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Abstract

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A target sample of 158 baccalaureate nursing students was invited to participate. The response rate was 51% (N=80). The sample consisted of 10 (13%) current smokers, 17 (21%) former smokers, and 53 (66%) nonsmokers. An anonymous questionnaire was collected to gather data on demographics, smoking history, and current self and possible future selves. Nonparametric tests were used to describe group differences.

The majority of the sample (n = 57; 71%) had experimented with smoking. The mean age at first cigarette was 14.58 (SD = 3.52). Current smokers had started smoking at a younger age (X=12.9) than former smokers (X=13.65) and nonsmokers (X=15.67) (X^2=17.11, df=2, p=.000). Also, 16 students reported trying other forms of tobacco. There was a positive relationship (r=.50; p=.000) between current smokers' smoker self-schema and intent to smoke in the future. Current smokers had a significantly lower abstainer self-schema than nonsmokers and former smokers (X^2=40.50, df=2, p=.000). Current smokers also scored significantly lower on a self-descriptive adjective rating scale than nonsmokers and former smokers (X^2=9.33, df=2, p=.009).

Compared to samples reported in the literature, there was a low level of current smoking in this group (n=10; 13%). Most of the former smokers (88%) stated that they

stopped smoking on their own, or "cold turkey". Students' use of other forms of tobacco

use suggests that researchers and clinicians need to inquire about all forms of tobacco use

by nursing students. In comparison to other students, current smokers rated themselves

lower on self-descriptors. This suggests a discrepancy between their smoker self-concept

and other components of the self (e.g., professional nursing characteristics). This

difference needs to be addressed in helping nursing students achieve cessation.

NURSING STUDENTS' SMOKING BEHAVIORS AND SMOKING-RELATED

SELF-CONCEPT

By

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A Research Project

Presented to the Faculty of the Graduate Nursing Program
At the University of Nebraska Medical Center
In Partial Fulfillment of Requirements
For the Degree of Master of Science in Nursing

Under the Supervision of

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Omaha, Nebraska

April, 2003

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CHAPTER I.

INTRODUCTION

Purpose of the Study

Smoking is considered by many to be the most important avoidable cause of chronic health problems (McKenna, Slater, McCance, Bunting, Spiers, & McElwee, 2001). It is estimated that 25-30% of the U. S. population smoke and the number of nurses that smoke is equal to that of the general public (McKenna et al., 2001). That the prevalence of nurses' smoking is not less than the general population is of concern since nurses have ready access to information about the health dangers of smoking and the benefits of quitting as well as smoking cessation programs (Gorin, 2001; McKenna et al.; Lee, 1989; Haughey, O'Shea, Dittmar, Bahn, Mathewson, Smith, & Brasure, 1986).

The transition that takes place when a person graduates from high school and begins college can be a time of great stress. Many of these students use smoking a mechanism to help cope with that stress as many feel that smoking a cigarette provides them with immediate gratification and stress relief Gaffney, Wichaikhum, & Dawson, 2002). Many know the long-term effects of smoking, but fail to recognize the immediate danger of nicotine dependence. College students who smoke do not believe that they are vulnerable to nicotine dependence and the long-term consequences of dependency (Gaffney et al., 2002).

Nursing students will be responsible for health promotion in their careers. McKenna et al (2001) found that nurses who smoke were less willing to take on the role of health promoter and were less likely to teach patients about the health risks of

smoking. This statement makes it clear that the topic of nursing student's smoking habits warrants investigation for the health of the students and their prospective patients.

Many smokers do not begin to smoke regularly until reaching college age. Freeman, Hennessy, & Marzullo (2001) found that 28% of college aged smokers did not begin smoking until they began college. A majority of these students report that they do not plan on smoking in the future. Some state it is something that they are doing at this time to help with the stress of college (Freeman et al.). One possible psychological mechanism for understanding college-age individual's behavior is examining the relationship between self-concept, particularly the role of current self-concept and future possible selves, and smoking behaviors (Freeman et al.).

The purpose of this exploratory study is to describe relationships between baccalaureate-degree nursing students' smoking-related current self-concept, possible selves, and smoking behaviors. Secondary purposes are to: (a) describe the smoking behaviors of a selected sample of baccalaureate nursing students and (b) determine the reliability and validity of instruments used to describe nursing students' self-concept related to smoking behaviors.

