

8-1-1996

## The Effects Of A Smoking Prevention Program On The Post-Test Knowledge Levels And Attitudes Of Seventh And Eighth Grade Students

Sandra E. Stinson

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THE EFFECTS OF A SMOKING PREVENTION PROGRAM ON THE  
POSTTEST KNOWLEDGE LEVELS AND ATTITUDES OF  
SEVENTH AND EIGHTH GRADE STUDENTS

by  
SANDRA E. STINSON

A Thesis  
submitted in partial fulfillment of the requirements  
for the Degree of Master of Science in Nursing  
in the Division of Nursing  
Mississippi University for Women

COLUMBUS, MISSISSIPPI

AUGUST, 1996

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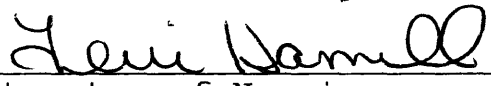
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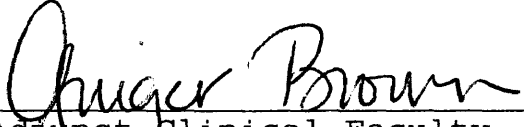
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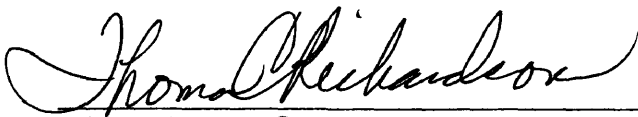
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## Acknowledgements

Many people have provided support and have contributed to the attainment of my master's degree. Many thanks and appreciation are extended to the people in my life who were supportive in this endeavor.

Thank you, Dad, Mom, Susan, Scott, and Trey for your support and love throughout this school year.

Thank you, Dr. Mary Pat Curtis, my advisor, for your immeasurable support and unlimited wisdom. I never would have made it through this year without your guidance.

Thank you, Terri Hamill and Ginger Brown, my committee members, for your assistance and support throughout this project.

Thank you, Mary Ware, my aunt, for your supportive guidance and listening ear.

Thank you, Dr. Bill Frazier, for making me laugh and for encouraging me throughout this school year. It was because of you that I chose a topic related to pulmonary care in the primary setting.

Thank you, Heather, Martha, Necole, Judy, and Gloria for listening to my trials and triumphs during this year.

Thank you to all my close friends who have supported and loved me throughout this program.

## ABSTRACT

Chronic health problems associated with smoking in the adult population have been linked with the use of tobacco in the influential adolescent years. Education aimed toward the adolescent may decrease the incidence of cigarette smoking in the adult population. Little research has been done regarding the knowledge and developmental levels of adolescent smoking and the risks for health problems. The purpose of this quasi-experimental study was to determine the effectiveness of a smoking prevention program on the knowledge and attitudes of seventh and eighth grade students. Orem's Self-Care Deficit Theory served as the theoretical framework. The sample consisted of students (N=293) in the seventh and eighth grade from two randomly selected schools in urban central Mississippi. Each subject and parent received a letter describing the study and signed a consent form prior to participation. The subjects were assured confidentiality as participants. The Cigarette Smoking Questionnaire tool was utilized prior to and following participation in a thirty minute smoking prevention program on the causes of smoking in adolescents and the health risks associated with smoking.

Descriptive analysis and the  $t$  test were utilized to analyze the data. The hypothesis which guided the study was that there would be no significant difference in the posttest knowledge and attitude scores in seventh and eighth grade students who attend a teaching program about the peer pressure and health risks associated with cigarette smoking. Seventh and eighth grade students who did attend the smoking prevention program had significantly higher posttest score than seventh and eighth grade students who did not attend. The researcher concluded that, after an educational intervention, subjects' knowledge levels were significantly improved and attitudes were more positive. Implications for nursing included the continued use of Orem's supportive-educative nursing system which appertains to promoting decision making skills and acquiring knowledge in adolescents. Recommendations for future research include replication of the study with a broader ethnic and socioeconomic population. Also, further studies are needed for long-term evaluation of smoking trends in adolescents.

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## Chapter I

### The Research Problem

Although warnings by the American Lung Association have been made regarding the risks associated with tobacco use, the number of adolescents who smoke has remained high. In fact, ninety percent of new smokers have been identified as children and teenagers (Pierce, Fiore, Movotny, Hatzianreou, & Davis, 1989). Smoking on a regular basis often has begun in adolescents during the middle and junior high years, and recent studies have indicated that the age when people first experiment with smoking has lowered (Abernathy, 1994). Researchers have documented that the younger one starts using tobacco, the more likely the chance for this addiction to continue as an adult (Giovino, Zhu, & Tomar, 1994).

The decrease in the age of experimentation and the increase in the number of adolescent smokers has led to a growing interest in primary prevention programs aimed toward the younger generation. Education on the prevention and risks associated with smoking might have proved efficacious in deterring smoking experimentation and subsequent use. However, the effectiveness and productivity of anti-smoking education have remained unknown (Onofrio & Altman, 1993). Therefore, this study attempted to evaluate the effectiveness of a smoking prevention program about peer

pressure and health risks of cigarette smoking on the knowledge levels and attitudes of seventh and eighth grade students.

#### Establishment of Problem

Cigarette smoking has been considered one of the most preventable causes of disease and death. The American Lung Association (1995) estimates that 419,000 persons die on a yearly basis from complications associated with smoking. In the early 1950s, research began in the medical field to inform persons of the health risk associated with cigarette smoking. More than 60,000 studies have been noted in the medical field reflecting the effects of cigarette smoke on the heart and lungs in the adult population (Onofrio & Altman, 1993). Yet, minimal research has focused on smoking in those individuals who experiment with smoking during the adolescent years and on the outcomes of tobacco prevention programs. The effects of tobacco prevention programs have shown to increase self-esteem and to keep adolescents involved in academics and school activities. Tobacco prevention programs that target the preadolescence and adolescence age groups have been both efficacious and warranted (U.S. Department of Health and Human Services, 1994).

Persons who smoke at an earlier age have had a greater tendency to develop a more severe addiction during their life span due to the addictive nature of nicotine. When

cigarette smoke is inhaled by the smoker, the nicotine is picked up in the pulmonary vascular system and transported to the brain. The sudden rush associated with nicotine has taken approximately seven seconds to reach the brain (American Lung Association, 1995). This effect of nicotine in cigarette smoke often contributes to the addiction and dependence. This effect has been used to explain why many persons who smoke remain unable to quit and overcome addiction. The number of adolescents who start smoking has been projected at 3000 daily (American Lung Association, 1995).

Adolescents often underestimate the addictive nature of cigarette smoking. Approximately 73% of the adolescents who smoke daily believed that they would not be smoking in five years, yet they have continued to smoke. Forty percent of teenagers who smoke on a daily basis have tried to quit and have failed (U.S. Department of Health and Human Services, 1994). More than half of these adolescents who are addicted to cigarettes have developed a habit in which they smoke their first cigarette within thirty minutes of waking up in the morning (Giovino, Zhu, & Tomar, 1994).

Merrill (1995) determined that it took approximately three years to develop a nicotine dependence. Therefore, during these first three years following experimentation, prevention and cessation attempts should have been made. Research in the area of nicotine addiction has been limited

regarding the addictive nature of nicotine. However, nicotine has remained as addictive as other drugs, including heroine, cocaine, and alcohol. Those who started smoking at an earlier age have often progressed to drinking alcohol and abusing other drugs as adults.

Many of the adolescents who experiment with cigarettes at an early age have continued to smoke on a regular basis during adulthood. Approximately two-thirds of the adolescents who smoke in the United States began smoking by the age of eighteen (U.S. Department of Health and Human Services, 1994). Those who start smoking at an earlier age are prone to become heavy users and experience difficulty quitting. Experimentation has begun as early as age fourteen, and these adolescents often are daily smokers by the age of seventeen (Merrill, 1995). Through education, guidance, and support, nicotine addiction in adolescents and adults remains a treatable disease.

#### Health Risks.

Cigarette smoking at an early age has increased the risk of tobacco related diseases, including pulmonary disease, lung cancer, and coronary disorders. Health problems associated with smoking, such as chronic obstructive pulmonary disease (COPD), have begun in the adolescent years. Approximately 84,000 deaths have been reported as the result of respiratory diseases secondary to cigarette smoking (U.S. Department of Health and Human

Services, 1993). Chronic respiratory symptoms associated with cigarette smoking include cough, phlegm, wheezes, and dyspnea. Thus, cigarette smoke has had a variety of effects on the immune system which increases the risk of COPD and pulmonary disease. Also, secondhand smoke has increased the incidence of heart and lung disease among nonsmokers. Adolescents who have parents or friends who smoke have experienced numerous side effects from cigarette smoke exposure. These have included burning of the eyes and nasal airways, headaches, asthma, allergies, and an increased risk of developing respiratory infections. Evidence of other health related problems, particularly cancer, associated with smoking has promoted an increased concern about smoking prevention.

Another health danger of cigarette smoking has been related to the carcinogens present in a cigarette that damage the cell lining of the respiratory system with continual daily use. Researchers have determined that the smoke from a cigarette contains 3,600 different chemical substances that are carcinogenic to the pulmonary system (American Lung Association, 1988). Examples of carcinogens identified include cyanide, arsenic, carbon monoxide and formaldehyde. Each year, 142,000 persons die of lung cancer; approximately four out of every five of those persons developed lung cancer from cigarette smoke (American Lung Association, 1990). From the total number of cancer

deaths, approximately thirty percent were related to prolonged cigarette smoking (U.S. Department of Health and Human Services, 1993). Other forms of cancer, such as mouth, throat, esophagus, larynx, bladder, kidney, cervix and pancreas cancer, have been prominent in cigarette smokers. The incidence of health problems associated with lung cancer has continued to increase with prolonged frequency and duration of cigarette smoking. The risk of developing lung cancer and other cancers has been reduced with the cessation of smoking. For those persons who stop smoking, the risk of cancer due to smoking has been lowered by up to fifty percent over a ten year period (American Lung Association, 1990). By discontinuing smoking, the normal healthy cells in the pulmonary system are regenerated and replaced with normal lung cells. Therefore, abnormal cells and the risk of developing health problems associated with smoking are decreased.

