

Brief Report

Smoking, Nicotine Dependence, and Motives to Quit in Asian American Versus Caucasian College Students

Sarah Bowen, Ph.D.,¹ & Andrew S. Kurz, B.A.²

¹ Department of Psychology, University of Washington, Seattle, WA

² Department of Psychology, University of Mississippi, Oxford, MS

Corresponding Author: Sarah Bowen, Ph.D., Department of Psychology, University of Washington, Box 351629, Seattle, WA 98195-1525, USA. Telephone: 206-685-2995; Fax: 206-685-1310; E-mail: swbowen@uw.edu

Received June 15, 2011; accepted October 27, 2011

Abstract

Introduction: Few smoking cessation programs are designed for college students, a unique population that may categorically differ from adolescents and adults, and thus may have different motivations to quit than the general adult population. Understanding college student motives may lead to better cessation interventions tailored to this population. Motivation to quit may differ, however, between racial groups. The current study is a secondary analysis examining primary motives in college student smokers, and differences between Asian American and Caucasian students in smoking frequency, nicotine dependence, and motives to quit.

Methods: Participants ($N = 97$) listed personal motives to quit cigarette smoking, which were then coded into categories: health, personal relationships (e.g., friends, family, romantic partners), self-view (e.g., “addicted” or “not in control”), image in society, impact on others or the environment (e.g., second-hand smoke, pollution), and drain on personal resources (e.g., money, time).

Results: Mean number of motives were highest in the category of health, followed by personal relationships, drain on resources, self-view, image, and impact. Asian American students listed significantly fewer motives in the categories of health, self-view and image, and significantly more in the category of personal relationships than Caucasian students. Nicotine dependence was significantly higher for Asian American students. However, frequency of smoking did not differ between groups.

Conclusions: Results may inform customization of smoking cessation programs for college students and address relevant culturally specific factors of different racial groups.

Introduction

Long-term smoking behaviors are often established by young adults while in college (Rigotti, Lee, & Wechsler, 2000). In 2009,

doi:10.1093/ntr/ntr281

Advance Access Published on December 21, 2011

© The Author 2011. Published by Oxford University Press on behalf of the Society for Research on Nicotine and Tobacco.

All rights reserved. For permissions, please e-mail: journals.permissions@oup.com

approximately one in five young adults was a current smoker (21.8%; Centers for Disease Control and Prevention [CDC], 2010), and approximately 26% of college students report current smoking (Johnston, O’Malley, & Bachman, 2003). Much of the harm related to smoking can be avoided when smokers quit before age 30 (Doll, Peto, Boreham, & Sutherland, 2004). Thus, cessation programs targeted at young adults are imperative.

Motivation to quit has been shown to be an important factor in smoking cessation treatment outcomes (e.g., Curry, Grothaus, & McBride, 1997; Curry, Wagner, & Grothaus, 1991). A recent review by McCaul et al. (2006) found the top three reasons ex-smokers gave for quitting and current smokers gave for wanting to quit were health, social concerns, and cost. The period of “emerging adulthood” spanning roughly from age 18 to 25 is a distinctly separate period of life, however, differing from preceding adolescence or future adulthood (Arnett, 1998, 2000, 2004) and deserves specific attention. Due to several developmental processes occurring during this period (e.g., exploring identity, increased sensation seeking, mood disruptions, viewing substance use as an acceptable behavior at the current developmental stage, optimistic bias), emerging adults have high levels of substance use that may be motivated by factors different from preceding or following developmental stages (Arnett, 2005).

Currently, only a handful of studies identify motives of college students to initiate or maintain cigarette smoking. Reduction of craving, habit (Piasecki, Richardson, & Smith, 2007), and socializing during parties (Nichter, Nichter, Carkoglu, Lloyd-Richardson, & the Tobacco Etiology Research Network, 2010) have been identified as reasons why college students engage in smoking. There is a lack of research, however, on adolescent and college student motivations to quit (Joseph, Grimshaw, Amjad, & Stanton, 2005).

Alongside the dearth of studies on motivation in college student smokers is the need for research on cultural influences on smoking cessation. The majority of the data on college student smoking is from Caucasian students. However, a small body of literature suggests that there may be differences in smoking behaviors between different racial groups, such as smoking

initiation (Finkenauer, Pomerleau, Snedecor, & Pomerleau, 2009), cessation (Piper et al., 2010), health consequences (Harris, Zang, & Anderson, 1993), and reception of cessation interventions (Cokkinides, Halpern, Barbeau, Ward, & Thun, 2008).

