Original Investigation

Defining “smoker”: College student attitudes and related smoking characteristics

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Received April 10, 2010; accepted July 1, 2010

Abstract

Introduction: Less than half of college students who have smoked in the past month identify themselves as smokers. Thus, we examined (a) how college students define the term “smoker” and (b) how this definition impacts smoking behavior and attitudes.

Methods: We conducted 12 focus groups with a total of 73 college student smokers drawn from survey participants at two colleges in Minnesota (a two-year technical college and a four-year university). Each group was homogenous in terms of gender and school (two-year, four-year).

Results: The majority (56.2%) were female, 49.3% attended a 2-year college, and 32.9% were regular smokers (smoked ≥ 25 of the last 30 days). Participants described a “smoker” in terms of (a) smoking frequency, ranging from smoking infrequently to smoking daily; (b) contextual factors, such that smoking alone indicates being a smoker rather than smoking at parties; (c) time since initiation; (d) whether one purchases cigarettes, such that “smokers” buy cigarettes while nonsmokers borrow them; (e) addiction and being able to quit without great effort; (f) whether smoking is habitual; and (g) personality and physical characteristic. These beliefs had implications on experiences in quitting smoking, motivation to quit, and perceived barriers. Many participants indicated confidence in being able to quit but believed that they were not “smokers” and thus did not need to quit.

Discussion: College students use a broad range of criteria to define who is a smoker. These criteria impact how motivated students are to quit smoking and their perception of needing to “quit smoking.”

Introduction

Nondaily, occasional, intermittent, and social smoking has dramatically increased, particularly among young adults (Schane,

Glantz, & Ling, 2009). Young adulthood is a critical transition period for cigarette use (Bachman, Wadsworth, O’Malley, Johnston, & Schulenberg, 1997; Chen & Kandel, 1995; S. Everett et al., 1999; S. A. Everett et al., 1999; U.S. Department of Health and Human Services, 1994), often involving escalation in smoking (Orlando, Tucker, Ellickson, & Klein, 2004) or late-onset smoking (Chassin, Presson, Pitts, & Sherman, 2000). In 2006, the rate of past 30-day smoking for those aged 18–25 years was 35.6%–40.2% (Doll, Peto, Boreham, & Sutherland, 2004), including a rate of 28.4% among college students (Doll et al.). However, only half of these students smoke regularly (i.e., ≥ 25 of the past 30 days; Doll et al.). Unfortunately, nondaily smokers may discount personal health consequences (Luoto, Uutela, & Puska, 2000; Moran, Wechsler, & Rigotti, 2004; Rollins, Malmstadt Schumacher, & Ling, 2002; Woolcock, Peat, Leeder, & Blackburn, 1984), regardless of the fact that nondaily smoking is associated with increased adverse respiratory conditions and other health problems (An et al., 2009; Woolcock et al.).

Over half of college students deny being smokers despite having smoked in the previous 30 days (Berg et al., 2009; Levinson et al., 2007). Several factors have emerged as important in terms of whether students identified themselves as smokers. For example, less frequent smoking (Berg et al.; Levinson et al.), being younger (Berg et al.; Levinson et al.), smoking socially (Berg et al.; Levinson et al.; Moran et al., 2004), attending a 4-year college (vs. a 2-year college; Berg et al.), and greater alcohol consumption (Berg et al.) have been related to less likelihood of identifying as a smoker. In addition, denying being a smoker is related to less likelihood of attempting to quit in the past 12 months, after controlling for demographic and smoking-related factors (Berg et al.). Thus, how one defines being a smoker has consequences for motivation to quit smoking and taking behavioral steps toward quitting.

Given the importance of understanding how young people define the term “smoker” and the dearth of research in this area, the present qualitative study aims to (a) examine how college

doi: 10.1093/ntr/ntq123

Advance Access published on July 30, 2010

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Definition of a “smoker”

students define the term “smoker” and (b) examine experiences with quitting and motivators for and barriers to cessation.

Methods

Participants and procedures

In Spring 2009, we conducted 12 in-person focus groups with a total of 73 college student smokers (i.e., those who reported any smoking in the past 30 days) drawn from two colleges in Minnesota (one 2-year technical college and one 4-year university) to explore current perceptions of smokers and cessation. A range of smokers (i.e., regular, nondaily, occasional, intermittent, and social smokers) were included in this study to examine the broad range of definitions of a “smoker” held by young adult college students.