Significance

The smoking rate has decreased in the United States since the Surgeon General Report on the consequences of smoking in 1964. According to the U. S. Department of Health and Human Services (USDHHS), a goal of Healthy People 2010 is to reduce the prevalence of cigarette smoking in adults to less than or equal to 12%. However, approximately 46.5 million adults continue to smoke cigarettes at a rate of approximately 23.3% in 2000 (Trosclair, Husten, Pederson, & Dhillon, 2002). The U. S. Department of

Agriculture (USDA) has estimated that 420 billion cigarettes were consumed in 2002, which is a 1% decline from the previous year. This decrease has been attributed to a variety of factors to include higher taxes, smoking restrictions in public places, and increased awareness of the harmful effects of cigarette smoking (USDA, 2002). Kelder and Daynard (1996) found that the consumption of cigarettes decreased by 4% for every 10% increase in the price of cigarettes. This decrease is encouraging; however, it is uncertain if this decrease reflects more smokers abstaining from smoking, or if smokers are decreasing the number of cigarettes smoked to help defray the cost.

Tobacco use is the leading cause of preventable death in the United States. The identification of tobacco use as a health hazard has been recognized as one of the most important public health announcements in the 20th century (Sarna & Lillington, 2002). Tobacco accounts for one in every six deaths in the United States, or 434,000 deaths annually (CDC, 1993b). If smoking prevention and cessation rates do not help reduce the smoking rate, the World Health Organization (WHO) predicts that one in ten people that are currently living will die of a tobacco-related illness (Cinciripini, Hecht, Henningfield, Manley, & Kramer, 1997). These statistics show that it is imperative that further research needs to be conducted to help improve smoking prevention and smoking cessation to help reduce the rate of smoking-related deaths.

In the United States, the smoking rate for nurses remains approximately the same as the rates for those of the general public (Chalmers, Bramadat, Cantin, Murnaghan, Shuttleworth, Scott-Findlay, & Tataryn, 2001). Nurses who do smoke often report feelings of guilt and shame about smoking and often experience difficulty discussing smoking cessation with their clients. Nurses have the potential to influence the clients'

smoking behaviors. So, the tobacco issues for nursing students extends beyond the personal impact on their health. These nursing students will be needed to help change the smoking behaviors of their future clients (Chalmers, Seguire, & Brown, 2002). Thus, this study will explore self-concept variables that may be related to nursing students' smoking behaviors.

Research Questions

The following research questions will be addressed:

1. What are the smoking histories of a selected sample of baccalaureate nursing students with regard to:

    a. age at first cigarette

    b. age of regular smoking

    c. current amount smoked

    d. other tobacco products used

    e. number of quit attempts

    f. longest period of abstinence (continuous abstinence)

    g. types of smoking cessation methods used

2. What are the relationships between a selected sample of baccalaureate nursing students' current and future possible selves and their past and current smoking behaviors:

3. What is the reliability (internal consistency) of the following instruments used to measure smoker self-concept:

    a. Abstainer Self-Concept

    b. Smoker Self-Concept

    c. Perceived Health Status Scale

    d. Perceived Health Satisfaction Scale

4. What is the concurrent and validity of the following instruments used to measure smoker self-concept:

    a. Abstainer Self-Concept

    b. Smoker Self-Concept

    c. Perceived Health Status Scale

    d. Perceived Health Satisfaction Scale?

Definitions of Terms

The following are operational terms that have been defined for this study:

Group Category

Smokers. Individuals who report having smoked at least 100 cigarettes in their lifetime and are currently smoking (USDHHS, 1989b).

Nonsmokers. Individuals who report having never tried smoking, or having smoked fewer than 100 cigarettes in their lifetime (USDHHS, 1989b).

Former smokers. Individuals who report having smoked at least 100 cigarettes in their lifetime, and currently, are not smoking (USDHHS, 1989b).

Background

Age. Chronological age of each participant will be recorded in years.

Gender. Male or female will be used to categorize participants according to their gender.

Marital status. The following categories will be used to classify participants according to their martial status: single or never married, married, separated, divorced, and widowed.

Ethnicity. The following categories will be used to classify participants according to their ethnic background: Asian/Pacific Islander, Black/African-American, Hispanic, Native American/Eskimo, and White non-Hispanic.

Educational level. The highest academic level completed by the participant will be recorded.

