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A STUDY OF ADOLESCENT FEMALES' SMOKING PATTERNS

By

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ABSTRACT

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Cigarette smoking is the greatest preventable cause of death in the United States; the estimated annual mortality from cigarette smoking exceeds 350,000 (based on 1985 statistical data). Most smokers start smoking in adolescence; the number of female adolescent smokers equals and often surpasses that of male smokers. Research has shown that smoking becomes entrenched as a habit during adolescence; once it becomes an addiction in adulthood, smoking-cessation programs are of little success. Therefore, it is important to personal and public health that intervention strategies be developed to prevent the smoking habit from beginning in adolescents. This researcher sought to isolate variables common to female smokers/nonsmokers so that the data obtained could be used to develop more effective smoking-prevention programs for youths.

This research was done in two steps. The first step was to select variables from the literature, develop an interview guide, and conduct interviews with a selected population of female students at Michigan State University. The second step was to combine the variables from the literature and interviews and develop a

questionnaire for use in this study. In spring 1988, the questionnaire was given to 200 women selected randomly at one of the largest women's dormitories; 130 questionnaires were fully completed and returned (65%). The instrument contained questions about the women's smoking/nonsmoking habits during adolescence.

Responses to each question were cross-tabulated, according to the respondents' smoking patterns: never smoked, once smoked/do not smoke now, or presently smoke. The chi-square procedure was used in analyzing the data. The .05 level of confidence was the criterion for significance.

Several common variables were isolated and found to be statistically significant. First, smoking was begun in high school while attending private parties where alcohol was available and/or consumed. Second, women who smoked in high school (and presently were smokers) considered themselves to be overweight in high school. This finding supported one of the prevalent variables isolated from the literature--that young females believe tobacco use can be a form of appetite control. Finally, all three categories of women surveyed (never smoked, once smoked/do not smoke now, presently smoke) viewed smoking as an addiction.

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CHAPTER I

THE PROBLEM

Introduction

Cigarette smoking is the greatest preventable cause of death in the United States (Surgeon General, 1979). In 1964, the first Surgeon General's Report on Smoking and Health stated that cigarette smoking was a causal risk factor for lung cancer and a contributing factor for countless other diseases (American Lung Association, 1984). The estimated annual excess mortality from cigarette smoking in the United States exceeds 350,000--more than the total number of American lives lost in World War I, Korea, and Vietnam (Fielding, 1985). Researchers have concluded that among the 565,000 annual deaths from coronary heart disease, 30% are attributable to smoking (Fielding, 1985).

The enormous economic costs of smoking must be pointed out, in addition to the adverse health effects and the concomitant reduction in quality of life. In terms of health care, in 1983 the costs attributable to cigarette smoking exceeded $17 million per year (American Thoracic Society, 1984). When lost work and productivity are added to direct medical costs, the total cost to society is estimated to exceed $41 billion per year (American Thoracic Society, 1984).

The majority of smokers start smoking in adolescence; the current average age of smoking onset for both genders is about 16 (American Thoracic Society, 1984). Before 1980, studies indicated that a greater percentage of adolescent boys than girls experimented with smoking and continued to become regular smokers. Since 1980, researchers have shown that adolescent female smoking has surpassed adolescent male smoking (American Lung Association, 1985-86; Gritz, 1985; Kandel, 1980). Once a female adolescent acquires the habit, it becomes addictive and is often impossible to quit. Methods have been designed to assist smokers in quitting, such as nicotine chewing gum and condition-aversion techniques, but their long-term efficacy in helping smokers quit and keeping them from returning is questionable.

Because few intervention programs have successfully promoted quitting for the majority of adult smokers (Leventhal & Cleary, 1980), researchers have directed their efforts to seek ways of reducing the prevalence of cigarette smoking in youths. Anti-smoking programs have been targeted toward youths, where they have a better chance to stop the habit before it begins. Research has shown that 85% to 90% of all adult smokers tried their first cigarette before the age of 18, with the majority beginning between the ages of 11 and 13 (American Lung Association, 1984; Fielding, 1985). In view of the effects smoking has on health and the addictive qualities it contains, today's youths should be the target for anti-smoking programs.

General Health Effects and Mortality

In 1962, representatives of various organizations met with Surgeon General Luther L. Terry. This group shortly thereafter proposed to the Secretary of Health, Education, and Welfare the formation of an advisory committee that would be composed of experts who would assess available knowledge on the effects of smoking on health and make appropriate recommendations. Thus, in 1964, the Report of the Advisory Committee to the Surgeon General of the Public Health Services was published. It was a lengthy and scientifically supported analysis on the negative effects of smoking on health. The report, which was the first of this magnitude in the United States, stated that smoking can be related to various forms of heart disease, cardiovascular diseases, lung cancer and chronic bronchitis, and lower infant birth rates (Surgeon General, 1964). Tobacco use was shown to have a relationship with peptic ulcers, cirrhosis of the liver, hypertension, Buerger's disease (thromboangiitis obliterans), and countless other physiologically negative influences (Surgeon General, 1964).

Insurmountable scientific evidence for the harmful effects of smoking has been building since the Surgeon General's 1964 report. In 1986, the Surgeon General released a report entitled The Health Consequences of Involuntary Smoking. Not only did it reaffirm the harmful effects of nicotine on the smoker, but it stated that:

> Involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers.
>
> The children of parents who smoke, compared with children of nonsmoking parents, have an increased frequency of

> respiratory infections, increased respiratory symptoms and slightly smaller rates of increase in lung function as the lung matures.
>
> Simple separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate, exposure of nonsmokers to environmental tobacco smoke.

Thus, Dr. Koop, the Surgeon General at that time, reaffirmed and clearly documented that nonsmokers are placed at increased risk for developing disease as the result of exposure to environmental tobacco smoke.

The burning cigarette produces thousands of different compounds. Major toxic constituents of cigarette smoke include, but are not limited to, carbon monoxide, nicotine, and particulates that contain most of the carcinogenic polynuclear aromatic hydrocarbons. Nicotine has been proven to be highly addictive (American Thoracic Society, 1984).

Adolescent Smoking

According to the American Lung Association of Michigan (1987), the following are facts that relate to teenage smoking:

1. Nearly 20% of teenagers in the United States smoke cigarettes.

2. Close to half (49%) of the pack-a-day smokers in their senior year of high school began daily smoking by ninth grade (age 14).

3. The majority of daily smokers began their addiction by age 16.

4. Two-thirds of adult smokers got hooked during their adolescence.

5. In 1985, 19.5% of high schoolers surveyed said they were daily smokers.

6. The cigarette smoking rate among teenage females surpassed that of teenage males in 1979.

7. Cigarettes are still the most prevalent drug, other than alcohol, used during adolescence.

8. There is a direct correlation between academic performance and lower smoking rates.

Statement of the Problem

Most cigarette smoking begins during adolescence and becomes entrenched as a habit during that time period. While much effort has been directed toward smoking-cessation programs, it is this researcher's premise that the prevention of new smokers should be of highest priority. In addition, cessation programs for adults are most often unsuccessful (Coe, Crouse, Cohen, & Fisher, 1982). Therefore, in view of the above, it is important to personal and public health that intervention strategies be developed to prevent the smoking habit from beginning in adolescents.

Purpose of the Study

In the last 15 years, there has been a great deal of research examining the effects of smoking on the human body. Every few years the Surgeon General publishes an extensive report citing new studies that support the detrimental effects of smoking tobacco. The

American Lung Association, the American Thoracic Association, and numerous other health organizations frequently publish pamphlets and articles and conduct seminars to enlighten the American public about the consequences of smoking. In recent years, several researchers have attempted to examine why females' smoking is not declining proportionately to males' smoking cessation.

The purpose of this study was to examine females' perceptions toward various aspects of smoking. These aspects include why they think they began to smoke, what factors were influential in their smoking or not smoking, physiological and physical effects of smoking, and the factors they think cause them to continue the habit.

It is hoped that this study will aid researchers in creating effective programs that will bring about a decline in young women's becoming addicted to tobacco use. In addition, this study may help point out specific factors that can be addressed in future program development.

Limitations and Delimitations

Limitations

There were limitations in the scope and design of this study. First, all the data obtained in the interviews were based on retrospective accounts of smoking-initiation experiences. It is impossible to calculate how accurate the responses were to both the interview and the questionnaire. Also, the honesty of all the women's responses cannot be evaluated. Third, the study

(questionnaire) represented a cross-sectional approach. Nonsmokers were included as a comparison group to contrast the differences among those women who did not smoke experimentally. Fourth, it was impossible to ascertain how closely the group of women's responses might compare to a statewide random sample of female smokers/ nonsmokers. Also, the sample contained a variety of ethnic groups, economic backgrounds, and other demographic factors. The researcher saw this as being a favorable factor because there was a greater cross-section of backgrounds. Any questionnaire has inherent factors that might not be understood by the subject, misunderstood, or misguided. Finally, this study was limited by the factors inherent in the use of any questionnaire, namely, the difficulties in tabulating and validating the study, as well as the possibility that respondents discussed the questionnaire with other people.

Delimitations

The study participants were taken from a random sampling at Hubbard Hall at Michigan State University in East Lansing, Michigan. The subjects were women between the ages of 18 and 22. They were enrolled as students at Michigan State University.

The principal delimitation of this study is that it was concerned only with female students' perceptions, using a selected sample at Michigan State University. The sample was a typical female student population, but one cannot generalize the findings or

conclusions of this study to all Michigan State University coeds or all adolescent females.

Hypothesis

The study was concerned with the perceptions of selected female students at Michigan State University toward various factors related to their smoking patterns. The major hypothesis was that certain variables are common to those women who have never experimented with smoking, those who once smoked but have stopped, and those women who smoke on a regular basis. Each variable was considered separately according to the three categories (never smoked, once smoked/do not smoke now, and presently smoke). The chi-square test was used to determine whether there were significant differences. The .05 alpha level was used as the criterion for significance.

Definition of Terms

The following terms are used in this dissertation. To establish a mutual understanding of the meaning, they are defined as follows:

Adolescence: The transitional period between puberty and adulthood in human development, extending mainly over the teen years (Random House College Dictionary, 1984).

Alcohol: Beer, wine, or any form of liquor; this substance was classified alone, not grouped with drugs.

Drugs: Illicit substances such as cocaine, marijuana, crack, speed, downers, and so on (excluding alcohol).

High school: Ninth through twelfth grade.

Peer pressure: The powerful influence exerted by friends in the same age group to conform to group behavior.

Reference group: A group of adolescents who have similar outlooks, values, and characteristics.

Sample: A specific number of women living in Hubbard Hall at Michigan State University who were selected to participate in this study.

Total household income: The total income of the major wage earners in the home.

Organization of the Study

For the purpose of convenience and systematic consideration, this study is reported in five chapters. Chapter I contained an introduction to the study, a statement of the problem, the purpose of the study, limitations and delimitations of the study, the research hypothesis, and definitions of key terms.

Chapter II includes a review of literature dealing with adolescent smoking. The focus is on literature and research that has dealt specifically with adolescent females' smoking patterns. Also described are various anti-smoking programs that have been implemented in the United States. No attempt was made to evaluate the effectiveness of these programs.

Chapter III contains a detailed report of the study design and the methodology used in developing the interview guide and the subsequent questionnaire. The chapter also includes a description of how the study was conducted and how the data were analyzed.

An analysis of the findings from this study is contained in Chapter IV. A summary of the findings, along with the conclusions and implications for further research, may be found in Chapter V.

CHAPTER II

REVIEW OF RELATED LITERATURE

Stages in Becoming a Smoker

An individual follows a long and complex process to become a confirmed smoker. Four distinct stages in progression have been isolated. At each stage, some adolescents drop out, and those who remain smokers progress at various speeds to the next stage (Glynn, Leventhal, & Hirshman, 1980).

The first stage is the preparatory stage, during which children develop attitudes toward cigarettes. This is the stage before which any serious attempt to smoke has been made. This stage normally occurs between the ages of 6 and 12. In this stage, children form perceptions of what function smoking serves, what it involves, and the personalities of nonsmokers and smokers (Glynn, 1980).

The second stage is initiation, during which an adolescent smokes three or fewer cigarettes. Almost all children try at least one cigarette. Upon experimenting with smoking, many become physically ill and immediately decide not to continue future cigarette consumption. Those who are not repulsed to such a great degree progress to the next stage.

The third stage is defined as the period during which a young person who is not a regular smoker and does not define her/himself

as a smoker nonetheless is trying out smoking. This is the "becoming" stage, when experimentation with how to hold and light a cigarette takes place. At this point, the adolescent also becomes conditioned to a correlation between certain activities (eating, studying, drinking) and smoking.

When a young adult has become a regular smoker, he/she is in the final, maintenance, stage (Glynn et al., 1980).

Anti-Smoking Programs

Since the first Surgeon General's report was issued (U.S. Department of Health, Education, & Welfare, 1964), a variety of smoking-prevention programs have been implemented in senior high schools. The earliest programs were based largely on information about the health consequences of smoking and showed little success (Glynn et al., 1980). Recent programs have been more effective because they have been based on social-psychological theories. Most studies or programs have rested on the fact that peer pressure is an important factor in initiating experimental cigarette smoking. Most programs have tried to bolster resistance to social pressures by giving adolescents solid life skills to use in dealing with being pressured to smoke.

Recent successful programs can be categorized into several areas, which include youth-coordinated projects, projects that illustrate the immediate effects of smoking, life style education, health-hazard-appraisal programs, health education curricula with smoking components, and smoking-cessation programs for youths.

The programs listed in Appendix A were obtained from Smoking Programs for Youth (U.S. Department of Health & Human Services, 1980). They are an example of only a few such programs that are in existence. The publication gives approaches on how to regulate smoking in schools and presents ideas on how to develop school anti-smoking programs. Many of the programs that have been used in schools have been developed by national or state cancer societies and heart or lung associations.

Although the results from studies on the effectiveness of anti-smoking programs are encouraging, it is clear that there is still room for improvement. The social- and life-skills approach does not deter all adolescents from smoking (Glynn et al., 1980).

Parental and Peer Influence

The adolescent has a desire to "fit in." Young people are self-conscious, vulnerable to criticism, and eager to gain the friendship of others their own age. In social-psychological terms, peer pressure is the label for the powerful influence exerted by friends in the same age group to insure conformity to group norms and behavior. Such peer pressure is a major factor in initiating smoking behavior (U.S. Department of Health & Human Services, 1980). Kandel (1974) stated that peer influence may not be an important variable; it may be the variable.

Many studies have supported the importance of peer pressure on the initiation of cigarette smoking. Research has proven that the similarities in attitudes and values among adolescents play a major

role in their smoking experimentation (Kandel, 1978). Glynn (1980) believed that peer pressure carries more weight than parental influence. Young children initially identify with and derive status from their parents. During adolescence, they look beyond the family for sources of attitudes and values. If these sources provide deviant behaviors, such as smoking and drug use, the adolescent is likely to adopt these norms. This happens because of their need for acceptance by their peers. The need for acceptance by friends and classmates is much greater in adolescents. This might suggest that those who are more willing to be swayed by peers have lower self-esteem and are more unsure of themselves (Gersick, Grady, Sexton, & Lyons, 1980). It would follow that those adolescents who had problems relating to their parents and siblings at an early age became more rebellious and deviant and were more apt to reject traditional authority and acquire behavior from their peers (Gersick et al., 1980).

Although many researchers have supported the theory that peer pressure is the most important factor influencing adolescents' smoking, some have found that parental influence is of equal importance. Researchers have indicated that topics that are of immediate importance or are present-oriented are most likely to be influenced by peers. With future or goal-oriented topics, the family and other adults are likely to be more influential (Glynn, 1980).

Curtis (1974) suggested four processes by which adolescents shift their valuations between family and peers. The first is the

push process, by which adolescents seek extrafamilial interaction to fulfill needs that are unmet in the family context. Second is the **pull** process. This is based on the decline in the adolescent's valuation of parental opinions because of an increased attraction to peer positions. The **selective-attachments** process suggests that adolescents support both peer and parental orientations but only on an activity- or value-specific basis. Finally, the **drift** process suggests that adolescents move into and through family and peer alliances by chance (Glynn, 1980).

Some researchers have been supportive of the view that the family's position on smoking is a strong influence on adolescents (U.S. Department of Health & Human Services, 1980). If both parents smoke, a teenager is more than twice as likely to smoke than is a young person whose parents are both nonsmokers. In homes where only one parent smokes, adolescents are also more likely to start smoking. A teenager with an older sibling who smokes is very likely to be a smoker. Adolescents whose parents and siblings smoke are four times as likely to smoke as others who have no smoker in the immediate family (U.S. Department of Health & Human Services, 1980). Thus, researchers have found that if an adolescent is exposed to a smoking family member, this increases his/her disposition to acquire the habit (U.S. Department of Health & Human Services, 1980).