Participants were recruited from an online survey conducted in Fall, 2008. A total of 8,834 students were contacted to complete the survey (5,500 from the 4-year college and 3,334 students from the 2-year college). Of those invited to participate, 2,700 (30.6%) completed the survey. For each focus group, approximately 50 participants aged 18–25 years who reported smoking in the past 30 days were invited to participate in the focus groups via phone and E-mail in exchange for \$50 in order to secure the desired number of participants (approximately 6–12). The University of Minnesota Institutional Review Board approved this study, IRB# 0712E22463.

Each session lasted 90 min. Participants were screened and recruited into 1 of the 12 groups, with each focus group being homogenous in terms of gender (male and female) and school (2 year and 4 year). Prior to the group discussion, participants completed the informed statement of consent and a brief survey. The focus groups were designed based on methods proposed by Morgan and Krueger (1998). A moderator (the lead author) guided the groups through a semi-structured interview guide focusing on (a) how a “smoker” is defined (e.g., “How do you distinguish a smoker from a nonsmoker? What about people who only smoke on occasion, like not every day?”), (b) prior experiences with quitting (e.g., “Have you ever tried to quit smoking? If so, can you tell us about the experience?”), (c) motivators for quitting (e.g., “What are some reasons that you might want to quit smoking?”), and (d) barriers to quitting (e.g., “What are some of your triggers for smoking? What are some things that get in the way when you try to quit smoking?”). All sessions were audiotaped, observed by a research assistant who recorded field notes, and transcribed by a professional service. After each session, the moderator and research assistant debriefed.

Measures

Demographic characteristics assessed included age, gender, ethnicity, parental educational attainment, marital status, and the presence of children in the home.

Smoking behaviors

Participants were asked, “In the past 30 days, on how many days did you smoke a cigarette (even a puff)?” and “On the days that you smoke, how many cigarettes do you smoke on average?” These questions have been used in previous research and are

reliable and valid in similar populations (American College Health Association [ACHA], 2008; Centers for Disease Control and Prevention, 1997). Students reporting smoking ≥ 1 day in the past 30 days were considered current smokers and those reporting smoking all 30 days were considered daily smokers (ACHA, 2009; Substance Abuse and Mental Health Services Administration, 2006). Participants were also asked, “How soon after you first wake do you smoke your first cigarette?” with response options of within 5 min, 6–30 min, 31–60 min, or after 60 min (Fagerstrom & Schneider, 1989). This variable was dichotomized as within 30 min versus after 30 min, as this is a major indicator of nicotine dependence (Fagerstrom & Schneider). Participants were also asked, “During the past 12 months how many times have you stopped smoking for one day or longer because you were trying to quit smoking?” that was dichotomized as any quit attempts versus none.

Data analysis

Descriptive statistics were presented using means and *SDs* for continuous variables and frequency and percentage for categorical variables. Quantitative data were analyzed using PASW 17.0. Qualitative data were analyzed according to principles outlined in Morgan and Krueger (1998). NVivo 7.0 (QSR International, Cambridge, MA) was used for coding and organization of qualitative data. Transcripts were independently reviewed by the principal investigator and two graduate research assistants to generate preliminary codes. They then refined the definition of primary (i.e., major topics explored) and secondary codes (i.e., recurrent themes within these topics) and independently coded each transcript. The independently coded transcripts were compared, and consensus for coding was reached. Two coders independently coded 25% of the narratives. Intraclass correlations for context were .92 for the initial 25% of transcripts. The remaining narratives were coded by one of the coders. Themes were then identified, and representative quotes were selected.

Results

Table 1 provides participant demographics and smoking-related characteristics among the focus group participants. In comparing and contrasting themes that emerged across the groups (i.e., gender, type of school attended), significant differences were not noted. Thus, themes across groups are reported below.

Defining a smoker

Table 2 provides an overview of the factors used as criteria for defining a smoker among college students. First, participants characterized smokers in terms of frequency of smoking and length of time since smoking initiation. Interestingly, as many comments were made indicating that daily smoking defines a smoker as were made indicating that smoking anytime defines a smoker.

Participants also developed categories of smokers, including regular, occasional, or social smokers. Participants were somewhat divided on whether social smokers were considered smokers, and they had difficulty determining at what point social smoking fits the definition of being a “smoker.”

