

Gender, Smoking Behavior, and Attitudes toward Smoking among College Students

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Abstract

This quantitative study examines the smoking behaviors and the opinions about smoking of college students. A survey was administered to students at the College of Charleston, South Carolina, asking about their attitudes toward smoking and, if they smoked, about their smoking habits. A total of 326 students, 71 males and 255 females, participated in the survey. A chi-square analysis revealed that gender affected the likelihood that a student smoked and was also associated with differences in attitudes toward smoking. There were also several significant differences between smokers and non-smokers.

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, and May Complicate Pregnancy.

SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

SURGEON GENERAL'S WARNING: Smoking by Pregnant Women May Result in Fetal Injury, Premature Birth, and Low Birth Rate.

SURGEON GENERAL'S WARNING: Cigarette Smoke Contains Carbon Monoxide

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Introduction

Despite the above warnings, printed on each and every pack of cigarettes, 50 million Americans still smoke (Snell 2005). In addition to lung cancer and heart disease, smoking causes wrinkles, impotence, strokes, memory loss, a proneness to diabetes, and inflammation of the arteries. In turn, smoking will cause inflamed arteries to experience a reduction in High Density Lipoprotein, the healthy type of cholesterol, and an increase of Low Density Lipoprotein, the unhealthy type of cholesterol (Roizen 2004).

Smoking prevents oxygen from reaching all parts of the body, which weakens the immune system, increases susceptibility to respiratory illnesses, and results in a loss of energy and shortness of breath. Among those under 50 years old, smoking causes 80% of deaths resulting from heart disease. Forty percent of stroke victims are smokers (Roizen 2004).

Alarmingly, smokers account for a disproportionate 90% of all lung cancer cases, while only 30% of the population smokes. Of the approximately 4,000 chemical compounds that make up cigarettes, 40% are known carcinogens, which actually alter an individual's DNA, oftentimes resulting in cancer. Many of these chemical compounds are oxidants, which produce cell-damaging free radicals when combined with oxygen (Roizen 2004).

Emphysema is another disease closely associated with smoking. (In April of 2008, I learned that my grandmother, who has smoked all of her life, has COPD, a type of emphysema.) The basis of emphysema lies in the body's immune defenses; when the body detects groups of distressed cells, it destroys them. When cigarettes put a smoker's air sacs in distress, the body begins to destroy its own lungs, and the result is the chronic lung-weakening illness of emphysema (Roizen 2004).

Smoking is the most preventable cause of death in the United States today. Smoking is responsible for the deaths of more people each year than alcohol, AIDS, car accidents, murders, suicides, and illegal drugs combined. Overall, smoking kills 434,000 Americans each year. What is even more troublesome is that over a three-week period, secondhand smoke kills a number of innocent Americans equal to those killed in the World Trade Center attacks of September 11,

2001 (Snell 2005). The potency of secondhand smoke may be more powerful than many non-smokers believe; spending just one hour in a smoky environment is the equivalent of actually smoking four cigarettes (Roizen 2004).

With the gruesome health outcomes that smoking has been known to produce, and the growing availability of information alerting the public to the risks associated with smoking, it is astounding that such a large population continues to smoke. Nicotine, however, is an exceptionally addictive substance, and many of those who begin smoking may underestimate the control it can achieve over a smoker. When people initially begin smoking, they experience an increase in dopamine in the brain, the neurotransmitter that makes activities pleasurable, thus reinforcing the habit. The body adjusts to smoking by producing lower base levels of dopamine, leaving smokers feeling as though they need cigarettes to feel happy. Of the 50 million Americans who smoke, 70% wish to cease smoking and one-third will actively attempt to quit each year. Yet a mere 3% of these individuals succeed (Roizen 2004).

Clete Snell has researched the young smoking population and identified five stages of adolescent smoking. The first stage is attitudinal: the individual views smoking as useful to achieve some means, which may be to achieve a rebellious image, to relieve stress, or to lose weight. The second stage Snell has named the “trying phase,” which is largely influenced by peer reinforcement. Next, an individual may advance to the third stage, where smoking is performed repetitively, yet on an irregular basis. The fourth stage is reached when an individual begins to smoke regularly, at least once a week. Snell’s final stage is the point of no return: an addiction to nicotine and a psychological dependence on cigarettes (2005).