Asian Americans are the fastest-growing racial minority population in the United States (Varma & Siris, 1996), yet remain a particularly understudied group (Kim, Ziedonis, & Chen, 2007). Studies suggest Asian Americans smoke at lower levels than individuals from other racial groups (Chae, Gavin, & Takeuchi, 2006), but among racial minority college students, have the fastest rate of increase and highest smoking prevalence, rising from 16.7% in 1995 to 21.9% in 2000 (Shumacher & Koumjian, 2001). Other research suggests that Asian American students may be disproportionately exposed to tobacco promotions and are at a heightened risk for smoking (Otsuki, Tinsley, Chao, & Unger, 2008). There is some evidence to suggest Asian American youth have different perceived consequences for smoking (Kegler et al., 2002), smoke more cigarettes when smoking with peers than when smoking alone (Otsuki et al., 2008), and as adults, have different smoking habits than their peers from other racial categories (Trinidad et al., 2009).

There are also preliminary data to suggest that motivations to quit may differ between different racial groups. A study of focus groups by Kegler et al. (2002) found that African American and Asian/Pacific Islander youth were more concerned about parental attitudes toward their smoking than were their Caucasian and Hispanic peers, and Caucasian and Hispanic youth were more concerned about health concerns. Although research examining differences in motives is scarce, there is some evidence that Asian American students endorsed different reasons for smoking, such as not wanting to make others smoke alone (Spruijt-Metz, Gallaher, Unger, & Anderson-Johnson, 2005). There are no locatable studies, however, on influences of race on motives to quit among college students.

The current study examined primary motives of college students to cut down or quit smoking, and assessed differences between Asian American and Caucasian college student smoking and types of motives to cut down or quit. We hypothesized that motives to quit would reflect these same patterns as motives to smoke, and would be similarly reflective of collectivist versus individualistic cultural values (Triandis, Chan, Bhawuk, & Iwao, 1995). We predicted that Asian American students would report more socially motivated reasons to quit in comparison to their Caucasian peers, whereas Caucasian students would endorse more self-focused and/or image-focused reasons.

Methods

The present study is a secondary analysis of baseline data from a recent trial (Bowen & Marlatt, 2009) in which college student smokers participated in a cue exposure paradigm, throughout which they were either given mindfulness-based instructions or instructed to apply methods they typically might use to cope with cravings. All procedures were approved by the affiliated university Institutional Review Board.

Participants provided demographic information as part of the baseline assessment, including age, gender, and race/ethnicity

from the following categories: Latino/a, Asian American, African American, Caucasian/White, Native American, Pacific Islander, Mixed Race (specify), or Other (specify). Following completion of the baseline measures, participants were asked to write, in open-ended format, personal motives for cutting down or quitting cigarette smoking. Specifically, they were asked to "Think of things that have made you consider cutting down or quitting. What are the reasons that you would decide to change your smoking? Take a moment to briefly write down a few of those reasons on the paper in front of you."

In the current study, six broad categories were identified, and motives were coded into these categories. Categories were then rank ordered by frequency of endorsement. Finally, the study examined differences between Asian American and Caucasian students in nicotine dependence, smoking frequency (cigarettes per day), and mean number of motives in each category.

Sample and Participant Selection

The study from which the current data were drawn included 123 college students, all of whom were at least 18 years old, enrolled in an undergraduate psychology course, and interested in changing their smoking but not currently involved in a cessation program. Participants received course credit for participation. The current study includes only Asian American ($n = 40$) and Caucasian ($n = 57$) students for a final sample of 97 students.

Measures

Measures in the original study were all self-report. Demographic information, such as age, gender, and race, was collected. The Smoking and Quitting History questionnaire (Shadel & Shiffman, 2005), a 7-item Likert scale measure, and the Fagerström Test for Nicotine Dependence (FTND; Heatherton, Kozlowski, Frecker, & Fagerström 1991), a 6-item Likert scale, measured smoking habits and dependence, including average number of cigarettes smoked per day. Following baseline assessment and prior to beginning the cue exposure paradigm, participants were asked to list personal reasons they might cut down or quit smoking.