The second most commonly cited criteria for defining a smoker is whether one purchases cigarettes. They characterized

Table 1. Focus group participant characteristics

Variable	Total <i>N</i> (%) or mean (<i>SD</i>)
<i>N</i>	73 (100.0)
Sociodemographic variables	
Age (<i>SD</i>)	20.6 (1.8)
Female (%)	41 (56.2)
2-year college (%)	36 (49.3)
Non-Hispanic White (%)	65 (89.0)
Parental education $\geq$ bachelors (%)	28 (38.4)
Married or living with partner (%)	18 (24.7)
Any children in the home (%)	16 (21.9)
Smoking variables	
Days smoked in past 30 days (<i>SD</i>)	13.4 (12.9)
Average cigarettes per day (<i>SD</i>)	4.2 (5.0)
Smoked $\geq$ 25 days of past 30 (%)	24 (32.9)
First cigarette $\leq$ 30 min of waking (%)	11 (15.1)
Any quit attempts in past 12 months (%)	44 (60.3)

smokers as those who buys cigarettes rather than borrowing (or “bumming”) cigarettes from others. It also seemed as though bumming cigarettes was related to smoking for social reasons or peer pressure.

Third, smokers were defined in terms of addiction to cigarettes, whether physical and psychological. On a related point, they indicated that if someone is unable to quit smoking when they want to, a sign of addiction, they would define that person as a smoker.

Fourth, whether smoking was part of a daily routine or habitual was an important characteristic defining a smoker. For example, smoking during specific times, such as when alone or in the morning, was associated with being defined as a smoker.

Finally, smokers also appeared to have personality typologies, such as being highly stressed, anxious, or depressed. Moreover, participants indicated physical characteristics, such as smell or yellowing of teeth or fingers, as defining characteristics of a smoker, whereas people from higher socioeconomic status and higher educational backgrounds were perceived less likely to be smokers.

Experiences in quitting smoking

Several themes emerged regarding experiences in quitting smoking. Many participants indicated that “quitting smoking” was not applicable because they did not consider themselves to be smokers. Interestingly, several participants indicated that they could quit smoking if they wanted to but were not currently motivated to quit. This is expressed in the quote: “For me, it’s not a concern yet. I don’t smoke enough for me to actually say that I need to quit.” On the other hand, several people indicated that they did not feel like now was the time to quit smoking, despite being motivated to quit.

Additionally, several participants stated that they would quit smoking (or rather just not smoke for a while) and then start edging back into smoking or gradually increase their smoking level. Similarly, many participants indicated that they “made

excuses” to smoke. For example, one participant said, “You try to justify it. You relate smoking to stress, and then you try to find any situation that ends in something stressful so you have another excuse to smoke.”

Motivators to quit smoking

Several common motivators for cessation emerged. A majority of discussions centered on four major components. First, the expense of smoking or the desire to save money motivated participants to quit smoking. Second, participants were motivated for health reasons (e.g., not feeling good physically, desire to live a long life, fear of lung cancer). For example, one participant stated, “My dad died of lung cancer, so now I’ve really got to stop; so I’ve been trying for the past two years.” On a related note, improving fitness levels in order to participate in sports was a motivator for some. One participant stated, “I got promoted to the high school hockey team, and I had to make some decisions. If I wanted to be good, I couldn’t smoke.”

Third, social factors served as motivators for quitting smoking, that is, family, friends, partners, or roommates disliked their smoking. Several participants also indicated that the smell, the bad taste, and the impact of smoking on appearance (yellow fingers and wrinkles) were motivators for quitting smoking. Many participants also stated that stigma associated with being a smoker was a deterrent to continuing to smoke. Finally, participants reported wanting to quit in order to prevent becoming addicted to cigarettes.

Barriers to cessation

Common barriers to cessation: (a) emotional triggers for smoking (e.g. stress, anxiety, boredom, anger, sadness); (b) social aspects of smoking, both in contexts involving alcohol consumption and those that do not; and (c) the habit or routine of smoking (e.g., driving, after a meal, doing homework, drinking coffee). Interestingly, however, only a few participants reported that a barrier was being addicted and/or withdrawal symptoms.

Discussion

Although prior research has examined factors associated with whether youth identify themselves as smokers, this is the first study to qualitatively examine what criteria college students use to define the term “smoker.” This is critical as how young adults define what a smoker is may have significant implications for uptake of smoking, smoking behavior, motivation to quit, barriers to cessation, and cessation interventions. In addition, there are ramifications with regards to measurement and surveillance. This research provides a foundation for future research to explore these important issues.