Snell has identified several sociodemographic, environmental, behavioral, and personal factors in adolescents that correlate with a heightened risk of developing into a smoker. Low socioeconomic status increases the probabilities that a young person will have a positive attitude towards smoking and then begin smoking. Adolescents transitioning between elementary and high school are also at an increased risk for beginning to smoke. Easy availability of cigarettes, having at least one older sibling who smokes, and receiving

social reinforcement for smoking are all environmental factors that increase the probability of children developing into regular smokers (Snell 2005).

The behavioral factors that Snell found to have a positive correlation with adolescent smoking behavior include poor academic performance and engaging in other problematic behaviors such as using alcohol or illegal drugs. On the contrary, health-promoting activities, such as being a member of an athletic team, have been shown to decrease the likelihood of smoking. The belief that smoking causes immediate negative side effects significantly decreases one's likelihood of becoming a smoker, whereas positive attitudes toward smoking are good predictors of regular smoking. Snell defines these attitudes as personal factors influencing adolescent smoking behaviors (2005).

Tobacco companies, aware of their products' highly addictive nature, exploit the young adult population as potential long-term customers, aggressively targeting their advertisements toward this group (McGreevey 2003). Tobacco advertisements have typically portrayed becoming a cigarette smoker as a rite of passage into adulthood and related smoking to alcohol consumption and sexuality. A 1981 report of the Federal Trade Commission (FTC) claimed that tobacco advertising portrayed smoking as "positive and desirable, associated with youthful vigor, good health, good looks, and personal, social, and professional acceptance and success" (Snell 22).

Tobacco companies have stooped even lower in their direct targeting of children. In the children's movies *Who Framed Roger Rabbit* and *The Muppet Movie*, Philip Morris, a tobacco company, paid to have its products shown on screen. In the 1990's, movie characters were depicted as smokers at a proportion much greater than the proportion of smokers in the real world (Snell 2005). The Marlboro Man and Joe Camel cartoon ad campaigns were created specifically to attract the attention of the youth market with memorable and recognizable visual images (Gewertz 1996). Eventually, the Master Settlement Agreement, which did not come about until 1998, prohibited tobacco companies from targeting youth either directly or indirectly in their advertisements. Snake-like tobacco companies attempted to slither around this agreement by increasing the number of advertisements appearing in magazines with a large youth readership. As a result, there is now a

ban on tobacco advertisements in magazines with at least 15% youth readership (Snell 2005).

Since the 1960's, the FTC has been in a continuous battle with tobacco companies. This opposition has sequentially led to several congressional acts. In 1964, the FTC found that tobacco companies concealed the health risks of smoking, with some even attempting to portray their own brands as less harmful than and healthier than others. In 1969, Congress enacted the Public Health Cigarette Smoking Act, which prohibited TV and radio advertisements for cigarettes. Eventually, after cigarette companies were uncooperative in properly displaying health warnings on packs of cigarettes, the Comprehensive Smoking Education Act was passed in 1984. This act mandated that tobacco companies clearly display the Surgeon General's Warning, listed as such, on four sides of a cigarette box, in a rotational manner (Snell 2005).

Perhaps all of this relatively recent legislation is responsible for the general decrease in tobacco use that has taken place in the United States over the past 20 years. Unfortunately, while tobacco use has gone down overall, tobacco use among college students has not decreased. The smoking behavior of college students thus demands special attention.

There have been several recent studies that explore the smoking behavior of college students. Borders et al. found that students who were educated about smoking were 23% less likely to become smokers than students who were uneducated on the topic (2005). The American College Health Association (ACHA), as well as the American Cancer Society (ACS), believe that prohibiting smoking in buildings on campus, and banning tobacco from being sold, given out as samples, or being advertised on campus also reduce the incidence of smoking among college students. According to a recent study, as many as 40% of colleges and universities have smoking cessation programs, although these programs often go unutilized.