Procedures

For the current study, motives listed by participants were coded by a team of three independent coders: two male coders with bachelor's degrees in psychology, and one female coder with a doctorate in psychology. First, two of the coders independently derived categories representing the main themes of the participant responses. After comparison and discussion, six coding categories were settled upon: health, personal relationships (e.g., family, friends, romantic partners), self-view (as "out of control" or addicted or associated guilt or shame), image (i.e., how one is viewed by society), impact on others or the environment (e.g., second-hand smoke, supporting tobacco companies), and drain on resources (e.g., money, time taken out of daily activities for smoking breaks). All three coders then independently coded each motive listed by participants into one of the six categories or into an "other" category, with each motive receiving a code, and no more than one code assigned to each motive. Thus, each participant had a variable for number of motives he or she listed and a frequency count for each of the six categories (number motives that were coded into that category). Analyses assessed differences in number of motives falling into each of the six broader categories.

Initial interrater agreement for assignment of motives into the six categories was estimated by the intraclass correlation coefficient (ICC; Shrout & Fleiss, 1979) using the individual ratings that were generated before the raters discussed their ratings; yielding an ICC of .95. Interrater discrepancies in assigned codes was resolved by either majority (if two of three coders were in agreement) or discussed by the raters until consensus was reached (if the three coders were in disagreement), creating a final code for each response. Differences between racial groups in smoking frequency and categories of motives were assessed with linear regression analyses, using SPSS, Version 16.0.

Results

The current sample was 72.2% male, 41.2% Asian American, and 58.8% Caucasian, with a mean age of 20.50 years (3.69). Participants smoked an average of 5.34 (4.70) cigarettes per day and scored 2.24 (1.70) on the FTND scale. No significant differences were found between groups on demographic variables such as age, gender, number of cigarettes per day, or previous quit attempts (see Tables 1 and 2). However, nicotine dependence, as represented by a sum score (0–10 range) on the FTND, was significantly higher for Asian American students as compared with Caucasian students, so was included as a covariate in subsequent analyses (see Table 2).

Six categories of motives were agreed upon by raters to allow assessment of differences in general motivation to quit between Asian American and Caucasian students: (a) health, including both short- and long-term consequences, such as shortness of breath or increased risk of future illness; (b) relationships, representing motives related to fear of disappointing family members, friends, or romantic partners or receiving direct pressure from them; (c) self-view, describing feelings of not wanting to be addicted or wanting to be in control; (d) image, representing not wanting to be seen as a “smoker” or judged by the public; (e) impact on others or environment, representing concerns of broader implications of one’s smoking, such as supporting tobacco companies, endangering others’ health, affecting air quality or other environmental factors; and (f) drain on

Table 1. Sample Characteristics

| | Asian American (<i>n</i> = 40) | Caucasian (<i>n</i> = 57) | Combined (<i>N</i> = 97) |
|-----------------------------|------------------------------------|-------------------------------|------------------------------|
| Gender (%) | | | |
| Male | 72.5 | 71.9 | 72.2 |
| Female | 27.5 | 28.1 | 27.8 |
| Age, <i>M</i> (<i>SD</i>) | 20.00 (1.44) | 20.86 (4.66) | 20.30 (3.34) |

personal resources, such as money spent or time taken from work or studying. Motives not falling into one of these categories were coded into “other.”

Participants listed a mean number of 4.87 motives (*SD* = 1.37). Categories in order of most to least endorsed were (a) health, (b) personal relationships, (c) drain on resources, (d) image, (e) self-view, and (f) impact (see Table 2). No gender differences were found on frequency of motives in any category.

Differences between the Asian American and Caucasian students were found on mean number of motives in four of the six categories (see Table 2 for means). Caucasian students listed significantly more health-related motives than Asian American students. Similarly, self-view motives were endorsed significantly more by Caucasian students than Asian American students, as were image motives. However, Asian American students listed personal relationship motives significantly more often than Caucasian students. (Results remained significant when nicotine dependence was covaried.)