A wide range of perceptions were identified regarding what factors and the extent to which certain factors define a “smoker.” Importantly, half of college students reporting smoking in the past 30 days report do not consider themselves smokers (Berg et al., 2009; Levinson et al., 2007). This phenomenon is profoundly important, given that, after controlling for smoking level, those who do not identify as smokers are much less likely to attempt to quit (Berg et al.; Chassin et al., 2000; Orlando et al., 2004). Thus, gaining an understanding of how college students characterize smokers may help design suitable interventions or health

Table 2. Themes identified as criteria used by college students to define a “smoker”

Theme	Sample quotation
Frequency of smoking	
Any	<p>“If you smoke any time, you’re a smoker. You smoke less, but you’re still a smoker. A smoker smokes.”</p> <p>“Say you work every other weekend, and it’s your weekend off, you can let go, and you have fun, and you have a few drinks, and you have your cigarettes, too. It’s kind of like you’re just doing it all at once and you’re not spreading it out, so I think it’s the same. I think you’re a smoker regardless.”</p>
Frequent/regular	<p>“I’ll smoke them on weekends, or a few here and there, but I don’t really consider myself a smoker.”</p> <p>“I describe someone as a smoker if I see that they smoke every day. If they smoke like three cigarettes a day, for me that’s a smoker.”</p>
Categories of smokers	
Social smokers	<p>“I just smoke occasionally, socially, but I guess I wouldn’t consider myself a smoker.”</p> <p>“I never thought I was a smoker just because it wasn’t really a habit. I just did it because other people were around me.”</p> <p>“I think social smoking is still smoking, regardless of whether you do it by yourself. You’re still engaging in the act of smoking, whether you think you’re addicted or not addicted to it. I know so many people, friends of mine that are smokers that they started, ‘well, I only used to do it when I drank.’ Then you start drinking more and you start doing it more. It becomes a regular basis thing, whereas if you did it maybe once a year, it was a special occasion thing. If you’re not a smoker but you smoke on a regular basis, you’re a smoker, but just not as frequent as many people.”</p>
Occasional smokers	<p>“I define myself as an occasional smoker because I don’t really like it, I don’t even like the taste of it. I do it whenever I’m under stress because it helps me to organize my thoughts and be alone.”</p>
Time since smoking initiation	<p>“I know a lot of my friends that started younger when they were fourteen and they still smoke today. People who didn’t smoke usually don’t. If you’ve smoked for a while, you’re a smoker.”</p>
Purchasing cigarettes	<p>“I’d say a smoker is someone who buys cigarettes. Like frequently, instead of someone who just smokes once in a while and doesn’t buy their own. So if you’re more inclined to buy your own cigarettes.”</p> <p>“It depends on if that person buys cigarettes, then they’re a smoker. But if their friend is like, ‘have a cigarette with me, come on,’ they’re not really a smoker. They’re just giving into peer pressure when they’re weak.”</p>
Addiction/ability to quit smoking	<p>“I don’t get cravings or the shakes when I get up in the morning and need a cigarette. If you feel like you need one, then I would consider that person a smoker.”</p>
Habit/part of daily routine	<p>“Maybe someone who thinks about smoking, if they think, ‘I’m done with class, I’m going to have a cigarette. That doesn’t cross my mind every day all the time. It’s more the routine for some of us.’</p> <p>“Yeah, there’s a schedule to it. I could smoke a cigarette in my apartment and then as soon as I get to the car I’ll light up another one, even if I just put one out in my apartment. It’s just the routine. You feel like something’s missing if you’re not following a routine.”</p>
Personality typology	<p>“People who smoke cigarettes tend to have a little bit more anxiety kind of things. They tend to have more things going on, like they have more problems or something. I know that my dad smokes because he’s got some problems in life, like stress. They’re kind of rough-looking maybe.”</p> <p>“People who don’t smoke cigarettes can be more laid back and just go through their day.”</p>
Physical characteristics	<p>“I observe people’s things, like whether or not they smell or if they have ashes. If you ride in their car, and their car’s all dirty or their house smells.”</p> <p>“Smoking is an appearance thing . . . Like non-smokers are rich people.”</p>

promotion campaigns to effectively address the notion of “cessation” among this population.