Cigarette smoking also has been associated with many diseases of the heart and the blood vessels. Smoking has been identified as a precursor to the early development of coronary artery disease. Approximately 178,820 deaths were reported in 1992 as a result of cardiovascular disease due to cigarette smoking (U.S. Department of Health and Human Services, 1993). Coronary heart disease has been directly linked to the age at which one starts smoking. The incidence of mortality has remained high in those who began smoking



during adolescents. Yet, cigarette smoking has been considered as one of the most important modifiable risk factors for the prevention of coronary heart disease. Thus, preventative interventions, such as a regular diet, exercise, and cessation of smoking, have impacted and extended the life-expectancy of coronary heart disease patients. Preventative interventions associated with smoking have been for younger smokers in efforts to decrease the incidence of chronic disabling diseases.

#### Peer/Parental Pressure.

Preadolescents often have been unaware of the dangers of peer pressure and cigarette smoking. The process of smoking in adolescents often has evolved from preparation and anticipation to initiation, experimentation and then maintenance (Onofrio & Altman, 1993). Feelings of solitude and insecurity have led to feelings of lack of self-motivation and susceptibility in adolescents. The majority of adolescents first experimented with cigarettes with peers for social acceptance. Peer pressure in the elementary school years has encouraged the use of tobacco products as a way of representing maturity and even social acceptance in certain environments. Often, the act of smoking cigarettes was looked upon by adolescents as an acceptable norm in society. The U.S. Department of Health and Human Services (1994) noted that peers and siblings have been the most powerful influences on adolescents. Also, parents and

other family members who smoke have given the impression that smoking is socially acceptable. Children often have followed the example of their parents or siblings by modeling the behaviors.

#### Education.

The obvious risks associated with smoking and the potential effects of peer pressure have demonstrated a need for the development of effective teaching programs to decrease the incidence of smoking in adolescents. Schools have started to educate those adolescents who may not have received any prevention education. Promising prevention and cessation attempts have been seen after teaching young people about the potential health risks and social aspects of peer pressure and family history in school-based programs (U.S. Department of Health and Human Services, 1994). Yet, research to elicit the impact of prevention programs which include information about peer pressure and health risks associated with the use of tobacco products has been limited.

#### Purpose of the Study

The purpose of this study was to evaluate the effectiveness of a smoking prevention program about the health risks and peer pressures of cigarette smoking among seventh and eighth grade students. These data are pertinent to nurse clinicians' efforts to gain insight into the educational needs of adolescents. The goal of the study was

to reduce the incidence of cigarette smoking in the adolescent population and promote education about health risks and peer pressures as related to cigarette smoking.

#### Significance to Nursing

This research study about the effects of a teaching program about smoking prevention on the knowledge and attitudes of seventh and eighth grade students may aid the nursing profession in the areas of education, practice and research.

#### Nursing Education.

The incidence of cigarette smoking continues to increase among adolescents with the increase of promotional advertisements on the television and in magazines. Also, familial and peer influence is recognized as contributing to the incidence of adolescent tobacco use. The nurse clinician can attempt to decrease the number of children and adolescents who smoke through health promotion. Smoking prevention programs implemented in community settings and school systems by the nurse clinician can improve knowledge by educating the public, including grade school teachers, about the risks associated with smoking.

#### Nursing Practice.

Family nurse clinicians have an opportunity to assess established and potential addictive behaviors in adolescents. The family nurse clinician as an advisor, advocate, counselor, educator, and researcher can promote

healthier lifestyles to achieve a decrease in the prevalence of cigarette smoking in adolescents. Therefore, long-term health problems that are associated with tobacco use can be prevented.

#### Nursing Research.

There is limited research available on the prevalence of smoking in adolescents. Numerous studies have been done regarding the long-term health problems associated with smoking in the adult population, but little has been done to prevent the adolescents from initiating smoking. Findings from this study may prove beneficial in identifying the demographic data and educational levels of adolescents in efforts to eliminate smoking in adolescents. Also, findings could provide information about the effect of a smoking prevention program. Conclusions would serve as the basis for further research about smoking in this age group.

#### Statement of the Problem

Little research has been done to evaluate teaching as a means of reducing the incidence of cigarette smoking in the adolescent age group. Education about peer pressure and health risks associated with cigarette smoking aimed at preadolescents may decrease the incidence of smoking in adults.

#### Conceptual or Theoretical Framework

Orem's Self-Care Deficit Theory of Nursing provided

guidance for this research. Orem focused on the metaparadigm consisting of the four concepts of person, environment, health and nursing. Person was defined as an individual consisting of physical, emotional and social factors. If person was unable to care for self, a self-care deficit emerged. The second concept, environment, was the surrounding elements that are external to the person. These external conditions are constantly affecting and influencing the interactions between persons. Health was the ability of the person to change and adapt to the environment. Health was perceived as a sense of wholeness. The final concept of nursing was identified as the process of performing duties with ever-changing technology to accomplish specific actions (Orem, 1991). The present study addressed person as seventh and eighth grade students from public and private schools. Environment was identified as smoking related norms, social support, expectations, and barriers in urban central Mississippi. The health concept was identified as promoting and educating adolescents on the prevention of smoking. Nursing was noted as the process of delivering the educational information to the subjects in efforts to maintain a healthy environment.

The supportive-educative system of Orem's Self-Care Theory correlates with the present study by assisting adolescents to perform self care (Marriner-Tomey, 1994). Teaching was utilized as a technique for assisting and

helping adolescents to take information and develop education about the health risks associated with smoking. Teaching and learning must be adapted to age and previous knowledge and education (Orem, 1991). This adaptation must be incorporated when teaching adolescents to thoroughly assess their ability to comprehend a smoking prevention program. Education of preadolescents must include the implications of peer pressure in the developmental stage of adolescents. The nurse clinician in this research attempted to educate the adolescents about the peer pressure and health problems and risks associated with cigarette smoking.

#### Research Hypothesis

The following hypothesis guided this research:  
There will be no significant difference in the posttest knowledge and attitude scores in seventh and eighth grade students who attend a teaching program about the peer pressure and health risks associated with cigarette smoking.

#### Definition of Terms

For the purpose of this study, terms were defined as follows:

1. Posttest knowledge and attitude scores--to retain information and to learn, which promote increased perception and understanding. The amount of information retained by seventh and eighth grade students related to peer pressure and health risks associated with smoking, as measured by the

Cigarette Smoking Questionnaire.

2. Seventh and eighth grade students--To live in a developmental period between childhood and adulthood. A convenience sample of preadolescents in the seventh and eighth grade in urban central Mississippi, who agreed to participate in a teaching program on the peer pressures and health risks associated with cigarette smoking.

3. Teaching program--To educate through instruction and discipline, therefore, acquiring knowledge. In this study, a thirty minute presentation on the prevalence of smoking in adolescents, the impact of peer and familial influence on smoking, and the correlation between early smoking habits and chronic health problems.

#### Assumptions

The following assumptions were accepted:

1. Subjects are honest in their answers relating to demographic data and smoking history.
2. Adolescents are smoking cigarettes.
3. Health promotion programs must be adapted to developmental age.

## Chapter II

### Review of the Literature

A review of literature revealed an abundance of studies on the incidence and prevalence of cigarette smoking among the adult population. Further information revealed the age of initiation, patterns and trends of use, as well as relationships to attitudes, peer use and parental use. These studies were done in a variety of geographic areas with rural and urban adolescent populations. However, very little research was found which addressed interventions or prevention strategies for cigarette smoking among adolescents. Therefore, the focus of this selected review of literature was studies related to prevention programs and strategies.

Elder, Molgaard and Gresham's study (1988) sought to identify predictors of tobacco use in multiethnic sixth and seventh grade students. The purpose of their study was to determine the relationship of socioeconomic and psychological factors influencing the use of tobacco products in sixth and seventh grade public school students. Predictors of smoking and chewing tobacco were identified as ethnicity, gender, family history, peer experimentation and norm perception. The problem identified in the study focused on the increased incidence of cigarette smoking and use of



chewing tobacco in the younger age groups.

An ex post facto design was utilized to identify the prevalence of tobacco use in adolescents. A convenience sample of 433 male and female sixth and seventh grade students from four San Diego elementary and middle schools was utilized. Eighty-eight percent of the sample population ranged from ten to twelve years of age. The majority (43%) of the population was white; however, other ethnic groups were represented in the study.

A two-page multiple-choice self-report instrument was utilized to address possible predictors of tobacco use and correlation to experimentation. Subjects responded to questions about past, current and future smoking, chewing, or experimenting habits and intentions. Predictors were identified as socioeconomic and interpersonal factors that influenced smoking and chewing patterns including gender, age, ethnicity, employment, and home ownership of parents. Experimentation was defined as whether subjects had ever previously smoked or chewed tobacco.

Elder et al. (1988) found that the total number of smokers was twice that of tobacco chewers. One-third of the subjects had experimented with tobacco products, and at least ten percent were current tobacco users. When associations were identified between the genders, males showed a higher incidence ( $p < .01$ ) of using chewing tobacco. Males had a four times higher rate of chewing tobacco use

than females. However, males and females were identified as smokers at an equal rate. The prevalence of smoking and chewing was strongest among whites of both genders. The perception of norms, parental and family history and peer association with tobacco use was significantly ( $p < .01$ ) associated with the incidence and prevalence of chewing and smoking. Smoking cigarettes and chewing tobacco are major problems facing adolescents with the incidence of smoking greater than that of chewing tobacco.

The substantial demographic data and the need for further research demonstrated by Elder et al. (1988) are germane to this current study. The researchers provided evidence that peer pressure was one of the major factors that influence adolescents to experiment with cigarette smoking. The researchers also utilized a similar preadolescent sample of sixth and seventh grade students. After identification of the socioeconomic and psychological predictors of tobacco use, prevention programs are the next step in educating adolescents about the risk involved with tobacco use. Education aimed at the preadolescent was the basis of this current research.