Researchers have found that certain college students are more likely to be smokers than others. Biasco and Hartnett found that students with higher levels of stress were more likely to smoke and that a quarter of the students began smoking after entering college (2005). Borders et al. found that maturity correlates negatively with the likelihood of

being a smoker, and that female students, as well as Hispanic and black students, were less likely to be smokers (2005).

Biasco and Hartnett also included several attitudinal questions in their survey (2005). Both smokers and non-smokers reported that they preferred to date non-smokers, and 69% of respondents believed that smoking was unattractive. Students also felt strongly that pregnant women should not be exposed to secondhand smoke (90% agreed), that secondhand smoke is dangerous to one's health (84%), and that smoking poses health hazards in general (94%). Only 32% of participants believed that tobacco companies' advertisements persuade non-smokers to begin, while 46% disagreed with this belief. Thirty-nine percent of smokers wanted to quit and 11% of non-smokers wanted to start (Biasco and Hartnett 2005).

Sue McGreevey (2003) conducted a survey of students' opinions on smoking on campus. Three-quarters of all participants supported a smoking ban in all buildings on campus, and 51% supported banning smoking in on-campus bars. 70% felt that tobacco advertisements, as well as tobacco companies' sponsoring campus events, should also be banned. A large majority went so far as to support the prohibition of on-campus tobacco sales (McGreevey 2003). In another survey, 62% of respondents believed that students who violated the school's smoking policy should be fined by campus police (Porter 2007).

Within the last four years, a similar survey was also conducted at the College of Charleston. In this instance, the survey was administered at two different points in time, once in January of 2004 and again in December of 2005. Over the course of the two-year period, the number of students who smoked at least three times per week decreased from 30% to 21%. Students also reported that "complimentary" packs of cigarettes were frequently distributed in night spots in proximity to the college. At the time that this survey was done, North Carolina had recently raised its tax on cigarettes to 30 cents per pack, leaving South Carolina with the lowest cigarette tax in the country, at 7 cents (Polito 2005).

Since the survey, the City of Charleston passed (in 2007) a ban on smoking in all businesses, inclusive to bars, restaurants, clubs, stores, and offices. Similar smoking bans had previously been passed in Beaufort, Bluffton, Greenville, and Columbia, South Carolina. The

present study seeks to update the prior study conducted at the College of Charleston, under the new conditions of the smoking ban. The study is particularly designed to examine Clete Snell's findings, now among college students rather than adolescents. It is hypothesized that a majority of students at the College of Charleston do not view smoking positively, believing that smoking is unattractive, hazardous to one's health, and not to be done in the presence of children. A second hypothesis is that students are supportive of the local smoking ban. It is expected that students also view smoking as associated with partying, maturity, and sophistication.

Methods

To investigate the smoking habits and attitudes of College of Charleston students, I administered a survey of 28 questions. The survey was given during the first few minutes of various sociology classes. While the respondents are limited to those who are enrolled in sociology classes, there is a wide distribution of students of various majors within these classes.

Due to ethical concerns, respondents were asked not to complete a survey if they were under the age of 18. Question 2 also asked the respondents to state their age. If an individual of less than 18 years of age proceeded to fill out a survey, that survey was not used in the data analysis.

Participation in the survey was entirely voluntary. In the speech that prefaced the administration of the survey, students were informed that by their participation was by no means mandatory, and that if they chose to, they could skip over any question or discontinue their participation entirely. The anonymity of the survey was maintained, as students were instructed not to disclose their names anywhere on the surveys, and to place their completed surveys in a dark legal envelope with all the others.

The survey was the length of one double-sided page. Everyone was asked to answer Questions 1-22. Those who had smoked a cigarette in the past 30 days were defined as smokers, and only they were instructed to answer questions 23-28. There were four questions requiring a "yes" or a "no," but most questions were based on a five-point Likert scale, asking the students to circle either "strongly agree,"

“agree,” “neutral,” “disagree,” or “strongly disagree.” This project was approved by the International Review Board at the College of Charleston. Data were analyzed using SPSS and with the use of chi-squared analysis with a p-value of .05.