Cigarette Advertising

In the past few years, studies have been conducted to establish whether cigarette advertising and adolescent smoking are causally

related. Goldstein (1987) pointed out that, in such studies, cigarette advertising has either been ignored or included among other factors such as peer pressure. In 1983, manufacturers spent almost two billion dollars in the United States to promote more than 200 brands of cigarettes. Most advertisements feature young, healthy people having a good time. The advertisements subliminally try to associate smoking with good looks, masculinity, femininity, success, independence, intellectualism, and various other "desirable" adult traits.

Goldstein (1987) found that even those students who smoked just one cigarette per week identified a preferred cigarette brand. One brand of cigarette accounted for 76% of all preferred brands. A dose-response relationship was found between smoking levels and recognizing cigarette advertisements; regular smokers recognized 61.6% of advertisements, compared with only 31.2% for nonsmokers. Goldstein concluded that advertisements influence an adolescent's choice of cigarettes and then create the initial desire to experiment with smoking.

In a more recent study, Krupka, Vener, and Richmond (1990) examined tobacco advertising in 74 gender-oriented magazines published during July and August 1988. A major criterion of magazine selection was the requirement of a minimum circulation of 200,000. Each magazine that the researchers evaluated was classified according to its overall focus. Women's magazines were placed into four groups: homemaking, lifestyles, beauty/fashion,

and health/fitness. A total of 241 tobacco advertisements were found in the 74 magazines surveyed. One hundred forty-seven cigarette advertisements were found in women's magazines and 87 in men's publications. Krupka et al. found that there was an advertising message that was being conveyed to women smokers. They stated:

> All 17 of the Capri [trademark brand of cigarette] ads contained the idea that women who smoke this brand are attractive and possess lean silhouettes. Slims [trademark brand of cigarette] ads also implied this notion. Additionally, all of the ads for the latter brand contained the message that smokers of this brand are independent and self-reliant. (p. 23)

Krupka et al. (1990) also found that the messages of low tar or nicotine, independence, self-reliance, attractiveness, and leanness of its smokers appeared more frequently in women's magazines. Also, the researchers concluded that many American women consider themselves to be overweight and that 90% wish to lose some weight. They said that when some women evaluate the health hazards of smoking along with its appetite-suppression qualities, the latter element is given higher priority.

In light of the Goldstein (1987) and Krupka et al. (1990) studies, it may be concluded that adolescents are influenced by advertisements in choosing their brand of cigarette. Furthermore, their initial desire to try smoking may be influenced by the wish to relate to one of the appealing adult characteristics portrayed in a particular advertisement. Researchers have said that adolescents should be encouraged to discuss and analyze their impressions of the

models and messages used in cigarette advertisements (U.S. Department of Health & Human Services, 1986). Educational programs should teach adolescents necessary skills that would inhibit their being seduced by advertising messages for glamour, social acceptability, success, independence, and sophistication. As Krupka et al. stated, "The thrust of this aspect of drug education should be to engender a high level of skepticism when examining advertisements" (p. 27).

It should be noted that the questionnaire for the present study, which was administered in 1988, did not contain questions intended to discover whether there was a correlation between smoking and advertising. The major portion of the literature review was done before 1988 and updated in 1991.

Recent Developments

Tobacco companies are still developing new lines of cigarettes to attract various segments of the population. To keep their market from shrinking, they have created more than 300 brands of cigarettes that boast of being longer, slimmer, cheaper, flavored, microfiltered, pastel colored, or even striped (Quinn, 1990). In January 1990, the R. J. Reynolds Tobacco Company introduced a brand called Uptown, packaged in a black and gold box and promising the menthol blend. The company had intended to test-market the new cigarette in Philadelphia in February 1990. The introduction led to great protest from anti-smoking groups, as well as from Louis Sullivan, Secretary of Health and Human Services. The Uptown brand

was targeted for the African American population, and as Secretary Sullivan stated, "Uptown's message is more disease, more suffering and more death for a group already bearing more than its share of smoking-related illness and mortality" (Quinn, 1990, p. 60).

Although tobacco consumption in the United States has fallen in the last few years, tobacco companies have increasingly directed their marketing to specific groups, such as women, Hispanics, and African Americans. Corporations have targeted minority communities as lucrative markets for such products as tobacco and liquor. In a survey conducted in Baltimore, it was found that 20% of billboard advertising in Anglo communities was devoted to smoking and drinking, as compared to 76% in African American communities (Quinn, 1990).

To attract new smokers, tobacco companies are developing sophisticated strategies to market new brands of cigarettes. An example is the introduction of the Dakota brand of cigarettes by the R. J. Reynolds Tobacco Company in 1990. According to the Washington Post, which obtained the marketing strategies, the new cigarette targeted women in the 18- to 20-year-old range who liked to watch "Roseanne" and evening soap operas on television and aspired to marry in their early twenties. The marketing proposal, according to the Washington Post, was intended to replace Marlboro as the brand choice among young female smokers ("Dakota Smokers Are Meant for Tractor-Pull Fans," 1990). Secretary Sullivan again lambasted tobacco companies as "immoral and irresponsible" for targeting vulnerable youths (Work, Pomire, & Impoco, 1990).

Still, cigarette sales remain enormously profitable for tobacco companies. In 1990, Phillip Morris held 43% of the domestic market, making $4.6 billion from the sale of tobacco. R. J. Reynolds was in second place, clearing $2 billion in profits from cigarette sales (Work et al., 1990). Phillip Morris's greatest success has been in developing "umbrella brands" like Marlboro. It has developed clear and compelling images using the "virile" and "macho" Marlboro man and the "You've come a long way, baby" images of the svelte and sophisticated Virginia Slims woman. Two-thirds of today's young smokers reach for a Phillip Morris-brand cigarette (Work et al., 1990).

With the decline of tobacco use in the United States, the tobacco companies, as stated before, are developing sophisticated marketing strategies to entice new smokers. In addition, to make up for the lost profits, they are increasing their markets overseas. In 1989, Phillip Morris sold approximately a billion cigarettes abroad every day; profits soared by 30% on top of the 33% gain the previous year. The Far East market is proving particularly lucrative. In 1987, the heavy tariffs on imported tobacco products were removed, and sales of American-made cigarettes rose from 2% to 14% (Work et al., 1990).

American tobacco companies are not the only ones seeking new markets and smoker populations. In the early part of 1990, a Geneva-based tobacco company introduced a cigarette called Gorbatchow, named for Soviet President Mikhail Gorbachev (Nullis,

1990). The cigarette was to entice smokers with the slogan, "A Taste of Freedom," capitalizing on the crumbling of the Berlin Wall. As Peter Studer, the owner of the small tobacco company, stated, "We think people are bored with a tired cowboy on an almost dead horse" (Nullis, 1990, p. 1B). This was an apparent reference to the advertisements for Marlboro cigarettes, which are one of the most famous brands in the Soviet Union. The cigarettes were already being sold in Hungary and Bulgaria, with plans to introduce the new brand in the Soviet Union as well as the United States (Nullis, 1990).

In February 1990, Health and Human Services Secretary Louis Sullivan released a report to Congress entitled Smoking and Health: A National Status Report (U.S. Department of Health, Education, & Welfare, 1990). This report stated that smoking costs the nation more than $52 billion and 390,000 lives per year. (This was an updated figure from the latest report released by Edward Koop, the former Surgeon General, in 1987.) The report further stated that tobacco companies should stop their irresponsibility and quit targeting women, youths, and minorities. It also stated that television stations should donate air time for anti-smoking advertisements and that organizers of athletic events should break their ties with tobacco companies (U.S. Department of Health, Education, & Welfare, 1990). At present, tobacco companies are sponsoring tennis matches and skiing, running, and other athletic events. Such health-oriented athletic events are backed financially

by a product that causes illness and often death. Even the great icon and reflector of American society, Ann Landers (1990), stated,

> Actually, the Women's International Professional Tennis Council should be put on the carpet for accepting such sponsorship. Surely there are other companies that would agree to underwrite this event.
>
> I have often wondered why Pam Shriver, Martina Navratilova, Chris Evert and Zina Garrison would agree to play in a tournament sponsored by a cigarette maker. You can be certain that none of these women would be caught dead with a pack of cigarettes in her handbag.
>
> Surely they know that cigarettes cause cancer, emphysema and heart attacks and that smoking is related to 390,000 deaths each year. The evidence that smoking kills people is now irrefutable. To be linked with the sponsorship of cigarettes is in a sense an endorsement.

As Secretary Sullivan stated in the report, "It is morally wrong to promote a product which, when used as intended, causes death. [Such promotion means] trading death for corporate profit" (U.S. Department of Health, Education, & Welfare, 1990).

Another recent anti-smoking step was taken in the United States Senate. In February 1990, a committee opened debate on a $185 million bill to expand education efforts on smoking advertisements and state programs to regulate tobacco products. As Senator Ted Kennedy stated, "Smoking is public enemy No. 1 in America today. We are not serious about public health, unless we get serious about reducing tobacco use" (USA Today, 1990).

RJR Nabisco's introduction of Uptown cigarettes aimed at African Americans and the Dakota brand aimed at blue-collar women was a failure. Recently, the Santa Fe Natural Tobacco Company introduced a "free" cigarette for the health-conscious smoker! The

advertisement for the new cigarette extols the supposed virtues of the new smoke, whose package features the profile of a Native American brave holding a pipe to his lips. American Spirit is the new "cigarette for the '90's. 100% free of chemical additives" (Collingwood, 1990, p. 50). Most tobacco is treated with chemicals that enhance the flavor and the length and quality of burning. No one at the Santa Fe Natural Company would elaborate for the Business Week reporter on the true benefits and merits of the new cigarette. But Dr. Ronald Davis, director of the federal Office on Smoking and Health, was happy to address the relative benefits of additive-free cigarettes. "Smoking them," he said, "would be like jumping from the 20th floor of a building instead of the 22nd" (Collingwood, 1990, p. 50).

Adolescent Female Smokers

The majority of research that has been done in the last 20 years has dealt with variables that are related to adolescents' onset of smoking. According to the American Lung Association of Michigan (1986), cigarette-smoking rates among teenage females surpassed those among teenage males in 1979. Investigators in a 1979 national survey of teenage smoking behaviors discovered that 26.2% of the females in the 17- to 18-year-old group smoked (one pack/day) as compared to 19.3% of the males in the same age group (Germer & Miller, 1984). In another study, questioning 1,980 high school seniors, investigators found that 14.7% of the females reported a cigarette-smoking rate of one-half pack or more per day,

whereas 13.5% of the males smoked at that level (Germer & Miller, 1984).

According to the American Cancer Society (1985), lung cancer surpassed breast cancer as the number-one cause of cancer mortality among women. Lung cancer has become a major problem for women as a result of the dramatic increase in smoking among women (Gritz, 1986).

The results of a study done by Germer and Miller (1984) showed that nonsmoking teenagers had a negative perception of females who smoke. Peers' perceptions of personality traits of female adolescent smokers were not necessarily the traits depicted by other sources, such as the media. Thus, the female smoker should be made aware of the possible discrepancies between her self-perception of personality traits and peers' perceptions of her personality traits (Germer & Miller, 1984).

If nonsmokers' peers view smoking females in a negative way, the question then arises as to why female adolescents acquire the habit, which has been increasing steadily. Advertising has often been cited as playing a role in the initiation of smoking, yet the effects of cigarette advertising on adolescent smoking have been the focus of only a few scientific studies. In many research studies on smoking, the influence of cigarette advertising has either been ignored or included among other factors such as peer pressure (Goldstein et al., 1987). Also, the intention is to show feminism, rebellion, maturity, and sophistication--for example, showing a woman of the 1900s casting away her bloomers and wash basin for the

sleek, new, ultramodern look of the 1980s. Sophistication or success is often shown by female smokers being top-level executives or participating in activities that portray sophistication. Often women are portrayed as being young and healthy and, after leaving a sporting event, lighting a cigarette.

The purpose of a study published in the Journal of Pediatrics (Goldstein et al., 1987) was to examine and verify the relationships among cigarette brand preference, advertising recall, and smoking level in a population of American high school students. It was discovered that teenagers bought the most heavily promoted cigarettes. Cigarette advertising is usually placed in adolescent-oriented magazines, and tobacco-company sponsorships of sports and youth activities are common (Goldstein et al., 1987). Goldstein et al. stated that documents subpoenaed by the Federal Trade Commission from Brown and Williamson, the third largest cigarette manufacturer in America, recommended that advertisers "present the cigarette as one of the few initiations into the adult world" (Medical Journal, 1983). Again, this may be related to female adolescents' desire to obtain more adult characteristics and thus begin smoking experimentation.

Taking into account the influential variables such as parents' and peers' smoking habits, individual personality traits, and advertising campaigns, female adolescents are faced with an additional standard with which they must cope. This has been shown to be the adolescent female's desire to conform to today's standards

of slenderness and weight loss. For nearly a generation, feminine beauty has been equated with ultraslimness (Freedman, 1984; Gritz, 1986). The obsession with reducing weight and the existence of serious eating disorders have become prevalent among today's teenage girls (Gritz, 1986; Wooley & Wooley, 1984; Yager, 1985). According to Gritz (1986), more than half of female high school seniors have dieted, and many have used nonprescription diet pills.

In a study conducted on 16,000 British children and adolescents, a relationship between beliefs about cigarette smoking and weight control was found (Charlton, 1984; Gritz, 1986). Among regular smokers (at least one cigarette per week) of all ages, girls were more likely than boys to agree that smoking controls weight. As age increased (from 11 to 16), there was a great increase in the belief that smoking controls weight. It was found that 5% of 9- to 11-year-old girls thought smoking controlled weight. This figure rose to 35.7% in 12-year-old females and peaked at 52.9% for 16 year olds.

Combined with these data and the fact that early adolescence marks the highest degree of anxiety and greatest dissatisfaction with body image (Freedman, 1984; Gritz, 1986), the influence of advertising targeted at women is very powerful. As discussed before, advertising portrays the female smoker as having fun, sexually adventurous, and taking risks (FTC, 1981, 1985; Gritz, 1986). Every psychological attribute that is valued by adolescent females can be found in advertisements--in addition to those

mentioned, athletics, dress, favorite activities, feminism, and extreme slenderness (Gritz, 1986).

Thus, this researcher attempted to reaffirm and isolate new variables that are related to adolescent females' desire to experiment with and often continue smoking. As discussed in the literature review, the variables are varied and interrelated, ranging from wanting to identify with portrayed desirable images (low self-esteem), to low academic achievement (Gritz, 1986), to peer and parental influences, to precocious social behavior.

CHAPTER III

METHODOLOGY

Research for this study was done in two steps. The first step was to select variables from the literature, develop an interview guide, and conduct interviews with a selected population of female students at Michigan State University. The second step was to combine the variables from the literature and the information elicited from interviews and develop a questionnaire. By conducting the interviews, the researcher's goal was to discover variables that were not contained in the literature. Both the interview guide and the questionnaire were approved by the researcher's graduate committee and the Michigan State University Committee on Research Involving Human Subjects (UCRIHS) (see Appendix A).

The Interview

Population for the Interviews

The population for the interviews consisted of college women living in Hubbard Hall on the Michigan State University campus in East Lansing. The researcher asked for women to volunteer. Ten smokers and ten nonsmokers were interviewed, for a total of 20 interviewees.

Conducting the Interviews

In February 1988, the researcher wrote a letter to the residence hall advisor of Hubbard Hall, requesting approval to conduct a study in that residence hall (Appendix A). Hubbard Hall was chosen because it was one of the largest women's residence halls, housing approximately 600 women. In choosing Hubbard Hall, the researcher thought a large enough population could be obtained to conduct a valid and meaningful study.

The residence hall advisor presented the letter to her supervisors, and approval to conduct the study was granted shortly thereafter (Appendix A). The interview process was also approved. It was stated that, after a questionnaire was developed, it had to be approved by the advisor and her supervisors. The questionnaire was later approved (Appendix B).

The interviews took place April 26, 1988. The residence hall personnel provided the researcher with a table. From 4:00 p.m. to 7:00 p.m., the researcher sat at a table in the main lobby leading to the dining room. This time was chosen because dinner was served between 4:30 p.m. and 6:30 p.m., and thus many women had an opportunity to see the table and volunteer as subjects for the study. The interviewer placed a brightly colored, simply stated sign by the posted table (Appendix B). The women volunteered after reading the advertisement; no solicitation took place. The researcher offered $4 gift certificates to a local movie theater as an incentive for participation.

