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Young adult social smokers: their co-use of tobacco and alcohol, tobacco-related attitudes, and quitting efforts

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Abstract

Objective—Young adults frequently report social smoking. This study examined the relationship between different social smoking definitions and the co-use of cigarettes and alcohol, tobacco-related attitudes, and quitting efforts.

Method—Cross-sectional data were collected at bars using randomized time location sampling among young adults aged 21–26 in San Diego, CA from 2010–2011 (73% response rate). Multivariable logistic regression examined if current smoking and quit attempts were associated with tobacco-related attitudes, and whether social smoking self-identification or behavior was associated with cigarette-and-alcohol co-use, tobacco-related attitudes, quit attempts, or quitline use.

Results—Among 537 current smokers, 80% self-identified and 49% behaved as social smokers. Social smoking self-identification was positively associated with cigarette-and-alcohol co-use, and quit attempts. Social smoking behavior was negatively associated with tobacco marketing receptivity, quit attempts, quitline use. Tobacco-related attitudes were associated with smoking but did not generally differ by social smoking status.

Conclusion—Identification and behavior as a social smoker have opposing associations with co-use of cigarettes and alcohol and quit attempts. Tobacco cessation programs for self-identified social smokers should address co-use. Interventions denormalizing the tobacco industry or

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emphasizing the health effects of temporary smoking/secondhand smoke may address smoking among young adult bar patrons regardless of social smoking status.

Keywords

Tobacco; Young adult; Cigarette smoking; Alcohol use; Smoking Cessation

Introduction

Social smoking has becoming increasingly common among young adults, but there is no consensus about its definition. Some define the term based on smokers' behavior, such as smoking behavior mainly occurring in social contexts, (Philpot et al., 1999; Schane et al., 2009); primarily or only with others (Moran et al., 2004; Song and Ling, 2011); or while partying or socializing (Waters et al., 2006). In a survey of US college students, 51% of current (past 30 day) smokers smoked mainly with others (Moran et al., 2004), and in a another college student study, 70% of current smokers were social smokers (smoked most commonly when partying or socializing) (Waters et al., 2006). Other studies define social smoking based on smokers' self-identification (Jason et al., 1999; Levinson et al., 2007). For example, in a college student sample, 56% of smokers identified themselves as social smokers (Levinson et al., 2007). To our knowledge, only one study compared the different definitions of social smoking. In a national probability sample of young adults aged 18–25, Song and Ling (Song and Ling, 2011) found that 40% of current smokers were behavioral social smokers (smoked mainly or only with others), and 54% were self-identified social smokers (while only 43% of self-identified social smokers actually behaved as social smokers).

Tobacco companies have studied social smoking since the 1970s (Schane et al., 2009), and implemented marketing activities in social entertainment venues popular with young adults (Gilpin et al., 2005; Katz and Lavack, 2002; Ling and Glantz, 2002; Rigotti et al., 2005; Sepe and Glantz, 2002; Sepe et al., 2002). Many tobacco promotional events targeting young adults also encourage alcohol use (Jiang and Ling, 2011). Qualitative studies of young adult social smokers have shown that social smokers view smoking and drinking as strongly paired behaviors (Hoek et al., 2012) and perceive that smoking while drinking promotes social interactions and keeps one calm when feeling drunk (Nichter et al., 2010). To our knowledge, no study has examined the co-use of tobacco and alcohol among social smokers, and how alcohol use and bar attendance affect social smokers' tobacco use.

Many attitudes demonstrated to be associated with smoking have not been studied among social smokers. For example, belief in the dangers of secondhand smoke reduced smoking initiation among adolescents (Song et al., 2009) and current smoking among young people (Glantz and Jamieson, 2000). Attitudes denormalizing the tobacco industry (Farrelly et al., 2002) are negatively associated with smoking among young adults (Ling et al., 2007, 2009). Conversely, tobacco marketing receptivity (Pierce et al., 2002) is associated with smoking among adolescents (Pierce et al., 2002) and young adults (Ling et al., 2007, 2009). Perceived smoking usefulness (such as to ease social interaction or to control stress) was associated with smoking among young adults (Ling et al., 2009).

