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ABSTRACT

Several personal and social factors thought to influence college students' smoking were investigated by surveying a sample of college students who smoke (n=56) and do not smoke (n=160). Personal motivating factors examined were relaxation effects, image effects, competence effects, and stimulant effects. These personal reasons for smoking were indirectly assessed by measuring subjective feeling states that accompany smoking behavior. It was assumed that many of these states were desirable and that they played a role in shaping the smoker's motivation to use tobacco. The social factors investigated in this study were family income and parental smoking status. Results show that relaxation effects were rated more highly than image effects; image effects were higher than competence effects; and competence effects were higher than ratings of stimulant effects. Smokers reported almost never feeling intelligent while smoking, yet reported that they quite frequently felt adequate during the process. No gender differences were found. Correlation was found between family income and student smoking status. In high-income families, 61.5% of fathers and 81.5% of mothers were nonsmokers, meaning that twice as many fathers as mothers were smokers. In low-income families, comparable numbers of mothers and fathers smoked; 66.7% of the fathers and 71.4% of the mothers were nonsmokers. (Contains 6 tables and 47 references.) (MKA)

Why do Undergraduates Smoke?

Subjective Effects of Cigarette Smoking

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Introduction

Throughout the 1990s, college student smoking has been steadily on the rise (Johnston, O'Malley, & Bachman, 1996; Wechsler, Rigotti, Gledhill-Hoyt & Lee, 1998; Moore, 1998; Hines, Fretz, & Nolan, 1998). Recently, research has suggested that the college years have become a time of experimentation with tobacco (Emmons et al., 1998; Page, 1998; Duryea & Martin, 1981). This experimentation often results from an unwillingness to recognize the inherent health risks associated with smoking (McKilip & Vierke, 1980) or apparent social benefits that are seen as outweighing such risks (Leventhal & Cleary, 1980; Barton et al., 1982). The recent upsurge in college students' smoking has left many perplexed. The current generation of young adults was inundated with messages about the health risks of smoking since kindergarten. Many college students resisted the temptation to use cigarettes throughout high school, only to begin experimenting after reaching campus. Understanding the reasons for this unexpected trend is important for those interested in working to reverse it.

There has been much speculation about the causes of the smoking increase seen among the young adult population. Altman et al. (1996) found that when an adolescent owned a tobacco promotional item and had a friend who owned a promotional item, the chances were 21.8 times greater that this person would become a smoker than a person for whom these tobacco-endorsing items were absent. This finding has contributed to the belief that cigarette advertisements may make an enormous contribution to early smoking initiation (Reid, 1985; Potts, Gillies, & Herbert, 1986; Zinser, Kloosterman, & Williams, 1994; Department of Health and Human Services, 1994; Moore, 1998). Youth's

environments have been found to be saturated with pro-smoking messages, especially in magazines (Schooler, Feighery, & Flora, 1996). Magazine advertisements for tobacco products frequently portray exciting, adventurous scenes depicting smokers as glamorous and appealing (Zinser, Kloosterman, & Williams, 1991; Hines et al., 1998; Moore, 1998). A study by Zinser et al. (1991) discovered that both college student smokers and nonsmokers rated cigarette advertisements as more adventurous in comparison with ads for other products. Magazine ad content analyses validated the notion that ads were developed by the smoking industry to depict smokers as attractive, athletic, and lively (Albright et al, 1988; Altman et al., 1987; Zinser et al., 1991). Adolescence is a time of preoccupation with the social image; understandably, many fall prey to the underlying suggestion that smoking will enhance allure (Zinser et al., 1991). Past research has revealed that the top-selling cigarette brands that are smoked by the younger population are also the most heavily advertised (Moore, 1998; King et al., 1998).

In addition to the pervasive influence of cigarette advertisements, several other factors motivate many young adults to smoke. Both personal and social reasons for smoking initiation and maintenance operate in varying ways according to age. Personal reasons for smoking are diverse. Some smoke for the intense physiological effects which are caused by nicotine. In some respects, the stimulant effects of nicotine parallel those of other stimulants used by college students to enhance cognitive and academic performance, including caffeine and Ritalin. In addition to smoking for stimulant effects, some individuals seem to smoke as a form of

self-medication to reduce symptoms of depression and to increase pleasurable relaxation (Stein et al., 1996; Clausen, 1987; Gilbert, 1979), as a means of stress management (Stein et al., 1996; Chassin et al., 1990), or mood management (Eiser, Morgan, & Gammage, 1987; Lader & Matheson, 1991; Oakley, Brannen, & Dodd, 1992; Thrush, Fife-Shaw, & Breakwell, 1997).