A study which explored the influence of peers and education regarding tobacco use was implemented by Elder, Wildey, de Moor, Sallis, Eckhardt, Edwards, Erickson, Golbeck, Hovell, Johnston, Levitz, Molgaard, Young, Vito and Woodruff (1993). This longitudinal study evaluated the

effectiveness of using undergraduate students to educate adolescents about tobacco use. The purpose was to determine outcome measures of a long-term tobacco prevention program for junior high students. The educational program employed class discussion and telephone and mail communication to spread information about the effects of smoking.

Undergraduate college students were used to address adolescents on a comparable level and as a cost-effective and practical strategy.

The sample population consisted of 3655 students from twenty-two junior high schools. The students were randomly selected to participate in the control or experimental groups. The students were evaluated at four different times during a period of three years. The sample was essentially equal in composition of males to females. The ethnicity of the sample consisted of 57% Caucasian, 24% Hispanic and 19% representing other ethnic groups.

Undergraduate college students (N=100) were utilized as teachers due to their motivation and ability to be trained and managed. These volunteers were trained and then divided to serve as leaders of classroom groups and to generate the telephone and mail communication. The volunteers received college credit for their participation.

Seventh and eighth grade students received fifteen hours of the SHOUT (Student Helping Others Understand Tobacco) prevention program which consisted of several

segments including a videotape, several discussions, role playing, letter writing and performance of a skit. The program focused on the addictive nature of tobacco and the benefits of smoking cessation. Newsletters were utilized periodically to inform the participants of current legislature and research. Telephone conversations also were utilized to encourage interactive conversation.

Data were collected from four surveys using the bogus pipeline conditions. The surveys included information on demographics, psychosocial elements and tobacco use. Elder et al. (1993) utilized a two-level random effects model to evaluate the data. The researchers found that 14.2% of the experimental and 22.5% of the control group had used tobacco within the past month, meaning that the intervention program was probably beneficial for students despite any demographic differences.

Elder et al. (1993). concluded that the use of undergraduate students as mediators proved beneficial in reaching the adolescent population. This fact may prove helpful in other programs to prevent and delay drug and alcohol use. Community health programs such as SHOUT may possibly be helpful to educate adolescents about the importance of avoiding tobacco and cigarettes. The community and school based programs also may be more cost-effective related to the potential long-term effects of cigarette smoking.

The Elder et al. (1993) study provided guidance for the current researcher to employ a tobacco prevention program as an effective way to educate adolescents on cigarettes smoking. Time and money spent on such a program may actually decrease the amount of time and money needed later in life to diagnose and treat long-term health problems.

Roosmalen and McDaniel (1992) conducted a cross-sectional study to compare differences in gender related to smoking in peer groups. The convenience sample consisted of 1689 students in the eighth grade from forty-two schools in Southern Ontario, Canada. The gender distribution consisted of 48.3% males and 49.8% females. The students were presented a program from the Waterloo Smoking Prevention Project, Study II. The program was developed to identify different prevention methods and their effect on adolescents. The program consisted of information on the health risks associated with smoking, skills developed to resist the peer pressure of smoking and integration of information into a decision making process. The self-report questionnaire consisted of demographic data including history of smoking, intentions of smoking, family history and peer group influences.

The researchers found that 16.7% of the males and 17% of the female subjects were identified as smokers. The percentage of female nonsmokers (53.9%) was significantly higher than male nonsmokers (45.0%). Nonsmokers were

identified as subjects who had never smoked or had only experimented with smoking once. Thirty-eight percent of the males were noted to have quit smoking compared to 29% percent of the females. In relation to the familial influences, the number of both male and female adolescent smokers increased. In families where at least one parent smoked the number of adolescent females accounted for 22.3% and 19.4% in males. The researchers determined that both males and females have a tendency to smoke when their best friend smokes on a regular basis. Additionally, 56.6% of males and 62.4% of females stated that their best friend smoked regularly.

Roosmalen and McDaniel (1992) noted that adolescents whose peers smoke had a higher prevalence of smoking. Adolescent females had a higher incidence of smoking and a higher prevalence to continue smoking once initiated. No significant differences were noted when parental and siblings were taken into consideration. Roosmalen and McDaniel (1992) concluded that the impact of peers greatly influences the trend of adolescent smoking. Since smoking is a learned behavior, the stronger the relationship between a smoker and a nonsmoker the more likely the other will begin to smoke. The longer the span of association with smokers, the more likely one will be prone to identify smoking as favorable. Females tend to have an increased risk of smoking due to the insecurities and pressures associated with peer

groups.

The study by Roosmalen and McDaniel (1992) indicated the need for further research to promote skills and knowledge to assist adolescents in the prevention of smoking. By addressing the peer influences that affected both genders, especially females, research can be aimed at the social influences of adolescent smoking. Roosmalen and McDaniel (1992) sought to assess the knowledge level of preadolescents on peer pressure and educate about the effect of peer pressure on the incidence of cigarette smoking.

A longitudinal study by Hunter, Croft, Burke, Parker, Webber and Berenson (1986) was implemented to note the change of patterns in smoking and other forms of tobacco among adolescents. The study hypothesized that the decrease in smoking among white males was directly related to the increased use of smokeless tobacco. The Bogalusa Heart Study was implemented to evaluate the use of tobacco in children and adolescents from 1976 to 1977 and reevaluated from 1981 to 1982.

A community in Bogalusa, Louisiana, was the setting of the study. Children and adolescents attending grades 3 through 12 were utilized to obtain the sample population. The sample consisted of 2880 participants in 1976 and 2158 participants in 1981. The ethnicity of the sample population consisted of 65% White and 35% Black. The Health Habits Questionnaire was utilized to gather and record data

including blood pressure, plasma thiocyanate levels, serum lipids, lipoproteins and smoking behaviors. Hunter et al. (1986) found a decrease in smoking among males in relation to an increase in smokeless tobacco use. The number of White males aged fourteen to fifteen who smoke dropped from 32% to 17%. The number of Black males also decreased from 17% to 10%. The female population who smoked dropped in incidence between the ages of sixteen and seventeen. There was little evidence of smokers who used other forms of tobacco coinciding with cigarettes.

The longitudinal aspect of Hunter et al.'s (1986) study showed an increase in cigarette smoking during the five year study with no difference in race or gender. An increase in smokeless tobacco also was noted especially in the White male population. The increase in the use of tobacco products showed no difference in race or gender attitudes about experimentation. The researchers also noted the increase in exposure of children to carcinogenic risks associated with the use of tobacco products. Therefore, tobacco prevention programs could possibly be designed according to ethnicity and culture to promote further education.

By focusing on the incidence of smoking in adolescence, new educational programs can be adapted to teach adolescents according to age and diversity. Consideration of the demographics may prove beneficial in the development and



evolution of programs. This may provide additional instruction and education to the influential adolescent population. Hunter et al. (1986) acknowledged that both cigarette smoking and smokeless tobacco can cause health problems. This study promoted continuing education among adolescents in all aspects of society.

A quasi-experimental study by Perry, Kelder, Murray, and Klepp (1992) was implemented to analyze the effect of a long term smoking prevention program in middle-sized midwestern communities. Perry et al. (1992) hypothesized that a five year smoking prevention program aimed toward adolescents would be more beneficial if the community was involved in adult screening and community-based programs. The Class of 1989 Study was to identify the outcomes of a smoking prevention program in adolescent students to decrease the incidence of cardiovascular disease in the entire community. This five year study attempted to show how a long-term smoking prevention program may decrease the incidence of smoking in adolescents.

Perry et al. (1992) obtained the reference and intervention samples from two communities in the north central United States. The baseline sample (N=2401) consisted of all sixth-grade students enrolled in the public school system. These students were evaluated over a five year period. The convenience cohort sample consisted only of those who were counted in the baseline. The convenience

cross-sectional sample consisted of all students in the community. The smoking prevention plan was implemented in the fall semester of the seventh grade.

Data were collected on a forty minute self-report smoking history. The data collection procedure focused on identifying prevalence, skill to resist peer pressure and social prejudices, discussion of options, and verbal contracts to abstain from smoking. Data were analyzed with a test-retest method. Smoking intensity was measured in the number of cigarettes smoked per week. The reference and intervention communities of the cohort and cross-sectional sample showed little significant difference. The survey following the five year program showed a significant difference in the number of cigarettes per week. The reference community of the cohort sample smoked approximately seventeen cigarettes per week compared to eight cigarettes per week in the intervention community. The reference community of the cross-sectional sample smoked approximately eighteen cigarettes per week compared to the intervention community, which smoked approximately nine cigarettes per week.

Perry et al. (1992) found that following the smoking prevention program the percentage of persons from the intervention sample that continued to smoke was 14.6%. The control group sample showed a higher incidence of adolescent smokers at 24.1%. The researchers noted that there was no

significant difference ( $p < .05$ ), only a slight increase, in prevalence and intensity of the cross-sectional group compared to the cohort group.

The research done by Perry et al. (1992) is similar to that of the present study in that it utilized a convenience sample of preadolescents in the sixth grade. Further similarities included measurements of several different perceptions related to smoking, including any knowledge deficits regarding smoking, peer pressure and associated risk factors.

Nelson, Giovino, Shopland, Mowery, Mills, and Eriksen's study (1995) sought to examine the critical period of adolescence during which most persons start smoking. The purpose of the longitudinal study was to determine the trends of adolescent smoking. These trends help determine the need for smoking prevention programs, the effectiveness of preexisting programs, and the potential for health related disease. The problem in the study was identified as the adverse health problems that are related to smoking. The researchers attempted to identify trends and ways to decrease the number of adolescents who are experimenting with tobacco products.

Multiple instruments were utilized to gather trends from 1974 through 1991. The National Household Survey on Drug Abuse (NHSDA) was obtained from the National Centers for Disease Control Prevention to examine trends among

adolescents aged 16 to 19 years. Persons were interviewed in person at home by a trained professional. The use of high school seniors surveys also were utilized to obtain further community data. Approximately 130 seniors were randomly chosen to participate in the study. The National Health Interview Survey also was utilized to obtain data. Current cigarette smoking was defined as having smoked a cigarette within the past thirty days, having smoked more than 100 cigarettes during their lifetime, or proclaimed to be current smokers.