The Interview Guide

The interview guide contained a cover letter that was given to each of the participants to read and keep (Appendix B). The researcher explained the purpose of the research and stressed that the interview was anonymous and that participants should not reveal their identity. It was explained that the questions to be asked referred to the subjects' adolescence, and thus the participants should be as honest and accurate as possible. The purpose of the interview was to obtain responses that could be added to those variables that had already been selected from the literature. The subjects were told that the interview could be stopped at any time and that they could refrain from answering any questions they thought were too personal or incriminating. (See Appendix B for a copy of the interview guide.) After the interview was completed, the researcher gave each of the participants a gift certificate.

The purpose of the interview was twofold. The first purpose was to validate the variables that had been selected from the literature. The second was to find new variables from the subjects' responses. These were then analyzed, and the variables that were common to women who did or did not smoke were selected for inclusion in the questionnaire.

Literature supporting the variables used in the interview guide. After an extensive examination of the literature, certain variables were isolated. These variables were used to prepare the interview guide. The sample population was female smokers and nonsmokers.

The variables that were used to develop the interview guide were as follows:

- Ethnicity
- Academic achievement in high school
- Whether parents or siblings were smokers/nonsmokers
- Whether they had been raised in a single- or two-parent home
- Whether many of their peers smoked
- When they smoked their first cigarette (age)
- Where they were when they smoked their first cigarette
- Why they chose to experiment with smoking
- Why they chose not to try smoking one cigarette
- Whether they were active in school sports or other activities
- Whether they smoked cigarettes while using alcohol
- Whether they considered themselves overweight

Ethnicity. Some researchers believe that ethnicity affects adolescents' tobacco use. Studies have shown that Anglo American 16 to 17 year olds smoked twice as much as African American youths the same age (Schinke & Gilchrist, 1983). According to Gersick et al. (1980), studies have been conducted by examining racial groups (Native American, Hispanic, African American, Asian American) with respect to their drug use, but these groups have always been underrepresented. Thus, he concluded that research on breakdown of ethnicity and drug use in the adolescent subculture has been inadequate.

Researchers have been unable to agree on how ethnicity influences the initiation of cigarette smoking among adolescents. It has been suggested that this is one variable that needs to be explored (Glasgow, 1983).

Academic achievement. Academic achievement frequently has been studied as a predictor and correlate of adolescent drug use. Overall findings have been inconsistent; some researchers have found lower levels of school achievement, whereas others have found no relationship (Gersick et al., 1980). Botvin (1983) found that those adolescents who used substances differed with respect to their value orientation. Individuals who used drugs tended to get lower grades in school and were more likely to engage in antisocial behavior, such as lying, stealing, and cheating.

School participation. Researchers have differed on adolescent social participation as being a variable in distinguishing smokers from nonsmokers. Some have said that student smokers are less likely to participate in organized extracurricular activities such as sports or clubs (Botvin, 1980). Researchers have shown that those students who are smokers are more rebellious and independent than nonsmokers. Thus, they are less likely to be active in organized group activities. Other researchers have believed that when a student is in group situations there is more peer pressure to conform (to smoking or drug use) and to experiment. Consequently, if the social club has students who have a tendency toward deviant behavior, they will in turn present direct or indirect pressure on

other members to follow. Social participation develops a greater opportunity for experimentation, some researchers have concluded.

Parent/sibling smoking. A number of researchers have found substantial correlations between adolescent and peer/parental smoking (Botvin, 1983). Some researchers have shown that the family's views and disposition toward smoking are a strong influence. If both parents smoke, an adolescent is more than twice as likely to smoke than is a young person whose parents are both nonsmokers (U.S. Department of Health & Human Services, 1980). In homes where only one parent smokes, adolescents are also more likely to start smoking. A teenager with an older sibling who smokes is very likely to be a smoker. Adolescents who have both parents and siblings who smoke are four times as likely to smoke as are others who have no smokers in the immediate family (U.S. Department of Health & Human Services, 1980).

Peer pressure. Although many adolescents are aware of the health risks associated with smoking, the perceived social benefits of smoking override this knowledge (Botvin, 1983). Peer pressure to participate in "rebellious" or "adult-like" activities has been shown to be one of the strongest variables leading to cigarette smoking.

Adolescents are self-conscious, vulnerable to criticism, and eager to gain the friendship of others their own age. Thus, peer pressure, or the process of conforming to group behavior, is very strong (U.S. Department of Health & Human Services, 1980). According to Kandel (1974), who has done extensive research on

adolescent behavior, "peer influence may not be an important variable, it may be **the** variable."

Weight control. The adolescent female has the highest degree of anxiety and dissatisfaction with body image (Freedman, 1984; Gritz, 1986). The majority of girls ages 12 to 18 are concerned with controlling their weight. Research done on 16,000 British adolescents revealed that there was a relationship between beliefs about cigarette smoking and weight control (Carlton, 1984; Gritz, 1986). Girls were always likely to agree that smoking controls weight (weight gain).

The Questionnaire

Developing the Questionnaire

After conducting the interviews, the researcher combined certain variables elicited from the interview responses with variables from the literature to develop the questionnaire (see Appendix B). The questionnaire was accepted by the researcher's guidance committee, as well as UCRIHS (Appendix A).

The Population

The population for the questionnaire comprised 200 women randomly chosen at Hubbard Residence Hall on the Michigan State University campus. The residence hall advisor approved the distribution of the questionnaire (Appendix A).

Administering the Questionnaire

The researcher delivered the questionnaire to the front desk at Hubbard Residence Hall on Saturday, May 21, 1988. The student workers placed the questionnaires in every third mail box; all 200 were distributed. A large, sealed box was placed on the counter, and the researcher asked that, when questionnaires were returned, they should be deposited in the slot. A large envelope was attached to each questionnaire. Respondents were instructed to complete the questionnaire and return it in the sealed envelope. A cover letter was attached to each questionnaire (see Appendix B).

Questionnaire Response

Of the 200 questionnaires that were distributed to female residents of Hubbard Hall, 130 were completed and returned. This represented a response rate of 65%.

Analysis of the Data

The chi-square statistic was used to determine whether there were significant differences between smoking and nonsmoking adolescent women. The .05 level of confidence was used to determine whether there was a significant difference.

CHAPTER IV

RESULTS OF THE DATA ANALYSIS

Hypothesis Testing

The hypothesis tested in this study is stated below:

Ho: The smoking pattern is independent of the other variables.

To test this hypothesis, each item of the questionnaire was analyzed by chi-square to determine statistical significance. The .05 level of confidence was used. When items are significant at the .05 level, it is mentioned whether they are still significant at the .01 level. All of the items are reported in terms of raw scores as well as percentages.

Each table is a cross-tabulation of the smoking pattern and another variable whose relationship with the smoking pattern (never smoked, once smoked/do not smoke now, presently smoke) is under investigation. The chi-square value, degrees of freedom, and p-value are presented.

Table 1 is a cross-tabulation of smoking pattern with the age group of the participants. As shown in the table, 20% of the respondents who never smoked were in the 17-18-year-old age group, 75% were in the 19-20 age group, 5% were in the 21-22 age group, and none were 22 or older. In the category of once smoked but do not smoke now, 31% were in the 17-18 age group, 63.4% were in the 19-20 age group, 5.6% were in the 21-22 age group, and no participants

were in the highest age group. Finally, of those who presently smoked, 21.1% were in the 17-18 age group, 73.7% were in the 19-20 age group, none were in the 21-22 age group, and 5.3% were in the highest age group. The distribution of age group seemed approximately the same in each smoking-pattern category. The chi-square value of 8.89 was low, and the p-value of .18 was greater than .05, so the null hypothesis that smoking habit and age are independent of each other was not rejected. There was no evidence to indicate that there was a statistically significant relationship between age group and smoker category.

Table 1.--Cross-tabulation of participants' smoking pattern and age group.

Age Group	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
17 or 18	8	20.0	22	31.0	4	21.1	34	26.2
19 or 20	30	75.0	45	63.4	14	73.7	89	68.5
21 or 22	2	5.0	4	5.6	-	--	6	4.6
22 or older	-	--	-	--	1	5.3	1	.8
Column total	40	30.8	71	54.6	19	14.6	130	100.0

Chi-square = 8.8867 df = 6 p-value = .18

The frequencies by smoking category of respondent and race are given in Table 2. In the Never Smoked category, 85% were white and

15% were black. Of those subjects who once smoked but did not presently, 78.6% were white, 15.7% were black, 4.3% were Hispanic, and 1.4% were Asian. Among those who presently smoked, 68.4% were white, and 31.6% were black. Again, there seemed to be little connection between race and smoking pattern. The p-value of .4018 was much larger than .05, so again the null hypothesis was not rejected.

Table 2.--Cross-tabulation of participants' smoking pattern and race.

Race	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
White	34	85.0	55	78.6	13	68.4	102	79.1
Black	6	15.0	11	15.7	6	31.6	23	17.8
Hispanic	-	--	3	4.3	-	--	3	2.3
Asian	-	--	1	1.4	-	--	1	.8
Column total	40	31.0	70	54.3	19	14.7	129	100.0

Chi-square = 6.1939 df = 6 p-value = .4018

Shown in Table 3 are the frequencies when smoking patterns were cross-tabulated with the smoking habits of family members. The categories for smoking habits of family members were (a) only mother smoked, (b) only father smoked, (c) at least one of the siblings smoked but neither parent smoked, (d) no one smoked, (e) both

parents smoked but not siblings, and (f) both parents and siblings smoked.

Table 3.--Cross-tabulation of participants' smoking pattern and smoking habits of family members.

Family Members Who Smoked	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Mother	5	12.5	7	10.0	2	10.5	14	10.9
Father	5	12.5	9	12.9	4	21.1	18	14.0
Brothers/sisters	2	5.0	5	7.1	1	5.3	8	6.2
No one smoked	22	55.0	28	40.0	9	47.4	59	45.7
Both parents	4	10.0	14	20.0	3	15.8	21	16.3
Parents & siblings	2	5.0	7	10.0	-	--	9	7.0
Column total	40	31.0	70	54.3	19	14.7	129	100.0

Chi-square = 6.4748 df = 10 p-value = .7739

Of those respondents who never smoked, 12.5% had only their mother smoking, 12.5% had only their father smoking, 5% had siblings smoking, 55% had no smoking family members, 10% had both their parents smoking, and 5% had both parents and siblings smoking. Among those who once smoked but did not presently do so, 10% had only mother smoking, 12.9% had only father smoking, 7.1% had siblings smoking, 40% had no smokers in the family, 20% had parents only smoking, and 10% had both parents and siblings smoking. Finally, of those who currently smoked, 10.5% had a smoking mother

only, 21.1% had a smoking father only, 5.3% had smoking siblings only, 47.4% had no one in the family smoking, and 15.8% had both parents smoking.

It should be noted that the family member smoking pattern was fairly proportionately distributed in each of the smoking-pattern categories, which suggests independence. The chi-square value was computed and found to be 6.47 with 10 degrees of freedom, giving a p-value of .7739; this was far too high for the null hypothesis to be rejected. There was one missing observation, but with a sample size of 100 it hardly mattered. Thus, it was concluded that there was not enough evidence to state that there was any relationship between smoking category and the smoking pattern of the family members.

In Table 4, further information about the connection between respondents' smoking pattern and the smoking habits of family members is presented. In this case, it shows the frequencies of respondents who had a smoking mother, smoking father, smoking sibling, and no smoking family member, cross-tabulated with the smoking habits of the respondents.

Of those respondents who never smoked, 27.5% had a smoking mother, 27.5% had a smoking father, 10% had a smoking sibling, and 55% had no smoking family members. Among those who had stopped smoking, 40% had a smoking mother, 42.9% had a smoking father, 17.1% had a smoking brother or sister, and 40% had no smoking family members. Of those who presently smoked, 26.3% had a mother smoking, 36.8% had a father who was a smoker, 5.3% had a smoking sibling, and

47.4% had no one in the family who smoked. Note that in each category of the smoking pattern, the percentages do not add up to 100% because some respondents fell in more than one category. For the same reason, calculating the chi-square value would not have been valid; therefore, it does not appear in the table. It already was concluded from Table 3 that respondents' smoking pattern and the smoking habits of family members were independent.

Table 4.--Cross-tabulation of participants' smoking pattern and smoking habits of mother, father, and siblings.

Family Members Who Smoked	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Mother	11	27.5	28	40.0	5	26.3	44	34.1
Father	11	27.5	30	42.9	7	36.8	48	37.2
Siblings	4	10.0	12	17.1	1	5.3	17	13.2
No one smoked	22	55.0	28	40.0	9	47.4	59	45.7
Column total	40	31.0	70	54.3	19	14.7	129	100.0

Table 5 contains a cross-tabulation of the smoking variable with mother's attitude toward smoking. The categories were (a) mother disapproved of any smoking, (b) mother thought smoking was acceptable, (c) mother was supportive that you did not smoke, (d)

mother was supportive of your smoking, (e) mother did not care, and (f) mother had other views.

Table 5.--Cross-tabulation of participants' smoking pattern and mother's attitude toward smoking.

Mother's Attitude Toward Smoking	Smoking Pattern: Never Smoked		Smoking Pattern: Smoked, Don't Now		Smoking Pattern: Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Disapproved of any smoking	15	37.5	22	31.0	8	42.1	45	34.6
Thought smoking was acceptable	4	10.0	9	12.7	1	5.3	14	10.8
Was supportive of my not smoking	28	70.0	50	70.4	7	36.8	85	65.4
Was supportive of my smoking	-	--	2	2.8	-	--	2	1.5
Did not care	3	7.5	2	2.8	2	10.5	7	5.4
Had other views	4	10.0	6	8.5	3	15.8	13	10.0
Column total	40	30.8	71	54.6	19	14.6	130	100.0

As shown in the table, 34.6% of all respondents said their mothers disapproved of any smoking, 10.8% had mothers who thought smoking was acceptable, 65.4% had mothers who were supportive of the participants not smoking, 1.5% had mothers who were supportive of the subjects smoking, 5.4% had mothers who did not care, and 10% had mothers who had other views.

Among those who had never smoked, 37.5% had mothers disapproving of any smoking, 10% had mothers who thought smoking was

acceptable, 70% had mothers who were supportive that the subjects did not smoke, 7.5% had mothers who did not care, and the mothers of 10% had other views. Of the subjects who once smoked but did not smoke now, 31% had mothers who disapproved of any smoking, 12.7% had mothers who thought smoking was acceptable, 70.4% had mothers who were supportive that their daughters did not smoke, 2.8% had mothers supportive of their smoking, 2.8% had mothers who did not care, and 8.5% had mothers who had other views. Among those who presently smoked, 42.1% had their mother disapproving of any smoking, 5.3% had mothers who thought smoking was acceptable, 36.8% had mothers supportive of their daughters not smoking, mothers of 10.5% did not care, and 15.8% had mothers who had other views. As the categories were overlapping, a chi-square value was not calculated.

A number of respondents wrote in a response concerning their mothers' views on smoking. Those open-ended responses were as follows:

Didn't agree with smoking but left the decision up to me.

She smoked but did not approve of my smoking.

Tolerated smoking.

Did not want me to smoke.

She hoped I wouldn't smoke, but if I did, she would not ridicule me.

My mother strongly disapproves.

Does not believe in smoking.

Table 6 contains the cross-tabulation of the smoking pattern variable with father's attitude toward smoking.

Table 6.--Cross-tabulation of participants' smoking pattern and father's attitude toward smoking.

Father's Attitude Toward Smoking	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Disapproved of any smoking	11	27.5	20	28.6	6	31.6	37	28.7
Thought smoking was acceptable	8	20.0	10	14.3	3	15.8	21	16.3
Was supportive of my not smoking	26	65.0	46	65.7	9	47.4	81	62.8
Was supportive of my smoking	-	--	2	2.9	-	--	2	1.6
Did not care	3	7.5	5	7.1	2	10.5	10	7.8
Had other views	4	10.0	8	11.4	-	--	12	9.3
Column total	40	31.0	70	54.3	19	14.7	129	100.0

Of all teenagers considered, 28.7% had fathers who disapproved of any smoking, 16.3% had fathers who thought smoking was acceptable, 62.8% had fathers who were supportive that their daughters did not smoke, 1.6% of all fathers were supportive of the subjects smoking, 7.8% had fathers who did not care, and 9.3% had fathers with other views.