Bar and nightclubs are a key public venue where social smokers congregate. We conducted a survey of young adult bar patrons to compare different types of social smokers' cigarette smoking and alcohol consumption behaviors. We also examined the association between social smoking status and cigarette and alcohol co-use, tobacco-related attitudes, quit attempts, and use of quitlines.

Methods

Data collection and sample selection

A random sample of young adult bar patrons was accessed using randomized time location sampling (TLS) strategies in San Diego, CA from September 2010 to June 2011. TLS approximates probability sampling methods, and has been widely used among hard-to-reach populations utilizing venues where the target populations tend to congregate (MacKellar et al., 1996; Magnani et al., 2005; Muhib et al., 2001; Raymond et al., 2010). Trained study personnel went to the randomly selected bars at the randomly selected dates and time periods to collect data among bar patrons. Details regarding data collection and sample selection have been described elsewhere (Jiang and Ling, 2013). All procedures were reviewed and approved by the Committee on Human Research (institutional review board) at University of California San Francisco.

A total of 1,296 surveys were collected with a response rate of 73%; analysis was limited to the 537 current (past 30 day) smokers who answered the questions about social smoking. Data analysis was conducted in 2012.

Measures

Current smoking and social smoking status—Participants who smoked at least one day of the past 30 days were classified as current smokers. Current smokers also reported the average number of cigarettes smoked on a smoking day (CPD). All participants who answered "yes" to "are you a social smoker?" were classified as "self-identified social smokers." In a separate question, participants reported if they only smoked alone, mainly smoked alone, smoked as often alone as with others, mainly smoked when others are smoking, or only smoked when others are smoking. Those who smoked *mainly or only* when others are smoking were defined as "behavioral social smokers."

Impact of alcohol use and bar attendance on smoking—Respondents reported the number of days in the past 30 days they drank any alcohol and number of days they engaged in binge drinking (drinking at least 5 alcoholic beverages within a few hours). Participants were asked, "during the times when you are drinking alcohol, do you smoke cigarettes…" with responses on a 5-point Likert scale from "a lot more than usual" to "a lot less than usual." Similarly, respondents were asked, "during the times when you are at a bar or club, do you smoke cigarettes" with the same response categories. The co-use of cigarettes and alcohol at bars was measured by a question "during the past 30 days, when out drinking alcohol at a bar or club, how frequently did you smoke cigarettes?" Participants answered on a 0–10 visual analog scale with 0 labeled "none of the time", 5 labeled "about half of the time", and 10 labeled "all of the time." Those who rated 1 or greater were defined as co-

users of cigarettes and alcohol, and those who rated 5 or greater were defined as frequent co-users.

Quit attempts—All respondents were asked, “During the past 12 months, have you stopped smoking tobacco for 1 day or longer because you were trying to quit?” Response options were, “I do not smoke”, “I have NOT tried to quit”, and “I have tried to quit.” Respondents who had tried to quit were asked (1) if drinking alcohol and (2) if being in a bar or club made it harder or easier to quit with response categories on a 5-point Likert scale. Responses were dichotomously coded 1=“a lot harder to quit” or “harder to quit”, and 0=“no difference” or “easier to quit” or “a lot easier to quit.” Respondents were also asked whether or not they had ever called a telephone quitline.

Tobacco marketing receptivity—Receptive respondents indicated they owned or would use a tobacco industry promotional item (e.g., wear a t-shirt, use a mug).

Perceived smoking usefulness—Respondents were asked the degree that they agreed with the statements “Smoking helps to control your stress” and “Smoking a cigarette can make you feel more comfortable around other people.” For each question, responses were dichotomously coded as 1=“a lot” or “a great deal”, and 0=“not at all” or “a little” or “a moderate amount.”

Belief in danger of temporary smoking was measured by one question “Do you think it is safe to smoke for only a year or two, as long as you quit after that?” Responses were dichotomously coded as 1=“probably not” or “definitely not”, and 0=“definitely yes” or “probably yes.”