Several factors emerged as critical criteria for defining a smoker. Prior research has indicated that lower smoking levels, younger age, and drinking alcohol were correlates of denying being a smoker (Berg et al., 2009; Levinson et al., 2007). Our findings align well with this literature. While most participants agreed that people who smoke everyday fit the criteria for being a smoker, there was much more discordance regarding whether occasional smokers fit this criteria. Thus, smoking level was a critical factor involved in the definition of a smoker. Likewise, those who purchased their own cigarettes versus “bummed” them, which is likely related to smoking level, were more likely to be categorized as smokers.

In addition, longer time since smoking initiation, which is likely related to age, was a factor related to being defined as a smoker. Along these lines, participants identified being physically and psychologically addicted to smoking as criteria for being a “smoker,” as was the extent to which smoking is integrated into daily life or is habitual. Similarly, participants believed that having difficulty quitting smoking was an indicator of being a smoker.

As suggested by prior research (Berg et al., 2009), alcohol consumption and the social context of smoking were discussed during the focus groups. Many students “socially smoke” in situations where they also drink (Moran et al., 2004). Among those who did not regularly smoke, situations in which alcohol consumption was involved and other smokers were present were a commonly cited trigger for smoking. However, people

who tended to smoke alone were more often defined as a “smoker.”

In addition, some college students’ images of smokers as having psychological problems and undesirable physical characteristics are similar to findings from middle school and high school students from diverse ethnic backgrounds (Luke et al., 2001; Mermelstein & The Tobacco Control Network Writing Group, 1999). This qualitative work found that smokers were viewed as unattractive, depressed, angry, stressed, involved with drugs and sex, and not having many positive activities in their lives. Interestingly, the images associated with trying cigarettes were more positive than with continuing to smoke (Luke et al.; Mermelstein & The Tobacco Control Network Writing Group). Thus, how people define a smoker may be related to how favorably people view different types of smokers.

Several themes emerged in the discussion regarding experiences in attempts to quit smoking. In regard to motivators for quitting, the most commonly reported reasons for wanting to quit included health concerns, cost of cigarettes, and the concern of friends and family regarding their smoking. In regard to barriers to cessation, major barriers included the addictive nature of cigarettes, the social aspects of smoking, either in the presence of other smokers or alcohol, the daily routine (e.g., driving), and emotional experiences (e.g., boredom, stress). These are commonly cited motivators and barriers for cessation among other populations (Crittenden, Manfredi, Lacey, Warnecke, & Parsons, 1994; Hotham, Atkinson, & Gilbert, 2002; Ludman et al., 2000; Piko, Wills, & Walker, 2007; West, 2004).

However, how students defined being a smoker played a significant role in perceived barriers and motivations for quitting. Frequently, participants mentioned that “quitting smoking” was irrelevant, and many reported that it would be easy to quit if they wanted to. This was particularly true if they felt they were not addicted and therefore not real smokers. Several participants indicated that were not ready and/or motivated to quit, suggesting a need for information regarding the potential ill effects of smoking to increase the importance of cessation. Moreover, participants indicated that a motivator for quitting smoking was to not become addicted. Thus, there are various constellations of motivation versus self-efficacy to change in regard to smoking among college student smokers.

Implications for research and practice

This study highlights the importance of how assessments are conducted, particularly given concerns that traditional surveillance systems may underestimate smoking (Substance Abuse and Mental Health Services Administration, 2006; West, Przewozniak, & Jarvis, 2007). In research, changes in smoking patterns and perceptions may impact our ability to track tobacco control efforts. In practice, we must determine how to develop messages that are receptive to the young adult population and how to make interventions applicable to this group. One potential way to engage this population in cessation programs is to address a healthy lifestyle more broadly, using strategies aimed at smoking, drinking, and other related behaviors. In addition, as our results indicated, useful intervention messages might include those highlighting the role of cessation in preventing becoming addicted, the negative health consequences of smoking (particularly light or occasional

smoking), and the negative social stigma of smoking. In the clinical setting, identifying smokers and intervening for cessation, which is standard of care (Fiore, Jaen, & Baker, 2008), require accurate information about patients’ smoking behaviors. Thus, assessing the number of smoking days in the past 30 days may better inform the clinical encounter. This is especially important given that denying being a smoker is associated with not having attempted to quit (Berg et al., 2009). Given that they may not perceive that health risks are personally relevant (Levinson et al., 2007), this is an important intervention opportunity.

