

UCSF

UC San Francisco Previously Published Works

Title

Wreaking “Havoc” on Smoking Social Branding to Reach Young Adult “Partiers” in Oklahoma

Permalink

<https://escholarship.org/uc/item/5pn6s7sq>

Journal

American Journal of Preventive Medicine, 48(1)

ISSN

0749-3797

Authors

Fallin, Amanda
Neilands, Torsten B
Jordan, Jeffrey W
et al.

Publication Date

2015

DOI

10.1016/j.amepre.2014.09.008

Peer reviewed



Published in final edited form as:

Am J Prev Med. 2015 January ; 48(1 0 1): S78–S85. doi:10.1016/j.amepre.2014.09.008.

Wreaking “Havoc” on Smoking:

Social Branding to Reach Young Adult “Partiers” in Oklahoma

Amanda Fallin, PhD, RN, Torsten B. Neilands, PhD, Jeffrey W. Jordan, MA, Juliette S. Hong, MS, and Pamela M. Ling, MD, MPH

Center for Tobacco Control Research and Education (Fallin, Ling), Center for AIDS Prevention Studies (Neilands), Division of General Internal Medicine, Department of Medicine (Hong, Ling), University of California San Francisco, San Francisco; and Rescue Social Change Group (Jordan), San Diego, California

Abstract

Background—More than 25% of young adult Oklahomans smoked cigarettes in 2012. Tobacco marketing campaigns target young adults in social environments like bars/nightclubs. Social Branding interventions are designed to compete directly with this marketing.

Purpose—To evaluate an intervention to reduce smoking among young adult “Partiers” in Oklahoma. The Partier social subculture was described as follows: attendance at large nightclubs, fashion consciousness, valuing physical attractiveness, and achieving social status by exuding an image of confidence and financial success.

Design—Repeated cross-sectional study with three time points.

Setting/Participants—Randomized time location survey samples of young adult Partier bar and club patrons in Oklahoma City (Time 1 [2010], $n=1,383$; Time 2 [2011], 1,292; and Time 3 [2012], 1,198). Data were analyzed in 2013.

Intervention—The “HAVOC” Social Branding intervention was designed to associate a smoke-free lifestyle with Partiers’ values, and included events at popular clubs, brand ambassador peer leaders who transmit the anti-tobacco message, social media, and tailored anti-tobacco messaging.

Main outcome measures—Daily and nondaily smoking rates, and binge drinking rates (secondary).

Results—Overall, smoking rates did not change (44.1% at Time 1, 45.0% at Time 2, and 47.4% at Time 3 ($p=0.17$), but there was a significant interaction between intervention duration and brand

© 2014 Published by Elsevier Inc. on behalf of American Journal of Preventive Medicine.

Address correspondence to: Pamela M. Ling, MD, MPH, Professor of Medicine, Center for Tobacco Control Research and Education, Division of General Internal Medicine, Department of Medicine, University of California San Francisco, 530 Parnassus Ave., Suite 366, San Francisco CA 94143. pling@medicine.ucsf.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Drs. Fallin, Neilands, and Ling and Ms. Hong have no conflict of interest to disclose. Mr. Jordan is an employee of Rescue Social Change Group, the company that implemented the intervention in this study.

No financial disclosures were reported by the authors of this paper.

recall. Partiers reporting intervention recall had lower odds of daily smoking (OR=0.30 [0.10, 0.95]) and no difference in nondaily smoking, whereas among Partiers without intervention recall had increased odds of smoking (daily AOR=1.74 [1.04, 2.89], nondaily AOR=1.97 [1.35, 2.87]). Among non-Partiers, those who recalled HAVOC reported no difference in smoking, and those who did not recall HAVOC reported significantly increased odds of smoking (daily AOR=1.53 [1.02, 2.31], nondaily AOR=1.72 [1.26, 2.36]). Binge drinking rates were significantly lower (AOR=0.73 [0.59, 0.89]) overall.

Conclusions—HAVOC has potential to affect smoking behavior among Oklahoma Partiers without increasing binge drinking.

Introduction

Smoking is the leading cause of preventable death and disease, and 17.3% of U.S. young adults smoked in 2012.¹ In Oklahoma, the three leading causes of death—heart disease, cancer, and respiratory disease—are smoking-related.² In 2012, 28.0% of Oklahomans aged 18–24 years smoked cigarettes.³ Most adult daily smokers began before age 26 years,⁴ and stopping smoking before age 30 years greatly reduces the risk of tobacco-related disease.⁵ Interventions are needed to prevent young adult smoking initiation and progression to regular smoking, and to promote early cessation.