Discussion

The current study examined smoking cessation motives in college student smokers. The most commonly cited motives in both racial groups were health related, followed by personal relationships. In the review of studies of primarily adult smokers by McCaul et al. (2006), authors similarly found health to be the

Table 2. Differences Between Asian American and Caucasian Students’ Smoking and Motives to Quit

| | Asian American | Caucasian | Total | <i>B</i> | <i>SE</i> | β |
|-------------------------|--------------------|--------------------|--------------------|----------|-----------|---------|
| | Mean (<i>SD</i>) | Mean (<i>SD</i>) | Mean (<i>SD</i>) | | | |
| Cigarettes/day | 5.90 (5.09) | 4.95 (4.41) | 5.34 (3.68) | 0.98 | 0.95 | 0.10 |
| Fagerström | 2.78 (1.93) | 1.86 (1.43) | 1.42 (1.70) | 0.92** | 0.34 | 0.27 |
| Quit attempts past year | 7.74 (11.01) | 10.25 (15.77) | 9.16 (13.89) | −5.92 | 7.08 | −0.08 |
| Motives | | | | | | |
| Health | 1.65 (0.92) | 2.17 (1.09) | 1.96 (1.06) | −0.52* | 0.21 | −0.24 |
| Relationships | 1.28 (1.02) | 0.64 (0.84) | 0.88 (0.93) | 0.63** | 0.18 | 0.33 |
| Self | 0.27 (0.55) | 0.56 (0.73) | 0.44 (0.68) | −0.28* | 0.14 | −0.29 |
| Image | 0.38 (0.54) | 0.63 (0.67) | 0.54 (0.63) | −0.25* | 0.13 | −0.20 |
| Impact | 0.30 (0.65) | 0.36 (0.92) | 0.34 (0.82) | −0.06 | 0.17 | −0.03 |
| Resources | 0.65 (0.53) | 0.54 (0.63) | 0.58 (0.59) | 0.11 | 0.12 | 0.09 |

Note. Reference group is Asian American. Fagerstrom scores are covaried in analysis of motives. Means are unadjusted.

p* < .05. *p* < .01.

most cited reason, followed by “social concerns,” paralleling the current findings of health and personal relationships. Together, these findings suggest that the primary motives of health- and socially-related issues may indeed be similar to those of adults.

However, inclusion of culturally specific factors in growing minority populations is an essential area of study (Castro & Alarcon, 2002; Unger et al., 2002). The current data suggest cessation motives may indeed differ between Asian American and Caucasian students. Caucasian students endorsed significantly more health-related, self-view, and image motives whereas Asian American students listed personal relationships significantly more often. These differences may be reflective of underlying values. A recent meta-analysis (Oyserman, Coon, & Kemmelmeier, 2002), investigating the individualism/collectivism dichotomy often used to contrast western and eastern cultures, found that European-Americans generally rated higher on measures of individualism, placing greater value on personal independence and lower value on collectivism than both Asians and Asian Americans, and that Asian American individuals endorsed more interdependent values, such as greater orientation to “in-groups” (Gudykunst et al., 1992), cooperation (Parks & Vu, 1994), and family (Watkins et al., 1998). The current data may reflect Caucasian students’ concerns about addiction as a threat to a more individualistic sense of personal success or autonomy whereas in-group (i.e., personal relationships) values may be of greater importance to those from a more collectivistic culture.

Another interesting finding from the current study was that Asian American students scored significantly higher on a measure of nicotine dependence; however, smoking frequency not differ. These results suggest that Asian American students may be at greater risk of developing nicotine dependence and thus may be a particularly vulnerable population. However, because authors were unable to find similar results in other studies, this finding should be interpreted with caution.

Further study of effects of tailoring treatment to individual differences and underlying values could yield potentially valuable information for increasing the efficacy of smoking cessation treatments. Several studies have found that highly tailored on-line smoking interventions increase initial cessation attempts and help maintain short-term abstinence in adults (Etter, 2005; Strecher, Shiffman, & West, 2005; Swartz, Noell, Schroeder, & Ary 2006) and college students (An et al. 2008). Several studies (Etter, 2005; Strecher et al., 2005; Swartz et al., 2006) tailored online cessation programs to the demographic characteristics of their participants. Additionally, Etter (2005) used stage of change and attitudes toward smoking to tailor the intervention, Strecher et al. (2005) used motives for quitting and expected difficulties, and An et al. (2006) tailored using smoking habits, cigarette knowledge, and supportive personalized e-mails sent from peer coaches. Results from the current study might similarly inform future interventions, increasing initial cessation attempts and helping to maintain abstinence in Asian American college students through tailoring interventions to population-specific attitudes toward smoking and motives to quit, which in turn may increase motivation in this high-risk population.