Employment status. The following categories will be used to classify participants according to their employment status: nursing (RN, LPN, CMA, Other), other health care profession, and other type of employment, not currently employed.

Perceived health status and health satisfaction. The Perceived Health Status Scale (PHSS) and the Perceived Health Satisfaction (PHS) scales will be utilized to measure an individual's perception of the current health status and health satisfaction. The PHSS is a three-item questionnaire, which assesses health in general terms, and the PHS is a five-item questionnaire, which measures perceived health satisfaction with functional abilities.

Tobacco History

Age of smoking initiation. The chronological age at which participants became regular smokers.

Nicotine dependence. The Fagerstrom Test for Nicotine Dependence (FTND) (six-item scale) will be used to measure nicotine dependence (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). A score of six or greater on the FTND will be considered an indicator of dependence.

Number of quit attempts. The number of times that participants have attempted to quit smoking.

Quit methods. Any educational, psychological, and pharmacological methods used the help smokers manage the nicotine withdrawal symptoms and obtain abstinence from cigarettes.

Other tobacco products. All forms of tobacco products not to include cigarettes (chewing tobacco, pipes, cigars).

Conceptual Definitions

The following conceptual definitions of addiction, current self, and future possible selves are presented to assist in the understanding of the terms in the literature review. Operational definitions, where appropriate, are also provided.

Self-concept. The self-concept is a person's total collection of thoughts about the self that are manifested in memory to include self-schemas and other images of the self (Stein, 1996).

Self-schema. Self-schemas are stable and enduring memory structures about the self that integrate and summarize a person's thoughts, feelings and experiences about the self in a specific behavioral domain (Markus & Sentis, 1982). Self-schemas can be formed around any aspects of a person, including smoking behaviors. Because self-schemas include procedural knowledge, a person with a smoker or abstainer self-schema has behaviors that enable the person to function in this domain (Stein, 1996).

Current self. The current self represents the way a person views the manner in which one behaves and is based on the knowledge of the way one has behaved in similar situations in the past. The current self allows a person to process information and helps

regulate the way a person behaves in a particular situation and defines the sense of self (Shadel & Mermelstein, 1996). The current self was operationalized by having participants rate themselves on the same adjective descriptor rating scale used to describe typical smokers and former smokers.

Future possible self. The future possible self is a self-schema of the way an individual aspires to be in their hopes and dreams of the future (Shadel & Mermelstein, 1996). These possible selves can drive changes in behavior of individuals. For example, if a person envisions a future as a nonsmoker, this possible self may help the person change the smoking behaviors and become a nonsmoker. Possible selves are one of the most effective behavior guides when linked to an existing self. The future possible self was operationalized by 6 item questions about the likelihood of smoking at future time points significant to a nurses' career. The questions were adapted from Freeman Hennessy, & Marzullo.

Typical smoker Prototype. Mental representations of characteristics of a typical nurse who smokes. The typical nurse smoker prototype was operationalized by a 25 item descriptive adjective rating scale that described characteristics of a typical smoker adapted from Gibbons & Eggleston (1996). Because the study addressed smoking among nursing students, adjectives that also described characteristics of a typical professional nurse were also included.

Typical former smoker. A mental representation of characteristics of a typical former smoker. The typical former smoker prototype was operationalized by the same 25 item adjective rating scale that described characteristics of a typical smoker and also of a typical professional nurse.

Theoretical/Conceptual Framework

The conceptual framework was derived from current literature on smoking

behaviors, including studies addressing nursing students and smoking. A key variable in

this study is the Smoking-Related Self Concept, which is believed to affect both

perception of prototype of smokers and self-descriptors as well as smoking behaviors.

The model (Figure 1) depicts the variables of interest for this study, specifically,

background variables, smoking related self-concept, smoking prototypes, and smoking

behaviors. Looking right to left across the figure, selected background variables (e.g.,

age, gender and smoking history) influence the development of an individual's smoking-

related self-concept. In this study, three elements of the self-concept were explored: one's

abstainer self-schema and one's smoker self-schema. Both of these schemas are believed

to affect an individual's smoking behaviors by cognitions that indicate identification of

either smoking or abstaining from smoking with one's desired or intended behaviors.