Of those who had never smoked, 27.5% had fathers who disapproved of any smoking, 20% had fathers who thought smoking was acceptable, 65% had fathers who were supportive of their daughters not smoking, 7.5% had fathers who did not care, and 10% had fathers with other views. Of the fathers of participants who used to smoke, 28.6% disapproved of any smoking, 14.3% thought smoking was acceptable, 65.7% were supportive of their daughters not smoking, 2.9% were supportive of their daughters smoking, 7.1% did not care, and 11.4% had other views. Of the fathers whose daughters presently smoked, 31.6% disapproved of any smoking, 15.8% thought smoking was acceptable, 47.4% were supportive of their daughters not smoking, and 10.5% did not care. Again, as in Table 5, a chi-square value was not calculated because of the overlapping categories.

Some respondents wrote in a response concerning their fathers' views on smoking. Those open-ended responses were as follows:

> Father smoked but did not approve of my smoking.
>
> Father quit smoking when he was very young, but he began again after he got divorced.
>
> Does not believe in smoking.

Table 7 is a cross-tabulation of respondents' smoking patterns with the grades the women received in high school. All of the women who never smoked received A's and B's in high school; thus, no respondents in this smoking category received B's and C's. Of the women who once smoked but did not smoke now, 95.8% received A's and B's while in high school and 4.2% received B's and C's or lower. Of the respondents who presently were smokers, 94.7% stated that they

received A's and B's in high school and 5.3% stated that they received B's and C's. The chi-square value of 1.8884 was low, and the p-value of .38 was greater than 05. Thus, the null hypothesis that smoking habit and grades are independent was not rejected. There was no evidence to indicate that there was any relationship between grades received in high school and smoking category.

Table 7.--Cross-tabulation of participants' smoking pattern and grades received in high school.

Grades Received in High School	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
A's and B's	40	100.0	68	95.8	18	94.7	126	96.9
B's and C's	-	--	3	4.2	1	5.3	4	3.1
Column total	40	30.8	71	54.6	19	14.6	130	100.0

Chi-square = 1.88835 df = 2 p-value = .3890

The frequencies by smoking category of respondents and participation in high school sports are given in Table 8. Of the women who stated that they had never smoked, 57.5% participated in high school sports and 42.5% did not participate in high school sports. Of those who once smoked but did not smoke at the time of the study, 70$ stated that they participated in high school sports and 29.6% said they did not. In the category of those who presently

smoked, 68.4% responded that they played in high school sports and 31.6% said they had never participated in organized sports in high school. The chi-square value of 1.9593 was low and the p-value of .3754 was greater than .05. Thus, the null hypothesis that smoking habit and participation in high school sports are independent was not rejected. There was no evidence to indicate that there was any relationship between participation in high school sports and smoking categories.

Table 8.--Cross-tabulation of participants' smoking pattern and participation in high school sports.

Participated in High School Sports	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	23	57.5	50	70.4	13	68.4	86	66.2
No	17	42.5	21	29.6	6	31.6	44	33.8
Column total	40	30.8	71	54.6	19	14.6	130	100.0

Chi-square = 1.9593 df = 2 p-value = .3754

Table 9 is a cross tabulation of smoking patterns and whether sports personnel in high school discouraged smoking. Fifty percent of the women who had never smoked responded that sports personnel in high school discouraged smoking, and 10.5% stated that the sports personnel did not make any attempt to discourage smoking.

Table 9.--Cross-tabulation of participants' smoking pattern and whether sports personnel discouraged smoking.

Sports Personnel Discouraged Smoking	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Yes	19	50.0	43	64.2	11	61.1	73	59.3
No	4	10.5	5	7.5	1	5.6	10	8.1
Did not participate in sports	15	39.5	19	28.4	6	33.3	40	32.5
Column total	38	30.9	67	54.5	18	14.6	123	100.0

Chi-square = 2.2098 df = 4 p-value = .6972

In the Never Smoked category, 39.5% of the respondents indicated they had not participated in high school sports. Of those who once smoked but did not do so now, 64.2% responded that sports personnel did discourage smoking; only 7.5% said that no attempt was made to discourage smoking. In this same smoking category, 28.4% of the women had not participated in any school sports. Of the women who were presently smoking, 61.1% stated that sports personnel had discouraged smoking, and 5.6% responded that no attempt had been made to discourage the habit. In this smoking category, 33.3% had not participated in high school sports.

The chi-square value of 2.2098 was low, and the p-value of .6972 was greater than .05. Thus, the null hypothesis that the smoking habit and the discouragement of smoking by high school

sports personnel showed no statistical relationship. There was no evidence to indicate that there was a relationship between the smoking categories and whether high school sports personnel discouraged smoking.

Table 10 contains a cross-tabulation of fathers' occupations while the women were in high school and the respondents' smoking patterns. Of the women who had never smoked, 37.5% responded that their father was a professional, 5% stated that their fathers worked in the clerical field, 7.5% in the technical field, 17.5% in factories or other related jobs, and 32.5% in other occupations.

Table 10.--Cross-tabulation of participants' smoking pattern and father's occupation.

Father's Occupation	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Professional	15	37.5	31	44.3	9	50.0	55	43.0
Clerical	2	5.0	1	1.4	-	--	3	2.3
Technical	3	7.5	12	17.1	1	5.6	16	12.5
Factory	7	17.5	10	14.3	4	22.2	21	16.4
Other	13	32.5	16	22.9	4	22.2	33	25.8
Column total	40	31.3	70	54.7	18	14.1	128	100.0

Chi-square = 6.7047 df = 8 p-value = .5688

Of the women who once smoked but did not do so now, 44.3% responded that while they were in high school their fathers were in a professional field, 1.4% worked in the clerical field, 17.1% technical, 14.3% in factories, and 22.9% in other areas. Of the women who presently smoked, 50% said their fathers were professionals, no fathers worked in the clerical field, 5.6% worked in the technical field, 22.2% worked in factories, and 22.2% worked in other areas. In response to this question, one respondent wrote in that her father was an "electrician in construction."

The chi-square value of 6.7047 was low, and the p-value of .5688 was greater than .05. Thus, the null hypothesis that the smoking habit and father's occupation are independent was not rejected. There was no evidence to indicate that there was a relationship between the father's occupation while the respondents were in high school and their smoking patterns.

Table 11 is a cross-tabulation of the participants' smoking patterns and their mothers' occupations. Of the women who had never smoked, 37.5% said their mothers were homemakers, 12.5% were in the professional field, 22.5% were clerical workers, 5% worked in factories, and 22.5% were employed in other fields. Of the women who once smoked but did not smoke now, 35.2% stated that their mothers were homemakers, 25.4% were professionals, 25.4% were clerical workers, 5.6% worked in a factory-related job, and 8.5% worked in other fields. The women who presently smoked responded as follows: 26.3% of their mothers were homemakers, 42.1% were

professionals, 15.8% were clerical workers, no mothers worked in factory-related jobs, and 15.8% worked in other fields. One respondent wrote in that her mother was a "part-time hairdresser."

Table 11.--Cross-tabulation of participants' smoking pattern and mother's occupation.

Mother's Occupation	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Homemaker	15	37.5	25	35.2	5	26.3	45	34.6
Professional	5	12.5	18	25.4	8	42.1	31	23.8
Clerical	9	22.5	18	25.4	3	15.8	30	23.1
Factory	2	5.0	4	5.6	-	--	6	4.6
Other	9	22.5	6	8.5	3	15.8	18	13.8
Column total	40	30.8	71	54.6	19	14.6	130	100.0

Chi-square = 10.7245 df = 8 p-value = .2178

The chi-square value of 10.7245 was low, and the p-value of .2178 was greater than .05. Thus, the null hypothesis that the smoking pattern and mother's occupation are independent was not rejected. There was no evidence to indicate that there was a relationship between the mother's occupation while the respondent was in high school and the participants' smoking patterns.

Table 12 contains the cross-tabulation of smoking pattern with age when first smoked. Of the 130 women who were sampled, 30.8% had never smoked, 6.2% were age 8-9 when they first smoked, 6.2% were

10-11, 13.8% were 12-13, 10% were 14-15, 23.8% were 16-17, 8.5% were 18-19, and the remaining .8% (one person) was another age.

Table 12.--Cross-tabulation of participants' smoking pattern and age when they smoked first cigarette.

Age	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Never smoked	40	100.0	-	--	-	--	40	30.8
8 or 9	-	--	8	11.3	-	--	8	6.2
10 or 11	-	--	8	11.3	-	--	8	6.2
12 or 13	-	--	15	21.1	3	15.8	18	13.8
14 or 15	-	--	8	11.3	5	26.3	13	10.0
16 or 17	-	--	21	29.6	10	52.6	31	23.8
18 or 19	-	--	10	14.1	1	5.3	11	8.5
Other	-	--	1	1.4	-	--	1	.8
Column total	40	30.8	71	54.6	19	14.6	130	100.0

Chi-square = 144.9930 df = 14 p-value = .0000

It would seem that the chi-square was calculated to be 144.9930, which was too high to fail to reject the null hypothesis with 14 degrees of freedom. But too many cells in the table were empty because, in the Never Smoked category, all observations had to belong to one cell. So the chi-square value could be recalculated, excluding the people who never smoked, with only 90 in the sample. When this is done, the chi-square value becomes 7.002 with 6 degrees of freedom and the test is not significant. Thus, if the analysis

were restricted to those who used to smoke or presently smoked, there would be no reason to believe there was a relationship between the participants' smoking pattern and the age at which they smoked their first cigarette.

Table 13 contains the cross-tabulation of participants' smoking pattern and whom they were with when they had their first cigarette. The categories were (a) never smoked, (b) with friends, (c) alone, (d) with a brother or sister, and (e) with someone else.

Table 13.--Cross-tabulation of participants' smoking pattern and whom they were with when they had their first cigarette.

Whom Participant Was With	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Never smoked	39	100.0	-	--	-	--	39	30.2
Friends	-	--	52	73.2	12	63.2	64	49.6
Alone	-	--	11	15.5	5	26.3	16	12.4
Brother, sister	-	--	3	4.2	-	--	3	2.3
Other	-	--	5	7.0	2	10.5	7	5.4
Column total	39	30.2	71	55.0	19	14.7	129	100.0

Chi-square = 132.2085 df = 8 p-value = .0000

Of the total number of respondents, 30.2% had never smoked, 49.6% smoked with friends, 12.4% smoked alone, 2.3% smoked with a sibling, and 5.4% smoked with someone else. Of those who used to

smoke but did not do so now, 73.2% smoked with a friend, 15.5% smoked alone, 4.2% smoked with a sibling, and 7% smoked with somebody else. Of the respondents who presently smoked, 63.2% smoked in the company of friends, 26.3% smoked alone, and 10.5% smoked with someone else. Two women wrote in other responses; one was "with my babysitter"; the other was "with my cousin."

The calculated chi-square value was 132.2085 with 8 degrees of freedom, and the p-value was .0000. This suggests rejecting the null hypothesis and concluding that there was reason to believe there was a relationship between these two variables. Again, however, the comments made earlier with regard to cell size apply. If the chi-square were recalculated with only those who smoked at least once included in the analysis, the chi-square value would be 2.2386 with 3 degrees of freedom; the p-value would be greater than .05. Thus, if the analysis were restricted to those who used to smoke or presently smoked, the data would suggest that there was no relationship between the participants' smoking category and their companion(s) at the time they smoked their first cigarette.

Table 14 is a cross-tabulation of the participants' smoking patterns with where the majority of smoking was done while in high school. This item on the questionnaire concerned not only the respondents' personal smoking but also their observations of other students' smoking habits while in high school.

Table 14.--Cross-tabulation of participants' smoking pattern and where most smoking was done while in high school.

Where Smoking Was Done	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
At parties with alcohol	9	23.1	44	62.0	12	63.2	65	50.4
In cars	5	12.8	7	9.9	2	10.5	14	10.9
In designated areas of school	6	15.4	4	5.6	2	10.5	12	9.3
In school rest-rooms	11	28.2	9	12.7	2	10.5	22	17.1
In parks	3	7.7	1	1.4	-	--	4	3.1
Other	5	12.8	6	8.5	1	5.3	12	9.3
Column total	39	30.2	71	55.0	19	14.7	129	100.0

Chi-square = 20.0136 df = 10 p-value = .0291

Of the respondents who never had smoked, 23.1% said that smoking was done at parties where alcohol was served, 12.8% in cars, 15.4% in designated high school smoking areas, 28.2% in school restrooms, 7.7% in parks, and 12.8% in other areas. Of the women who once smoked but did not presently do so, 62% responded that smoking was done at parties where alcohol was served, 9.9% in cars, 5.6% in designated high school areas, 12.7% in school restrooms, 1.4% in parks, and 8.5% in other areas. Of the women who presently smoked, 63.2% said that smoking was done at high school parties where alcohol was served, 10.5% in cars, 10.5% in designated high

school smoking areas, 10.5% in school restrooms, and 5.3% in other places.

The open-ended responses to this question were as follows: Most smoking in high school took place "in small groups of people," "just off the school property where officials did not have control," "in town hang-outs--near school," "at fences by the school or behind the school," "in the special 'smokers' corner," and "in public, to be cool."

The chi-square value of 20.0136 was high and the p-value of .0291 was less than .05. Thus, at the 5% level, the null hypothesis that the smoking pattern and the location where they observed most smoking to take place in high school are independent was rejected. There was evidence to indicate that there was a relationship between the participants' smoking category and where most smoking took place in high school. Because the p-value was greater than .01, the null hypothesis was not rejected at the .05 level.

Table 15 is a cross-tabulation of participants' smoking patterns and their perceptions of whether they were overweight in high school. Of the women who had never smoked, 28.2% felt they were overweight, and 7.18% did not feel they were overweight. Of those who once smoked but did not presently do so, 38% felt they were overweight in high school, and 62% did not. Of the women who smoked presently, 68.4% felt they were overweight in high school, and 31.6% did not have that perception.

The chi-square value of 8.7937 was high, and the p-value of .0123 was less than .05. Thus, the null hypothesis that

participants' smoking patterns and their perceptions of being overweight are independent was rejected. At the .01 level, the null hypothesis would barely fail to be rejected because the p-value was marginally greater than .01.

Table 15.--Cross-tabulation of participants' smoking pattern and whether they felt they were overweight in high school.

Felt Overweight	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Yes	11	28.2	27	38.0	13	68.4	51	39.5
No	28	71.8	44	62.0	6	31.6	78	60.5
Column total	39	30.2	71	55.0	19	14.7	129	100.0

Chi-square = 8.7937 df = 2 p-value = .0123

Table 16 is a cross-tabulation of the participants' smoking patterns with their perceptions of whether, while they were in high school, they thought that smoking would decrease their appetite. Of the women who had never smoked, 10.3% said they thought smoking would suppress their appetite, and 89.7% indicated they did not perceive this to be the case. Of the participants who once smoked but did not presently do so, 11.4% said they thought smoking would suppress their appetite, and 88.6% said they did not believe this was the case. Of those women who presently smoked, 21.1% said that,

while in high school, they thought smoking would suppress their appetite, but 78.9% said they did not think so.

Table 16.--Cross-tabulation of participants' smoking pattern and whether, while in high school, they thought smoking would decrease their appetite.

Thought Smoking Would Suppress Appetite	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	4	10.3	8	11.4	4	21.1	16	12.5
No	35	89.7	62	88.6	15	78.9	112	87.5
Column total	39	30.5	70	54.7	19	14.8	128	100.0

Chi-square = 1.5236 df = 2 p-value = .4668

The chi-square value of 1.5236 was low, and the p-value of .4668 was greater than .05. Thus, the null hypothesis that participants' smoking pattern and their perception of smoking as an appetite suppressant are independent was not rejected. There was no evidence to indicate there was a relationship between the women's smoking patterns and their perception of the use of smoking as a means of weight control.

Table 17 contains the cross-tabulation of the participants' smoking patterns with their present perceptions of whether smoking controls weight gain. Of the women who had never smoked, 21.1%

thought that smoking controlled weight gain; 78.9% did not. Of the women who had once smoked but did not presently do so, 24.3% indicated they thought smoking controlled weight gain, and 75.7% thought it did not. Of the present smokers, 47.4% responded that they thought smoking controlled weight gain, whereas 52.6% said it did not.

Table 17.--Cross-tabulation of participants' smoking pattern and their present perception of whether smoking controls weight gain.

Smoking Controls Weight Gain	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Yes	8	21.1	17	24.3	9	47.4	34	26.8
No	30	78.9	53	75.7	10	52.6	93	73.2
Column total	38	29.9	70	55.1	19	15.0	127	100.0

Chi-square = 4.9661 df = 2 p-value = .0835

The chi-square value of 4.9661 was low, and the p-value of .0835 was greater than .05. Thus, the null hypothesis that the survey participants' smoking patterns and their present perceptions of whether smoking controls weight gain are independent was not rejected. There was no evidence to indicate that there was a relationship between participants' smoking patterns and their perception of smoking as a means to control weight gain.