The current study has several limitations worth noting. First, the cross-sectional nature, while providing data on mo-

tives and cultural factors, does not provide data on effects of targeting these motives in an intervention. Second, results may not be generalizable to a broader population of cigarette smokers due to the sample’s low mean frequency of smoking and the nature of the sampling. Third, validity of self-report measures would be enhanced by the addition of biochemical corroboration of smoking reports. Finally, although results suggest there may be differences between young Asian American and Caucasian smokers that may be useful for development of cessation treatments, there are considerable differences between Asian American subgroups with respect to both collectivism and smoking behaviors (e.g., Kaholokula, Braun, Kana’iaupuni, Grandinetti, & Chang, 2006; Kim et al., 2007, Oyserman et al., 2002). Results from the current study are limited by lack of data on more specific nationalities among the subsample of Asian American students. Further studies might provide a more detailed exploration of different nationalities within the Asian American population, as well as the extent to which acculturation affects vulnerability to dependence and motives to quit among these specific nationalities. Finally, the cultural and linguistic diversity among the Asian American subgroups should be acknowledged, as race as measured in the current study does not necessarily correspond to culture. Future studies should be more sensitive to these differences and tailored interventions need to bear in mind the heterogeneity of the Asian American population in structuring interventions specifically targeted to specific racial categories.

Alongside the study’s limitations, however, results provide potentially valuable data for future studies of more targeted cessation programs. Although motivation has been identified as an important factor in smoking cessation treatment, specific motives may differ between populations. Motivation to quit among college student smokers, particularly among Asian American students, is understudied. The current study provides data on college student motivations to quit, as well as potential influences of race, offering a first step toward more individualized cessation treatments, tailored to the needs of specific high-risk populations.

Funding

This work was supported by the Alcohol and Drug Abuse Institute, Seattle, WA.

Declaration of Interests

None declared.

Acknowledgments

The authors would like to acknowledge Sharon Perry, M.S.W., Kiara Roberts, B.S., and Matthew Enkema, B.A., for their gracious contributions to the coding process, and Dr. Alan Marlatt for the many years of support and mentorship.

References

An, L. C., Klatt, C., Perry, C. L., Lein, E. B., Hennrikus, D. J., Palonen, U. E., et al. (2008). The RealU online cessation intervention