Young adults are tobacco industry's youngest legal marketing target.⁶ Tobacco companies target young adults^{7,8} with bar/nightclub promotions,^{9,10} and tailor campaigns to different groups of young adults, promoting attractive smoker identities within social environments.^{11–13}

Social Branding is a counter-marketing intervention developed by Rescue Social Change Group that utilizes targeted social brands to associate healthy behaviors with desirable lifestyles through interactive marketing tactics matching the style of the peer crowd. Although each individual has a local peer group that they socialize with, both the person and their peer group belong to a larger “peer crowd” that shares significant cultural similarities, including values, activities, aspirations, or style.¹⁴ Social Brands appeal to specific peer crowds, and compete with tobacco industry lifestyle marketing efforts. A Social Branding intervention targeting the “Hipster” peer crowd (focused on alternative rock music, eclectic self expression, and bars that feature live music) was implemented in San Diego, California, and a significant decrease in smoking among Hipsters was observed.¹⁵ This study describes a Social Branding intervention targeting a different peer crowd (Partiers) in Oklahoma City, Oklahoma.

Formative Research

Qualitative research was used to describe Oklahoma young adult peer crowds.¹⁶ In January, 2010, six 2-hour focus groups were conducted with a total of 43 young adults in Oklahoma City. Respondents reviewed pictures of young adults, selecting those that best represented the different peer crowds in Oklahoma, and described the peer crowd characteristics, including fashion, most popular bars and clubs, and music.¹⁴ Six major peer crowds were identified, and informally called: Country, Hipster, lesbian, gay, bisexual, and transgender

(LGBT), Partier, Mainstream, and Urban. Based on this work, a decision was made in consultation with the Oklahoma Tobacco Settlement Endowment Trust to focus on the “Partier” peer crowd, based on its smoking rates and size. The Partier peer crowd was perceived to encompass: frequent attendance at large nightclubs with dance and hip hop music played by DJ’s, a desire to engage in “exclusive” experiences (such as gaining access to a VIP lounge), fashion consciousness, concern for physical attractiveness, and achieving social status by exuding an image of confidence and financial success. Partiers were also reported to be social smokers, or frequently to pair tobacco and alcohol. For example, according to a participant describing a Partier, she “just looks like the type of girl to be like, ‘Oh, I’m drinking and smoking’.”¹⁶

Formative research also demonstrated that young adults in Oklahoma were initiating and habituating tobacco use at parties, bars, and clubs. Tobacco use was perceived to be the norm at Oklahoma bars, and was often associated with popularity or attractiveness. Social Brands can compete with tobacco brand images and thus change social norms to break the association between smoking and bars, clubs and parties, or the link between smoking and being popular or attractive. The formative research supported the brand name, HAVOC, as young adult Partiers endorsed the idea of an unpredictable, “HAVOC-filled” night.

Intervention

This Social Branding intervention was designed to reduce smoking among Partiers. The objective of the study was to: (1) assess current (past 30-day) smoking among young adult Partiers in Oklahoma City during the intervention; and (2) determine the impact of the intervention on binge drinking. The intervention was designed to influence smoking behavior by associating the smoke free HAVOC brand with Partiers at social events. Similar to other image-oriented commercial brands, (such as how the Nike brand links to action or excellence) the HAVOC Social Brand was intended to embody characteristics valued by Partiers (e.g., confidence, social success, physical attractiveness). HAVOC included several elements that featured and reinforced the brand image, including sponsored events, brand ambassadors, social media, and direct mail. HAVOC-sponsored events took place at popular Partier clubs and included influential DJs, promoters, and socialites. The DJs were selected for their non-smoking status and willingness to publicly support a tobacco-free lifestyle. During events, “social games” were used to build an association between being social and living tobacco free. The games encouraged Partiers to meet each other as part of a challenge that related to tobacco education, and participants were offered a chance to win a prize. Signage throughout the clubs included videos and banners establishing the HAVOC brand while reinforcing the tobacco prevention message. Ten HAVOC events occurred per year over 3 years (2010–2012). Because smoking is permitted in Oklahoma bars, HAVOC required venue partners to prohibit tobacco use in their facility during HAVOC events, including among staff.