Table 18 is a cross-tabulation of participants' smoking patterns with their beliefs concerning whether smoking is a habit that is easily controlled. Of the women who had never smoked, 10.3% thought smoking could easily be controlled, as compared to 89.7% of the subjects who held the opposite opinion. Of the women who had once smoked but no longer did so, 8.8% thought that smoking was a habit that could be controlled; 91.2% thought it was difficult to control. Of the women who presently smoked, 27.8% thought the smoking habit could easily be controlled; 72.2% thought the opposite.

Table 18.--Cross-tabulation of participants' smoking pattern and their belief concerning whether smoking is a habit that is easily controlled.

Smoking Habit Is Easily Controlled	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	4	10.3	6	8.8	5	27.8	15	12.0
No	35	89.7	62	91.2	13	72.2	110	88.0
Column total	39	31.2	68	54.4	18	14.4	125	100.0

Chi-square = 5.0053 df = 2 p-value = .0819

The chi-square value of 5.0053 was low, and the p-value of .0819 was greater than .05. Thus, the null hypothesis that the

participants' smoking patterns and their views on whether the smoking habit is easily controlled are independent was not rejected. There was no evidence to indicate that there was a relationship between participants' smoking pattern and their belief about whether smoking is a habit that is easily controlled.

Table 19 contains the cross-tabulation of participants' smoking patterns with their belief about whether smoking is addictive and difficult to control. Although there were three missing observations, this was not relevant with a large sample size of 130.

Table 19.--Cross-tabulation of participants' smoking pattern and their belief about whether smoking is addictive and difficult to control.

Smoking Is Addictive/Difficult to Control	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	35	89.7	62	89.9	11	57.9	108	85.0
No	3	7.7	6	8.7	5	26.3	14	11.0
Comments	1	2.6	1	1.4	3	15.8	5	3.9
Column total	39	30.7	69	54.3	19	15.0	127	100.0

Chi-square = 14.74932 df = 4 p-value = .0053

Of the 127 participants who answered this question, 85% said yes, they thought smoking was addictive and difficult to control, 11% said no, and 3.9% commented about it. Of those who had never

smoked, 89.7% said yes, 7.7% said no, and 2.6% had other comments. Of the women who used to smoke but did not presently do so, 89.9% said yes, 8.7% said no, and 1.4% made comments. Of those who presently smoked, 58.9% said yes, 26.3% said no, and 15.8% had some comments. The comments respondents made were as follows:

Only if it gets out of hand (1-3 packs per day).

I feel it is very addictive; it is very hard to control; my father has tried to stop many times.

Depends on the reason someone smokes.

Depends on the person.
It depends how strong you are.

Once a person is addicted, it is difficult to stop.

Nicotine is very addictive.

I can go home and stop for weeks at a time.

Extremely addictive.

For some people; depends how long they have been smoking.

For many it is addictive, but not for me.

The chi-square computation resulted in a value of 14.7493 with 4 degrees of freedom; the p-value was .0053. Based on these data, the null hypothesis was rejected, even at the .01 level. There seems to be reason to believe that participants' smoking patterns and their beliefs about whether smoking is addictive and difficult to control are related.

Table 20 contains the cross-tabulation of participants' smoking patterns with whether they had ever smoked marijuana. Of the 129 women who answered this question, 56.6% said they had smoked marijuana; 43.4% said they had not. Of those who had never smoked

cigarettes, 12.8% said they had smoked marijuana; 87.2% said no. Of those who had stopped smoking, 74.6% had smoked marijuana, and 25.4% had not. Of those who presently smoked, 78.9% had smoked marijuana, whereas 21.1% had not.

Table 20.--Cross-tabulation of participants' smoking pattern and whether they had ever smoked marijuana.

Whether Participant Had Smoked Marijuana	Smoking Pattern: Never Smoked		Smoking Pattern: Smoked, Don't Now		Smoking Pattern: Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	5	12.8	53	74.6	15	78.9	73	56.6
No	34	87.2	18	25.4	4	21.1	56	43.4
Column total	39	30.2	71	55.0	19	14.7	129	100.0

Chi-square = 43.7048 df = 2 p-value = .0000

The chi-square value was 43.7048 with 2 degrees of freedom; the p-value was .0000. Thus, the null hypothesis was rejected, even at the .01 level. There was reason to think that the participants' smoking patterns and whether they had ever smoked marijuana were not independent.

Table 21 contains the cross-tabulation of the participants' smoking patterns with their belief that smoking cigarettes is the first step to smoking marijuana. Of the women who had never smoked, 20.5% said they cigarette smoking was the first step to smoking

marijuana; 79.5% did not think so. Of the women who had once smoked but did not presently do so, 31% thought cigarette smoking was the first step to smoking marijuana; 69% disagreed. Of the women who currently smoked, 5.6% thought cigarette smoking was the first step leading to marijuana smoking, whereas 94.4% did not think so.

Table 21.--Cross-tabulation of participants' smoking pattern and their belief that smoking cigarettes is the first step to smoking marijuana.

Cigarette Smoking Is First Step to Smoking Marijuana	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	8	20.5	22	31.0	1	5.6	31	24.2
No	31	79.5	49	69.0	17	94.4	97	75.8
Column total	39	30.5	71	55.5	18	14.1	128	100.0

Chi-square = 4.4795 df = 2 p-value = .0646

The chi-square value of 5.4795 was low, and the p-value of .0646 was greater than .05. Thus, the null hypothesis that participants' smoking patterns and their belief that smoking is the first step to smoking marijuana are independent was not rejected. There was no evidence to indicate that there was a relationship between the two variables.

Table 22 contains the cross-tabulation of the participants' smoking patterns and their beliefs about whether smoking cigarettes leads to drug use. Of the women who had never smoked, 17.9% thought smoking was a stepping stone to the use of different drugs; 82.1% said it was not. Of the respondents who once had smoked but presently did not do so, 9.9% thought smoking led to the use of other drugs, whereas 90.1% disagreed. All of the respondents who presently smoked said they thought smoking was not a stepping stone to the use of different drugs.

Table 22.--Cross-tabulation of participants' smoking pattern and their belief that smoking cigarettes leads to drug use.

Smoking Cigarettes Leads to Drug Use	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	7	17.9	7	9.9	-	--	14	10.9
No	32	82.1	64	90.1	18	100.0	114	89.1
Column total	39	82.1	71	55.5	18	14.1	128	100.0

Chi-square = 4.2633 df = 2 p-value = .1186

The chi-square value of 4.2633 was low, and the p-value of .1186 was greater than .05. Thus, the null hypothesis that participants' smoking categories and their belief that cigarette smoking leads to the use of other drugs are independent was not

rejected. There was no evidence to indicate that there was a relationship between respondents' smoking patterns and their belief that cigarette smoking leads to further drug use.

Table 23 contains a cross-tabulation of the participants' smoking patterns and their feelings about whether smoking cigarettes is harmful to one's health. All of the respondents in the Never Smoked category thought that cigarette smoking was harmful to one's health. Also, all of the women who had once smoked but presently were not smokers believed that smoking was harmful to one's health. Of the women who presently smoked, 94.7% responded that they thought smoking was harmful to health, and 5.3% felt it was not harmful.

Table 23.--Cross-tabulation of participants' smoking pattern and their feeling that smoking cigarettes is harmful to one's health.

Smoking Cigarettes Is Harmful to Health	Smoking Pattern: Never Smoked		Smoking Pattern: Smoked, Don't Now		Smoking Pattern: Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	39	100.0	71	100.0	18	94.7	128	99.2
No	-	--	-	--	1	5.3	1	.8
Column total	39	30.2	71	55.0	19	14.7	129	100.0

Chi-square = 5.8347 df = 2 p-value = .0541

The chi-square value of 5.8347 was low, and the p-value of .0541 was greater than .05. Thus, the null hypothesis that the participants' smoking patterns and their outlook concerning whether smoking is harmful to one's health are independent was not rejected. There was no evidence to indicate that there was a relationship between the two variables.

Table 24 shows the relationship between the participants' smoking patterns and their feelings about the effect of smoking on one's attractiveness, sophistication, and so on. Of the 125 women who responded to this item, 83 (66.4%) said women who smoke are unattractive, 2 (1.6%) said that women who smoke look sophisticated, 81 (64.8%) said women who smoke do not look sophisticated, and 25 (20%) wrote in other responses. Five participants did not respond to this item.

Table 24.--Cross-tabulation of participants' smoking pattern and their opinion about the effect smoking has on one's attractiveness, sophistication, etc.

Women Who Smoke . . .	Smoking Pattern						Row Total	
	Never Smoked		Smoked, Don't Now		Presently Smoke			
	n	%	n	%	n	%	n	%
Are unattractive	31	79.5	47	67.1	5	31.3	83	66.4
Look sophisticated	-	--	1	1.4	1	6.3	2	1.6
Do not look sophisticated	34	87.2	43	61.4	4	25.0	81	64.8
Other response	4	10.3	14	20.0	7	43.8	25	20.0
Column total	39	31.2	70	56.0	16	12.8	125	100.0

Of the participants who had never smoked, 79.5% thought that women who smoke are unattractive, 87.2% said they do not look sophisticated, and 10.3% mad other responses. Of those who used to smoke but did not currently do so, 67.1% said that women who smoke are unattractive, 1.4% said they look sophisticated, 61.4% said they do not look sophisticated, and 20% had other views. Of those who presently smoked, 31.3% thought that women who smoke are unattractive, 6.3% though they look sophisticated, 25% thought they do not look sophisticated, and 43.8% made other responses.

As noted in the preceding paragraphs, a number of respondents wrote in other answers to this question. They are as follows:

There is no difference between women who do and don't smoke.

Does not detract from a woman's appearance.

Women who smoke are unappealing to men.

Looks "cheap."

They are addicted.

[They] are ignorant.

Make them look independent.

Does not matter; depends who is judging the woman.

Their hair smells.

Looks lower class.

Did not enjoy it; if I got caught I'd be in trouble.

It's a turn-off.

They smell terrible!

None of those listed.

Risking their health and, if pregnant, their unborn child's.

A chi-square analysis was not performed on the data for Item 24 because participants could check as many responses as they wanted, and the response categories overlapped. For example, many respondents who thought women who smoke are unattractive also thought they do not look sophisticated.

Table 25 is a cross-tabulation of the participants' smoking patterns with their feelings about whether women who smoke have an easier time controlling their weight. In the Never Smoked category, 17.9% of the subjects thought that women who smoked had an easier time controlling their weight; 82.1% disagreed. Of those who once smoked but did not do so presently, 10.1% thought that smoking controlled weight gain, whereas 89.9% thought it did not. Of the women who presently were smokers, 27.8% thought that women who smoked had an easier time controlling their weight; 72.2% thought smoking had no such effect.

Table 25.--Cross-tabulation of participants' smoking pattern and their belief that women who smoke have an easier time controlling their weight.

Smokers Have An Easier Time With Weight	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	7	17.9	7	10.1	5	27.8	19	15.1
No	32	82.1	62	89.9	13	72.2	107	84.9
Column total	39	31.0	69	54.8	18	14.3	126	100.0

Chi-square = 3.8293 df = 2 p-value = .1474

In response to this question, one woman wrote in the comment: "Depends on if they exercise or not."

The chi-square value of 3.8293 was low, and the p-value of .1474 was greater than .05. Thus, the null hypothesis that participants' smoking patterns and their feelings about whether women who smoke have an easier time controlling their weight are independent was not rejected. There was no evidence to indicate that there was a relationship between the two variables.

Table 26 is a cross-tabulation of participants' smoking categories and their perceptions of whether smoking is an addiction or a habit. Twenty-seven percent of the subjects who had never smoked thought that smoking was a habit, whereas 73% thought it was an addiction. Of those who had once smoked but presently did not do so, 39.1% thought smoking was a habit and 60.9% thought it was an addiction. Of the present smokers, 68.4% respondent that smoking was a habit; 31.6% thought it was an addiction.

The chi-square value of 9.0110 was high, and the p-value of .0110 was less than .05. Thus, the null hypothesis that participants' smoking patterns and their attitudes about whether smoking is an addiction or habit are independent was rejected. At the 1% level the null hypothesis was not rejected because the p-value was greater than .01.

Table 26.--Cross-tabulation of participants' smoking pattern and their belief about whether smoking is a habit or an addiction.

Smoking Is a Habit or an Addiction	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Habit	10	27.0	27	39.1	13	68.4	50	40.0
Addiction	27	73.0	42	60.9	6	31.6	75	60.0
Column total	37	29.6	69	55.2	19	15.2	125	100.0

Chi-square = 9.0111 df = 2 p-value = .0110

Table 27 is a cross-tabulation of participants' smoking categories and their perceptions of whether smoking is harmful to the smoker's health. All of the women who had never smoked thought smoking was harmful to one's health. Of the women who once had smoked but did not do so now, 98.6% believed smoking was harmful; 1.4% disagreed. Of the present smokers, 94.7% thought smoking was harmful to one's health; 5.3% thought it was not harmful.

The chi-square value of 2.3189 was low, and the p-value of .3137 was greater than .05. Thus, the null hypothesis that the participants' smoking categories and their perceptions of whether smoking is harmful to the smoker's health are independent was not rejected. There was no evidence to indicate that there was a relationship between the two variables.

Table 27.--Cross-tabulation of participants' smoking pattern and their perception of whether smoking is harmful to the smoker's health.

Smoking Is Harmful to the Smoker's Health	Smoking Pattern: Never Smoked		Smoked, Don't Now		Presently Smoke		Row Total	
	n	%	n	%	n	%	n	%
Yes	39	100.0	69	98.6	18	94.7	126	98.4
No	-	--	1	1.4	1	5.3	2	1.6
Column total	39	30.5	70	54.7	19	14.8	128	100.0

Chi-square = 2.3189 df = 2 p-value = .3137

Just the women who had once smoked but presently did not smoke answered Items 28 through 31 on the questionnaire. Item 28 asked, "Why are you presently not a smoker? Of the 70 women who had quit smoking, 4 (5.7%) said they could not participate in sports, 8 (11.4%) said they were allergic to smoking, 50 (71.4%) said they did not like the characteristics of smoking (odor, yellow teeth and fingers, etc.), 23 (32.9%) said smoking was a waste of time, 36 (51.4%) said smoking was a waste of money, and 23 (32.9%) gave other reasons (see Table 28). Very few participants gave as their reason for quitting smoking that it hampered sports activities; perhaps that is because they had little interest in sports participation.

Respondents also wrote in the following "other" answers: "My boy friend and his family did not like my smoking," "Harmful to my health," "I did not like the taste or smell," "It's bad for your

health," "Did not like it at all; looks bad," "Makes me feel physically ill," and "It is harmful to my health."

Table 28.--Responses of women who had quit smoking to the question: "Why are you presently not a smoker?"

Response	Number	Percent
Can not participate in sports	4	5.7
Allergic to smoke	8	11.4
Do not like characteristics of a smoker	50	71.4
Smoking is a waste of time	23	32.9
Smoking is a waste of money	36	51.4
Other reasons	23	32.9

Item 29 asked whether the participants' parents had been aware that they smoked cigarettes. Of the 70 respondents who had quit smoking, 69 answered this question. Thirty (43.5%) said their parents had been aware that they smoked; 39 (56.5%) said their parents had not been aware of that fact. This shows that in more than half the cases, the parents were not aware of their daughters' cigarette smoking habit.

Table 29.--Responses of women who had quit smoking to the question: "Were your parents aware that you smoked cigarettes?"

Response	Number	Percent
Yes	30	43.5
No	39	56.5
Total	69	100.0

In Item 30, participants were asked, "What were your parents' views on your smoking?" Of the 70 women who had quit smoking, 68 responded to this question. Of that number, 40 (58.8%) said their parents did not know, 4 (5.9%) said their parents knew but did not care, 20 (29.4%) had parents who were opposed to their daughters' smoking, and 4 (5.9%) gave other responses (see Table 30).

Table 30.--Responses of women who had quit smoking to the question: "What were your parents' views on your smoking?"

Response	Number	Percent
They did not know	40	58.8
They knew smoked but did not care	4	5.9
Were opposed to my smoking	20	29.4
Other	4	5.9
Total	68	100.0

Respondents wrote in the following responses for Item 30:

They realized it was an experiment and stated their disapproval.

Did not support my smoking.

They felt it was my own choice.

They realized I was just experimenting.

I told them that I tried.

They were very happy that I chose not to smoke.