Limitations

This study has some limitations. First, the survey sample from which the focus group sample was drawn was largely female, Caucasian, and drawn from Midwest colleges. Despite the fact that this sample reflects the characteristics of these school populations, it may not generalize to other college populations. In addition, participants were recruited for focus groups to represent the two genders and the two types of colleges. Thus, we did not attempt to obtain a sample that would necessarily generalize to the greater population. Also, participants influence one another; therefore, the group may be the more appropriate level of analysis than the individual. We also did not stratify by smoking level; thus, future work should consider examining this phenomenon (i.e., how college students define a smoker) by comparing nonsmokers, nondaily smokers, and daily smokers. Finally, we did informally monitor reasons for nonparticipation and found that scheduling was the most common reason, which is common in focus group recruitment.

Conclusions

The present findings indicate a broad range of criteria used to establish what constitutes being a smoker and how this definition interplays with motivation and confidence in quitting. The themes that emerged from the current research must be validated in future studies. For example, future work should examine whether individuals who do not purchase cigarettes are less likely to identify themselves as nonsmokers. Once we are more adequately able to measure how college students conceptualize being a smoker, we will also be more able to identify the motivators, barriers, and other psychosocial sequelae that must be addressed in interventions or campaigns targeting cessation. Furthermore, future research should examine perceived health threats of occasional smoking and attitudes about cessation among those who do not consider themselves to be smokers in order to inform the development of messages and interventions targeting cessation among college students. Finally, the flexibility in how being a smoker is defined among this population highlights the need to refine our clinic- and research-based assessments for smoking status.

Funding

This research was funded by ClearWay Minnesota (ClearWay Minnesota Postdoctoral Grant: RC-2007-0024).

Declaration of Interests

None declared.

Acknowledgments

We would like to acknowledge Boynton Health Services at the University of Minnesota for facilitating the collaborations for this research.