Brand ambassadors (young adult influencers, socialites, and other opinion leaders who were recruited and trained to be representatives of the HAVOC social brand and message) also played a role both at and outside events. They were recruited by the HAVOC brand manager, through social media pages and by word of mouth. Training included learning a

set of tobacco prevention facts and becoming familiar with HAVOC's anti-tobacco values and how these values relate to the Partier lifestyle. Ambassadors were asked to share this knowledge with their peers to promote tobacco-free living in their own social group. Over 200 brand ambassadors were trained. Top brand ambassadors were hired to staff the HAVOC events. Brand ambassadors regularly provided feedback on the current state of the campaign and on marketing materials.

Social media campaigns (YouTube, Twitter, and Facebook, launched in March 2010) and direct mail sustained the Havoc message following events. Mailing addresses were collected at events; participants then received direct mail that included tobacco prevention and cessation messages and promotions for the next Havoc event. Process implementation measures indicated that as of September 2013, >17,000 people attended HAVOC events in Oklahoma City, the HAVOC Facebook page had >11,000 likes, and HAVOC registered >2,950 unique addresses, >3,000 e-mail addresses, and >1,850 cell phones. Over the 17 direct mailings, 38 e-mails, and 41 text messages sent to these lists, the estimated reach for the campaign was 42,500–44,500, and there were almost 85,000 impressions by e-mail.

Methods

A repeated cross-sectional study was conducted, with three time points. The evaluation described in this manuscript occurred independently from the intervention, and owing to logistic limitations, the campaign was launched (March 2010) before the study's first measurement had completed. However, the first data collection took place before anti-tobacco messaging was introduced. Time 1 data were collected between February 6, 2010 and April 6, 2010, and Time 2 between September 16, 2010 and June 25, 2011. Time 3 data were collected in three waves: September 29, 2011 to January 5, 2012, February 2, 2012 to April 6, 2012, and June 1, 2012 to August 4, 2012. Analyses were conducted in 2013.

Time location sampling was used to locate Partiers, a method frequently used to survey hard to reach populations, such as truck drivers,¹⁷ sex workers,¹⁸ and injection drug users,¹⁹ and used previously in young adult bar contexts.²⁰ Focus groups with key informants knowledgeable about the Partier scene were used to develop a list of all popular Partier bars/nightclubs in Oklahoma City.¹⁵ Venues, dates, and times were randomly selected, and data collectors invited all individuals fitting study inclusion criteria (aged 18–26 years, not visibly intoxicated, and able to give verbal informed consent for participation). Data were collected in 33 of the most popular venues. As the campaign progressed, more young adults declined to take the survey during screening because they had already completed a survey at a prior time. The response rate was 78.1% for Time 1, 62.9% for Time 2, and 66.3% for Time 3. This study was approved by the University of California San Francisco IRB.

Measures

The main outcome measure was smoking behavior, in three categories: daily smoking, nondaily smoking, or nonsmoking. Survey respondents who reported smoking 30 of the past 30 days were classified as daily smokers, those who smoked on 1–29 days were classified as non-daily smokers, and 0 days as nonsmokers. A secondary analysis with binge drinking as the outcome was also conducted. Participants who reported drinking at least five alcoholic

shots or drinks within a few hours on at least 1 of the past 30 days were considered to have engaged in binge drinking.¹⁵

HAVOC recall was assessed based on the answers to a series of questions regarding: (1) having ever heard of HAVOC or HAVOC nights; (2) having attended a HAVOC event; or (3) ever visiting the HAVOC website or Facebook page (responses were *yes/number of times, no, or I don't know*). The three responses were combined into a single dichotomous measure, in which reporting yes or a number of times on any of the three questions was coded as recall=1, and any other response=0.

Duration of the intervention was treated as a continuous variable reflecting months elapsed since the start of Time 1 data collection, similar to past published analyses.¹⁵ Covariates were selected a priori based on findings in the literature and the team's previous work identifying factors associated with smoking among bar patrons.¹⁵ They included advertising receptivity, trend sensitivity, support for action against the tobacco industry,^{21,22} and demographics. Advertising receptivity was assessed using a standard measure (willingness to use a tobacco industry promotional item).²³ Partier status was determined based on picture and bar selections used in previous research,^{14,15} where participants selected pictures of individuals they were most and least likely to be friends with, and ranked bars from a list that they were most likely and least likely to attend. This process was based on previous work by Brown and colleagues²⁴ and has been described in detail elsewhere.^{14,15}

Consistent with prior research,^{21,22} support for action against the tobacco industry was measured based on a response to three questions: (1) I want to be involved with efforts to get rid of cigarette smoking; (2) I would like to see the cigarette companies go out of business; and (3) *Taking a stand against smoking is important to me*. Answer choices on a 5-point Likert scale were averaged across the three items and used as a continuous variable.¹⁵

Trend sensitivity, which determines how social the respondent is and how likely they are to follow peer crowd trends, was assessed based on a series of 13 questions that have been described in detail previously.¹⁵ The trend sensitivity score was treated as a single continuous variable.