Belief in danger of secondhand smoke—As in previous research,(Ling et al., 2009) respondents reported agreement with the statements “I believe that second-hand tobacco smoke is dangerous to a non-smoker’s health” and “Inhaling smoke from someone else’s cigarettes harms the health of babies and children” on a 5-point Likert scale from “not at all” to “a great deal.” A strong belief is defined as average score =5, and a weak belief is defined as average score <5.

Supporting action against the tobacco industry—Consistent with prior research, (Ling et al., 2009) respondents were asked “I want to be involved with efforts to get rid of cigarette smoking”, “I would like to see the cigarette companies go out of business”, and “Taking a stand against smoking is important to me” on a 5-point Likert scale. The score was dichotomously recoded as 1 if the average score ≥4, and 0 if the average score <4.

Demographics—Participants reported gender and date of birth, (which was used to calculate age). Race/ethnicity was categorized into five groups: White (non-Hispanic), African American (non-Hispanic), Asian/Pacific Islander (non-Hispanic), Hispanic, and “other.” Education level was coded into four groups: high school graduate, dropped out of college, college student, and college graduate.

Data analysis

Among current smokers, the percentage of respondents in each social smoking category was calculated by demographic measures. T-tests were conducted to examine the differences in (1) number of smoking days, (2) CPD, (3) number of drinking days, (4) number of binge drinking days, and (5) co-use of cigarettes and alcohol at bars between (a) self-identified social smokers and those who did not identify themselves as social smokers, and (b) between behavioral social smokers and those who did not report this behavior. We conducted separate multivariable logistic regression analyses to investigate whether current smoking and quit attempts were associated with tobacco-related attitudes, including tobacco marketing receptivity, two different measures of perceived usefulness of smoking, belief in danger of temporary smoking, belief in danger of secondhand smoke, and supporting action against the tobacco industry, controlling for demographics. Then we ran 10 multivariable logistic regression analyses to examine if being classified as a social smoker by either definition of social smoking was associated smoking when drinking alcohol, increased smoking while being in a bar, frequent cigarette-and-alcohol co-use at bars, each of the above 6 attitudinal variables, and having made a quit attempt, controlling for demographics, number of smoking days in past 30 days, and CPD. We performed a subgroup analysis among current smokers who had tried to quit in the past 12 months, consisting of 3 multivariable logistic regression analyses to examine if social smoking was associated with reporting (1) drinking alcohol makes it harder to quit, (2) being in a bar or club makes it harder to quit, and (3) use of quitlines, controlling for demographics, number of smoking days, and CPD. Stata version 13.1 was used for data analysis.

Results

Current smokers' mean age was 23.5 years (SD=1.65) (Table 1). About 43% of respondents were female, and the majority of respondents were racial/ethnic minorities, including 33% Hispanic. Approximately 80% of current smokers were self-identified social smokers, and only 53% of self-identified social smokers also reported social smoking behavior (data not shown in tables). Nearly half (49%) of smokers behaved as social smokers, and 87% of those behaving as social smokers self-identified as social smokers (data not shown in tables). Asian/Pacific Islander most frequently self-identified as social smokers, and Hispanics most frequently reported social smoking behavior. College students and college graduates most frequently self-identified and behaved as social smokers.

Table 2 shows current smokers' smoking and drinking behaviors by social smoking status. No significant difference was observed in smoking behaviors between self-identified social smokers and those who did not self-identify as social smokers. Behavioral social smokers smoked fewer days per month ($t_{(535)}$=9.35, p<.001) and consumed fewer CPD ($t_{(517)}$=6.85, p<.001) than other smokers who reported no social smoking behaviors. No difference was observed in alcohol consumption and binge drinking between groups, although behavioral social smokers reported fewer binge drinking days than their counterparts at the cut off value for statistical significance ($t_{(517)}$=1.91, p=.057). The co-use of cigarettes and alcohol at bars was less frequent in behavioral social smokers than their counterparts ($t_{(527)}$=6.24, p<.001).