Results

A total of 326 respondents participated in the survey, of which 21.8 % were males, and 78.2% were females. According to the College of Charleston’s admissions office website (2008), the percentage of females at the College of Charleston is approximately 60%, somewhat lower than the percentage present in my sample.

The ages of the respondents ranged from 18-50 years old. Of the respondents, 28.2% were 18 years of age, 21.5% were 19, 19% were 20, 15% were 21, 8.9% were 22, and the remaining 7.2% were those ranging in age from 23-50 years. Students in their freshman year comprised 32.5% of the sample, sophomores comprised 23.3%, juniors accounted for 20.2%, and 23.0% were seniors. Thirty-nine percent of the survey respondents were classified as “smokers,” again defined as anyone who had smoked at least one cigarette in the past 30 days. This result was similar to that of Borders et al. (2005), who found that 37% of the students they surveyed had smoked at least one cigarette in the past 30 days.

As expected, the students at the College of Charleston do not view smoking in a positive light, supporting my first hypothesis. Students did not find smoking to be attractive, believe it is dangerous to one’s health, and often reported that they would not date or marry a smoker. Students are also aware for the most part that secondhand smoke can be as dangerous as smoking and felt strongly that one should not smoke in the presence of a child. There was also support for my second hypothesis that students would overall be supportive of the smoking ban and associate smoking with maturity, sophistication, and partying. 65% of the respondents endorsed the Charleston smoking ban. There were also some findings that did not support my hypotheses, including the evidence that students disagree that smoking makes one appear mature or sophisticated, and that only 37% of students viewed smokers as also tending to be partiers, whereas 31% disagreed.

The most telling variables in the analysis of this survey seemed to

be gender and smoking status. There were several gender differences in the answers to the survey questions that were significant according to the chi-square analysis. There were also several significant differences in the ways that those classified as smokers answered compared to those who were non-smokers.

I found a major gender difference in the percentage of students who had smoked at least one cigarette in the past 30 days. Nearly 55% of male respondents reported having smoked in the past 30 days, compared to only 35% of female respondents. There were also several significant differences between males' and females' opinions of smoking and people who smoke, suggesting that females have more stringent negative views toward smoking. For example, 53.3% of female respondents strongly disagreed with the statement, "smoking is attractive," but only 36.6% of males strongly disagreed ($\chi^2=10.290$, $df=4$, $p=.036$). Another statement was "smoking is sophisticated," to which 42.3% of males but 60.4% of female respondents strongly disagreed ($\chi^2=10.674$, $df=3$, $p=.014$). The same held true with the respondents' opinions about smoking giving people a mature appearance: 35.2% of males and 56.5% of females strongly disagreed ($\chi^2=13.450$, $df=4$, $p=.009$).

Male respondents were also more likely to be open to the idea of a dating or marital partner who smoked than females were. Thirty-one percent of males agreed or strongly agreed that they would not date a smoker, compared to 47.5% of females. Furthermore, 23.9% of males strongly disagreed with the statement "I would not date a smoker," whereas this percentage was less than half of that for females ($\chi^2=12.568$, $df=4$, $p=.014$). Females had even stronger feelings regarding marrying someone who smoked, as 60.8% claimed that they would not marry a smoker; only 8% strongly disagreed. Only about 50% of the males believed they would not marry a smoker, but 18.3% strongly disagreed ($\chi^2=9.282$, $df=4$, $p=.054$).

Female respondents were also more likely to have more negative opinions toward secondhand smoke than males. Males disagreed with the statement "secondhand smoke is as dangerous as smoking" at a rate of 31%, but only 6.3% of females disagreed with this statement ($\chi^2=46.121$, $df=4$, $p=.000$). Males also disagreed that "smoking around children is okay" at a rate of 88.7%; however, females exhibit even

stronger opinions on the topic, with 95.7% disagreeing. Females were also more likely to strongly disagree with this statement, with 80.5% compared to only 57.7% of males ($\chi^2=20.012$, $df=5$, $p=.001$). These divergent views on secondhand smoke coincide with differing attitudes toward the Charleston smoking ban. Two-thirds of females agreed that the smoking ban is good, whereas only about half of male respondents were in agreement with this statement ($\chi^2=15.860$, $df=4$, $p=.003$). Many females (47.5%) felt that there need to be stricter laws against smoking, while a much smaller percentage of males (33.8%) felt this way ($\chi^2=14.389$, $df=5$, $p=.013$). The disparity between males and females widened in their opinions toward the statement “smoking should be banned from all public places”: 52% of females agreed with this statement, compared to only 31% of males ($\chi^2=12.545$, $df=4$, $p=.014$).