Demographics included age, sexual orientation (straight, gay, lesbian, bisexual, other), sex (male, female), and education (attends college locally, attends college outside the local area [excluded from analysis], graduated college, dropped out of college, high school education). Owing to small cell sizes, sexual orientation was dichotomized into straight (ref) versus all other categories in multivariate analyses. College dropout/high school education categories were collapsed; college graduate was the ref group.

Statistical Analysis

Descriptive analyses of demographic data were conducted and differences were assessed across study time points using the chi-square test for categorical variables and the Wilcoxon signed rank test for continuous variables. Multivariate multinomial regression examined the association between HAVOC recall and three outcomes: daily smoking, nondaily smoking, and nonsmoking (ref group), controlling for the aforementioned demographic and attitudinal

covariates. A stratified analysis was conducted among partiers and non-partiers. Within each partier stratum, the interaction between time (duration of intervention – a continuous variable) and recall of HAVOC on the three smoking outcomes was examined. Binge drinking was analyzed via binary logistic regression with the same covariates.

Multicollinearity was assessed using the variance inflation factor (VIF). All data analyses were conducted using SAS, version 9.3 (SAS Institute Inc., Cary NC). Statistical testing was performed using a 0.05 significance level.

Results

About 40% of respondents most strongly affiliated with the Partier peer crowd (Table 1). Participants were predominately aged 21–23 years, Caucasian, non-LGBT, and local college students. Most participants had engaged in binge drinking in the past 30 days. Smoking rates did not change in the total sample (44.1% at Time 1, 45.0% at Time 2, and 47.4% at Time 3 ($p=0.17$), but there were significant differences in smoking among those participants who recalled HAVOC, and a greater difference among Partiers who recalled HAVOC (Table 1, Figure 1). There was no evidence of multicollinearity in the following analyses.

In multivariate multinomial regressions for the overall sample, there was a significant positive interaction between recall of the intervention and duration of the intervention (Wald $\chi^2(2)=11.42$, $p=0.003$). Respondents who did not recall HAVOC were significantly more likely to be daily (AOR=1.58, 95% CI=1.16, 2.17) and nondaily (AOR=1.81, 95% CI=1.43, 2.30) smokers, whereas respondents who recalled HAVOC did not show such increased odds of smoking.

In addition, the analysis was stratified based on Partier status (Tables 2 and 3). In multivariate multinomial regressions among Partiers (Table 2), the interaction between recall and intervention duration was significant (Wald $\chi^2(2)=8.85$, $p=0.012$). Individuals who recalled HAVOC were significantly less likely to smoke daily (AOR=0.30, 95% CI=0.10, 0.95), and there was no difference in nondaily smoking (AOR=0.72, 95% CI=0.31, 1.67). Those partiers who did not recall HAVOC had significantly increased odds of daily (AOR=1.74, 95% CI=1.04, 2.89) and nondaily smoking (AOR=1.97, 95% CI=1.35, 2.87).

In multivariate multinomial regressions among non-Partiers (Table 3), recall of HAVOC was not associated with a change in daily or nondaily smoking. The interaction between recall and intervention duration was not significant (Wald $\chi^2(2)=4.41$, $p=0.11$). Individuals who did not recall HAVOC had an increased likelihood of daily (AOR=1.53, 95% CI=1.02, 2.31) and nondaily smoking (AOR=1.72, 95% CI=1.26, 2.36).

In a secondary analysis, binge drinking was also assessed, because the intervention was bar-based and could be associated with increased alcohol consumption. Overall, controlling for covariates, binge drinking rates were significantly lower over time (AOR=0.73, 95% CI=0.59, 0.89).