Item 31 was open-ended; it asked, "If you experimented with smoking as an adolescent (any amount) or smoked on a regular basis, why do you feel you do not smoke now?" Sixty-two of the 70 women who had quit smoking responded to this question. Seven (11.3%) said smoking was habit forming, 38 (61.3%) said it was for bad for their health, 13 (21%) said it made them look unattractive and stupid, 15 (24.2%) said they stopped because of the bad smell, 8 (12.9%) said they disliked all aspects of smoking, 5 (8.1%) said they had just wanted to experiment, 7 (11.3%) said smoking was too expensive, 3 (4.8%) said their parents were opposed to their smoking, 2 (3.2%) said they stopped because of lack of respect from others, and 1 (1.6%) said she was allergic to smoking (see Table 31). Thus, the leading reason for discontinuing smoking seemed to be its effect on their health.

Table 31.--Responses of women who had quit smoking to the question: "If you experimented with smoking as an adolescent or smoked on a regular basis, why do you feel you do not smoke now?"

Response	Number	Percent
Bad for health	38	61.3
Bad smell	15	24.2
Unattractive, stupid	13	21.0
Dislike all aspects of smoking	8	12.9
Expensive	7	11.3
Habit forming	7	11.3
Just wanted to experiment	5	8.1
Parents opposed smoking	3	4.8
No respect for smokers	2	3.2
Allergic to smoke	1	1.6

Verbatim responses to this question were as follows:

My first cigarette was given to me by an adult family member; I tried it and did not like it.

It makes me feel sick; I do not have time for smoking to slow me down.

I don't feel it's worth it.

Tastes disgusting.

Not good for my swimming or other sports I do; bothers others around me.

Too expensive; parental influence; passing fad; the curiosity is gone.

I only smoked at parties, but then realized how rude and inconsiderate I was to others; also smells bad.

I am intelligent enough to know how harmful it is to my health.

I want to live longer; there are enough other diseases in this world to worry about. I do not want to voluntarily take off several years of my life.

It's stupid.

It's a health risk; I don't like how smoking looks; it's a selfish habit.

It is unattractive.

I do not need to smoke because it is bad for my health.

I hate the smell.

I did not associate with people who smoked because I thought they were burnouts.

Bad for everyone's health.

I didn't like anything about it.

I experimented just to see what it was like, and I found I didn't enjoy it.

My peers did not smoke.

Smells terrible.

Not enough money.

I only smoked one cigarette in my life--in my freshman year at MSU. I was very drunk. I cannot stand smoke or being around people who smoke--it's bad for everyone.

It is unhealthy.

Smells bad.

Parents discouraged me.

Unhealthy and unattractive.

It is disgusting; not only do you jeopardize your health, but also your self-image; it is dirty; I know I can control myself and care enough about myself.

There is no point in smoking--all you do is bother others and fill a room with a bad odor and haze.

Because it makes me feel sick; the smoke hurts my lungs and it's very stupid.

It made me sick--I have too many other things to do.

I finally realized that I did not care for the smell, taste, odor, and expense.

Unhealthy--I did not enjoy it.

I just don't like it; it's an ugly and bad habit to get into.

Too expensive--I do not have enough money.

At the time it was peer pressure, but eventually the need to fit stopped and my smoking stopped.

I don't understand why people smoke--I never got anything out of it and don't see what makes it so great.

Cigarettes are very expensive and unnecessary; I don't understand why someone needs to smoke.

Very unattractive.

All my male friends say they prefer nonsmokers.

The girls I knew in high school were not "nice" girls--no one respected them.

I have many reasons not to smoke--but I would pick up the habit in a second if given the chance.

I don't get anything out of it--it does nothing for me.

I didn't like it, and I can't handle the smoke.

I "wised up."

It is an addictive, unhealthy, and dirty habit [3 responses].

It is harmful to your health; very expensive.

I do not like the characteristics associated with smoking, i.e., the smell and ruining other people's air.

I grew up and realized it was stupid.

It is not good for me, and it smells.

Smoke smells bad and causes your clothing to smell; also, it costs too much.

The friends I have at college do not smoke, and I do not want to offend them.

Affected my social life.

My friends do not [smoke], and I do not want to offend them.

I wanted to exercise more; I could not do it while I was a smoker.

I did it once to try it and hated it.

I do not like the smell; it is unattractive and bad for my health.

I smoked for many years but recently gave it up for two reasons; the major one is because I started taking birth control pills; also, I feel much healthier.

It is a filthy habit; smells.

Because it's repulsive.

Never really liked it; tried it because I was bored.

I didn't like it because of the taste and smell; also, I saw how hard it was for my father to quit smoking.

Bad for your health.

It shows you do not care about yourself.

I just experimented; got nothing out of it--stopped.

Did not want to become addicted.

I tried it a few times and I knew it was unhealthy--did not continue because it might become a habit.

Unhealthy.

I tried it once and did not like it.

Know it is unhealthy; I am very active in sports, and I need all the lung capacity I can get.

It is bad for my health, and my clothing smells.

I only smoked two cigarettes, and I had no intention of making it a habit. I just wanted to try it.

I do not like the aftereffects--the severe headache and difficulty breathing.

Bad for health; waste of money.

I tried it because I was curious; I hated the smell.

Just those women who had never smoked a cigarette responded to Items 32 through 37 on the questionnaire. Item 32 asked whether these women had ever been offered a cigarette. Of the 40 participants who had never smoked cigarettes, 35 (87.5%) said they had been offered a cigarette, and 5 (12.5%) said they never had been offered a cigarette (see Table 32). Thus, a large majority of the nonsmokers in this study had been offered a cigarette at one time or another.

Table 32.--Responses of women who had never smoked a cigarette to the question: "Have you ever been offered a cigarette?"

Response	Number	Percent
Yes	35	87.5
No	5	12.5
Total	40	100.0

The participants who had never smoked were also asked whether a majority of their friends in middle school had been smokers or nonsmokers. Their responses are shown in Table 33. Of the 40 women who had never smoked, 39 responded to the question. All of them said that the majority of their friends in middle school had been

nonsmokers. It would seem that friends have a great influence on whether one has ever smoked.

Table 33.--Responses of women who had never smoked a cigarette to the question: "In middle school, were the majority of your friends smokers or nonsmokers?"

Response	Number	Percent
Smokers	-	--
Nonsmokers	39	100.0
Total	39	100.0

Participants who had never smoked were asked: "If you had an opportunity to smoke a cigarette but chose not to do so, why?" They could check as many response choices as they wished. As shown in Table 34, 2 respondents (5.1%) said they were afraid to be caught, 9 (23.1) were allergic to smoke, 32 (82.1%) thought smoking was unattractive, 7 (17.9%) could not participate in sports if they smoked, 33 (84.6%) did not like the characteristics of a smoker (odor, yellow teeth and fingers, etc.), 32 (82.1%) thought smoking was a waste of money, 25 (64.1%) thought smoking was a waste of time, and 10 (25.6%) gave other reasons. "Other" reasons were as follows:

> My father smoked and due to this developed asthma; he is now on oxygen 24 hours per day.
>
> I like to breathe--inhaling smoke is not breathing.

Something I feel that I didn't want to indulge in.

I do not want to become ill.

Did not want to risk my health.

Table 34.--Responses of women who had never smoked a cigarette to the question: "If you had an opportunity to smoke a cigarette but chose not to do so, why?"

Response	Number	Percent
Afraid to be caught	2	5.1
Allergic to smoke	9	23.1
Thought smoking was unattractive	32	82.1
Could not participate in sports	7	17.9
Do not like the characteristics of a smoker	33	84.6
Smoking was a waste of money	32	82.1
Smoking was a waste of time	25	64.1
Other	10	25.6

In Item 35, the 40 nonsmokers in the sample were asked whether the majority of their friends in high school had been smokers or nonsmokers; 39 responded to this item. One respondent (2.6%) indicated her friends primarily had been smokers; the remaining 38 (97.4%) said their friends mainly had been nonsmokers (see Table 35).

Table 35.--Responses of women who had never smoked a cigarette to the question: "In high school, were the majority of your friends smokers or nonsmokers?"

Response	Number	Percent
Smokers	1	2.6
Nonsmokers	38	97.4
Total	39	100.0

Responses to the question concerning what kind of high school these women had attended are included in Table 36. Of the 40 women who had never smoked, 33 (82.5%) went to public schools; the remaining 7 (17.5%) attended a private school.

Table 36.--Responses of women who had never smoked a cigarette to the question: "What kind of high school did you attend?"

Response	Number	Percent
Public	33	82.5
Private--religious	7	17.5
Private--nonreligious	-	--
Total	40	100.0

The last question in the section for nonsmokers was an open-ended one: "What do you feel is the main reason you never smoked?" The responses are summarized in Table 37.

Table 37.--Responses of women who had never smoked a cigarette to the question: "What do you feel is the main reason you never smoked?"

Response	Number	Percent
Bad effects on health	19	48.7
Dislike all aspects of smoking	16	41.0
Unattractive	11	28.8
Disliked the habit	7	17.9
Never tempted	6	15.4
Addictive	5	12.8
Allergic to smoke	2	5.1
Would have barred me from sports	2	5.1
Religion prohibits	1	2.6
Not needed to fit in	1	2.6

As shown in the table, a majority of respondents (19 or 48.7%) cited bad health effects as their reason for not smoking; 16 (41%) said they disliked all aspects of smoking, 11 (28.2%) found it unattractive, 7 (17.9%) disliked the habit, 6 (15.4%) had never been tempted, 5 (12.8%) said it was addictive, 2 (5.1%) said smoking would have barred from from sports, 2 (5.1%) said they were allergic to smoke, 1 (2.6%) said her religion prohibited smoking, and 1 (2.6%) said smoking was not needed to fit in. The verbatim responses to this question were as follows:

> Smoking was never a "big thing" for me--I felt it just was not becoming.
>
> Because my father smoked and developed asthma--he is now on oxygen 24 hours a day.
>
> Afraid of developing cancer.
>
> Because it was never really that appealing to me.

I never liked the smell of cigarettes, and I have too many bad habits as it is.

I always hated breathing the smoke from my mother's cigarettes. I came to know the health risks, and I do not want any part of it.

If something is so obviously bad for you, why do it?

It is bad for your health, and a person can become addicted.

I hate the dreadful smell.

My father smoked, and I didn't want to end up like him--always relying on a cigarette.

My parents both smoke, and I cannot stand the smell and dirtiness (ash trays, holes in clothing, etc.).

I hate the smell of the smoke, and it would be a really bad habit to start.

Smoking is dangerous to your health, and it makes you and your clothes and your house stink.

I feel that smoking risks good health, and with so many illnesses going around, why risk something you can control?

It is a bad habit--only the "burnouts" smoke.

My religion does not allow it.

It can cause cancer and lung problems.

I don't like to be around people who smoke--they smell.

I am allergic to it and think it is foolish.

Bad for my health.

There are no advantages to smoking.

I do not want to try it, because if I do, it could become a habit; I would become addicted, and it is unhealthy.

I am not one to fall under peer pressure to begin to smoke.

Women who smoke look very unattractive to men.

Bad for health; clothing smells.

It is boring; I have no interest in it.

My parents disapproved.

My parents do not smoke.

My father smoked, developed heart problems from it, and recently died; I find smoking repulsive.

It is hazardous to one's health and very unbecoming.

I was in a sports training center; I needed all the energy and endurance I had.

It is a sick, disgusting, unnecessary cancer promoter.

Bad for your health.

My grandfather smoked for many years; he developed lung problems--he was on an oxygen respirator for three years; after I saw this, it reaffirmed my idea of never to smoke.

Items 38 through 46 in the fourth part of the questionnaire were answered only by the sample members who presently smoked. Item 38 asked: "Do you feel that if you stopped smoking, you would gain weight?" Of the 19 smokers in the study, 18 responded to this question. Eleven (61.1%) believed that they would gain weight if they stopped smoking; 7 (38.9%) did not think so.

Table 38.--Responses of women who presently smoked cigarettes to the question: "Do you feel that if you stopped smoking, you would gain weight?"

Response	Number	Percent
Yes	11	61.1
No	7	38.9
Total	18	100.0

Smokers were asked whether they looked upon their smoking as a habit or an addiction. Their responses are shown in Table 39. Of the 17 women who answered this question, 12 (70.6%) saw their smoking as a habit; 5 (29.4%) said it was an addiction.

Table 39.--Responses of women who presently smoked cigarettes to the question: "Do you look upon your smoking as a habit or an addiction?"

Response	Number	Percent
Habit	12	70.6
Addiction	5	29.4
Total	17	100.0

Table 40 contains the smokers' responses to the item concerning how much they smoked. Of the 18 women who answered this question, 9 (50%) smoked less than one pack a day, 1 (5.6%) smoked one or more packs a day, 4 (22.2%) smoked one to two cigarettes socially, 2 (11.1%) smoked about one pack per week, and 2 (11.1%) said "other."

Table 40.--Responses of women who presently smoked cigarettes to the question: "How much do you smoke?"

Response	Number	Percent
One pack or less per day	9	50.0
One or more packs per day	1	5.6
Socially (one or two cigarettes)	4	22.2
About one pack per week	2	11.1
Other	2	11.1
Total	18	100.0

In Item 41, women were asked when they usually smoked. They could check as many response choices as they wished. As shown in Table 41, 13 (72.2%) of the respondents said they usually smoked at parties (drinking), 11 (61.1%) smoked when under stress, 8 (44.4%) smoked when writing term papers and during exams, another 8 (44.4%) smoked after a meal, 7 (38.9%) smoked in the car, and 5 (27.8%) smoked at other times. Two women wrote in: "When I'm inactive" and "When I'm watching soap operas."

Table 41.--Responses of women who presently smoked cigarettes to the question: "When do you usually smoke?"

Response	Number	Percent
At parties (drinking)	13	72.2
When under stress	11	61.1
When writing term papers, exams, etc.	8	44.4
After a meal	8	44.4
In the car	7	38.9
Other times	5	27.8

The women who currently smoked were asked whether they thought smoking was harmful to their health. Seventeen (94.4%) responded in the affirmative; 1 (5.6%) said she did not think smoking was harmful to her health (see Table 42).

Table 42.--Responses of women who presently smoked cigarettes to the question: "Do you think smoking is harmful to your health?"

Response	Number	Percent
Yes	17	94.4
No	1	5.6
Total	18	100.0

Item 43 asked respondents whether they would like to stop smoking. Of the 15 women who responded to this item, 10 (66.7%) said they would like to stop smoking, 3 (20%) said they did not care, and 2 (13.3%) checked "other." Not one of the participants said she did not want to stop smoking (see Table 43).

Table 43.--Responses of women who presently smoked cigarettes to the question: "Would you like to stop smoking?"

Response	Number	Percent
Yes	10	66.7
No	-	--
Do not care	3	20.0
Other	2	13.3
Total	15	100.0

Participants who currently smoked were asked how old they were when they became a "regular" smoker (half a pack or more per day). Their responses are shown in Table 44. Of the 12 women who responded to this item, 1 (8.3%) said she was 14 or 15, 6 (50%) said they were 16 or 17, and 5 (41.7%) said they were 19 or 20.

Table 44.--Responses of women who presently smoked cigarettes to the question: "How old were you when you became a regular smoker?"

Response	Number	Percent
14 or 15	1	8.3
16 or 17	6	50.0
19 or 20	5	41.7
21 or 22	-	--
Total	12	100.0

Item 45 asked whether the participants' parents were aware that their daughters currently smoked. Of the 18 women who responded to the question, half (9 or 50%) said their parents were aware that they smoked; the other half (9 or 50%) said their parents did not know about it (see Table 45).

Table 45.--Responses of women who presently smoked cigarettes to the question: "Are your parents aware that you are a smoker?"

Response	Number	Percent
Yes	9	50.0
No	9	50.0
Total	18	100.0

Current smokers were asked, "What do you think is the main reason you smoke cigarettes?" Responses to this open-ended question are shown in Table 46.

Table 46.--Responses of women who presently smoked cigarettes to the question: "What is the main reason you smoke?"

Response	Number	Percent
Reduces stress	7	41.2
Addicted	4	23.5
Habit	4	23.5
Needed with alcohol	3	17.6
Control weight	3	17.6
Like the taste	2	11.8
Social function	2	11.8

As shown in Table 46, 7 (41.2%) respondents said they smoked to reduce stress, 4 (23.5%) said they were addicted, another 4 (23.5%) said it was a habit, 3 (17.6%) said they needed cigarettes with their alcohol, 3 (17.6) smoked to control their weight, 2 (11.8%) liked the taste, and 2 (11.8%) smoked at social functions. Verbatim responses were as follows:

I am addicted--I cannot stop [4 responses].

It is something to do at parties--when I drink I smoke; they seem to go together.

I smoke to control my weight [3 responses].

Gives me something to do with my hands.

Nicotine is a drug--helps me wake up in the mornings--like caffeine.