Finally, 75.7% of males who had smoked in the past 30 days believe that they will quit in the future. The percentage of female respondents who have smoked in the past 30 days and believe that they will quit in the future is 93% ($\chi^2=8.118$, $df=3$, $p=.044$).

There were also several significant differences in the attitudes of smokers and non-smokers towards smoking. In contrast to the findings of Biasco and Hartnett (2005), who found that 11% of non-smokers wanted to begin smoking, I found that of those classified as non-smokers, only 6% thought that they would smoke in the future ($\chi^2=35.720$, $df=1$, $p=.000$). Smokers were also more likely to disagree with the statements that they would not date or marry another smoker. Of those who had smoked a cigarette in the past 30 days, 58.3% disagreed that they would never date a smoker and 49.6% disagreed that they would never marry a smoker, whereas of those who had not smoked in the past month, 60.8% agreed that they would never date a smoker ($\chi^2=89.569$, $df=4$, $p=.000$) and 74.4% agreed that they would never marry one ($\chi^2=83.844$, $df=4$, $p=.000$).

Smokers also had less serious attitudes toward secondhand smoke. Nearly 20% of smokers disagreed that secondhand smoke was as dangerous as smoking, compared to 6% of non-smokers ($\chi^2=16.264$, $df=4$, $p=.003$). Also, 63.8% of smokers strongly disagreed with the statement “smoking around children is okay,” compared to 83.4% of non-smokers strongly ($\chi^2=21.936$, $df=5$, $p=.001$). Again, these

divergent attitudes toward secondhand smoke corresponded with differences of opinion about the Charleston smoking ban. While 79.4% of non-smokers agreed that the Charleston smoking ban was good, nearly half as many (42.5%) smokers were found to agree ($\chi^2=68.567$, $df=4$, $p=.000$). About 60% of non-smokers believe that there should be stricter laws against smoking, as opposed to 23.6% of those who do smoke ($\chi^2=78.226$, $df=5$, $p=.000$). An even greater percentage of non-smokers believe that smoking should be banned from all public places (62.8%) but less than quarter (23.6%) of smokers agreed ($\chi^2=72.015$, $df=4$, $p=.000$). To the statement “the legal smoking age should be 21,” 8.7% of smokers and 20.6% of non-smokers agreed ($\chi^2=51.103$, $df=4$, $p=.000$).

Furthermore, smokers were much more likely to agree that smoking is associated with people who are considered “partiers.” While half of smokers felt this way, only about one fifth of non-smokers agreed ($\chi^2=17.510$, $df=4$, $p=.002$). A greater percentage of non-smokers (90.5%) than smokers (57.5%) disagreed with the statement “smoking is attractive,” and while 95% of non-smokers disagreed that “smoking is sophisticated,” 73.2% of smokers disagreed with this statement ($\chi^2=65.939$, $df=3$, $p=.000$). An even smaller percentage of smokers (69.3%) disagreed that smoking makes someone look mature, while 95% of non-smokers disagreed with this view ($\chi^2=80.835$, $df=4$, $p=.000$).

When comparing the answers of my respondents based on their year at the College, I found that their opinions on changing the legal smoking age to 21 to be significantly different. The respondents in their freshman year agreed that the legal age should be changed to 21 at a rate of 8.6%, but disagreed at a rate of 61.5%. Of those in their senior year of college, 31.1% agreed with this statement and 41.9% disagreed. The percentages agreeing and disagreeing that were reported by those in their sophomore and junior years fell within these ranges.