Discussion

The HAVOC intervention shows promise to impact smoking behavior among the targeted population. Previous work in San Diego, California with Hipsters found that the Social Branding intervention was also able to reach this young adult peer crowd.¹⁵ In addition, similar to the previous study,¹⁵ there was a significant decrease in binge drinking (AOR=0.44, 95% CI=0.53, 0.78) when controlling for age, gender, race, sexual orientation, and education. The decreased odds of binge drinking observed in this campaign (AOR=0.73, 95% CI=0.59, 0.89) was also significant, though smaller. These data suggest that this bar intervention is unlikely to promote or reinforce binge drinking.

This study is consistent with the literature supporting using segmentation based on peer crowds for targeted intervention. Previous research has demonstrated a difference in smoking rates between peer groups among youth and young adults.^{25,26} In Los Angeles, California, researchers determined that the middle school peer group with the highest smoking rates was “Gangsters/Cholos,” who had seven times the odds of smoking.²⁶ In Richmond, Virginia, among three African American youth and young adult peer crowds, (hip-hop, preppy, and mainstream), the hip-hop peer crowd had increased odds of smoking (AOR=1.97, 95% CI=1.03, 3.76).¹⁴ This study adds to the literature documenting increased risk among peer crowds as the first assessment of Social Branding as an intervention for the Partier peer crowd.

The HAVOC intervention occurred within Oklahoma's current tobacco policy context. As of 2013, bars were not covered in Oklahoma's smoke-free policy, and localities were preempted from passing any stronger clean indoor air laws.²⁷ Although bars were required to be smoke free during HAVOC events, Oklahoma City Partiers regularly frequent smoky venues. Over time, more bars in Oklahoma City voluntarily adopted smoke-free policies. Many of these venues were sites for HAVOC events and bar owners anecdotally reported that their direct experience with successful smoke-free nights influenced why they felt it was economically feasible to adopt a voluntary smoke-free bar policy. There were also reports that more influential DJs have become willing to publically associate themselves with tobacco-free lifestyles over time. Additional research is needed to fully understand the impact of a Social Branding intervention on the policy environment.

The success of this project suggests that bar-based interventions may be an effective way to address health disparities among hard-to-reach populations. Very high tobacco use rates was found in the survey samples, and this is one of the few young adult-focused efforts based in community social settings, rather than college campuses or healthcare settings. Bar campaigns have reached vulnerable populations outside of tobacco control,^{28,29} but this is the first intervention to use social opinion leaders in the bar and nightclub setting to affect tobacco use among Partiers. As young adulthood is marked by life transitions that may include initiation of alcohol use or other risky behaviors, bar-based Social Branding interventions could be explored to promote other healthy behaviors.

Limitations

This study is limited by the repeated cross-sectional design without a pre–post analysis. Longitudinal analyses would be an ideal design, but longitudinal studies are limited by low participation rates. There are limitations inherent in the use of time location sampling. It is possible that all venues popular among young adult partiers were not identified. The survey response rates decreased over time, and there may have been differences among those who participated in the survey versus those that did not. Self-reported tobacco use without biochemical validation was used. HAVOC recall reported was limited (8.9% at Time 1 to 26.8% at Time 3), thus the intervention could be intensified. In addition, demographic characteristics of the participants changed between the three time periods. Although the analyses were adjusted for these characteristics, it is possible that these or another characteristic influenced smoking. Visibly intoxicated individuals were not included in this study, thus results do not apply to this population.

Conclusions

Among Partiers who recalled HAVOC, there was a significant difference in daily smoking. It is feasible to target a young adult peer crowd, Partiers, through a bar-based intervention in Oklahoma. HAVOC has potential to counter increasing smoking among young adult Oklahoma partiers. Innovative interventions such as HAVOC should be supported.

Acknowledgments

This study was supported by the National Cancer Institute (No. U01 CA154240), the Flight Attendant Medical Research Institute, and the Oklahoma Tobacco Settlement Endowment Trust. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH. The study sponsors had no role in study design; collection, analysis, and interpretation of data; writing the report; or the decision to submit the report for publication.