The results of the study were broken down into subgroups of males, females, Caucasians, and African Americans. The incidence of smoking between males and females was essentially equal throughout the study. Yet, the number of Whites who smoked was substantially higher than the number of Blacks who smoked. Changes were noted in the overall prevalence of cigarette smoking. There was a decrease in incidence among younger adolescents by 1.9% each year. Incidence among older adolescents decreased by 0.2 to 2.0% during the years of 1974 to 1980. The decrease in incidence from 1980 to 1985 ranged from 0.3 to 2.8% among younger and older adolescents. Since 1985, no significance difference ( $p < .05$ ) was noted.

Nelson et al. (1995) concluded that the incidence of smoking among males and females were equal. Yet, since 1980, there has been a decline in the prevalence of female

adolescent smoking. The number of Blacks who smoke also decreased over the length of the study. The decrease in prevalence of cigarette smoking among adolescents from 1970 to 1980 may have been as a result of a new emphasis on healthier lifestyles, a decrease in social acceptability and a ban on cigarette advertising by Congress in 1971. However, no significant change ( $p < .05$ ) or decrease has been noted since 1985.

Cigarette smoking in adolescence continues to be a great problem in society. The number of adolescents who smoke remains constant with little change noted in the incidence even with the increased information available about the potential health risks. There is not one guaranteed way to stop adolescents from smoking. Yet, this current researcher believes that efforts can be made through education to decrease the number of persons who are current smokers. One problem faced by health care workers in today's society is to determine and understand how to prevent the use of tobacco in adolescents. Often, it is the normative social influences that encourage an adolescent to experiment with smoking in efforts to achieve approval into a social group.

A study by Sussman, Dent, Stacy, Sun, Craig, Simon, Burton and Flay (1993) sought to determine which of the three social components was most effective in preventing tobacco use. The three social components consisted of

the physical outcomes, tobacco significance and the ability to utilize refusal skills. Data were initially collected from 6716 seventh-grade students. A set of ten lessons were developed into the curriculum. The ten lessons were then divided into a set of four curricula. Each lesson was generated to provide the most information possible. Forty-eight junior high schools in Southern California were utilized. These schools were randomly selected and placed into a five group block design. Thirty-two schools were subdivided into four groups to obtain the experimental sample. The other sixteen schools were utilized as the control group. The experimental sample was equally divided and surveyed at an individual level and as cross-sectional. The control sample was divided between four schools; data also were collected at the individual level and as cross-sectional. Both the experimental and the control groups were equally divided among the rural and urban regions.

Data were collected on the day prior to and following the ten day program. The self report questionnaire consisted of twenty pages of demographic and behavioral questions. Saliva samples were collected on a small portion of the students, but were not utilized due to the cost and limited number. Data were recollected from 7052 students after one year. The same questionnaire was utilized.

Data from the initial posttest to the one year follow-up showed a slight increase of 8% in experimentation and trial of smoking and a 3% increase in weekly use of cigarettes among seventh grade students. The incidence of cigarette smoking essentially remained equal among males and females and among the rural and urban communities.

Sussman et al. (1993) indicated that the content taught proved beneficial as a prevention program. Combining information about social influences and physical outcomes in the curriculum may increase the overall understanding of smoking in adolescents. Sussman et al. (1993) showed that the amount of teaching and learning needed about smoking and its prevention is infinite.

Recommendations from this study (Sussman et al., 1993) included the use of more theoretical structure to allow for more diverse perspectives and identification of a more effective teaching pattern or curriculum to deliver information to adolescents. In the study by Sussman et al. (1993), a lack of knowledge regarding social and physical influences of health risks associated with smoking was identified. By identifying the long and short-term consequences of smoking, the prevention or reduction of adolescent tobacco use was achieved. The present study attempted to measure the

knowledge of adolescents on the short and long-term physical and social effects of smoking.

In summary, adolescents and many of the younger generation start smoking at an earlier age (Nelson et al., 1995). Limited knowledge about the short and long term risks and dangers associated with smoking in adolescents warrants further education (Elder et al., 1993; Hunter et al., 1986; Sussman et al., 1993). By increasing knowledge about smoking, the incidence of health problems that may show up later in life may be decreased (Elder et al., 1988; Perry et al., 1992). Further studies may prove beneficial in this area to provide support for replication of teaching programs in other high schools and among other sets of students.



## Chapter III

### Research Design and Methodology

A high incidence of cigarette smoking has been reported in the adolescent age group which has stimulated health care workers to develop strategies to address this problem. Educational programs developed for adolescent populations have been identified as potentially beneficial modalities to decrease the incidence of chronic health problems related to smoking in the elderly population. Prevention programs also have assisted with the cessation of smoking at an earlier age. The purpose of this study was to evaluate the effectiveness of a prevention program focused on the peer pressure and health risks of cigarette smoking on the knowledge levels of seventh and eighth grade students. The research design, subjects, instruments, teaching plan, procedures, analysis, and limitations are detailed in this chapter.

#### Research Design

A quasi-experimental pretest-posttest nonequivalent group design was used in this study. Quasi-experimental design has been defined by Polit and Hungler (1995) as a study in which the independent variable has been

manipulated and internal validity maintained. Yet, the sample population may not be randomly selected. The independent variable, believed to influence or cause the dependent variable (Nieswiadomy, 1987), was identified as a teaching program about the peer pressure and health risks associated with cigarette smoking. The dependent variable, predicted to be caused by or dependent on another (Nieswiadomy, 1987), was identified as knowledge level of seventh and eighth grade students determined by results of answers on the Cigarette Smoking Questionnaire (see Appendix A).

The control variables were identified as the age of the subjects and the setting in which the research study was implemented. The extraneous variables, those which may have interfered with or impacted the results of the study (Nieswiadomy, 1987), were identified as the interest of the adolescents in cigarette smoking, the honesty of the subjects in their answers, and the previous knowledge of or prior attendance at teaching programs about smoking. Design control was maintained since only the researcher had access to obtained data and presented the teaching program. The teaching plan and all instruments were identical in efforts to collect accurate data from all students involved in the research.

### Setting

The proposed setting for this research study was to have been two randomly selected public middle schools and two randomly selected junior high schools located in an urban city in the southeast. However, following attempts to gain access into the public school district, the Research and Development Office denied researcher access. The officials of the public school district did not think the benefits of this study would be equivalent to the degree of work and involvement for the staff and students. The urban central Mississippi public school district contained eleven public middle schools and five private junior high schools. Two randomly selected private schools, whose administration agreed to participate, were randomly assigned to either an experimental or control group. These private schools were composed of 97% Caucasian students for each school.

### Subjects

Seventh and eighth grade students enrolled in urban central Mississippi were the target population for this study. The actual population consisted of seventh and eighth grade students in two private schools in urban central Mississippi. The sample consisted of students in these grades who had signed consent forms. A non-probability method of sampling was used for convenience and was directly related to the availability of subjects. The actual sample

size consisted of 293 students, 134 students who agreed to participate in the teaching program and 159 students who did not participate in the teaching program.

### Teaching Intervention

The teaching program about the peer pressures and health risks associated with cigarette smoking in adolescents was the intervention tested. The thirty minute program held in the school gymnasium started with a brief discussion about the pathophysiology of the lungs. The discussion included statistics, addiction, secondhand smoke, and risks associated with smoking. Discussion also included the effects of peer pressure of friends and family on experimentation with smoking and ways to stop smoking (See Appendix B). Following the lecture, a question-and-answer session was provided by the researcher. Several adolescents took advantage of this session to clarify uncertainties about cigarette smoking and the teaching content.

### Data Collection Instrument

Two instruments were employed to record data in the study. The demographic sheet was utilized prior to implementation of the teaching plan to obtain information identifying age, sex, race, smoking status, desire to quit smoking, smoking status of peers and family members, and whether or not the subject ever bought cigarettes (see Appendix C). The Cigarette Smoking Questionnaire is a

twenty-five item pretest-posttest instrument with items one to fifteen measuring knowledge of adolescents related to health risks associated with cigarette smoking. Questions 1 to 15 are in the form of true/false questions with a highest possible correct score noted at fifteen. Questions sixteen to twenty-five measure students' attitudes about cigarette smoking related to health responsibility. Questions 16 to 25 were arranged in a Likert scale with a score of one representing a strong disagree opinion and a score of five representing a strong agree opinion. The highest possible score on questions 16 to 25 is fifty. Therefore, a maximum score of 65 represents an increased knowledge level and a positive attitude toward health in relation to cigarette smoking. Permission was obtained from the original developer to utilize the Cigarette Smoking Questionnaire for this study (see Appendix D).

The reliability and validity of the Cigarette Smoking Questionnaire has been previously established. Content validity was established through a panel of experts, including specialists in the fields of adolescent health, pediatrics, psychology, and cigarette smoking behavior. Three-fifths consensus of the panel consistency was analyzed using Cronbach's coefficient alpha formula to establish baseline reliability. The internal consistency of the Cigarette Smoking Questionnaire knowledge component was  $\alpha = .08$ . The alpha coefficient for the attitude

component of the questionnaire was .50. Content validity was assessed by a panel of experts and judged to be valid in the areas of content and comprehensiveness by three-fifths, 60%, consensus.

#### Data Collection Procedure

A consent from the Mississippi University for Women Committee on the Use of Human Subjects in Experimentation was obtained (see Appendix E). Letters and copies of the study's abstract, purpose, procedure and all questionnaires were delivered to the Director of Research and Development of the public school district and to the headmasters of the two private schools. The public school system reviewed the provided data, yet request for entrance into the schools was denied. Informed consent was obtained from the junior high headmasters in both schools (see Appendix F). Verbal consent was obtained from teachers whose students would be involved in the study. Letters with consent forms were sent to the parents of the adolescents informing them of the research study and about the possibility of their child participating in a teaching program (see Appendix G). Letters with consent forms also were distributed to the students informing them of the teaching program (see Appendix H).