Nearly 80% of current smokers reported increased smoking when drinking alcohol, and 73% of smokers reported increased smoking while being in a bar or club (data not shown in tables). Self-identified social smokers were more likely to report increased smoking while drinking alcohol (Adjusted odds ratio [AOR]=1.87; 95% confidence interval [CI]=1.11, 3.15) and when being in a bar (AOR=2.29; 95% CI=1.42, 3.70) than their counterparts (Table 3). About 67% of self-identified social smokers and 55% of behavioral social smokers reported frequent co-use of cigarettes and alcohol at a bar or club (rated 5 or greater on a 0–10 scale, data not shown in tables). Self-identified social smokers were more likely to report frequent co-use of cigarettes and alcohol at bars (AOR=2.15; 95% CI=1.25, 3.69), whereas behavioral social smoking was not associated with frequent co-use at bars. Current smokers were more likely to report tobacco marketing receptivity and perceived smoking usefulness controlling for demographics (data not shown in tables). Current smokers were less likely to report the belief in danger of temporary smoking or secondhand smoke, and action against tobacco industry. These tobacco-related attitudes were not associated with social smoking self-identity or behavior, except that behavioral social smokers were less likely to report tobacco marketing receptivity than those reported no social smoking behaviors (AOR=0.56; 95% CI=0.36, 0.87). None of the tobacco-related attitudes were associated with quit attempts (data not shown in tables).

Overall, 45% of current smokers reported having made a quit attempt in the past 12 months (data not shown in tables). Self-identified social smokers were more likely to report quit attempts (AOR=1.73; 95% CI=1.07, 2.79), but behavioral social smokers were less likely to report quit attempts (AOR=0.60; 95% CI=0.40, 0.91). Among current smokers who had attempted to quit, 80% reported drinking alcohol made it harder or a lot harder to quit smoking, and 74% reported being in a bar or club made it harder or a lot harder to quit (data not shown in tables). No difference was observed between social smokers reporting alcohol use and bar attendance makes it harder to quit smoking (Table 4). Behavioral social smokers were less likely to have used the quitlines than their counterparts who reported no social smoking behaviors (AOR=0.15; 95% CI=0.05, 0.50).

Discussion

About 80% of current smokers in this sample of young adult bar patrons identified themselves as social smokers, more than reported in studies of college students (56%) (Levinson et al., 2007) or national samples of young adults (54%) (Song and Ling, 2011). Nearly half (49%) of the sample reported social smoking behavior. Song and Ling (Song and Ling, 2011) reported a slightly lower prevalence of social smoking (40%) using the same social smoking definition in a national sample. These data suggest that bars and nightclub venues are an efficient way to reach social smokers.

We found the two measures of social smoking, had significantly different and sometimes opposing associations with cigarette-and-alcohol co-use, tobacco marketing receptivity, attempts to quit smoking, and use of quitlines. This suggests that the two measures capture different and important aspects of young adult smoking behavior. A definition of “social smoker” was not provided for the self-identification question, so we cannot determine how

respondents interpreted the label “social smoker,” but these data suggest that criteria other than mainly/only smoking with others are used to identify oneself as a social smoker.

Self-identification as a social smoker was associated with smoking while under the influence of alcohol use and while attending bars. These data suggest that drinking alcohol and bar attendance may play an important role in how young adults define a social smoker. Our study is consistent with findings from a study among New Zealand young adults, in which drinking at a bar without smoking was viewed as “anti-social” (Hoek et al., 2012). These findings suggest tobacco control efforts for young adults might address paired use of cigarettes and alcohol among self-identified social smokers.

Self-identified social smokers were also more likely to report having made a quit attempt, which may reflect their sensitivity to social/environmental contexts. Similar to the practice of smoking and drinking at bars and clubs in order to gain peer acceptance, social smokers may also be more aware of social disapproval of smoking and thus be more likely to report quit attempts. Identifying oneself as a “social smoker” may reflect unwillingness to identify as a “real smoker,” and an aspiration or plan to become a nonsmoker. Secondly, some self-identified social smokers might be smokers who are restricting their smoking to social activities as a strategy to quit smoking and thus are more likely to report quit attempts.