Social factors figure prominently in cigarette usage as well. During adolescence, it is typical to smoke for social purposes (Stein, Newcomb, & Bentler, 1996; Chassin, Presson, & Sherman, 1990; Hundleby, 1987; Imperato & Mitchell, 1986), and peer smoking behavior has been implicated as an influential contributor to smoking (Biglan et al., 1983; Castro et al., 1987; Charlton & Blair, 1989; Covey & Tam, 1990; Thrush et al., 1997; Moore, 1998). Early in life, smoking is often a result of peer pressure. By becoming a member of a social group, an individual embraces a specific social identity (Lloyd, Lucas, & Fernbach, 1997). If some members of a social group begin to smoke, then other members may also. Therefore, smoking may be initiated if adolescents believe they will be perceived positively in terms of sophistication, attractiveness, and/or social successfulness by their peers (Barton et al., 1982; Burton et al., 1989; Thrush et al., 1997; Moore, 1998).

Other factors have been found to influence smoking, including generational cohort, gender, socioeconomic status, educational attainment, and family role models. Though different reasons for smoking exist across generations, few notable differences have been found between genders (Stein et al., 1996; Johnston et al., 1991; Kandel, 1980; Lawrance & Rubinson, 1986; Malkin & Allen, 1980;

Newcomb & Bentler, 1989) with the exception that smoking for weight control seems to be especially common among young women (Charlton, 1984; Oakley et al., 1992; Thrush et al., 1997). Previous research has implicated socioeconomic status as a predictor of smoking, both among adolescents and older adults (Hu, Lin, & Keeler, 1998; Green et al., 1990; Oakley et al., 1992; Thrush et al., 1997; Stronks et al., 1997; Emmons et al., 1998). Rates of smoking tend to be higher among the less economically advantaged. Educational attainment is also a powerful predictor of smoking behavior; smoking has consistently been found to be more common among the less educated (Fiore, 1992; Chassin et al., 1996). Other studies have shown a link between parental smoking behavior and children's choices regarding tobacco (Goddard, 1989; Schooler et al., 1996; Thrush et al., 1997). A child is generally more likely to smoke if a parent is a current smoker.

Several personal and social factors thought to influence college students' smoking were investigated by surveying a sample of college students who currently smoke. Personal motivating factors examined were relaxation effects, image effects, competence effects, and stimulant effects. These personal reasons for smoking were indirectly assessed by measuring subjective feeling states that accompany smoking behavior. It was assumed that since many of these states were desirable, they played a role in shaping the smoker's motivation to use tobacco. This means of measuring motivation for smoking was preferable to more direct questions, because it was less susceptible to contamination by social desirability responding or other forms of defensiveness. The social factors investigated in this study were family income and parental smoking status.

Methods

Respondents were 56 college student smokers and 160 college student nonsmokers from a small liberal arts college from a suburban area in the Northeast United States. Those enrolled in both introductory and upper-level courses volunteered to complete an anonymous survey pertaining to cigarette smoking.

Survey Instrument

Students completed a four-page survey, which consisted of items pertaining to features and determinants of college student smoking, demographic variables, subjects' feelings associated with their own smoking behavior, and perceptions of other smokers. Questions regarding smoking history were used to determine smoking status (never, former, or current). Also, an item was included inquiring about the income level of the student's family, and respondents were questioned about the smoking patterns of family members.

In order to assess the importance of different subjective states in maintaining cigarette smoking behavior, the responses of only the smokers in this sample were selectively examined. Their subjective smoking experience was assessed through 18 Likert-format items (1=Never, 2=Rarely, 3=Often, and 4=Very Frequently). Participants were asked to rate "When you smoke a cigarette, how does it make you feel?" on the following dimensions: relaxed, content, trusting, anxious, jittery, attractive, sophisticated, immature, alert, competent, secure, intelligent, inadequate, physically fit, energized, and less hungry. These items were selected in order to investigate the importance of four hypothesized motivational factors underlying smoking, relaxation effects, image effects, competence

effects, and stimulant effects.

To measure the motivational role of relaxation effects, scores were grouped and averaged for the following feeling items: high levels of relaxation, contentment and trust, and low levels of anxiety and jitteriness. In order to assess the importance of image effects, scores were averaged and grouped for the following feeling items: high levels of attractiveness, sophistication, and maturity. In order to assess the importance of competence effects, scores were grouped and averaged for the following feeling items: high levels of alertness, competence, security, intelligence, and adequacy. In order to assess the importance of stimulant effects, scores were grouped and averaged for the following feeling items: high levels of physical fitness, and energy, and low levels of hunger.

Results

In order to determine if differences existed among the four personal smoking motivation factors, paired sample *t*-tests were performed on the smokers' factor scores. Significant differences were found between each pair generated by the four factors, all $p < .001$. Relaxation effects were rated more highly than image effects, image effects were higher than competence effects, and competence effects were higher than ratings of stimulant effects. Smokers reported almost never feeling intelligent while smoking, yet reported that they quite frequently felt adequate during the process.

To examine gender differences in personal motivation for smoking, between-group *t*-tests on the four motivational factor scores were performed, comparing male and female smokers. No significant differences emerged.