References

- American College Health Association (ACHA). (2008). American College Health Association: National college health assessment spring 2007 reference group data report (abridged). *Journal of American College Health*, 56, 469–479.
- American College Health Association (ACHA). (2009). American College Health Association: National college health assessment spring 2008 reference group data report (Abridged). *Journal of American College Health*, 57, 477–488.
- An, L. C., Berg, C. J., Klatt, C. M., Perry, C. L., Thomas, J. L., Luo, X., et al. (2009). Symptoms of cough and shortness of breath among occasional young adult smokers. *Nicotine and Tobacco Research*, 11, 126–133.
- Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities. Research monographs in adolescence*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Berg, C. J., Lust, K. A., Sanem, J. R., Kirch, M. A., Rudie, M., Ehlinger, E., et al. (2009). Smoker self-identification versus recent smoking among college students. *American Journal of Preventive Medicine*, 36, 333–336.
- Centers for Disease Control and Prevention. (1997). Youth risk behavior surveillance: National College Health Risk Behavior Survey—United States, 1995. *Morbidity and Mortality Weekly Report Surveillance Summaries*, 46(SS-6), 1–54. Retrieved May 1, 2010, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/00049859.htm>
- Chassin, L., Presson, C. C., Pitts, S. C., & Sherman, S. J. (2000). The natural history of cigarette smoking from adolescence to adulthood in a midwestern community sample: Multiple trajectories and their psychosocial correlates. *Health Psychology*, 19, 223–231.
- Chen, K., & Kandel, D. B. (1995). The natural history of drug use from adolescence to the mid-thirties in a general population sample. *American Journal of Public Health*, 85, 41–47.
- Crittenden, K. S., Manfredi, C., Lacey, L., Warnecke, R., & Parsons, J. (1994). Measuring readiness and motivation to quit smoking among women in public health clinics. *Addictive Behaviors*, 19, 497–507.
- Doll, R., Peto, R., Boreham, J., & Sutherland, I. (2004). Mortality in relation to smoking: 50 years' observations on male British doctors. *British Medical Journal*, 328, 1519.
- Everett, S., Warren, C., Sharp, D., Kann, L., Husten, C., & Crossett, L. (1999). Initiation of cigarette smoking and subsequent smoking behavior among us high school students. *Preventive Medicine*, 29, 327–333.
- Everett, S. A., Husten, C. G., Kann, L., Warren, C. W., Sharp, D., & Crossett, L. (1999). Smoking initiation and smoking patterns among US college students. *Journal of American College Health*, 48, 55–60.
- Fagerstrom, K. O., & Schneider, N. G. (1989). Measuring nicotine dependence: A review of the Fagerstrom Tolerance Questionnaire. *Journal of Behavioral Medicine*, 12, 159–182.
- Fiore, M. C., Jaen, C. R., & Baker, T. B. (2008). *Treating tobacco use and dependence: 2008 Update. Clinical practice guideline*. Rockville, MD: U.S. Department of Health and Human Services and Public Health Service.
- Hotham, E. D., Atkinson, E. R., & Gilbert, A. L. (2002). Focus groups with pregnant smokers: Barriers to cessation, attitudes to nicotine patch use and perceptions of cessation counselling by care providers. *Drug and Alcohol Review*, 21, 163–168.
- Levinson, A. H., Campo, S., Gascoigne, J., Jolly, O., Zakharyan, A., & Tran, Z. V. (2007). Smoking, but not smokers: Identity among college students who smoke cigarettes. *Nicotine & Tobacco Research*, 9, 845–852.
- Ludman, E. J., McBride, C. M., Nelson, J. C., Curry, S. J., Grothaus, L. C., Lando, H. A., et al. (2000). Stress, depressive symptoms, and smoking cessation among pregnant women. *Health Psychology*, 19, 21–27.
- Luke, D., Allen, P., Arian, G., Crawford, M., Headen, S., Spigner, A. C., et al. (2001). Teens' images of smoking and smokers. *Public Health Reports*, 116(Suppl. 1), 194–202.
- Luoto, R., Uutela, A., & Puska, P. (2000). Occasional smoking increases total and cardiovascular mortality among men. *Nicotine & Tobacco Research*, 2, 133–139.
- Mermelstein, R., & The Tobacco Control Network Writing Group. (1999). Explanations of ethnic and gender differences in youth smoking: A multi-site, qualitative investigation. *Nicotine & Tobacco Research*, 1, S91–S98.
- Moran, S., Wechsler, H., & Rigotti, N. A. (2004). Social smoking among US college students. *Pediatrics*, 114, 1028–1034.
- Morgan, D. L., & Krueger, R. A. (1998). *The focus group kit*. Thousand Oaks, CA: Sage.
- Orlando, M., Tucker, J. S., Ellickson, P. L., & Klein, D. J. (2004). Developmental trajectories of cigarette smoking and their correlates from early adolescence to young adulthood. *Journal of Consulting and Clinical Psychology*, 72, 400–410.
- Piko, B. F., Wills, T. A., & Walker, C. (2007). Motives for smoking and drinking: Country and gender differences in samples of Hungarian and US high school students. *Addictive Behaviors*, 32, 2087–2098.
- Rollins, S., Malmstadt Schumacher, J. R., & Ling, P. M. (2002, November). *Exploring the phenomenon of social smoking: Why do so many young adults social smoke?* Paper presented

at the National Conference on Tobacco or Health, San Francisco, CA.

Schane, R. E., Glantz, S. A., & Ling, P. M. (2009). Nondaily and social smoking: An increasingly prevalent pattern. *Archives of Internal Medicine*, 169, 1742–1744.

Substance Abuse and Mental Health Services Administration. (2006). *Results from the 2005 National Survey on Drug Use and Health: National Findings* (NSDUH Series H-36). Rockville, MD: Office of Applied Studies.

U.S. Department of Health and Human Services. (1994). *Preventing tobacco use among young people: A report of the surgeon general*. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease

Prevention and Health Promotion, Office on Smoking and Health.

West, R. (2004). Assessment of dependence and motivation to stop smoking. *British Medical Journal*, 328, 338–339.

West, R., Zatonski, W., Przewozniak, K., & Jarvis, M. J. (2007). Can we trust national smoking prevalence figures? Discrepancies between biochemically assessed and self-reported smoking rates in three countries. *Cancer Epidemiology Biomarkers & Prevention*, 16, 820–822.

Woolcock, A. J., Peat, J. K., Leeder, S. R., & Blackburn, C. R. B. (1984). The development of lung function in Sydney children: Effects of respiratory illness and smoking. A ten year study. *European Journal of Respiratory Diseases*, 65(132 Suppl), 1–97.