Behavioral social smokers in this study were less likely to have attempted to quit smoking or use quitlines than those who reported no social smoking behaviors. This result contrasts with a previous study in which behavioral social smoking was positively related to making quit attempts for at least one month (Song and Ling, 2011). This may be due to the differences in study population and quit attempt period (one day vs. one month). A similar negative association between social smoking and quit attempts was observed among college student occasional smokers who reported smoking mainly with others (Moran et al., 2004). The negative relationship between behavioral social smoking and quit attempts might be explained by the fact that behavioral social smokers smoked fewer days per month and fewer CPD. Therefore, behavioral social smokers may not feel it is necessary for them to formally quit smoking or use any cessation assistance (e.g., quitlines). Longitudinal studies are needed to address the natural history of behavioral social smoking, and whether it is likely to progress to regular smoking, continue at a low/infrequent level, or extinguish as social contexts change.

Tobacco cessation programs for behavioral social smokers must develop themes and messages relevant to the group, perhaps de-emphasizing the need to make a formal quit attempt, and instead emphasizing the health effects of light smoking, or emphasizing the negative effects of smoke on others, which has shown promise as a message relevant to light smokers (Schane et al., 2013). The light smoking pattern found among behavioral social smokers confirmed findings from previous studies among college students (Moran et al., 2004; Waters et al., 2006). One explanation for the lower cigarette consumption might be that, as Moran et al. stated, behavioral social smokers have fewer chances to smoke than those whose smoking behavior is unrelated to social activities (Moran et al., 2004).

About 45% of young adult smoking bar patrons reported quit attempts in the past 12 months, a rate similar to 2008 national estimates for current smokers aged ≥18 years (Centers for Disease Control and Prevention, 2009). All types of social smokers reported that alcohol use and bar attendance make it harder to quit smoking, suggesting that tobacco cessation programs for young adults should address bar attendance and alcohol use.

Consistent with prior studies of young adults (Ling et al., 2007, 2009), we found that tobacco marketing receptivity and perceived usefulness of smoking were positively associated with current smoking among young adult bar patrons. Belief in danger of temporary smoking and secondhand smoke, and supporting action against the tobacco industry were negatively associated with current smoking. These tobacco-related attitudes were not related to social smoking self-identity or behavior, except that behavioral social smokers were less likely to report tobacco marketing receptivity. However, in contrast with the prior study, none of these tobacco-related attitudes were associated with quit attempts. Interventions that denormalize the tobacco industry or emphasize the health effects of temporary smoking and secondhand smoke exposure may address smoking among young adult bar patrons, but it is not necessary to tailor such campaign messages based on social smoking status.

This study has several limitations. Data were collected from one city in California, and while the use of randomized sampling is a methodological strength, the findings may not be generalizable to other locations, particularly since California has smoke-free bars, falling cigarette consumption, and a strong tobacco denormalization campaign that has been in place for over 20 years. Further, smoking data were based on self-report without biochemical validation, and were subject to recall bias.

This study has implications for tobacco control interventions and future research. First, the high prevalence of both self-identified and behavioral social smoking suggests that bars and nightclubs are an efficient way to reach young adult social smokers. Secondly, addressing alcohol use is particularly important for young adults who self-identify as social smokers. Tobacco control programs might consider whether interventions that make it more difficult to pair the cigarette smoking with alcohol use, such as the extension of smokefree bar laws to include outdoor spaces, may help self-identified social smokers refrain from smoking. Third, behavioral social smoking was inversely related to quit attempts and use of quitlines. Tobacco control programs should increase relevance to this group. Last, tobacco-related attitudes were associated with smoking, but did not differ by social smoking status generally. Tobacco control messages, such as tobacco industry denormalization, emphasizing the health risks of temporary smoking, or the hazards of secondhand smoke, should be related to young adult bar patrons' smoking behavior, regardless of social smoking status.