References

1. Agaku IT, King BA, Dube SR, CDC. Current cigarette smoking among adults--United States, 2005-2012. *MMWR Morb Mortal Wkly Rep.* 2014; 63(2):29–34. [PubMed: 24430098]
2. Oklahoma State Department of Health. 2011 State of the State's Health Report. 2011. www.ok.gov/health/pub/boh/state11/SOSH2011.pdf
3. CDC. Prevalence and trends data: Oklahoma-2012 Tobacco use.. Adults who are current smokers. apps.nccd.cdc.gov/brfss/age.asp?state=OK&cat=TU&yr=2012&qkey=8161&grp=0
4. DHHS. Preventing tobacco use among youth and young adults: A report of the Surgeon General. Public Health Service, Office of the Surgeon General; Rockville, MD: 2012.
5. Doll R, Peto R, Boreham J, Sutherland I. Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ.* 2004; 328(7455):1519. [PubMed: 15213107]
6. Public Health Law Center. [9/5/2014] Master Settlement Agreement. 2010. from <http://publichealthlawcenter.org/topics/tobacco-control/tobacco-control-litigation/master-settlement-agreement>
7. Sepe E, Glantz SA. Bar and club tobacco promotions in the alternative press: targeting young adults. *Am J Public Health.* 2002; 92(1):75–8. [PubMed: 11772765]
8. Ling PM, Glantz SA. Why and how the tobacco industry sells cigarettes to young adults: evidence from industry documents. *Am J Public Health.* 2002; 92(6):908–16. [PubMed: 12036776]
9. Sepe E, Ling PM, Glantz SA. Smooth moves: bar and nightclub tobacco promotions that target young adults. *Am J Public Health.* 2002; 92(3):414–9. [PubMed: 11867322]

10. Gilpin EA, White VM, Pierce JP. How effective are tobacco industry bar and club marketing efforts in reaching young adults? *Tob Cont.* 2005; 14(3):186–92.
11. Ling PM, Glantz SA. Using tobacco-industry marketing research to design more effective tobacco-control campaigns. *JAMA.* 2002; 287(22):2983–9. [PubMed: 12052128]
12. Hendlin Y, Anderson SJ, Glantz SA. “Acceptable rebellion”: marketing hipster aesthetics to sell Camel cigarettes in the US. *Tob Cont.* 2010; 19(3):213–22.
13. Sepe E, Glantz SA. Bar and club tobacco promotions in the alternative press: targeting young adults. *Am J Public Health.* 2002; 92(1):75–8. [PubMed: 11772765]
14. Lee YO, Jordan JW, Djakaria M, Ling PM. Using peer crowds to segment black youth for smoking intervention. *Health Promot Pract.* 2013; 15(4):530–7. [PubMed: 23628591]
15. Ling PM, Lee YO, Hong JS, Neilands TB, Jordan J, Glantz SA. Social branding to decrease smoking among young adults in bars. *Am J Public Health.* 2014; 104(4):751–60. [PubMed: 24524502]
16. Rescue Social Change Group. Functional Analysis for Cultural Interventions on Oklahoma Young Adult Tobacco Use: Research Report. Jan-Feb. 2010
17. Ferreira L, Oliveira E, Raymond HF, Chen S, McFarland W. Use of time-location sampling for systematic behavioral surveillance of truck drivers in Brazil. *AIDS Behav.* 2008; 12(4s):S32–8. [PubMed: 18392673]
18. Cai WD, Zhao J, Zhao JK, et al. HIV prevalence and related risk factors among male sex workers in Shenzhen, China: results from a time location sampling survey. *Sex Transm Infect.* 2010; 86(1): 15–20. [PubMed: 19854703]
19. Heimer R, Grau LE, Curtin E, Khoshnood K, Singer M. Assessment of HIV testing of urban injection drug users: implications for expansion of HIV testing and prevention efforts. *Am J Public Health.* 2007; 97(1):110–6. [PubMed: 17138916]
20. Jiang N, Ling PM. Impact of alcohol use and bar attendance on smoking and quit attempts among young adult bar patrons. *Am J Public Health.* 2013; 103(5):e53–61. [PubMed: 23488485]
21. Ling PM, Neilands TB, Glantz SA. The effect of support for action against the tobacco industry on smoking among young adults. *Am J Public Health.* 2007; 97(8):1449–56. [PubMed: 17600255]
22. Ling PM, Neilands TB, Glantz SA. Young adult smoking behavior: a national survey. *Am J Prev Med.* 2009; 36(5):389–94. e2. [PubMed: 19269128]
23. Gilpin EA, White MM, Messer K, Pierce JP. Receptivity to tobacco advertising and promotions among young adolescents as a predictor of established smoking in young adulthood. *Am J Public Health.* 2007; 97(8):1489–95. [PubMed: 17600271]
24. Brown BB, Herman M, Hamm JV, Heck DJ. Ethnicity and image: correlates of crowd affiliation among ethnic minority youth. *Child Dev.* 2008; 79(3):529–46. [PubMed: 18489411]
25. Simons-Morton B, Farhat T. Recent findings on peer group influences on adolescent smoking. *J Prim Prev.* 2010; 31(4):191–208. [PubMed: 20614184]
26. Fuqua JL, Gallaher PE, Unger JB, et al. Multiple peer group self-identification and adolescent tobacco use. *Subst Use Misuse.* 2012; 47(6):757–66. [PubMed: 22458850]
27. Americans for Non-Smokers' Rights. Oklahoma: 2013. www.no-smoke.org/goingsmokefree.php?id=159
28. Kelly J, Murphy DA, Sikkema KJ, et al. Randomised, controlled, community-level HIV-prevention intervention for sexual-risk behaviour among homosexual men in US cities. *Lancet.* 1997; 350(9090):1500–5. [PubMed: 9388397]
29. Miller R, Klotz D, Eckholdt H. HIV Prevention with male prostitutes and patrons of hustler bars: replication of an HIV preventive intervention. *Am J Community Psychol.* 1998; 26(1):97–131. [PubMed: 9574500]