Shadel, Mermelstein, and Borelli (1996) proposed that in order for smoking behaviors to

change, a smoker needs to weaken their smoker self-schema and strengthen their

abstainer self-schema. Thus, during the process of smoking cessation, it is hypothesized

that a smoker's self-schema will decrease whereas their abstainer self-schema will

increase. In turn, one's smoking related self-concept could influence the perceptions of

smoker prototypes (i.e., stereotypical perceptions of smokers), specifically, the typical

smoker prototype and the former smoker prototype (Gibbons & Eggleston, 1996). In this

study, selected self-descriptors were also included to determine relationships between

descriptors that individuals might use to describe their own characteristics and their

prototypes of the typical smoker and former smoker. Finally, this study proposes that

both the smoking-related self-concept and smoker prototypes influence smoking-related

behaviors, specifically, an individuals' current smoking behaviors and whether they

intend to engage in smoking in the future.

Figure 1. Model Depicting Relationships Between Smoking-Related Self-Concept, Smoking Prototypes, and Smoking Behaviors.
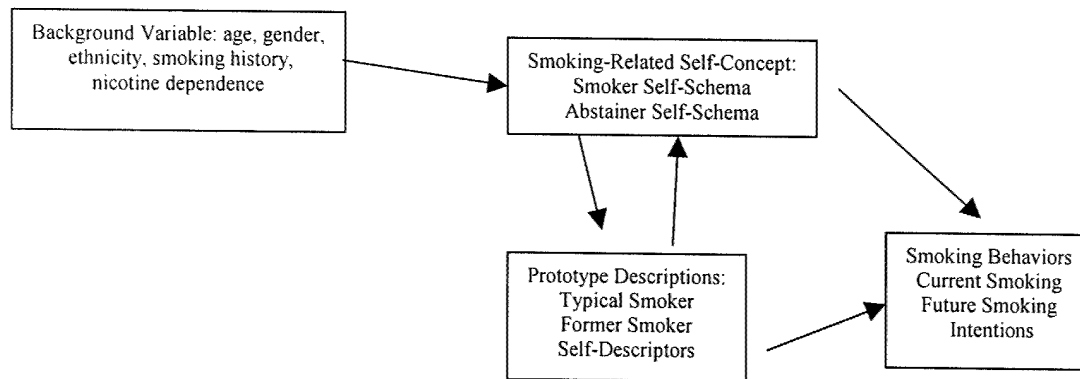
CHAPTER II.

REVIEW OF THE LITERATURE

Introduction

Smoking Behavior

Sarna and Lillington (2002) conducted a review of studies addressing tobacco use. Databased articles (n=1705) and research briefs (n=197) were evaluated and found that tobacco cessation is an emerging topic in nursing research. In the research reviewed, tobacco use became the primary focus in the 1970's. During the past decade, articles on smoking cessation have appeared as well as methods of treating nicotine dependence. The authors suggest efforts to prevent children from initiating tobacco use, help people quit, and decrease exposure to second hand smoke need to increase drastically to address the epidemic of tobacco use and its consequences (Sarna & Lillington, 2002).

A descriptive study (Haughey et al., 1986) found that 30% of nursing students (n=1163) surveyed in ten nursing schools were current smokers and 25% were ex-smokers. Most of the current smokers (90%) had tried to quit in the past. It was found that many nursing students (75%) started smoking or increased the amount they smoked during their education. This had been related to peer pressure, social and developmental stress, and being in a profession associated with many stressful circumstances. It was also noted that baccalaureate students were the least inclined to smoke. These students were aware of the health risks of smoking, but this did not appear to be significantly related to their smoking behavior.

A cross-sectional survey (Chalmers, Seguire, & Brown, 2002) of baccalaureate nursing students (n=272) found 22.1% of the students smoked daily or in social

situations. The students in a Canadian province completed a self-administered questionnaire that addressed the smoking history, stage of change, and beliefs and attitudes towards tobacco. Of these smokers, most were found to have a fairly low level of nicotine dependence. While the scores were low on the Fagerstrom Nicotine Tolerance Scale, 91.4% of the smokers said they wanted to quit but only 16.9% stated they were actively trying to quit.

Similarily, McKenna et al. (2001) found that in a random sample of nurses (n=1074), 26% were smokers. This descriptive study also showed, however, that while most had begun smoking before nursing school (96%), 65% had increased the amount they smoked during school. Most (75%) had a strong desire to quit, but cited addiction as the primary reason for continuing to smoke. Of the sample, 82% have tried quitting with an average of five failed attempts. The subjects listed future health issues as the main reason for wanting to quit.