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Highlights

- Social smoking is common among young adult bar patrons
- Two social smoking measures capture different aspects of smoking/quitting behaviors
- Self-identified social smokers more likely to report cigarette-and-alcohol co-use
- Self-identified social smokers more likely to report smoking quit attempts
- Behavioral social smokers less likely to report quit attempts and use of quitlines

Table 1

Sample characteristics and prevalence of young adult current smokers in San Diego, CA from 2010–2011 by social smoking status

	Current smoker[a]		Self-identified social smoker[b]		Behavioral social smoker[c]	
	n	%	n	%	n	%
Total	**537**	**100**	**432**	**80.45**	**263**	**48.98**
Gender						
Male	305	56.80	242	79.34	140	45.90
Female	232	43.20	190	81.90	123	53.02
Race/ethnicity						
White	243	45.34	191	78.60	115	47.33
Black	12	2.24	8	66.67	5	41.67
Asian/Pacific Islander	61	11.38	54	88.52	29	47.54
Hispanic	179	33.40	148	82.68	95	53.07
Others	41	7.65	33	80.49	18	43.90
Education						
High school graduate	67	12.50	47	70.15	16	23.88
Dropped out of college	85	15.86	63	74.12	37	43.53
College student	217	40.49	183	84.33	128	58.99
College graduate	167	31.16	139	83.23	81	48.50

[a] Current smokers were respondents who reported smoking cigarettes on at least one of the past 30 days.

[b] Self-identified social smokers responded “Yes” to the question “Are you a social smoker?”

[c] Behavioral social smokers smoked mainly or only when others are smoking.

Table 2

Cigarette smoking and alcohol use among young adult current smokers in San Diego, CA from 2010–2011

	Days smoked in past 30 days		Cigarette consumption per day		Days drank alcohol in past 30 days		Days binge drink in past 30 days		Co-use of cigarettes and alcohol at bars[a]	
	M (SD)		M (SD)		M (SD)		M (SD)		M (SD)	
By self-identity										
No, I am not a social smoker	16.0 (13.24)	$t(535)=0.33$ $p=.743$	7.0 (6.85)	$t(517)=1.77$ $p=.077$	13.4 (10.69)	$t(529)=0.52$ $p=.603$	6.5 (8.49)	$t(517)=0.92$ $p=.359$	5.72 (3.61)	$t(527)=1.19$ $p=.237$
Yes, I am a social smoker	15.6 (11.79)		5.8 (6.28)		14.0 (9.65)		5.7 (7.26)		6.12 (2.98)	
By behavior										
No social smoking behaviors	20.1 (11.88)	$t(535)=9.35$ $p<.001$	7.8 (6.40)	$t(517)=6.85$ $p<.001$	14.1 (10.23)	$t(529)=0.55$ $p=.585$	6.5 (8.40)	$t(517)=1.91$ $p=.057$	6.85 (2.99)	$t(527)=6.24$ $p<.001$
Smoke mainly/only when others smoke	11.1 (10.45)		4.1 (5.86)		13.6 (9.47)		5.2 (6.42)		5.22 (3.02)	

[a] Mean score on scale measuring the frequency of cigarette smoking when out drinking alcohol at a bar or club in past 30 days (0–10 scale).

Table 3

Association between social smoking and co-use of cigarettes and alcohol, tobacco-related attitudes, and quit attempts among young adult bar patrons from San Diego, CA, 2010–2011