Demographic data were collected from the experimental and control groups prior to implementation of the teaching program. One month after initial data collection the Cigarette Smoking Questionnaire was utilized to obtain data

regarding the ability of the students to retain knowledge about the health risks and peer pressures of cigarette smoking following a teaching plan. The control group utilized the same instruments and the same time interval to note any difference in knowledge levels, but without any participation in a teaching program. The researcher emphasized the need to answer questions honestly and no names were placed on the questionnaires to preserve the anonymity of the students as minors.

Subjects who participated in the experimental group attended a thirty minute presentation and discussion on the prevalence of smoking in the adolescent age group related to peer and familial influences. The program included how early smoking in adolescents increased the incidence of health risks and the effects of peer pressure that are associated with cigarette smoking.

Following completion of data collection, a Posttest Student Information form was utilized to determine the effectiveness of the teaching program (see Appendix I). Subjects who participated in the control group were offered a thirty minute presentation and discussion program on smoking following completion of data collection. Due to a limited time frame, the control group faculty and administration refused the teaching program offered after the completion of data collection. Data were collected from March to May 1996.

### Statistical Analysis

Descriptive analysis was utilized to group subjects in the study according to demographic data. Data related to the hypothesis was subjected to a two-tailed  $t$  test. The experimental and control groups had equal variance in the measured variables. The comparison was between the correct test results on the Cigarette Smoking Questionnaire for the experimental and control groups. The level of significance for each statistical analysis was set at .05.



## Chapter IV

### The Findings

The purpose of this study was to determine the effects of a teaching program about health risks and peer pressure of cigarette smoking on the knowledge and attitudes of seventh and eighth grade students. A quasi-experimental pretest-posttest design was utilized for this study. Data were obtained with the Demographic Data Sheet, Cigarette Smoking Questionnaire and Posttest Student Information Form. In this chapter, analysis of the data are presented. Characteristics of the sample are described first, followed by outcomes of data analysis related to the hypothesis and additional findings.

#### Description of the Sample

Seventh and eighth grade students (N=293) from two private junior high schools in one school district located in a southeastern state comprised the sample. The experimental group consisted of 134 subjects; the control group contained 159 subjects. Ages ranged from twelve to fifteen for both groups with a majority (51.2%) of the subjects aged thirteen. Gender was almost equally distributed for both groups, females 53.2% and males

46.8%. The total sample was predominantly (96.9%) Caucasian. Other races represented in the study were African American (1.0%), Indian (0.7%), and the choice of other (1.4%).

Further demographic data collected revealed that the majority, 96.2%, of the subjects did not presently smoke. Of the eleven subjects (3.8%) who reported current cigarette smoking, five reported that they would like to quit. Forty-seven subjects (16.0%) responded yes to having smoked in the past. The age at which students reported having started to experiment with smoking ranged from seven to fourteen with a mean of 11.14, SD 1.80. The highest incident (21.4%) of the previous smokers reported having started between the ages of ten and twelve. When asked if any of the subject's friends presently smoked, a majority (61.3%) reported yes (n=179). The number of friends identified as smokers varied and ranged from one to twenty-five with a mean of 5.47, SD 4.52.

Descriptive statistics and a two-tailed t test were used to analyze the data for the pretest sample (n=313) and for the post test sample (N=293). Data were evaluated using the Cigarette Smoking Questionnaire. On the Cigarette Smoking Questionnaire, questions one through fifteen evaluated knowledge and questions sixteen through twenty-five evaluated attitude. Evaluations of mean pretest scores for previous knowledge about cigarette smoking were 10.47 to 10.78 for the experimental and control groups. Since no

significant statistical difference ( $p = .108$ ) was noted in these scores, the separate schools were determined to be essentially equal in knowledge prior to implementation of the smoking prevention program. Mean attitude scores were 43.02 for the experimental group and 43.45 for the control group. No significant difference ( $p = .514$ ) existed in attitudes prior to the teaching intervention.

### Hypothesis

One hypothesis guided this study. The null hypothesis was there would be no difference in the posttest scores for knowledge and attitude of seventh and eighth grade students who attended a teaching program about the health risks and peer pressures of cigarette smoking in those who attend a smoking prevention program and those who did not attend. Following implementation of the smoking prevention program, knowledge and attitude scores were reevaluated. Since a statistically significant increase in the experimental group's knowledge ( $p = .026$ ) and attitude ( $p = .014$ ) scores emerged, the null hypothesis was rejected. These data are presented in Table 1.

### Additional Findings

To further analyze scores between the experimental and control groups, the researcher determined differences between each group from pretest to posttest. A statistically significant increase in scores on knowledge ( $p = .000$ ) and

Table 1

A Comparison of Knowledge and Attitude Posttest Scores on the Cigarette Smoking Questionnaire by Group Using the Two-Tailed t Test

Group	Scores				t
	Knowledge		Attitude		
	M	SD	M	SD	
Experimental	11.47	1.51	44.87	3.87	
Control	11.05	1.63	43.52	5.25	
					2.24*
					2.47*

\* p < .05.

attitudes ( $p = .002$ ) existed in the experimental group following implementation of a teaching program on cigarette smoking prevention. There was no difference noted in the control group's knowledge ( $p = .051$ ) or attitude ( $p = .870$ ) during evaluation of pretest and posttest scores (see Tables 2 & 3).

Further information included yes/no and narrative comments on the Posttest Student Information Form. The experimental group responded to four questions regarding the benefits of the program. Eight students out of the initial eleven (73%) indicated that they quit smoking after the teaching program. One student responded that "Many do not know this information and they need to." Seventy-seven percent of the students indicated that the program was helpful and beneficial due to the emphasis on understanding the health risks associated with smoking. One student said, "Now I know what the risks are and how to tell others who do not to quit." Another student stated, "It taught me the harm that smoking can do." Eighty-six percent indicated that they would recommend the program to other students. One seventh grade student commented that, "Others might smoke and I know this program would either make them quit or make them think." Another eighth grade student stated, "This program would help others realize what smoking can do to you and it's good to remind you every once in a while."

Lastly, a narrative question was offered for comments



Table 3

A Comparison of Pretest-Posttest Attitude Scores on the Cigarette Smoking Questionnaire by Group Using the Two-Tailed t Test

	Attitude					
	Experimental		Control			
	M	SD	t	M	SD	t
Pretest	43.02	6.18		43.45	5.08	
			-3.11*			-.16
Posttest	44.86	3.87		43.52	5.25	

\* p < .05

and suggestions for further educational programs. Forty-three students answered this question. Several suggestions focused on the use of visual aids. One student commented that "pictures of before and after smoking lungs would make a big impact on the smokers in the class." Another suggestion was to increase the length of the program.

### Limitations

The following limitations to the study have been identified. A threat to external validity was the selection bias from a non-representative sample of seventh and eighth grade students. Two public and two private schools were randomly chosen to participate in the study. However, the public school rejected implementation. The sample consisted of seventh and eighth grade students from two private junior high schools with a predominantly white composition. Therefore, generalizations can not be made to all seventh and eighth grade students. Threats to internal validity included possible contamination of results on the posttest due to discussion between the students following the pretest and the program. Data were collected twice, prior to implementation and again one month after implementation. This time frame may not have been adequate and may have allowed for pretest-posttest sensitivity. Contamination could have been avoided with the use of a second reliable instrument. Yet, no other instruments were available for the evaluation of knowledge and attitude.



## Chapter V

### The Outcomes

Chronic health problems associated with the use of cigarettes has been linked with the use of tobacco in the adolescent years. As the number of adolescents using tobacco products increases, the role of education becomes pertinent in reducing the incidence of smoking. However, little research has been focused on the knowledge level and attitudes of adolescents regarding smoking and the risks for health problems.

The purpose of this research was to analyze the effects of a teaching program about cigarette smoking on the knowledge and attitudes of seventh and eighth grade students. Orem's Self-Care Theory was used to guide this quasi-experimental study. This chapter includes a discussion of the findings determined from the data. Conclusions, implications for nursing, and recommendations also are presented.

#### Summary of Significant Findings

The sample consisted of 293 seventh and eighth grade students from two urban private schools located in central Mississippi. One school served as the experimental site and the other the control site. Seventh and eighth grade

students at the schools were asked to participate in the study. Voluntary participation and parental consent set the criteria for involvement in the study.

Both subject groups were similar in representation of age (M=13 years), sex (53% female) and, race (97% Caucasian). The Demographic Data Form, Cigarette Smoking Questionnaire and, Posttest Student Information Form were used to assess the knowledge and attitudes of the seventh and eighth grade students. Descriptive analysis and the  $t$  test were utilized to analyze the data.

One null hypothesis was tested: there will be no difference in posttest scores for knowledge and attitudes of seventh and eighth grade students who attend a teaching program about health risks and peer pressures of cigarette smoking and those who do not attend. Since significant scores emerged,  $t(291)=2.24$ ,  $p=.026$ , the researcher rejected the hypothesis.

Additional information revealed no significant difference in pretest scores between the experimental and control groups on knowledge ( $t(291)=-1.61$ ,  $p=.108$ ) and attitude ( $t(291)=-.65$ ,  $p=.514$ ). Following intervention, the experimental group had a statistically significant increase in pretest to posttest scores for knowledge ( $p=.000$ ) and attitudes ( $p=.002$ ). The control group's pretest-posttest knowledge scores approached significance ( $p=.051$ ). No

difference in pretest-posttest attitude scores was noted ( $p=.870$ ).

Further data were collected from the experimental group on the Posttest Student Information form to determine the effectiveness of the program. Eight students responded that they had quit smoking following the teaching program. Eighty-six percent responded that they would recommend this program to other students. Narrative responses offered on the posttest were valuable in the evaluation of the teaching program.

#### Discussion of Significant Findings

The findings from this study indicated that seventh and eighth grade students did increase their knowledge level and developed positive attitudes after attendance at a smoking prevention program. This finding leads the researcher to believe that teaching about cigarette smoking and its health risks should be initiated during the preadolescent years. Since preadolescent students possess critical thinking skills, they are at an age when teaching about risk factors associated with smoking is effective. Further, teachers and other role models are in positions for influencing the behaviors of these children who are still receptive to receiving information and asking questions about the risks of smoking. Although preadolescent children are initiating experimentation, information and modeling learned from prevention programs may help to deter adapting

to a habit of smoking. Without the information, they may make an uninformed decision to start smoking.