To determine if a relationship existed between family income and current student smoking status, a Pearson correlation was calculated, using both smokers and nonsmokers. The correlation was found to be significant ($r = .29$; $p<.001$). In order to explore the joint influence of family income and parental smoking on college student smoking behavior, a median split was performed, yielding low and high family income groups of smokers (low family incomes were below $80,000, high incomes were over $80,000). In high income families of current student smokers, 61.5% of fathers and 81.5% of mothers were nonsmokers (see Tables C and D). Twice as many fathers as mothers were smokers in families in this income range. In low income families, 66.7% of the fathers and 71.4% of the mothers were nonsmokers (see Table E and F). Comparable numbers of mothers and fathers in these lower income families smoked.

Discussion

The results of this study suggest that several factors enter into the decision to smoke. Ratings of the four personal motivation factors underlying college student smoking placed them in the following descending order of importance: relaxation effects, image effects, competence effects, and stimulant effects. While the strong association between smoking and desired relaxation was not surprising, the highly influential role of social image in college student smoking was unexpected. Although research on younger smokers has clearly documented the importance of peer pressure in fostering smoking, older smokers were presumed to be more immune to these influences. The current findings suggest that concern about appearing sophisticated, mature, and attractive figure prominently in the

decision of college students to smoke. College-age students appear to be in a transitory state concerning reasons for smoking; while they enjoy the benefit of relaxation like the older adult population, image is still a crucial factor in smoking motivation, much as it is for the adolescent.

Equally unexpected were the findings suggesting that few college students smoke in order to experience stimulant effects. These smokers report that they rarely experience the appetite suppression effects commonly associated with nicotine, infrequently feel energized by smoking, and almost never feel physically fit while smoking. This reality stands in sharp contrast to the lively, invigorating image of the smoking experience ubiquitously depicted in advertisements. Apparently these stimulant effects are less pronounced than commonly assumed, or misattributive processes may operate which prevent college smokers from recognizing the association between their intake of nicotine and these physiological effects. The energizing effects of smoking are evidently short-lived; smokers did not report enjoying stimulant effects on a regular basis. Similarly, cognitive enhancement was not commonly reported; the majority of smokers almost never experienced heightened intellectual ability while smoking.

Although the scores on the competence factor fell in the intermediate range, inspection of the individual items comprising this factor revealed interesting variability. Smokers reported almost never feeling intelligent while smoking, yet said they quite frequently felt adequate during the process.

Contrary to expectation, female smokers were not more likely to

report appetite suppression effects in conjunction with smoking. This is inconsistent with other studies, which have suggested that many women smoke as a way of curbing appetite in order to maintain a desirable body weight.

Unlike much previous research, this study failed to observe a negative relationship between socioeconomic status and smoking behavior, and in fact found smoking to be more common among students from higher income families. This finding was not explained by higher rates of parental smoking in the wealthier families. The majority of parents in all families were nonsmokers. Smoking among some college students may represent a form of rebellion against affluent nonsmoking parents. This possibility received partial support from the finding that within the higher income family group, fewer than 19% of the mothers smoked. In comparison, within low income families, almost 29% of the mothers smoked. However, the fathers in the higher income families were about as likely to smoke as their low income counterparts. If, for some college students smoking represents a way of asserting autonomy by engaging in behavior at odds with parental values, the offspring of wealthier nonsmoking mothers may quite unexpectedly be at higher risk. Future studies using larger samples of college students drawn from a broader range of institutions might clarify this possibility.

Cigarette smoking is generally assumed to be associated with several desirable subjective states. The current findings challenge some of these assumptions about the positive effects of smoking. Disseminating this type of information might further deromanticize this habit and dissuade potential smokers from starting.

Table A

	Mean	N	Std. Deviation
Relaxation Effects	2.48	56	.80
Image Effects	2.00	56	.67
Competence Effects	1.80	56	.67
Stimulant Effects	1.54	56	.72

Table B

		Mean	Std. Deviation	t	df	Sig. (2-tailed)
Pair 1	Stimulant Effects Image Effects	-.46	.60	-5.67	55	<.001
Pair 2	Stimulant Effects Competence Effects	-.26	.48	-4.10	55	<.001
Pair 3	Stimulant Effects Relaxation Effects	-.93	.62	-11.22	55	<.001
Pair 4	Image Effects Competence Effects	.20	.35	4.16	55	<.001
Pair 5	Image Effects Relaxation Effects	-.48	.52	-6.87	55	<.001
Pair 6	Competence Effects Relaxation Effects	-.67	.50	-9.98	55	<.001

Table C (Family income over $80,000, father smoking status)

	Frequency	Percent
No	16	61.5
Yes	10	38.5
Total	26	100.0

Table D (Family income over $80,000, mother's smoking status)

	Frequency	Percent
No	22	81.5
Yes	5	18.5
Total	27	100.0

Table E (Family income under $80,000, father's smoking status)

	Frequency	Percent
No	14	66.7
Yes	7	33.3
Total	21	100.0

Table F (Family income under $80,000, mother's smoking status)

	Frequency	Percent
No	15	71.4
Yes	6	28.6
Total	21	100.0

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