	Smoke more than usual when drinking alcohol (n=535)	Smoke more than usual when being in a bar (n=535)	Frequent co-use at a bar[a] (n=528)	Tobacco marketing receptivity (n=534)	Perceived usefulness of smoking		Belief in danger of temporary smoking (n=534)	Belief in danger of secondhand smoke (n=523)	Supporting action against the tobacco industry (n=535)	Quit attempts (n=535)
					Smoking helps to control your stress (n=533)	Smoking makes you feel more comfortable around people (n=534)				
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
Self-identified social smoker[b]										
No	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.87 [1.11, 3.15]	2.29 [1.42, 3.70]	2.15 [1.25, 3.69]	1.14 [0.69, 1.89]	0.82 [0.50, 1.33]	1.18 [0.66, 2.08]	0.90 [0.57, 1.42]	1.21 [0.70, 2.08]	0.66 [0.31, 1.40]	1.73 [1.07, 2.79]
Behavioral social smoker[c]										
No	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.40 [0.86, 2.30]	1.51 [0.96, 2.38]	0.77 [0.49, 1.21]	0.56 [0.36, 0.87]	0.89 [0.57, 1.38]	0.94 [0.57, 1.54]	0.87 [0.58, 1.30]	0.95 [0.60, 1.49]	1.39 [0.70, 2.74]	0.60 [0.40, 0.91]
Age (in years)	0.95 [0.82, 1.09]	1.01 [0.88, 1.15]	0.97 [0.85, 1.11]	0.93 [0.82, 1.06]	0.95 [0.84, 1.07]	1.05 [0.91, 1.21]	1.00 [0.89, 1.12]	1.13 [0.99, 1.29]	0.97 [0.80, 1.18]	0.99 [0.88, 1.11]
Gender										
Male	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Female	0.92 [0.59, 1.45]	1.28 [0.84, 1.95]	1.06 [0.69, 1.61]	0.73 [0.48, 1.10]	1.74 [1.17, 2.57]	1.16 [0.74, 1.82]	1.25 [0.87, 1.80]	2.27 [1.50, 3.44]	1.21 [0.65, 2.26]	1.23 [0.85, 1.78]
Race/Ethnicity										
White	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Black	1.31 [0.27, 6.46]	0.81 [0.23, 2.94]	1.88 [0.45, 7.77]	3.12 [0.89, 11.00]	1.43 [0.40, 5.10]	0.73 [0.15, 3.53]	1.07 [0.32, 3.56]	---	1.02 [0.12, 8.75]	1.75 [0.52, 5.94]
Asian/Pacific Islander	1.61 [0.67, 3.85]	1.76 [0.80, 3.87]	1.21 [0.61, 2.41]	0.83 [0.42, 1.63]	1.21 [0.64, 2.27]	0.68 [0.32, 1.46]	0.92 [0.51, 1.66]	1.49 [0.78, 2.83]	1.06 [0.37, 3.06]	1.37 [0.75, 2.51]
Hispanic	0.61 [0.37, 1.01]	0.61 [0.38, 0.96]	0.76 [0.47, 1.23]	0.90 [0.57, 1.44]	0.99 [0.62, 1.57]	0.74 [0.44, 1.24]	0.82 [0.54, 1.25]	1.35 [0.84, 2.19]	1.67 [0.83, 3.35]	1.07 [0.70, 1.65]
Others	1.33 [0.52, 3.43]	0.84 [0.39, 1.82]	1.59 [0.67, 3.77]	0.48 [0.20, 1.12]	0.98 [0.47, 2.04]	0.54 [0.21, 1.37]	1.70 [0.83, 3.52]	1.11 [0.51, 2.41]	0.70 [0.15, 3.20]	1.27 [0.64, 2.54]
Education										
High school graduate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

	Smoke more than usual when drinking alcohol (n=535)	Smoke more than usual when being in a bar (n=535)	Frequent co-use at a bar[a] (n=528)	Tobacco marketing receptivity (n=534)	Perceived usefulness of smoking		Belief in danger of temporary smoking (n=534)	Belief in danger of secondhand smoke (n=523)	Supporting action against the tobacco industry (n=535)	Quit attempts (n=535)
					Smoking helps to control your stress (n=533)	Smoking makes you feel more comfortable around people (n=534)				
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
Dropped out of college	2.18 [0.92, 5.15]	0.76 [0.36, 1.64]	1.92 [0.83, 4.46]	1.50 [0.74, 3.05]	1.23 [0.59, 2.56]	0.85 [0.37, 1.94]	1.48 [0.75, 2.94]	0.65 [0.29, 1.45]	0.82 [0.20, 3.34]	1.90 [0.95, 3.82]
College student	1.15 [0.58, 2.29]	0.66 [0.34, 1.29]	0.96 [0.47, 1.94]	0.92 [0.49, 1.74]	1.20 [0.63, 2.29]	1.13 [0.55, 2.30]	0.99 [0.55, 1.78]	0.92 [0.47, 1.81]	1.68 [0.54, 5.25]	1.43 [0.77, 2.64]
College graduate	1.14 [0.55, 2.36]	0.80 [0.39, 1.64]	1.13 [0.54, 2.36]	0.72 [0.37, 1.41]	1.33 [0.68, 2.60]	0.90 [0.42, 1.90]	1.02 [0.55, 1.89]	0.89 [0.44, 1.79]	1.57 [0.47, 5.26]	1.89 [0.99, 3.58]
Number of smoking days	1.01 [0.99, 1.04]	1.01 [0.99, 1.03]	1.05 [1.03, 1.07]	1.00 [0.98, 1.02]	1.02 [1.00, 1.04]	1.00 [0.98, 1.02]	1.00 [0.98, 1.02]	1.00 [0.98, 1.02]	0.97 [0.95, 1.00]	1.03 [1.01, 1.05]
Cigarette consumption per day	0.98 [0.95, 1.01]	1.02 [0.98, 1.06]	1.12 [1.06, 1.19]	1.08 [1.04, 1.12]	1.03 [0.99, 1.06]	1.05 [1.01, 1.09]	1.00 [0.97, 1.03]	1.00 [0.96, 1.03]	1.02 [0.98, 1.06]	0.98 [0.95, 1.02]