International findings have been similar. A study on nursing students in Florence, Italy (Boccoli, 1997) used questionnaires given during the first (n=536) and third (n=501) years of nursing school. Students who smoked increased the number of cigarettes smoked per day and also increased the degree of dependence to nicotine. The number of ex-smokers who started smoking again increased while the knowledge of the health hazards due to smoking remained steady. The conclusion by the authors is that nursing school does not succeed in reducing the smoking habits of nursing students.

A study on Japanese nursing students (Ohida, Sakurai, Kamal, Sone, Takemura, & Fukushima, 2001) had similar findings. Students from a three-year program (n=4169), public health nursing (PHN) program (n=592), and midwifery schools (n=343) completed

a questionnaire on smoking behavior among nurses and the Fagerstrom Test of Nicotine Dependence. The prevalence of smoking in the three year nursing program increased as the grade advanced by an average of 25%. PHN schools had a lower incidence with 13% and the midwifery schools had the highest incidence with 22% of the students smoking. The authors concluded that the nurses that had originally qualified as basic nurses and were furthering their education in PHN or midwifery were less likely to smoke than those who were not in the same career level.

Brown (1996) used a grounded theory approach to examine the older adults' experiences after they quit smoking (N=21). Participants were selected by purposive sampling, using the snowball technique. The researcher interviewed the participants with open-ended questions, which addressed their perceptions of smoking cessation. The 60-90 minute interviews were audiotaped and a constant comparative method was used to analyze the transcripts. The key variable was that the people that had quit smoking had redefined smoking and the self as a nonsmoker. They cited societal norms, advice from family and friends, and recognizing the need to quit as the main factors in their success. They used this information to redefine smoking as non-desirable or harmful. They also used these factors to redefine themselves as nonsmokers, and they made the decision to quit. The major finding from this study was that redefinition of the self preceded and supported smoking cessation. Thus, examining the self-concept of nursing students who smoke and who do not smoke may provide useful information for developing better smoking cessation programs for nurses.

Self-Concept Studies

Shadel, Mermelstein, and Borrelli (1996) conducted a descriptive study (n=54) on the smoker self-concept and abstainer self-concept and the changes that occur during a seven-week, clinic-based smoking-cessation program. The Smoker Self-concept scale and the Abstainer Self-concept scale were administered pretreatment, post treatment, and 3 months post treatment. The subjects who were able to abstain from smoking had a significant decrease in their Smoker Self-concept as compared to smokers and a significant increase in their Abstainer Self-concept over time. These findings suggest that as a person spends more time as a non-smoker, being a smoker became less important to defining one's self-concept. The study also showed that smokers who had repeated failures when trying to quit seemed to reinforce their smoker self-concept and saw themselves more as a smoker. For smoking cessation, it was suggested that altering the self-concept constructs that adversely affect smoking cessation success or build on those that facilitate cessation would increase smoking quit rates.

Gibbons and Gerrard (1995) conducted a longitudinal study of 679 college students, beginning at the start of the freshman year to test a prototype model of risk behavior. The students received a questionnaire within the first two weeks of starting college and then were also interviewed. This process was repeated 6-7 months after the initial process. The findings were that when a young person was considering engaging in smoking, they compared themselves with the prototype that they associated with smoking. The closer the match between the self and the prototype, the greater the interest in smoking. The also found that college students who reported a reduction in their

smoking behavior over time also reported a decline in the favorable images associated with these behaviors.

Thornton, Douglas, and Houghton (1999) found that adolescents (n=368) smoke cigarettes if it is congruent with their self-concept. The authors utilized the About Your Smoking Questionnaire (AYSQ), which gathers information on smoking behavior and the self-concept. A 20-item modified version of the About Myself scale was used to measure four concept variables to include physical, family, social, and peer self-concept. They found that all areas of self-concept appeared to decrease as the habit of smoking increased (except for peer acceptance), and that the self-concept appeared to increase upon quitting. There was a significant two-way interaction between smoking stage (never, rare, occasional, regular, and quit) and the self-concept. The findings showed that with the exception of the peer self-concept, there was a decrease in self-concept for the never to rare smokers and an increase in self-concept with the transition from regular smoker to quit.