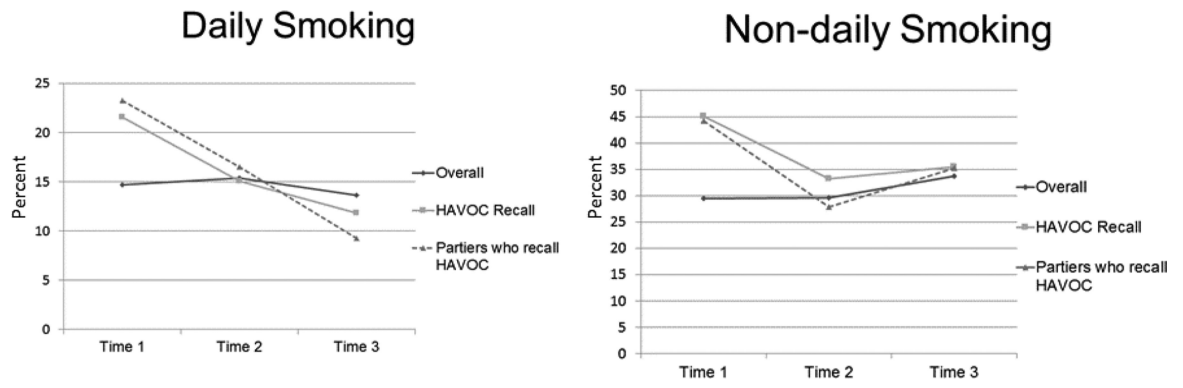


Figure 1. Daily and non-daily smoking and HAVOC recall in total sample and among Partiers

Table 1

Sample characteristics at each time point

	Time 1 (N=1,383) N(%)	Time 2 (N=1,292) N(%)	Time 3 (N=1,198) N(%)	P-value
Age				
Age 18-20	86 (7.3%)	27 (2.4%)	75 (7.4%)	0.6770
Age 21-23	702 (59.2%)	689 (60.1%)	551 (54.2%)	0.0064
Age 24-26	397 (33.5%)	431 (37.6%)	390 (38.4%)	0.0096
Education				
College graduate	271 (22.9%)	292 (25.5%)	307 (30.3%)	<.0001
College in local area	719 (60.8%)	565 (49.3%)	457 (45.1%)	<.0001
Dropped out of college	99 (8.4%)	131 (11.4%)	129 (12.7%)	0.0042
High school	93 (7.9%)	159 (13.9%)	121 (11.9%)	0.0033
Race/Ethnicity				
Caucasian	792 (67.3%)	678 (59.2%)	557 (55.9%)	<.0001
African American	58 (4.9%)	153 (13.4%)	114 (11.4%)	<.0001
Hispanic	102 (8.7%)	156 (13.6%)	211 (20.9%)	<.0001
Asian/Pacific Islander	86 (7.3%)	53 (4.6%)	49 (4.9%)	0.1299
American Indian/Alaskan Native	60 (5.1%)	72 (6.3%)	45 (4.5%)	0.1733
Other	68 (5.8%)	34 (3.0%)	35 (3.5%)	0.0395
Male Sex	632 (54.0%)	483 (42.2%)	479 (47.3%)	0.0040
LGBT Sexual Orientation	122 (10.3%)	93 (8.1%)	116 (11.4%)	0.4038
Smoking Status (Current versus Non-smoker)				
Current smoker	502 (44.1%)	508 (45.0%)	458 (47.4%)	0.1668
No smoker	636 (55.9%)	622 (55.0%)	509 (52.6%)	0.1668
Smoking Status (Daily vs. Non-daily smoker)				
Non-daily smoker	335 (29.4%)	334 (29.6%)	326 (33.7%)	0.0276
Daily smoker	167 (14.7%)	174 (15.4%)	132 (13.7%)	0.3336
Binge drinking at least once in the past 30 days	872 (76.8%)	805 (71.0%)	657 (67.7%)	<.0001
Receptive to tobacco advertising	332 (28.2%)	305 (26.6%)	268 (26.4%)	0.4275
Support for action against the tobacco industry - scale (Mean Std.)	2.6 (1.34)	2.9 (1.33)	2.9 (1.33)	<.0001
Havoc Recall	106 (8.9%)	229 (20.0%)	272 (26.8%)	<.0001
Affiliation with Partier Culture	493 (41.9%)	486 (42.4%)	408 (40.4%)	0.2683
Trend sensitivity index (Mean Std.)	9.0 (3.42)	9.1 (3.22)	8.9 (3.34)	0.2807