I was very impressed that the manager where I worked smoked--so I tried it; it gave me a "buzz," so I continued.

Most people say I do not look like a smoker; I don't like the idea that I smoke; it is very difficult to stop; I will try over the summer.

I smoke when I drink alcohol; relieves tension.

It's a social thing; it's something to go to when there is no one or nothing else to do.

Relieves tension, anger, and frustration; helps me relax.

To increase my "highness" when drinking.

I love the smell and taste.

When I manage to quit and others around me are smoking, I start again.

I like the buzz.

I like to smoke--it relaxes me.

I first started because of stress; I have continued because I am addicted.

When I'm frustrated; for relaxation.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

The major purpose of this study was to examine females' perceptions of various aspects of smoking. These aspects included, but were not limited to, what factors were influential in their smoking or not smoking, physiological and physical effects of smoking, and the factors they thought caused them to continue the habit. The major hypothesis was that certain variables are common to those women who have never experimented with smoking, those who once smoked but have discontinued, and those women who presently smoke on a regular basis. Each variable was considered separately according to the three categories (never smoked, once smoked/do not smoke now, and presently smoke).

Two hundred women were asked to respond to a questionnaire designed to elicit their perceptions (in retrospect) of why they chose to smoke or not to smoke in their adolescence. The study was conducted during spring term 1988. The questionnaire was distributed to 200 women at Hubbard Hall at Michigan State University. From this sample, 130 (65%) questionnaires were fully completed and returned to the researcher.

The chi-square statistic was used in analyzing the data. The .05 level of confidence was used to determine statistical significance.

The statistically significant findings and prevalent variables are reported in this chapter, based on the analysis of data in Chapter IV. Conclusions are drawn, based on the statistically significant data. It should be noted that a number of tables, when cross-tabulated, have cells with fewer than five subjects and thus should be collapsed. However, the significant results from the study, shown in Tables 15 and 26, are not compromised by this problem. The n in Table 19 is less than five, but that table is so close to Table 26 in its emphasis that it is acceptable. Finally, recommendations are made for further research.

Summary of Findings

In high school, where was most of the smoking done?

In response to this question, when cross-tabulated with the three female smoking categories, the following was found: Of the respondents who never had smoked, 23.1% said that smoking was done at parties where alcohol was served, 12.8% in cars, 15.4% in designated high school smoking areas, 28.2% in school restrooms, 7.7% in parks, and 12.8% in other areas. Of the women who once smoked but did not presently do so, 62% responded that smoking was done at parties where alcohol was served, 9.9% in cars, 5.6% in designated high school areas, 12.7% in school restrooms, 1.4% in parks, and 8.5% in other areas. Of the women who presently smoked,

63.2% said that smoking was done at high school parties where alcohol was served, 10.5% in cars, 10.5% in designated areas, 10.5% in school restrooms, and 5.3% in other places. The chi-square value of 20.0136 was high, and the p-value of .0291 was less than .05. Thus, at the .05 level, the null hypothesis that the smoking pattern and the location where they observed most smoking to take place in high school are independent was rejected. There was evidence to indicate that there was a relationship between the participants' smoking category and where most smoking took place in high school. Because the p-value was greater than .01, the null hypothesis was not rejected at the .05 level. Thus it can be concluded, based on the findings, that most smoking in high school was done at parties where alcohol was available and/or consumed.

Did you feel you were overweight when you were in high school?

In response to this question, when cross-tabulated with the three female smoking categories, the following was found: Of the women who had never smoked, 28.2% thought they were overweight, and 7.18% did not think they were overweight. Of those who once smoked but did not presently do so, 38% thought they were overweight in high school, and 62% did not. Of the women who presently smoked, 68.4% thought they were overweight in high school, and 31.6% did not have that perception. The chi-square value of 8.7937 was high, and the p-value of .123 was less than .05. Thus, the null hypothesis that the participants' smoking patterns and their perceptions of being overweight are independent was rejected. At the .01 level,

the null hypothesis would barely fail to be rejected because the p-value was marginally greater than .01. Thus, it can be concluded that the majority of women who presently continued to smoke considered themselves to be overweight when in high school.

Do you feel that smoking is addictive and difficult to control?

Although there were three missing observations, this was not relevant with a large sample size of 130. It was found that, of the 127 participants who answered this question, 85% said yes, they thought smoking was addictive and difficult to control, 11% said no, and 3.9% commented about it. Of those who had never smoked, 89.7% said yes, 7.7% said no, and 2.6% had other comments. Of the women who used to smoke but did not presently do so, 89.9% said yes, 8.7% said no, and 1.4% made comments (listed below). Of those who presently smoked, 58.9% said yes, 26.3% said no, and 15.8% had some comments. The comments respondents made were as follows:

Only if it gets out of hand (1-3 packs per day).

I feel it is very addictive; it is very hard to control; my father has tried to stop many times.

Depends on the reason someone smokes.

Depends on the person.

It depends how strong you are.

Once a person is addicted, it is difficult to stop.

Nicotine is very addictive.

I can go home and stop for weeks at a time.

Extremely addictive.

For some people; depends how long they have been smoking.

For many it is addictive, not for me.

The chi-square computation resulted in a value of 14.7493 with 4 degrees of freedom; the p-value was .0053. Based on these data, the null hypothesis was rejected, even at the .01 level. There seems to be reason to believe that participants' smoking patterns are related to their beliefs about whether smoking is addictive and difficult to control.

Have you ever smoked marijuana?

In response to this question (Table 20), when the female smoking categories were cross-tabulated, the following was found: Of the 129 women who answered this question, 56.6% said they had smoked marijuana; 43.4% said they had not. Of those who had never smoked cigarettes, 12.8% said they had smoked marijuana; 87.2% said they had not. Of those who had stopped smoking, 74.6% had smoked marijuana, and 25.4% had not. Of those who presently smoked, 78.9% had smoked marijuana, whereas 21.1% had not. The chi-square value was 43.7048 with 2 degrees of freedom; the p-value was .0000. Thus, the null hypothesis was rejected, even at the .01 level. Thus there was reason to think that the participants' smoking patterns and whether they had ever smoked marijuana were not independent.

A chi-square analysis was not performed on the question asking the participants' opinions on the effects smoking has on a woman's attractiveness, sophistication, and so on, because the participants could check as many response categories as they wanted and the categories overlapped. The responses were not statistically valid,

but nevertheless should be examined in light of the fact that many of the responses, including the open-ended questions, led this researcher to conclude that participants thought women who smoke are unattractive and do not look sophisticated. Of the 125 women who responded to this item, 83 (66.4%) said women who smoke are unattractive, 2 (1.6%) said that women who smoke look sophisticated, 81 (64.8%) said women who smoke do not look sophisticated, and 25 (20%) wrote other responses. These included:

There is no difference between women who do and do not smoke.

Does not detract from a woman's appearance.

Women who smoke are unappealing to men.

Looks "cheap."

They are addicted.

[They] are ignorant.

Makes them look independent.

Does not matter; depends who is judging the woman.

Their hair smells.

Looks lower class.

Did not enjoy it; if I got caught I'd be in trouble.

It's a turn-off.

They smell terrible!

None of those listed.

Risking their health and, if pregnant, their unborn child's.

Thus, the majority of participants in this study attributed some negative or unattractive characteristic to smoking.

To establish a difference between the participants' perceptions of whether they thought smoking was a habit or an addiction (Table 26), they were asked to choose between the two. The researcher's inherent presumption was that an "addiction" was "the quality or state of being addicted; the compulsive, uncontrolled use of habit-forming drugs beyond the period of medical need or under conditions harmful to society" (Webster's Third New International Dictionary, 1976, p. 24). In contrast, a habit signifies a way of acting or thinking done frequently enough to have become unconscious or premeditated in each repetition or to have become compulsive (Webster's Third New International Dictionary, 1976, p. 1017). It was found that 27% of the subjects who had never smoked thought that smoking was a habit, whereas 73% thought it was an addiction. Of those who had once smoked but presently did not do so, 39.1% thought smoking was a habit and 60.9% thought it was an addiction. Of the present smokers, 68.4% responded that smoking was a habit and 31.6% thought it was an addiction. Thus, in light of the above, it can be concluded that the majority of participants thought that smoking is addictive.

The question asking participants whether smoking is harmful to the smoker's health was not statistically significant, but it did elicit a factor that should be brought to light. All of the women (100%) who participated in the study and had never smoked thought that smoking was harmful to one's health. It should also be noted that 98.6% of the women who once smoked but did not presently smoke and 94.7% of the present smokers thought that smoking is harmful to

one's health. Thus, it can be stated that the majority of participants thought that smoking causes health problems (Table 27).

The question asking women who had once smoked but presently were not smokers (Table 28) why they presently were not smokers was not statistically significant but should be examined because of the responses. It should be pointed out that 71.4% responded that they discontinued smoking because of the odor and discolored teeth and fingers; 51.4% said that smoking was a waste of money. Respondents also added that:

My boyfriend and his family did not like my smoking.

Harmful to my health.

I did not like the taste or smell.

It's bad for your health.

Did not like it at all; looks bad.

Makes me feel physically ill.

It is harmful to my health.

The questions asking whether the women's parents were aware that they smoked cigarettes and, if they did know, what were their views were not statistically significant. But after tabulating the responses, it should be stated that, when the respondents were in high school, the majority of their parents did not know that they smoked (Table 29). When asked what they thought their parents' views were on their smoking, 58.8% responded that their parents did not know and 29.4% said that their parents were opposed to their smoking. There were additional responses such as:

They realized it was an experiment and stated their disapproval.

Did not support my smoking.

They felt it was my own choice.

They realized I was just experimenting.

I told them that I tried.

They were very happy that I chose not to smoke.

When participants were asked an open-ended question (Item 31) about, if they had once smoked, but do not smoke now, why they felt that they were presently nonsmokers. Sixty-two of the 70 women who had quit smoking responded to this question. The majority of participants said they had discontinued smoking because of the harmful effects on their health. Additional responses were because of the unpleasant smell (24.2%) and that smoking was unattractive and "stupid" (21%). In addition, verbatim responses to this question were:

I am intelligent enough to know how harmful it is to my health.

I want to live longer; there are enough other diseases in this world to worry about. I do not want to voluntarily take several years off of my life.

I only smoked at parties, but then I realized how rude and inconsiderate I was to others; also smells bad.

Tastes disgusting.

It makes me feel sick; I do not have time for smoking to slow me down.

Items 32 through 37 on the questionnaire were intended to be answered by women who had never smoked a cigarette. It can be summarized from the responses that:

1. A great majority of these women had been offered a cigarette at one time or another.

2. All of the respondents' friends (in middle school) had been nonsmokers. This question was reemphasized when asked in relation to high school attendance. Again, the majority of nonsmoking adolescents associated with nonsmoking friends. Although this study did not statistically support this, it did support much of the evidence found in the literature--that nonsmoking women associate with nonsmokers.

3. Many women thought that smoking was unattractive (82.1%--Table 34) and did not like the characteristics of smokers (odor, yellow teeth, stained fingers--84.6%) and thought smoking was a waste of time (64.1%) and money (82.1%).

4. Again, the women's feelings on the ill effects of smoking were reaffirmed (Table 37) and were supported by verbatim responses. These included: afraid of cancer and lung problems, a family member is now suffering because of past smoking habits, disliked smell and second-hand smoke, and leads to heart ailments.

5. It is important to note that, even from the "now smoking" category, 94.4% of the respondents supported the fact that they thought smoking is harmful to one's health (Table 42).

The fourth part of the questionnaire was to be answered by women who currently were smokers. The following was found:

1. The majority (61.1%) thought that if they stopped smoking they would gain weight.

2. It is interesting that a great many women from this group (70.6%) looked on smoking as a habit (Table 39); thus, it could be presumed that they thought they could discontinue the habit if they so desired.

3. The correlation between the present smokers and alcohol use was evident (Table 41). When asked, "When do you usually smoke?" the majority (72.2%) of the participants responded that smoking took place at parties where alcohol was consumed.

4. A large percentage of the women (41.2%) stated that the main reason they smoked was to reduce stress.

Conclusions

Based on the statistically significant findings (Tables 14, 15, 19, and 26), several conclusions can be drawn. First, based on the findings (Table 14), smoking in high school was done mostly at parties where alcohol was available and/or consumed. Second, those women who smoked in high school (and were presently smokers) considered themselves to be overweight when in high school. As adolescents they were concerned with their weight and thus, it could be presumed, chose to smoke in order to curb their appetite and most likely thought that if they discontinued smoking, there would be a weight gain (Table 15). Finally, women in all three categories (never smoked, once smoked/do not smoke now, and presently smoke) looked upon smoking as an addiction (Tables 19 and 26).

Recommendations for Further Research

This study was limited because the sample was university women, and they were asked to respond to their feelings and actions that had taken place a number of years before the study. It is this researcher's premise, after completing an extensive analysis of literature on various aspects of smoking, that adolescent females experiment with smoking at an early age, usually with friends who smoke and while consuming alcohol (as statistically supported). This conclusion has implications but is not conducive to future study because not much can be done about it.

Adolescents believe they are immortal and rarely think that smoking is addictive; they believe it will in no way cause them any harmful health consequences. This researcher found that women (those who never smoked, those who once smoked but did not do so now, and those who presently were smokers) believed that smoking is addictive. The women were not asked whether, when they were adolescents, they thought smoking was addictive. It would be safe to presume that their response about addiction was based on their perceptions as college-age students. A longitudinal study should be done to pinpoint at what age women begin to see that smoking is an addiction.

Also, future researchers should survey adolescent females and base their questions on finding a correlation between alcohol consumption and tobacco use. Questions should be directed at finding whether smokers think tobacco use adds to the euphoria when consuming alcohol and why. Also, questions should be developed to

find answers as to why peer pressure plays such a major role in smoking induction. If an adolescent's friend shaves his or her head or decides to wear a nose ring, why is this behavior not as likely to be followed as accepting a cigarette from a peer and smoking it? Adolescence is a time for experimentation, and it is natural for adolescents to be curious about various activities participated in by those who are older. The problem arises when smoking is no longer an experiment but becomes an addiction.

From the time this study began, in 1988, until its completion in 1992, various smoking-reduction steps have been implemented. At this time (1992), smoking is banned in many public and private places. To mention only a few, most domestic airlines prohibit smoking, smoking is banned in most state and federal buildings, most educational institutions (at all levels) have initiated rules prohibiting faculty smoking in any part of the building, and many large corporations have followed suit. Countless cigarette machines have been removed from public and private facilities. If one takes an informal survey of major sporting or cultural events today, it would be safe to say that the majority of spectators are nonsmokers. As research has shown, smoking is declining among both men and women. But the fact remains that, for those people who <u>are</u> addicted to nicotine, it is an addiction that is nearly impossible to conquer. Fake cigarettes, nicotine gums, and patches have been developed with very little success.

As mentioned before, tobacco companies have become diversified or have merged with companies producing other products. The billion-dollar tobacco industry will not discontinue the manufacture of cigarettes because the U.S. Surgeon General, American Cancer Society, and other scientific researchers have found and supported the harmful effects of tobacco use. Congress continues to have lobbyists working for tobacco companies, and cigarette manufacturers are developing creative advertising in order to find new customers for their products. As discussed before, researchers have found that the majority of smokers began smoking when they were adolescents. More programs should be introduced in elementary and middle schools that "down-play" smoking. The message should not be centered on the harmful effects of smoking on health but should stress various unattractive aspects of cigarette smoking. As Krupka et al. (1990) stated, programs should be developed that teach adolescents the necessary skills that would inhibit them from being seduced by advertising messages for glamour, social acceptability, success, independence, and/or sophistication.

Also, researchers could investigate why so many women smoke to reduce stress. Scientific studies could be conducted to determine whether there are chemical components in cigarettes that cause such an effect and whether they could be isolated from nicotine and perhaps produced and administered in other forms.

In addition, this researcher found that many women use smoking as a way to control weight or weight gain. Scientific research has shown that nicotine can be an appetite suppressant. Further

investigation could be done to determine whether there are other chemical components in cigarettes that suppress the appetite but do not have the harmful effects of nicotine. These components could be isolated and a method to deliver this appetite suppressant could be found, creating a new way to control weight. Furthermore, anti-smoking programs for adolescents should incorporate some form of behavior modification that would show that there are methods other than smoking that can be used to control weight.

Federal and state government agencies should work together with publishers and television stations in creating negative messages about smoking for the youth of today. Government agencies should give advertising companies incentives if they create anti-smoking campaigns and advertisements. The ultimate goal would be to ban all cigarette advertising in the United States.