Preadolescents demand reasons for their choices and wish to begin making their own informed decisions. This researcher's suppositions are supported by comments from the experimental group. "This program can help me not to smoke. It helped me with talking to friends who need to quit and I found out stuff I never knew." Another student stated, "I learned things that I didn't know earlier and it could cause smokers to quit."

Adolescents or older students may not be as receptive to education or advice about cigarette smoking. Adolescents are more grounded in self opinion (attitudes) and may have resistance to authority figures (teachers). Older adolescents may be less willing to listen and subsequently alter habits. Adolescents often feel that they are invincible and in turn take more risks that could prove harmful or fatal. One eighth grade student who was adolescent age stated, "It was boring and I learned nothing from it. It was a waste of time." Therefore, the researcher suggests that smoking education should begin during the preadolescent years or younger rather than adolescent years to prevent the development of attitudes about smoking which may impede the benefits of education.

Current research findings support Perry et al. (1992), who determined that students from a preadolescent

experimental group had a lower percentage of persons smoking (14.6%) after educational intervention when compared to a control group (24.1%), therefore validating that educational programs or interventions are beneficial in teaching preadolescents about the risks of smoking and encouraging cessation. Additionally, Orem's supportive-educative theory (1991) identified nursing as a helping service that involves education, guidance, and a positive developmental environment. Thus, the role of the nurse practitioner as an educator for a smoking prevention program can encompass nurturing queries of adolescents at this developmental level.

Limited research has been documented about the prevalence of cigarette smoking in adolescents and its relation to interpersonal factors. The current research showed that 21% of the adolescents reported that a parent currently smokes. Another 10% reported that a sibling smokes. These findings may prove or disprove the concept that a familial tendency to smoke may transcend the generations. In a study by Roosmalen and McDaniel (1992) demographic data and cigarette smoking were evaluated. The researchers found that 22.3% of females and 19.4% of males reported that at least one parent smoked.

Adolescents whose parents or siblings smoke may perceive the initiation of smoking as opportunistic to achieve the social norms set by the family (U.S.

Department of Health and Human Services, 1994). Modeling a parent may be the initial trigger for an adolescent to start smoking and to become addicted. Yet, peer bonding often takes precedence over loyalty or attachments to family (U.S. Department of Health and Human Services, 1994).

Roosmalen and McDaniel (1992) reported that 56.6% of males and 62.4% females had a best friend that smoked on regular basis. In the current study, 61.3% of the sample identified friends as smokers. These supportive data further lend credence to the belief that peer influences play a vital role in the development of attitudes toward the use of cigarettes and other tobacco products. The Department of Health and Human Services (1994), reported that the number of friends, level of social or antisocial interaction or having a boyfriend or girlfriend who smokes were predictors for initiation of cigarette smoking in adolescents. Peer bonding with adolescents who smoke greatly increases the risk for nonsmokers to start. This current study's sample had a low prevalence of adolescent cigarette use. The researcher postulates either the friends identified as current smokers by the participants attended another school not utilized in the study, or participants failed to answer the questionnaires honestly, or for this setting fewer adolescents smoke.

The American Lung Association (1995) reported that approximately 3000 adolescents start smoking on a daily

basis due to curiosity or a need for acceptance into social groups. One student in the present study responded, "I have many friends that need to hear this information". The U.S. Department of Health and Human Services, (1994) reported that the influence of peers has been the most important indicator in determining when and how smoking experimentation begins. Seventh grade students were analyzed in the study by Sussman et al. (1993). Data revealed that one year following the posttest data collection there was a slight increase (8%) in experimentation with cigarette smoking in the study population. The increase or prevalence of cigarette smoking increased as the child aged. This conclusion could be relevant to the concept of peer influence and the need for acceptance.

Over the past decade, there has been virtually no decrease in the prevalence of cigarette smoking among adolescents. Therefore, one must assess demographic factors and trends among adolescent cigarette smokers. The distribution of gender and race may prove significant in the development of cigarette smoking patterns. Gender has been inadequately examined as an influence in smoking initiation and experimentation. In a study by Roosmalen and McDaniel (1992), researchers reported that more females conveyed that their friends smoked, while more males reported that their best friend smoked. The male and female differences in conformity to peers may result from other intervening

socioeconomic factors, cultural stereotypes, and social/reference groups.

Roosmalen and McDaniel (1992) reported that society expects more female adolescents to conform to the use of cigarettes than males, since cigarette smoking is a peer pressure issue, insinuating that females are more prone to be influenced by peers than males. The U.S. Department of Health and Human Services, (1994) reports that males and females are equally likely to smoke cigarettes. Yet, the number of males who use smokeless tobacco was significantly higher. The current research had equal representation of male and female subjects in the study and did not evaluate the prevalence of male versus female tobacco use.

Another demographic factor to consider when evaluating smoking trends is race. The distribution of race among a community or society may greatly affect the incidence of cigarette use. In a report from the U.S. Department of Health and Human Services, (1994), the prevalence of cigarette smoking among Blacks was identified as declining dramatically from 1976 to 1992. The current research population consisted of a 97% Caucasian sample, and therefore the influence of race on preadolescent smoking trends could not be evaluated. Further research may prove beneficial by assessing not only gender distribution but also racial distribution.

Several limitations were identified in the present



study. This middle to upper socioeconomic class with a majority Caucasian sample was non-representative of all seventh and eighth grade students. The selection bias may have affected the outcomes of the study. Possible contamination of the questionnaire may have resulted due to discussion between peers following the initial questionnaire and teaching intervention. The one month time frame between the questionnaires may not have been sufficient to avoid pretest-posttest sensitivity.

### Conclusions

The researcher determined that attendance at the smoking prevention program did improve the knowledge level and was influential on the attitudes of students who attended the presentation. This conclusion is supported by other research (Elder et al., 1988; Perry et al., 1992). Subjects were concerned about the potential health risks that are associated with cigarette smoking and felt that other studies similar to the present study would be beneficial. Many students expressed the desire to be able to resist the influences of peers and said that there were many other students, friends, and family members who needed to be informed on the ever-growing problem of tobacco use. With this factor in mind, the researcher concluded that smoking prevention programs may prove beneficial in decreasing the incidence of cigarette smoking among

adolescents and prevent chronic disease and health problems in the adult population.

### Implications for Nursing

Numerous implications for nursing were identified in this study. The roles of a nurse clinician include counselor, advisor, teacher, and researcher. These roles are essential to the community and society as a whole. Implications are suggested for the areas of education, practice, and research.

Health care providers who care for children or adolescents are in an ideal position to assist persons in educating about smoking. Adolescents perceive health care providers as respectable and knowledgeable and often heed their warnings as opposed to information from family members (U.S. Department of Health and Human Resources, 1994). Nurse clinicians can serve as powerful role models by encouraging healthy behaviors. Long term relationships also may provide for the trust needed to maintain a therapeutic milieu for education. Clinic visits offer an opportune situation to provide education and prevent and deter tobacco use. Orem's supportive-educative theory sets precedence for this concept by attempting to meet the needs of a patient and trying to educate persons to perform their own self-care measures, whereas the nurse clinician can assist and help regulate

self-care capabilities and requirements (Chinn & Kramer, 1995).

Education should begin with children when the attitudes and behaviors of the child are being developed. Educators also should consider environmental factors. Children reared in a home where the parents or family members smoke are at higher risk for developing pneumonia, bronchitis, asthma, diseases of the middle ear and sudden infant death syndrome (U.S. Department of Health and Human Services, 1994). Nurse clinicians can educate the parents as well as the children on tobacco in efforts to prevent the long term health problems that are associated with cigarette smoking. Follow-up arrangements can be made to assess the progression of cessation attempts which may prove beneficial to the nurse clinician's efforts to promote healthy lifestyles.

Health care providers are often respected and held in high esteem by the community. The nurse clinician has the opportunity to lead persons in the community in smoking prevention programs and other cessation interventions. These are prime situations for the evaluation of therapeutic interventions.

Research is needed in the area of tobacco use, especially in the preadolescent population. The nurse clinician, in the role of researcher, is an invaluable asset to the nursing society. Nurse clinicians in the primary care setting can offer insight into information about developing

children, addictive risks, and health promotion programs. Further, research on cigarette smoking is recommended to fight the ever-growing number of patients with long-term health care problems related to tobacco use.

### Recommendations

Based on the findings and conclusions of this study, the following recommendations for research are made.

1. Replication of the study with a broader sample of ethnic and socioeconomic groups. Other research studies are needed in the medical field to evaluate the trends of cigarette smoking among African Americans and other minorities. Evaluation of other ethnic and socioeconomic groups may increase the knowledge of health care workers of smoking trends in adolescents.
2. Conduction of research in regards to long-term evaluation of interventions. This may prove beneficial in decreasing the number of adolescents who smoke cigarettes. Also, the long-term evaluation of cigarette use among adolescents may decrease the incidence of chronic health problems in the adult population.
3. Development of similar smoking prevention programs directed toward the preadolescent age group or younger. Education aimed toward the younger children and adolescents increases the likelihood of improved knowledge and positive attitudes about cigarette smoking and its risks.

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## APPENDICES

APPENDIX A  
CIGARETTE SMOKING QUESTIONNAIRE

**CIGARETTE SMOKING QUESTIONNAIRE**

ID# \_\_\_\_\_

The following true/false questions are related to cigarette smoking. Please circle T for True and F for False beside the answer you choose.

