52	1.14	2.01	.004
31–34	1.93	1.32	2.84	.001
35–40	1.71	1.14	2.56	.009
41 or older	1.83	1.22	2.75	.003
Sex (0 = male, 1 = female)	0.96	0.63	1.48	.87
Race/ethnicity				
White	REF			
Black	0.70	0.46	1.07	.10
Hispanic/Latino	0.44	0.33	0.58	<.001
Asian	0.42	0.26	0.68	<.001
Mixed/biracial	0.92	0.61	1.38	.67
American Indian/Native American	0.77	0.28	2.13	.61
Pacific Islander/Hawaiian	0.87	0.35	2.11	.75
Middle Eastern	0.97	0.36	2.62	.95
Sexual orientation				
Gay	REF			
Lesbian	0.63	0.37	1.08	.09
Bisexual	0.97	0.68	1.38	.85
Queer	2.06	0.72	5.90	.17
Time interval (0 = baseline, 1 = endpoint)	0.71	0.54	0.94	.018
Other tobacco-free awareness (0 = not aware, 1 = aware)	1.40	1.10	1.79	.006
<i>Break Up</i> awareness (0 = not aware, 1 = aware)	1.62	1.06	2.50	.027

Note. LGB = lesbian, gay, bisexual; CI = confidence interval; REF = reference group.