Discussion

Many of the responses of those surveyed reflect the findings of prior research on smoking habits and attitudes of college students. According to Snell (2005), the first stage of becoming a smoker is attitudinal, in that one comes to view smoking as resulting in something

positive. While a majority of smokers reported that smoking does not make someone appear attractive, sophisticated, or mature, the percentages of smokers who reject these views are much smaller than the percentages of non-smokers who feel the same way. Smokers were also less likely to report that secondhand smoke is as dangerous as smoking and that one should not smoke in proximity to children. While the overall view of smokers toward smoking was not positive, it was less negative than that of the respondents who do not smoke, thus reflecting Snell's findings to some degree.

It is difficult to say whether having a more positive opinion of smoking makes one more likely to become a smoker, or whether being a smoker causes one to have more positive opinions of smoking. Certainly having a positive attitude toward the rewards of smoking and few concerns over the risks may serve as added incentive for one to smoke. At the same time, smokers are likely to alter their opinions of smoking to justify their own behaviors, and to preserve their sense of invincibility and self esteem.

The findings from Biasco and Hartnett's (2005) study are similar to those of the current study, with negative attitudes toward smoking somewhat stronger in the current study. Both studies, for example, show that both smokers and non-smokers prefer to date people who do not smoke. Biasco and Hartnett (2005) also found that 69% of the individuals they studied reported smoking to be unattractive; an even greater percentage (78%) of the respondents in the current study agreed with this statement. Furthermore, 98% of the students who participated in this survey agreed that smoking is dangerous to one's health, while only 84% of the respondents to the Biasco and Hartnett survey agreed. A greater percentage of the respondents to the current study (41% as opposed to 32% for Biasco and Hartnett) believed that tobacco company's advertisements influence non-smokers to begin smoking. It is possible that over the course of the past four years college students have become more knowledgeable toward the health risks associated with smoking, and thus view smoking more negatively than they did in 2005, when Biasco and Hartnett's study was conducted. A comparison to the study conducted at the College of Charleston in 2004 and 2005 seems to confirm this thought. The percentage of smokers who want to quit are now equal to the percentage who wanted

to quit in the original study (39%); however, previously 11% of non-smokers wanted to begin smoking, whereas in the current study only 5% reported wanting to smoke in the future. Students in 2005 reported that complimentary cigarettes were commonly distributed at night spots near the college campus, whereas 80% of the current respondents reported that they had never seen free cigarettes being distributed. Perhaps the decline of this marketing technique will be reflected in years to come with a reduction in the percentage of students who smoke.

My findings also reflect the finding of Borders et al. (2005) that female students are less likely to become smokers. While 55% of male respondents reported smoking at least one cigarette in the past 30 days, only 35% of females reported doing so. Perhaps it is because males typically engage in higher risk behaviors that they are more susceptible to smoking than females. Males also reported having beliefs that secondhand smoke was less dangerous than smoking more frequently than females. This finding may signal that males experience more feelings of invincibility than females and thus do not believe that the health risks associated with smoking could affect them. Or perhaps males are socialized differently than females, leading to socially determined attitudes about whether smoking is an appropriate behavior for their genders.

Limitations and Need for Future Research

To come to a more conclusive understanding of the underlying causes of these gender differences, future research should compare male views towards smoking and smoking behavior to female views. Asking survey participants to report on their parents' views on smoking and what they were taught at home regarding smoking may provide insight in nurturing differences between males and females.

Many of the participants in this study came from sociology classes, ranging from the introductory to the advanced level. It would have been better to have collected a sample that was more representative of the College of Charleston as a whole. It is possible that the opinions of students enrolled in sociology classes are not necessarily reflected campus-wide. The College of Charleston is also predominately female; thus there was not a large sample of male respondents in this study.

Increasing the number of male respondents would make the findings more generalizable.

By examining the attitudinal factors associated with smoking, we can perhaps come to a better understanding of how to prevent students from beginning to smoke and thus from becoming addicted to cigarettes. Tobacco companies market relentlessly to young people; they believe they know how to create consumers for life. If academic research can reveal what in fact leads students to smoke, perhaps colleges can develop programs that will effectively counter the work of tobacco companies.

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