True False

- |   |   |  |
|---|---|--|
| T | F | 1. Heart disease and stroke are major health risks associated with smoking.  |
| T | F | 2. Cancers of the bladder and pancreas are related to cigarette smoking.   |
| T | F | 3. Skin cancer is a health risk associated with cigarette smoking.   |
| T | F | 4. Smoking is a risk factor for peptic ulcer disease.  |
| T | F | 5. Teenagers who smoke have a general decrease in physical fitness.  |
| T | F | 6. Within minutes of smoking a cigarette, heart rate and blood pressure decrease and carbon monoxide enters the blood. |
| T | F | 7. Male adolescents are more likely than female adolescents to smoke cigarettes.                                       |
| T | F | 8. Most smokers believe that smoking is hazardous to their health.   |
| T | F | 9. Cigarette smoke is as addicting as heroin and cocaine.  |
| T | F | 10. Carbon monoxide is the chemical in cigarette smoke that people are thought to become addicted to.                  |
| T | F | 11. Smoking causes wrinkles on the face to form more quickly.  |
| T | F | 12. Teenagers cannot become addicted to cigarettes until they have smoked one year or longer.                          |
| T | F | 13. Most teenagers who smoke begin around age 18.  |
| T | F | 14. Most smokers would like to quit smoking.   |
| T | F | 15. It is easy to quit smoking cigarettes.   |

## CIGARETTE SMOKING QUESTIONNAIRE

Please answer the following questions by circling the number that indicates how strongly you agree or disagree with the statement to the left. For example, if you strongly agree with the statement, you should circle number 5. If you agree, but not strongly, you should circle number 4. If you are unsure, circle number 3. Please ask questions if you do not understand the instructions. Remember, this is not a test. We just want to know what you think.

	Strongly Disagree		Neutral		Strongly Agree
16. I am responsible for my own actions.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
17. I do not made decisions that affect my health	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
18. I make decisions based on what most of my friends are doing.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
19. My health is important to me.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
20. I participate in activities that promote health, such as exercising and wearing seat belts.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
21. I am improving my health if I choose <u>not</u> to smoke cigarettes.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
22. Cigarette smoke is harmful to nonsmokers who breathe the smoke of others.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
23. Smoking should not be restricted in public places.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
24. Cigarette smoke is dangerous.	1	2	3	4	5
<hr style="border-top: 1px dashed black;"/>					
25. Teenagers who smoke act more mature than teenagers who don't smoke.	1	2	3	4	5

**THIS CONCLUDES THE QUESTIONNAIRE -- THANK YOU FOR PARTICIPATING !**

APPENDIX B  
CIGARETTE SMOKING PREVENTION PROGRAM

1

2

## OBJECTIVES

1. Discuss the pathophysiology of the lungs.
2. Identify those at risk for health problems associated with smoking.
3. List statistics associated with health problems from smoking.
4. Discuss the risks associated with smoking and second-hand smoke.
5. Discuss the benefits of not smoking.
6. Discuss social influences that may lead to smoking behaviors.
7. List ways to help others stop smoking.

## OUTLINE

- I. Pathophysiology of the lungs
- II. Statistics associated with smoking and smoking behaviors.
- III. Causes of health related problems.
  - A. Nicotine
  - B. Addictiveness
- IV. Health related problems related to smoking
  - A. Lung Diseases (COPD)
  - B. Heart Disease
  - C. Lung Cancer
- V. Effects of second-hand smoke
- VI. Peer-pressure and family influences on smoking
- VII. Conclusion

## Pathophysiology of the Lungs

Air is inhaled through the nose and mouth. The incoming air is collected in the trachea or windpipe. The trachea then divides into the right and left bronchi at the level of the sternum or breastbone. The bronchi divide as they enter the lungs, this is called the tracheobronchial tree. Along this structures cilia or "hairlike" structures move foreign particles up to your mouth where they are swallowed or coughed out. This is a defense mechanism of your body to rid itself of bacteria and foreign material to prevent illness. The tracheobronchial tree is divided into bronchioles. At the very end of these bronchioles are alveoli. The alveoli is where gas exchange takes place. This is where the oxygen you breathe is collected in the blood vessels and the carbon dioxide you breath out is released during exhalation.

Your heart is closely located and needs the lungs to help it function. Unoxygenated blood from the heart must travel through the lungs blood system to become oxygenated, then it can pump oxygenated blood to the rest of the body. Cigarette smoke decreases the amount of oxygen getting to the alveoli. Also, the particles in



smoke collect along the tracheobronchial tree and the body must work harder to get rid of the foreign particles. Any change in this breathing process can damage the heart and lungs.

Cigarette smoking is one of the most serious issues facing adolescents. Many health risks are associated with smoking. Nicotine is one of the major causes of addiction in smokers. There is no safe tobacco product, all forms of tobacco contain nicotine. Smoking low tar cigarettes doesn't reduce the risk of lung and heart disease or cancer.

The smoke from a cigarette contains 3600 different chemical compounds that are dangerous to the lungs. The nicotine is inhaled and transported to the brain in about seven seconds. This is the "hit" or "rush" associated with smoking. This process is faster than a "hit" of heroin into your vein. Cigarettes are often used because they are less expensive and easier to buy compared to other drugs. Cigarettes are illegal for minors in most of the United States. Cigarette smoking can be as addictive as heroin and cocaine. Those who start smoking at an earlier age are often to ones who progress to drink alcohol and abuse other drugs. Many adolescents feel that smoking related health problems only affect older adults. In young adults, it reduces the rate of lung growth, it makes people short of breath

which decreased physical fitness and it gives you bad breath which reduces social appeal.

Many lung diseases of older people are related to prolonged cigarette smoking. Chronic obstructive pulmonary disease (COPD) is combination of disorders, including emphysema and chronic bronchitis. This disease is where obstruction blocks the air when you breath in and out. COPD is causes by prolonged smoking. COPD is the fifth leading cause of death in the United States. With this disease people often experience a chronic cough and often feel tired because they can't exercise or do simple chores without feeling short of breath. This disease can not be cured only the symptoms can be treated. The first thing told to patients by doctors and nurses is to stop smoking. Those adolescents and young adults who quit smoking now or at an early age reduce their risks for developing lung and heart disease and cancer.

Cigarette smoking is associated with many diseases of the heart and blood vessels. Cigarette smoking decreases the amount of oxygen that is carried to the heart. The body responds to cigarette smoke by increasing blood pressure and increasing heart rates and constricting blood vessels. High blood pressure and a high heart rate causes an increase workload on the heart. This can often lead to heart attacks Also, people

who smoke have an increase risk to develop clots in their blood, leading to strokes. People who have had strokes often have to depend on others to care for them. Smokers who have a heart attack or stroke often die. Cigarette smoking is the number one cause of death in the United States.

Lung damage begins as soon as you start smoking. Four out of every five persons who smoke will develop lung cancer. Smoking causes the cells in the lungs to develop abnormally. The more exposure to the smoke the more the abnormal cells grow. This process often can be slow and take years to grow or it can develop fast and spread throughout the body. Other cancers that are related to smoking include cancer of the mouth, throat, kidneys, pancreas and bladder. The only way to slow down these cancers are if they are found early. Approximately 142,000 persons die yearly from lung cancer. Those persons with lung cancer usually have a bad cough and may even cough up blood. Those persons who stop smoking decrease their risks of developing lung cancer by 30 to 50% over the next ten years.

You may not smoke but if your family or friends smoke you may be affected. The toxic chemicals in smoke can cause your heart rate and blood pressure to be increased from just breathing their smoke. Those people who are around smokers tend to develop more colds and

breathing problems than those who are not around smokers. If you don't smoke and want to decrease your chance of getting sick-don't let people smoke in the car with you, in restaurants sit in the non-smoking areas and tell friends and family not to smoke around you. Second-hand smoke causes irritation to the eyes, nose and throat which can lead to coughing and chest pain. Three thousand deaths a year are from lung cancer in persons who don't even smoke and never had. There are 150,000 to 300,000 cases of pneumonia, bronchitis and other lung infections in people under eighteen from second-hand smoke.

Your friends and family are the most powerful influences in your life. If they smoke you will be more likely to start smoking. Most people who begin to smoke is because their best friend smokes. Often this is to look more mature or to be accepted into a group of "cool" kids. To smoke or not to smoke is your decision and just because someone is "cool" is smoking doesn't mean you need to start to be accepted. The "cool" person is destroying their lungs and their whole body. The number of males and females who smoke is about the same. Yet, the number of males who chew tobacco is extremely larger than in females. The use of chewing tobacco often leads to cancer of the mouth and gums. If anyone in your family (mother, father, sister or brother) smokes, you

are more prone to start. If your best friend or group of friends smoke you are prone to start. Decide now at an early age how you feel about taking the risks before you start or decide not to start smoking.

People who smoke often smell like smoke and their teeth turn yellow without good grooming if they aren't careful. Smokers can't always tell if they smell because the smoke decreases their sense of smell and taste.

Smoking is also associated with the development of stomach problems like ulcers. If you smoke now you can quit, if you feel you can't quit even cutting down will help decrease health problems. If you stop today, you may feel better right away as the irritation in your lungs is gone. You can breath better and cough less.

Over 43.5 million people have quit smoking.

DON'T START- why get hooked on a dangerous habit

QUIT NOW- It will make you feel better and it could save your life. Every year, more people die from smoke related diseases than from AIDS, drug abuse, car accidents and murder combined.

## HOW TO HELP YOU STOP SMOKING

1. Realize that withdrawal symptoms are different for every smoker. Yet, the symptoms are worse during the first few days and getting used to life without cigarettes can take months.
2. Make a list with reasons to quit smoking and keep them close.
  - to be a healthier person
  - to play better in sports
3. Set a date for quitting and make sure your friends and family know the date because they can help support you.
4. Have health snacks available to munch on if you need to keep your hands and mouth busy.
5. Exercise to keep your mind off smoking and keep the extra weight off.
6. Have plans or ideas of what you can do when the urge to smoke hits.
  - call a friend
  - take a long walk

The urge to smoke usually will pass in a couple of minutes.