- for college smokers: A randomized control trial. *Preventive Medicine*, 47, 194–199. doi:10.1016/j.ypmed.2008.04.011
- An, L. C., Perry, C. L., Lein, E. B., Klatt, C., Farley, D. M., Bliss, R. L., et al. (2006). Strategies for increasing adherence to an online smoking cessation intervention for college students. *Nicotine and Tobacco Research*, 8, S7–S12. doi:10.1080/14622200601039881
- Arnett, J. J. (1998). Learning to stand alone: The contemporary American transition to adulthood in cultural and historical context. *Human Development*, 41, 295–315. doi:10.1159/000022591
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469–480. doi:10.1037/0003-066X.55.5.469
- Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. New York: Oxford University Press.
- Arnett, J. J. (2005). The developmental context of substance use in emerging adulthood. *Journal of Drug Issues*, 35, 235–254.
- Bowen, S., & Marlatt, A. (2009). Surfing the urge: Brief mindfulness-based intervention for college student smokers. *Psychology of Addictive Behaviors*, 23, 666–671. doi:10.1037/a001127
- Castro, F. G., & Alarcon, E. H. (2002). Integrating cultural variables into drug abuse prevention and treatment with racial/ethnic minorities. *Journal of Drug Issues*, 32, 783–810. Retrieved from <http://www2.criminology.fsu.edu/~jdi/default.htm>
- Centers for Disease Control and Prevention. (2010). Vital signs: Current cigarette smoking among adults aged ≥18 years—United States, 2009. *Morbidity and Mortality Weekly Report*, 59, 1135–1140. Retrieved from <http://www.cdc.gov/mmwr>
- Chae, D. H., Gavin, A. R., & Takeuchi, D. T. (2006). Smoking Prevalence Among Asian Americans: Findings from the National Latino and Asian American Study (NLAAS). *Public Health Reports*, 121, 755–763.
- Cokkinides, V. E., Halpern, M. T., Barbeau, E. M., Ward, E., & Thun, M. J. (2008). Racial and ethnic disparities in smoking-cessation interventions: Analysis of the 2005 National Health Interview Survey. *American Journal of Preventive Medicine*, 34, 404–412. doi:10.1016/j.amepre.2008.02.003
- Curry, S. J., Grothaus, L., & McBride, C. (1997). Reasons for quitting: Intrinsic and extrinsic motivation for smoking cessation in a population-based sample of smokers. *Addictive Behaviors*, 22, 727–739. doi:10.1016/S0306-4603(97)00059-2
- Curry, S. J., Wagner, E. H., & Grothaus, L. C. (1991). Evaluation of intrinsic and extrinsic motivation interventions with a self-help smoking cessation program. *Journal of Consulting and Clinical Psychology*, 59, 318–324. doi:10.1016/S0306-4603(97)00059-2
- 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, 1519–1528. doi:10.1136/bmj.328.7455.1529
- Etter, J.-F. (2005). Comparing the efficacy of two internet-based, computer-tailored smoking cessation programs: A randomized trial. *Journal of Medical Internet Research*, 7, e2. doi:10.2196/jmir.7.1.e2
- Finkenauer, R., Pomerleau, C. S., Snedecor, S. M., & Pomerleau, O. F. (2009). Race differences in factors relating to smoking initiation. *Addictive Behaviors*, 34, 1056–1059. doi:10.1016/j.addbeh.2009.06.006
- Gudykunst, W. B., Gao, G., Schmidt, K. L., Nishida, T., Bond, M. H., Leung, K., et al. (1992). The influence of individualism—collectivism, self-monitoring, and predicted-outcome value on communication in ingroup and outgroup relationships. *Journal of Cross-Cultural Psychology*, 23, 196–213. doi:10.1177/0022022192232005
- Harris, R. E., Zang, E. A., & Anderson, J. (1993). Race and sex differences in lung cancer risk associated with cigarette smoking. *International Journal of Epidemiology*, 22, 592–599. doi:10.1093/ije/22.4.592
- Heatherton, T. F., Kozlowski, L. T., Frecker, R. C., & Fagerström, K. O. (1991). The Fagerström Test for Nicotine Dependence: A revision of the Fagerström Tolerance Questionnaire. *British Journal of Addiction*, 86, 1119–1127. doi:10.1111/j.1360-0443.1991.tb01879.x
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2003). *The monitoring the future national survey results on adolescent drug use: Overview of key findings, 2002*. NIH Publication No. 03–5374. Bethesda, MD: National Institute on Drug Abuse. Retrieved from <http://monitoringthefuture.org>
- Joseph, S., Grimshaw, G., Amjad, N., & Stanton, A. (2005). Self-motivation for smoking cessation among teenagers: Preliminary development of a scale for assessment of controlled and autonomous regulation. *Personality and Individual Differences*, 39, 895–902. doi:10.1016/j.paid.2005.02.027
- Kaholokula, J. K., Braun, K. L., Kana'iaupuni, S., Grandinetti, A., & Chang, H. K. (2006). Ethnic-by-gender differences in cigarette smoking among Asian and Pacific Islanders. *Nicotine and Tobacco Research*, 8, 275–286. doi:10.1080/14622200500484600
- Kegler, M. C., McCormick, L., Crawford, M., Allen, P., Spigner, C., & Ureda, J. (2002). An exploration of family influences on smoking among ethnically diverse adolescents. *Health Education and Behavior*, 29, 473–490. doi:10.1177/109019810202900407
- Kim, S. S., Ziedonis, D., & Chen, K. W. (2007). Tobacco use and dependence in Asian-Americans: A review of the literature. *Nicotine and Tobacco Research*, 9, 169–184. doi:10.1080/14622200601080323
- McCaul, K. D., Hockemeyer, J. R., Johnson, R. J., Zetocha, K., Quinlan, K., & Glasgow, R. E. (2006). Motivation to quit using cigarettes: A review. *Addictive Behaviors*, 31, 42–56. doi:10.1016/j.addbeh.2005.04.004
- Nichter, M., Nichter, M., Carkoglu, A., & Lloyd-Richardson, E. (2010). the Tobacco Etiology Research Network. Smoking and drinking among college students: “It’s a package deal. *Drug and*