AOR: adjusted odds ratio; CI: confidence interval.

[a]Frequent co-use at bars was defined as smoking about half of the occasions or more frequently when drinking alcohol at bars (rated 5 or greater number on a 0-10 Likert scale).

[b]Self-identified social smokers responded “Yes” to the question “Are you a social smoker?”

[c]Behavioral social smokers smoked mainly or only when others are smoking.

Table 4

Association between social smoking and quit attempts and use of quitlines among current smokers who had tried to quit, San Diego, CA, 2010–2011

	Alcohol use made it harder to quit smoking (n=231)	Being in a bar made it harder to quit smoking (n=233)	Use of quitlines (n=231)
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
Self-identified social smoker[a]			
No	1.00	1.00	1.00
Yes	2.31 [0.92, 5.77]	1.92 [0.79, 4.68]	1.88 [0.50, 6.99]
Behavioral social smoker[b]			
No	1.00	1.00	1.00
Yes	1.23 [0.54, 2.78]	0.96 [0.46, 2.00]	0.15 [0.05, 0.50]
Age (in years)	1.02 [0.81, 1.28]	1.00 [0.81, 1.23]	0.82 [0.60, 1.10]
Gender			
Male	1.00	1.00	1.00
Female	1.05 [0.50, 2.21]	1.63 [0.83, 3.21]	0.56 [0.20, 1.54]
Race/Ethnicity			
White	1.00	1.00	1.00
Black	0.13 [0.02, 0.98]	0.20 [0.02, 1.57]	---
Asian/Pacific Islander	0.44 [0.15, 1.25]	0.85 [0.29, 2.51]	0.53 [0.10, 2.88]
Hispanic	0.47 [0.19, 1.15]	0.39 [0.17, 0.86]	0.70 [0.22, 2.20]
Others	1.35 [0.27, 6.74]	0.46 [0.15, 1.46]	0.37 [0.04, 3.65]
Education			
High school graduate	1.00	1.00	1.00
Dropped out of college	2.41 [0.54, 10.83]	1.57 [0.45, 5.53]	0.37 [0.05, 2.51]
College student	1.43 [0.43, 4.74]	2.10 [0.68, 6.42]	0.89 [0.20, 4.09]
College graduate	0.75 [0.22, 2.53]	1.02 [0.33, 3.22]	1.54 [0.31, 7.63]
Number of smoking days	1.00 [0.96, 1.03]	1.00 [0.97, 1.03]	0.92 [0.88, 0.97]
Cigarette consumption per day	1.06 [0.97, 1.15]	1.10 [1.01, 1.20]	1.07 [0.99, 1.15]

AOR: adjusted odds ratio; CI: confidence interval.

[a] Self-identified social smokers responded “Yes” to the question “Are you a social smoker?”

[b] Behavioral social smokers smoked mainly or only when others are smoking.