Stein, Roeser, and Markus (1998) used questionnaires to measure self-schemas, possible selves, and several risky behaviors including smoking in junior high school students (n=160). These investigators found a bi-directional relationship between the self-concept and risky behaviors such as smoking. The findings suggested that the self-concept not only plays a role in the early stages of engagement of risky behaviors, but also becomes a potentially enduring part of the self.

The relationship between self-image, possible self, and smoking in adolescence was examined by Amos, Gray, Currie, and Elton (1997). The qualitative portion of the study had thirty-six groups of 4-8 participants who looked at pictures of various models,

some with cigarettes and others without. The group members discussed what was seen as favorable and what was not about the pictures. These words were pooled for each picture. The words were then incorporated into a questionnaire that was administered to 897 young people. The subjects then viewed the pictures of models and were asked to choose from the words listed to describe the models. The subjects were also asked to use these same words to describe themselves now and how they would like to be. The study found that smokers were significantly more likely to describe themselves as druggy/takes drugs and wild than nonsmokers. In contrast, nonsmokers rated the self as higher in self-concept.

Freeman, Hennessy, and Marzullo (2001) investigated the hypothesis that having a smoker self-concept in one's present and future self is strongly associated to a negative response to antismoking campaigns. The Shade and Mermelstein Smoker Self-Concept Scale was used to assess the degree to which smoking was a part of a college student's (n=308) current self-concept. The subjects were then asked to visualize themselves in the future and indicated how likely it was that they would be smoking at different times in the future (i.e. "in 20 years" "when/if you have children"). The authors found that many current smokers of college age did not see themselves smoking in the future, so they did not have a future smoking possible self. Furthermore, Freeman et al (2001) hypothesized that having a future smoking possible self supports smoking behavior in the present and slants the way individuals view antismoking messages. The antismoking messages that focused on future harm to health were rejected by smokers, most likely because accepting these messages would evoke dissonance between the message and the smokers' behavior. The investigators recommended that the antismoking campaigns should focus on

addressing college-age students' lack of a future smoking possible self to help them translate this intention into quit attempts.

Lee (1989) also examined antismoking campaigns as viewed by smokers and nonsmokers. She administered questionnaires to undergraduate nursing students (n=99) to examine their attitudes toward smokers among nursing students. Two descriptions of a nursing student were given. The student was thought to be less healthy and less hard-working when described as a smoker, but was thought to be healthy, independent, modern, and hard-working when described as a nonsmoker. These results were independent of the respondents' smoking status. Lee felt that since both smokers and nonsmokers knew the health risks of smoking, it might be more beneficial for anti-smoking campaigns to focus more on the negative aspects of smoking such as premature wrinkles, bad breath, and smoky clothes.

Another descriptive study by Gorin (2001) found that nursing students (n=476) were very much aware of the potential dangers of smoking. Still, 24% of these students smoked everyday with 45% having started or resumed smoking since beginning nursing school. Gorin (2001) also found that smokers were less likely to participated in tobacco control programs and teaching in the community. She believed implementing smoking cessation classes in nursing school to decrease the number of smokers to then lead to more advocates for smoking cessation when working with patients.

Summary

The literature showed that the percent of nursing students who smoke is comparable to the general population. Many nursing students who are currently smoking to not see themselves smoking in the future. Although studies reported here show a low

level of nicotine dependence, the nursing students may find themselves unable to quit when planned. Schema-related research suggests that the self-concept may be an important factor in both the continued smoking and in cessation. This study explored relationships between self-concept and smoking behaviors among nursing students.

CHAPTER III.

METHODOLOGY

Data Collection

Design

A descriptive, cross-sectional design was selected for this pilot study.

Sample

Undergraduate nursing students in Levels 1 through 5, excluding RN to BSN students, at a Midwestern College of Nursing were the target population for the study. Convenience sampling was used by inviting 158 nursing students to complete an anonymous self-report survey (Appendix A). Participants met the following inclusion criteria: (a) student enrolled at a selected campus of the College of Nursing, (b) at least 19 years of age, and (c) identified as either a smoker/tobacco user, former smoker/tobacco user, or nonsmoker/tobacco user (i.e., all students can be classified into one of these categories). It was anticipated that all students will be able to speak, read, and understand English to complete the survey and will be mentally and physically able to participate.

Setting

The College of Nursing was selected as the setting for data collection. The population included 158 students who were currently enrolled in classes from Level 1 through 5.