7. Move all cigarettes, ashtrays or other smoking material out of site or away from you.

APPENDIX C  
DEMOGRAPHIC/DESCRIPTIVE DATA FORM

## Demographic/Descriptive Data Form

1. ID#: \_\_\_\_\_ ( you may use your locker number )
2. School : \_\_\_\_\_ Grade: \_\_\_\_\_
3. Age in years : \_\_\_\_\_ Date of Birth: \_\_\_\_\_
4. \_\_\_\_\_ Male                      \_\_\_\_\_ Female
5. Race :  
       \_\_\_\_\_ White    \_\_\_\_\_ African American    \_\_\_\_\_ Indian    \_\_\_\_\_ Other
6. Do you smoke cigarettes now?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
7. If so, would you like to quit?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
8. Have you ever smoked cigarettes?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
9. Does your mother or father smoke cigarettes?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
10. Does you brother or sister smoke cigarettes?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
11. Have you ever received free cigarettes in the mail?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
12. Have you ever bought cigarettes?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
13. Do any of your friends smoke?                      \_\_\_\_\_ Yes    \_\_\_\_\_ No
14. If you smoke, at what age did you start? \_\_\_\_\_
15. Why did you start smoking? \_\_\_\_\_



APPENDIX D

PERMISSION TO USE TOOL

**January 22, 1996**

**Dear Ms. Stinson:**

**You have my permission to use the Cigarette Smoking Questionnaire and Student Posttest Data in your research regarding adolescents knowledge about cigarette smoking.**

**Sincerely,**

A handwritten signature in cursive script that reads "Pam Thrash". The signature is written in black ink and is positioned to the right of a vertical line that extends from the "Sincerely," text.

**Pam Thrash**

APPENDIX E

APPROVAL OF COMMITTEE ON USE OF HUMAN  
SUBJECTS IN EXPERIMENTATION



MISSISSIPPI  
UNIVERSITY  
FOR WOMEN

Columbus, MS 39701

Office of the Vice President for Academic Affairs  
Eudora Welty Hall  
P.O. Box W-1603  
(601) 329-7142

March 5, 1996

Ms. Sandi Stinson  
c/o Graduate Program in Nursing  
Campus

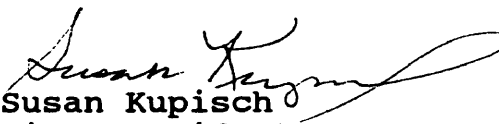
Dear Ms. Stinson:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research provided the following standards are met:

The parent's consent form should be changed to adequately reflect that if a child does not participate, there will be no effect upon the child's school work or participation in school by the school.

I wish you much success in your research.

Sincerely,

  
Susan Kupisch  
Vice President  
for Academic Affairs

SK:wr

cc: Mr. Jim Davidson  
Dr. Mary Pat Curtis  
Dr. Rent

APPENDIX F  
AGENCY CONSENT FORMS

Dear Director of Research and Development:

My name is Sandi Stinson, and I am a registered nurse and graduate student at Mississippi University for Women School of Nursing. I am conducting a research project as part of my Master of Science in Nursing. I am interested in the effects of a teaching program about the peer pressure and health risks associated with cigarette smoking on the knowledge of seventh and eighth grade students. I am requesting permission to conduct this study within your school district.

The subjects will be seventh and eighth grade students who agree to participate. Each student will have the opportunity to refuse participation, and confidentiality will be maintained. Each parent will also have the opportunity to refuse for their child to participate. Written permission will be requested from the two principals whose schools were randomly chosen to participate. The information from this study will be used to identify trends related to cigarette smoking among adolescents and to assist in the development of future studies related to adolescents and smoking.

Enclosed you will find a copy of the student and parent information forms and a copy of the letter sent to the principals in the school district, who will participate in the study. I can be reached at the above address and phone number regarding and questions you may have about the study. I appreciate your assistance in this matter.

Please indicate your permission to conduct this study about smoking prevalence in adolescents within your school district with seventh and eighth grade students by signing on the line below and returning this letter to me.

---

Signature

Date

---

Signature of Superintendent

Sincerely,

Sandi Stinson, RN, B.S.N.  
 Graduate Student  
 Mississippi University for Women

Dear Principal:

My name is Sandi Stinson, and I am a registered nurse and graduate student at Mississippi University for Women School of Nursing. I am conducting a research project as part of my Master of Science in Nursing. I am interested in the effects of a teaching program about the peer pressure and health risks associated with cigarette smoking on the knowledge of seventh and eighth grade students. I am requesting permission to conduct this study at your school.

The subjects will be seventh and eighth grade students who wish to participate. Each student will have to opportunity to refuse participation and confidentiality will be maintained. Each parent also will have the opportunity to refuse for their child to participate. Students will answer a questionnaire on two occasions, and will receive a smoking prevention program which includes a thirty minute presentation and discussion on the peer pressures and health risks associated with cigarette smoking.

Student and parent information and consent letters are included for your review. The return of the letters from the student and parent will serve as an indicator for their participation. A copy of the questionnaire will be sent to you for approval prior to the beginning of the program. I can be reached at the above address and phone number regarding any questions you may have about the study. I appreciate your assistance in this matter.

Please indicate your permission to conduct this study about smoking prevalence in adolescents at your school with seventh and eighth grade students by signing on the line below and returning this letter to me.

I hereby grant Sandi Stinson permission to have access to the seventh and eighth grade students for participation in the study indicated above.

---

Signature

Date

Sincerely,

Sandi Stinson RN, B.S.N.  
Graduate Student  
Mississippi University for Women

APPENDIX G  
PARENT CONSENT FORMS



## Experimental Group Parental Consent Form

Dear Parent:

My name is Sandi Stinson, and I am a registered nurse and a graduate student at Mississippi University for Women. I am conducting a research study about the problem of cigarette smoking in children. This study will identify if there is a need for education in the pre-adolescent age group on smoking. I will teach a prevention program about peer pressure and health risks associated with smoking which influence the adolescent's interpretation of cigarette smoking.

I am requesting permission for you child to participate in this study. Participation will include filling out a questionnaire on two occasions and attending a thirty minute presentation and discussion about peer pressure and health risks associated with smoking. The smoking prevention program will be taught during school and will not in any way affect grades or school performance.

This survey does not imply that your child is smoking. This is completely voluntary and your child can refuse to answer any question or withdraw from the study at any time. Your child's participation will not effect their performance in school in any way. This study holds no known risks, but your child may learn and benefit from the teaching program. Your child's name will not be used and confidentiality will be maintained throughout the study.

Please return this signed consent letter if you approve of your child's participation. I appreciate your cooperation in this matter. If you have any questions, please contact me at (601) 856-3374.

-----  
I understand the above information regarding participation in the study on cigarette smoking.

\_\_\_\_\_ Yes, my child may participate in the study.

\_\_\_\_\_ No, my child may not participate in the study.

Child's

Name: \_\_\_\_\_

Parent's

Signature: \_\_\_\_\_

## Control Group Parental Consent Form

Dear Parent:

My name is Sandi Stinson, and I am a registered nurse and graduate student at Mississippi University for Women. I am conducting a research study about the problem of cigarette smoking in children. This study will identify if there is a need for education in the pre-adolescent age group on smoking.

I am requesting permission for your child to participate in this study. Participation will include filling out a questionnaire on two occasions prior to the end of school.

This survey does not imply that your child is smoking. This is completely voluntary and your child can refuse to answer any question or withdraw from the study at any time. Your child's participation will not effect their performance in school in any way. This study holds no known risks, but your child may learn from the teaching program. Your child's name will not be used and confidentiality will be maintained throughout the study.

Please return this signed consent letter if you approve of your child's participation. I appreciate your cooperation in this matter. If you have any questions, please contact me at (601) 856-3374.

-----  
I understand the above information regarding participation in the study on cigarette smoking.

\_\_\_\_\_ Yes, my child may participate in the study.

\_\_\_\_\_ No, my child may not participate in the study.

Child's

Name: \_\_\_\_\_

Parent's

Signature: \_\_\_\_\_

APPENDIX H  
STUDENT CONSENT FORMS

## Experimental Group Student Consent Form

My name is Sandi Stinson and I am a registered nurse conducting research about cigarettes and smoking in adolescents.

The information collected will be used to develop teaching plans about cigarette smoking for your age group. This research will enable health care workers to provide education to other pre-adolescents in an effort to increase their understanding of health care risks related to smoking.

The study requires completion of a questionnaire that takes about 15 minutes, attending a smoking prevention program that describes the health risks related to smoking and then answering another questionnaire about one month later.

This questionnaire is not a test and does not affect your grade in class. The choice to participate is left up to you and will not affect your grades in school. You may withdraw from the study at any time up to turning in the completed questionnaire. The questionnaire is anonymous and your name will not be placed on them.

Your cooperation will be greatly appreciated.

-----  
I have read the above statements. I understand that this study will not in any way affect my school performance.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

## Control Group Student Consent Form

Dear Student:

My name is Sandi Stinson and I am a registered nurse conducting research about cigarettes and smoking in adolescents.

The information collected will be used to develop teaching plans about cigarette smoking for your age group. This research will enable health care workers to provide education to other pre-adolescents in an effort to increase their understanding of health care risks related to smoking.

The study requires completion of two questionnaires at different times but should not take more than 30 minutes. This questionnaire is not a test and does not affect your grade in class. The choice to participate is left up to you and will not affect your grades in school. You may withdraw from the study at any time up to turning in the completed questionnaire. The questionnaire is anonymous and your name will not be used in the study.

Your cooperation will be greatly appreciated.

-----  
I have read the above statements. I understand that this study will not in any way affect my school performance.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

APPENDIX I

POSTTEST STUDENT INFORMATION FORM

## Posttest Student Information Form

1. ID# \_\_\_\_\_
2. School : \_\_\_\_\_
3. Did this teaching program increase your knowledge about smoking?

\_\_\_\_\_ Yes          \_\_\_\_\_ No

4. Did you quit smoking after this program?

\_\_\_\_\_ Yes          \_\_\_\_\_ No

5. Was this program helpful to you?

\_\_\_\_\_ Yes          \_\_\_\_\_ No

How?

---

---

6. Would you recommend this program to other students?

\_\_\_\_\_ Yes          \_\_\_\_\_ No

Explain:

---

---

7. Other comments or suggestions to help educate other adolescents about cigarette smoking. \_\_\_\_\_
- 
-