LGBT, lesbian, gay, bisexual and transgender

Boldface indicates statistical significance (p<0.05).

Table 2

Multivariate analysis predicting daily and non-daily smoking among Partiers (N=1,292)

Variables		Daily smoker ^a			Non-daily smoker ^a		
		OR	95% CI		OR	95% CI	
Duration of intervention	Havoc brand recall over 2 years	.30	.10	.95	.72	.31	1.67
	No Havoc brand recall over 2 years	1.74	1.04	2.89	1.97	1.35	2.87
Binge drinking		2.40	1.48	3.90	2.35	1.67	3.30
Age		1.02	.91	1.15	1.04	.95	1.27
Gender	Male	.62	.41	.93	1.14	.85	1.52
Race/Ethnicity ^b	African American	.64	.31	1.31	.95	.59	1.53
	Hispanic	.85	.47	1.53	.97	.64	1.46
	Other	1.37	.79	2.37	1.98	1.34	2.92
Education ^c	Drop out college/high school	4.30	2.52	7.35	1.19	.77	1.82
	Go to college in the local area	.84	.49	1.44	.88	.61	1.25
Advertising receptivity		2.07	1.35	3.17	2.16	1.59	3.04
Trend sensitivity index		1.13	1.06	1.20	1.10	1.05	1.15
Support for Action Against the Tobacco Industry		.48	.40	.57	.66	.58	.73
LGBT		1.24	.62	2.48	1.21	.71	2.08
Havoc Recall ^d		1.10	.67	1.81	1.17	.80	1.70

^aMultinomial regression with referent group: Non-smoking^breference: White^creference: Graduated from college^dat Duration=12 months

Table 3

Multivariate analysis predicting daily and non-daily smoking among non-partiers (N=1,822)

Variables		Daily smoker ^a			Non-daily smoker ^a		
		OR	95% CI		OR	95% CI	
Duration of intervention	Havoc brand recall over 2 years	.65	.26	1.64	.83	.41	1.66
	No Havoc brand recall over 2 years	1.53	1.02	2.31	1.72	1.26	2.36
Binge drinking		2.09	1.42	3.09	2.39	1.81	3.15
Age		1.07	.98	1.17	1.04	.97	1.11
Gender	Male	.84	.62	1.14	.90	.71	1.14
Race/Ethnicity ^b	African American	.51	.29	.92	1.21	.83	1.64
	Hispanic	.48	.28	.83	1.17	.83	1.64
	Other	1.21	.80	1.84	1.62	1.17	2.23
Education ^c	Drop out college/high school	1.50	.98	2.29	.87	.62	1.21
	Go to college in the local	1.12	.76	1.65	.94	.71	1.25
Advertising receptivity		2.45	1.78	3.36	1.76	1.36	2.27
Trend sensitivity index		1.19	1.14	1.25	1.08	1.04	1.12
Support for Action Against the Tobacco Industry		.57	.50	.65	.61	.56	.67
LGBT		1.47	.94	2.30	1.67	1.18	2.35
Havoc recall ^d		1.06	.69	1.62	1.37	.99	1.89

^aMultinomial regression with referent group: Non-smoking^breference: White^creference: Graduated from college^dat Duration=12 months