APPENDICES

APPENDIX A

CORRESPONDENCE

MICHIGAN STATE UNIVERSITY

DIVISION OF STUDENT AFFAIRS AND SERVICES
UNIVERSITY HOUSING PROGRAMS
STUDENT SERVICES BUILDING

EAST LANSING • MICHIGAN • 48824-1113

March 17, 1988

Sylvia Meija
4221 Van Atta Rd.
Okemos, MI 48864

Dear Ms. Meija,

This letter will serve as formal approval for the use of a table outside of the cafeteria area in Hubbard Hall for Monday, April 11, 1988. This table will be used for interviewing women from South Hubbard Hall on whether they smoke or not and why.

I realize that this is the first step in developing a questionnaire which will be used to obtain information for research as part of a Ph.D. requirement. The staff at Hubbard Hall is willing to assist you in placing the questionnaires in mailboxes within our building. However, before this is done, myself and Robert Wiltsie will need to review the completed questionnaire.

I look forward to seeing you on April 4, 1988. If I can be of any assistance before then, don't hesitate to contact me.

Sincerely,

Mary-Beth Cooper
Resident Director
Hubbard Hall

MBC/cm

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
206 BERKEY HALL
(517) 353-9738

EAST LANSING • MICHIGAN • 48824-1111

April 18, 1988 88-113

Silvija D. Meija
4221 Van Atta Road
Okemos, MI 48864

Dear Ms. Meija:

Subject: A Study of Adolescent Female Smoking Patterns

The above project is exempt from full UCRIHS review. I have reviewed this project and approval is granted for conduct of this project.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval prior to April 13, 1989.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

John K. Hudzik, Ph.D.
Chair, UCRIHS

cc: Dr. E. Nonnamaker

JKH/mm

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
206 BERKEY HALL
(517) 353-9738

EAST LANSING • MICHIGAN • 48824-1111

May 31, 1988

Silvia Meija
4221 Van Atta Road
Okemos, MI 48864

Dear Ms. Meija:

Subject: "PROPOSAL REGARDING ADOLESCENT FEMALE SMOKERS **IRB# 88-188**"

The above project is exempt from full UCRIHS review. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to May 31, 1989.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar

cc: E. Nonnamaker

4221 Van Atta Road
Okemos, Michigan 48864
(517) 349-5563

Residence Director
Hubbard Hall
Michigan State University
East Lansing, Michigan 48824

Dear Ms. Cooper:

I am a Ph.D. candidate in the College of Education at Michigan State University. Presently, I am completing research on the factors and variables that cause women to smoke.

I would like to obtain women volunteers from Hubbard Hall to use in my random sampling. The tentative procedure would first involve a sample interview of approximately ten women who smoke and ten women who have never smoked. I would obtain the women by setting up a table in the lobby during the dinner hour, or any time you feel would be appropriate. The women would volunteer to be interviewed for a few minutes. The questions for the interview would be taken from the attached questionnaire. Only a few questions will be used from the instrument, and no names will be used. Again, the participation will be strictly voluntary, and no names will be used. The volunteers will be compensated in some way, perhaps a certificate to a movie or for a local restaurant.

After obtaining common variables, a questionnaire will be developed. This will be randomly placed in 100 to 150 women's mail boxes. The method of return will be my returning it to a designated place at the front desk or in a stamped return envelope. This will be decided by our mutual agreement. Again, completing the questionnaires will be voluntary, and no names will be used.

All questions used in the preliminary interview and those on the instrument (questionnaire) will be approved by my doctoral committee and the Committee on Research Involving Human Subjects at Michigan State University.

The residence hall staff will have no responsibilities other than to suggest a time for the interviews to take place and placing the questionnaires in the mail boxes. I am willing to place the questionnaires myself. I anticipate the date for the interviews to be in late march and the questionnaire to be distributed about three weeks later. If you have any questions, please do not hesitate to contact me (349-5563).

Sincerely,

S. Meija

May 24, 1988
4221 Van Atta Road
Okemos, Michigan 48864
(517) 349-5563

Residence Director
Hubbard Hall
Michigan State University
East Lansing, Michigan 48824

Dear Ms. Cooper:

Enclosed is a copy of the questionnaire I intend to distribute to women of Hubbard Hall. The tentative distribution date is the first week of June 1988.

I will be waiting for your response.

Thank you.

Sincerely,

S. Meija

INTERNAL BOOKING

Winter 87
Booking Number

Event Ph.d. Research

Group Name Sylvia Meija

Group Representative Sylvia Meija Address 4221 Van Atta Road Tel. 349-5563
Okemos, MI 48864

Advisor Responsible _____ Address _____ Tel. _____

MEETINGS:

Day	Date	Time	Place	No.	Setup
Monday	4-11-88	4:00-7:00 pm	Alcove Area		see below

Charges for Setup or Meeting Space $ _____

FOOD SERVICE:

Day	Date	Time	Place	No.	Type of Service

Charges for Food Service $ _____

CATERING:

Day	Date	Time	Place	No.	Type of Service

Charges for Catering $ _____

OTHER INFORMATION:

Set-up: a table and chair

Collection By: Mgr. _____ Group Rep. _____ Other _____
How: Cash _____ Acct. Trans. _____
Account Name Hubbard Hall
Account Number _____

Charge Summary: Meetings $ _____
Food Service $ _____
Catering $ _____
Other $ _____

Distribution
White – Group Rep.
Blue – Resident Director (2)
Canary – FSM (2)
Green – BLD
Pink – Mgr.
Goldenrod – _____

Bob Littlefield
Manager

3-2-88
Date

RH-16

MSU is an Affirmative Action/Equal Opportunity Institution

O-14409

YOUTH ANTI-SMOKING PROGRAMS

Youth Gives a Damn (California)

Youth Board (Virginia Lung Association)

Doggone Excuses People Make for Smoking (Boy's Club, Camarillo, California)

Pregnant Adolescents and Smoking (University of Minnesota)

Bio Feedback (New Hampshire Lung Association)

Smoking and Carbon Monoxide (American Lung Association of New York)

Smoking and Health Experiments, Demonstrations and Exhibits (Office on Smoking and Health)

Students Teaching Students (Wisconsin Lung Association)

Counseling Leadership About Smoking Pressures (Stanford Heart Disease Prevention Program, American Lung Association)

"I'll Never Smoke--I'm No Sucker" (American Lung Association of Iowa)

Life Skills Training (American Health Foundation)

Sunflower Project (Kansas)

Assertiveness Training and Smoking Education (Department of Health Education, State University of New York at Buffalo

Know Your Body (American Health Foundation)

Chicago Heart Health Curriculum Program (Chicago Heart Association and HAPP)

An Early Start to Good Health and ACS Health Network (American Cancer Society)

Feelin' Good (YMCA)

Tobacco Education Curriculum (American Lung Association of New York State)

Our Breathtaking Lungs (Wisconsin Lung Association)

The above-listed programs are only a few in existence.

APPENDIX B

INTERVIEW GUIDE AND QUESTIONNAIRE

Interview sign:

ATTENTION WOMEN:

F R E E

AMC Theater gift certificate for participating in a

SMOKING SURVEY

Today, from 4-6 p.m.

5 minutes

Needed: Non-smokers and smokers

NO NAMES NEEDED

CONSENT FORM

Subject's Copy

Please do not tell me your name or write it on any papers.

Your participation is voluntary, and you may stop the interview at any time without penalty.

You will receive one gift certificate for the amount of four dollars for the AMC Theaters. This will be given upon the completion of the interview.

If you do not wish to answer a specific question, you are under no obligation to do so.

The questions I will ask are in reference to the time you were an adolescent. Try to be as accurate and honest as possible.

INTERVIEW GUIDE

Sex: Female

What ethnic group do you belong to?

Did one (or both) of your parents smoke cigarettes?

Did any of your brothers or sisters smoke cigarettes?

When you were an adolescent, what was your parents' occupation?

When you were an adolescent, did you feel you were overweight?

When you were in middle school/high school, did you participate in school sports or school clubs?

What kinds of grades did you have when you were in middle school or high school?

How old were you when you were first offered a cigarette?

When you had your first opportunity to smoke a cigarette, why did you choose to take it? Not take it?

When you smoked your first cigarette, where were you? Explain.

When you smoked your first cigarette who were you with?

Where did you get your first cigarette?

When you were in middle school/high school, did many of your friends smoke? (Where and when did they smoke?)

When you were in middle school/high school, was smoking usually done while there was drinking (alcohol)?

When you were in middle school/high school and you had opportunities to smoke a cigarette, why did you choose not to try? (Intended for those subjects who have never smoked.)

If you are not a smoker, how do you view those women who do smoke?

If you are a regular smoker, why do you feel you smoke?

If you are a regular smoker, would you like to quit?

Comments or suggestions:

The attached questionnaire is part of a research project being done for the completion of my Ph.D. degree at Michigan State University. The purpose is to find why women experiment with smoking, why some women continue to smoke and others discontinue the use of tobacco.

I would appreciate you taking five minutes and answering the questions. Please be as honest and accurate as possible.

The questionnaire is anonymous; DO NOT WRITE YOUR NAME on any of the pages.

This questionnaire is intended for women who:

have never smoked a cigarette.

have tried smoking (any amount) at one time, but are presently not smokers.

are presently regular smokers (daily) or are social smokers (smoke occasionally).

The completion of the questionnaire is an indication that you willingly participate in the survey and authorize the use of your responses in the research. You indicate your voluntary agreement to participate by completing and returning this questionnaire.

Please complete this as soon as possible, place it into the attached envelope, and seal. Return it to the FRONT DESK OF HUBBARD HALL. Please do so by Saturday, June 4, 1988.

Your cooperation is appreciated!

THANK YOU!

DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE.

This questionnaire is divided into four sections. Please begin with Part A (for ALL participants). Then choose the section that explains your smoking habits: Part B, you have smoked a cigarette (any amount) but presently do not smoke; Part C, you have never smoked a cigarette; Part D, you now smoke (any amount, socially, special occasions, or daily).

If not otherwise indicated, check only one response.

Part A

ALL PARTICIPANTS FILL IN

1. Please specify which category you belong to:

   ___ Never smoked a cigarette
   ___ Have smoked a cigarette (any amount) but presently do not smoke
   ___ Presently smoke (any amount; daily or socially)

2. How old are you?

   ___ 17 or 18 years old
   ___ 19 or 20 years old
   ___ 21 or 22 years old
   ___ 22 or older

3. What is your race?

   ___ White
   ___ Black
   ___ Hispanic
   ___ Asian
   ___ American Indian
   ___ Other

4. When you were an adolescent, did any of the following family members smoke cigarettes?

   ___ Mother
   ___ Father
   ___ Brothers/sisters
   ___ No one smoked

5. When you were an adolescent, what was your mother's view on smoking? (Check as many as you wish.)

___ Disapproved of anyone smoking
___ Thought smoking was acceptable
___ Was supportive that you did not smoke
___ Was supportive of your smoking
___ Did not care
___ Other _____

6. When you were an adolescent, what was your father's view of cigarette smoking? (Check as many as you wish.)

___ Disapproved of anyone smoking
___ Thought smoking was acceptable
___ Was supportive that you did not smoke
___ Was supportive of your smoking
___ Did not care
___ Other _____

7. What kinds of grades did you get in high school?

___ A/B
___ B/C
___ C/D

8. When you were in high school, did you participate in school sports (intramural or team sports)?

___ Yes
___ No

9. If you participated in school sports, did school personnel discourage (or prohibit) smoking by team members?

___ Yes
___ No
___ Did not participate

10. When you were in high school, what was your father's occupation?

___ Professional
___ Clerical
___ Technical
___ Factory
___ Other _____

11. When you were in high school, what was your mother's occupation?

___ Home
___ Professional
___ Clerical
___ Factory
___ Other _____

12. How old were you when you smoked your first cigarette?

___ Never smoked
___ 8/9
___ 10/11
___ 12/13
___ 14/15
___ 16/17
___ 18/19
___ Other _____

13. Whom were you with when you smoked your first cigarette?

___ Never smoked
___ Friend(s)
___ Alone
___ Brother/sister
___ Other _____

14. With your experience or observations, in middle school/high school, was most of the smoking done:

___ At parties where alcohol was used
___ In cars
___ In designated school smoking areas
___ In school restrooms
___ In parks
___ Other _____

15. When you were in middle school/high school, did you feel that you were overweight?

___ Yes
___ No

16. When you were in middle school/high school, did you think that smoking would decrease your appetite?

___ Yes
___ No

17. Do you NOW feel that smoking controls weight gain (decreases appetite)?

___ Yes
___ No

18. Do you think that smoking is a habit that is easily controlled?

___ Yes
___ No

19. Do you feel that smoking is addictive and difficult to control?

___ Yes
___ No
___ Comments _____

20. Have you ever experimented with smoking marijuana (one or more)?

___ Yes
___ No

21. Do you feel that smoking cigarettes is the first step in progression to smoking marijuana?

___ Yes
___ No

22. Do you feel that smoking cigarettes leads to the use of other drugs (coke, crack, LSD, etc.)?

___ Yes
___ No

23. Do you feel that smoking cigarettes is harmful to your health?

___ Yes
___ No

24. Do you feel that women who smoke (check as many as you wish):

___ Are more attractive
___ Are attractive
___ Look sophisticated
___ Do not look sophisticated
___ Other _____

25. Do you feel that women who smoke have an easier time in controlling their weight?

___ Yes
___ No

26. Do you look upon smoking as a habit or an addiction?

___ Yes
___ No

27. Do you think that smoking is harmful to a person's (smoker's) health?

___ Yes
___ No

Part B

WOMEN WHO HAVE SMOKED (ONE OR MORE CIGARETTES) BUT PRESENTLY DO NOT SMOKE

28. Why are you presently not a smoker?

___ Can not participate in sports
___ Allergic to smoke
___ Do not like the characteristics of a smoker (odor, yellow teeth and fingers, etc.)
___ Smoking is a waste of time
___ Smoking is a waste of money
___ Other _____

29. Are (were) your parents aware that you smoked (have smoked) cigarettes?

___ Yes
___ No

30. What were your parents' views on <u>your</u> smoking?

___ They did not know
___ They knew I smoked but did not care
___ Were supportive of my smoking
___ Were opposed to my smoking
___ Other _____

31. If you experimented with smoking as an adolescent (any amount) or smoked on a regular basis but <u>do not smoke presently</u>, why do you feel you do not smoke?

_____
_____
_____

Part C

WOMEN WHO HAVE NEVER SMOKED A CIGARETTE

32. Have you ever been offered (or had an opportunity) to smoke a cigarette?

___ Yes
___ No

33. In middle school, were the majority of your friends?

___ Smokers
___ Nonsmokers

34. If you had an opportunity to smoke a cigarette but chose not to do so, why? (Check as many as you wish.)

___ Afraid to be caught
___ Allergic to smoke
___ Thought smoking was unattractive
___ Could not participate in sports
___ Do not like the characteristics of a smoker (odor, yellow teeth and fingers, etc.)
___ Smoking was a waste of money
___ Smoking was a waste of time
___ Other _____

35. In high school, were the majority of your friends:

___ Smokers
___ Nonsmokers

36. What kind of high school did you attend?

___ Public
___ Private (religious)
___ Private (nonreligious)
___ Other _____

37. What do you feel is the main reason you never smoked?

_____
_____

Part D

WOMEN WHO ARE PRESENTLY SMOKERS (ANY AMOUNT, SOCIALLY, SPECIAL OCCASIONS, DURING EXAMS, DAILY, ETC.)

38. Do you feel that if you stopped smoking, you would gain weight?

___ Yes
___ No

39. Do you look upon your smoking as a habit or an addiction?

___ Habit
___ Addiction

40. How much do you smoke?

___ One pack or less per day
___ One or more packs per day
___ Socially (one or two cigarettes)
___ About one pack per week
___ Other _____

41. When do you usually smoke? (Check as many as you wish.)

___ When under stress
___ When writing term papers, exams, etc.
___ After a meal
___ In the car
___ At parties (drinking)
___ Other _____

42. Do you think smoking is harmful to your health?

___ Yes
___ No

43. Would you like to stop smoking?

___ Yes
___ No
___ Do not care
___ Other _____

44. How old were you when you became a "regular" smoker (half a pack or more per day)?

___ Under 13
___ 14 or 15 years old
___ 16 or 17 years old
___ 19 or 20 years old
___ 21 or 22 years old

45. Are (were) your parents aware that you are a smoker?

___ Yes
___ No

46. What do you think is the main reason you smoke cigarettes?

_____
_____
_____

Thank you for your honesty and time.

PLEASE PLACE THIS QUESTIONNAIRE IN THE ATTACHED ENVELOPE.

RETURN TO THE FRONT DESK OF HUBBARD HALL

by Saturday, June 4, 1988

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