Motives to quit

Alcohol Dependence, 106, 16–20. doi:10.1016/j.drugalcdep.2009.07.025

Otsuki, M., Tinsley, B. J., Chao, R. K., & Unger, J. B. (2008). An ecological perspective on smoking among Asian-American college students: The roles of social smoking and smoking motives. *Psychology of Addictive Behaviors*, 22, 514–523. doi:10.1037/a0012964

Oyserman, D., Coon, H. M., & Kemmelmeir, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128, 3–72. doi:10.1037//0033-2909.128.1.3

Parks, C. D., & Vu, A. D. (1994). Social dilemma behavior of individuals from highly individualist and collectivist cultures. *Journal of Conflict Resolution*, 38, 708–718. doi:10.1177/0022002794038004006

Piasecki, T. M., Richardson, A. E., & Smith, S. M. (2007). Self-monitored motives for smoking among college students. *Psychology of Addictive Behaviors*, 21, 328–337. doi:10.1037/0893-164X.21.3.328

Piper, M. E., Cook, J. W., Schlam, T. R., Jorenby, D. E., Smith, S. S., Bolt, D. M., et al. (2010). Gender, race, and education differences in abstinence rates among participants in two randomized smoking cessation trials. *Nicotine & Tobacco Research*, 12, 647–657. doi:10.1093/ntr/ntq067

Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000). US college students' use of tobacco products: Results of a national survey. *Journal of the American Medical Association*, 284, 699–705. Retrieved from <http://jama.ama-assn.org>

Shadel, W. G., & Shiffman, S. (2005). Assessment of smoking behavior. In D. M. Donovan, & G. A. Marlatt (Eds.), *Assessment of addictive behaviors* (2nd ed., pp. 113–154). New York: Guilford Press.

Shrout, P. E., & Fleiss, J. L. (1979). Interclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, 86, 420–428. doi:10.1037/0033-2909.86.2.420

Shumacher, J., & Koumjian, K. (2001). *Differences in tobacco-related behavior and attitudes by race, ethnicity, and gender in*

the United States and California: A comparative analysis. Paper presented at the California Tobacco-Related Disease Research Program Annual Investigator Meeting, Los Angeles, CA.

Spruijt-Metz, D., Gallaher, P., Unger, J. B., & Johnson, C. A. (2005). Unique contributions of meanings of smoking and outcome expectancies to understanding smoking initiation in middle school. *Annals of Behavioral Medicine*, 30, 104–111. doi:10.1207/s15324796abm3002_2

Strecher, V. J., Shiffman, S., & West, R. (2005). Randomized controlled trial of a web-based computer-tailored smoking cessation program as a supplement to nicotine patch therapy. *Addiction*, 100, 682–688. doi:10.1111/j.1360-0443.2005.01093.x

Swartz, L. G. H., Noell, J. W., Schroeder, S. W., & Ary, D. V. (2006). A randomised control study of a fully automated internet based smoking cessation programme. *Tobacco Control*, 15, 7–12. doi:10.1136/tc.2003.006189

Triandis, H. C., Chan, D. K.-S., Bhawuk, D. P. S., Iwao, S., & Sinha, J. B. P. (1995). Multimethod probes of allocentrism and idiocentrism. *International Journal of Psychology*, 30, 461–480. doi:10.1080/00207599508246580

Trinidad, D. R., Pérez-Stable, E. J., Emery, S. L., White, M. M., Grana, R. A., & Messer, K. S. (2009). Intermittent and light daily smoking across racial/ethnic groups in the United States. *Nicotine and Tobacco Research*, 11, 203–210. doi:10.1093/ntr/ntn018

Unger, J. B., Ritt-Olson, A., Teran, L., Huang, T., Hoffman, B. R., & Palmer, P. (2002). Cultural values and substance use in a multiethnic sample of California adolescents. *Addiction Research and Theory*, 10, 257–280. doi:10.1080/16066350290025672

Varma, S. C., & Siris, S. G. (1996). Alcohol abuse in Asian-Americans: Epidemiological and treatment issues. *American Journal of Addiction*, 5, 136–143. doi:10.3109/10550499608995670

Watkins, D., Akande, A., Fleming, J., Ismail, M., Lefner, K., Regmi, M., et al. (1998). Cultural dimensions, gender, and the nature of selfconcept: A fourteen-country study. *International Journal of Psychology*, 33, 17–31. doi:10.1080/002075998400583