Protection of Rights of Human Subjects

Human subjects approval was obtained from the University's Institutional Review Board (IRB) (Appendix B). A letter of invitation to participate was included with each of

the survey forms (Appendix C) to fully inform potential participants of the following: (a) the purpose of the study and the potential usefulness of the findings, (b) instructions for completing the survey, (c) procedures for data collection, and (d) potential risks. It was not anticipated that individuals would experience any harm or distress resulting from completion of the self-report survey, as the questions asked for demographic data, smoking behaviors, and for their thoughts and opinions about smoking. Participants were also informed of: (e) their right to refuse to participate or withdraw at any time, and (f) that refusal or withdraw would not affect their relationships with the student investigator, the research advisor, or the College of Nursing. Data were collected anonymously, and no identifying information was associated with the surveys. The names and phone numbers of the investigators were included in the invitational letter.

Instruments

The self-report surveys included the following data collection instruments to obtain data in the following areas of interest: (a) background information, including demographic data and perceptions about health status, health satisfaction, and self-concept, (b) perceived characteristics of smokers, former smokers, and the self, (c) tobacco history.

Demographic data. The following background variables were collected to describe the participants of the study: age, gender, marital status, level of education, level in baccalaureate program, employment status, intentions to attend graduate school, and ethnic background.

Perceived health status scale (PHSS). This three-item scale measured participants' perceptions of their current state of health, their health compared to others

their same age, and their health compared to one year ago. Items were rated on a Likert-type scale of 1 (poor) to 5 (excellent) and were summed and scored for a total of 3 to 15. For this study, internal consistency reliability for the scale is .93.

Perceived health satisfaction (PHS). A five-item scale was used to measure satisfaction with one's functional state. The five functional status items were adapted from Atwood et al. (1992). Items were rated on a scale of 1 (strongly disagree) to 5 (strongly agree) and were summed to yield a score of 5 to 25. For this study, internal consistency reliability is as .84.

Smoker's self-concept scale. The Smoker Self-Concept Scale (Shadel & Mermelstein, 1996) is a 5-item rating scale designed to measure the importance of being a smoker to an individual's self-concept. The response scale ranges from 1 (strongly disagree) to 10 (strongly agree). Scores range from 5 to 50, with higher scores indicating that being a smoker is an important part of the person's self-concept. For this study, internal consistency reliability is .98

Abstainer's self-concept scale. The Abstainer Self-Concept Scale (Shadel & Mermelstein, 1996) is a 4-item rating scale designed to assess the importance of being a nonsmoker to an individual's self-concept. The response scale ranges from 1 (strongly disagree) to 10 (strongly agree). Scores range from 4 to 40, with higher scores indicating that becoming a nonsmoker is important to the person's self-concept. The items, which are based on self-schema theory, were worded to represent the degree to which a person can envision becoming a nonsmoker. For this study, internal consistency reliability is .95.

Future smoking behavior scale. A six-item scale was used to measure the likelihood of using tobacco at different times in the future. Items were rated from 1 (definitely will not) to 7 (definitely will) and were summed to yield a score of 6 to 42. For this study, the internal consistency reliability was .91.

Characteristics of the typical smoker scale. A twenty-five item scale was used to measure characteristics of the typical smoker. Descriptive adjectives were used and items were rated on a scale of 1 (not at all descriptive) to 7 (extremely descriptive) and were summed to yield a score of 25 to 175. For this study, the internal consistency reliability was .82.

Characteristics of the typical former smoker. A twenty-five item scale was used to measure characteristics of the typical former smoker. Descriptive adjectives were used and items were rated on a scale of 1 (not at all descriptive) to 7 (extremely descriptive) and were summed to yield a score of 25 to 175. For this study, the internal consistency reliability was .90.

Characteristics of the self. A twenty-five item scale was used to measure the characteristics of the self. Descriptive adjectives were used and items were rated on a scale of 1 (not at all descriptive) to 7 (extremely descriptive) and were summed to yield a score of 25 to 175. For this study, the internal consistency reliability was .78.

Tobacco history. Study participants who were currently smoking or had stopped smoking completed a tobacco history form to gather the following data: age of smoking initiation, current smoking status, number of cigarettes smoked daily, number of cigarettes in life time, other tobacco products used, number of times attempted to quit, and periods of smoking abstinence. Participants were asked about smoking cessation

methods tried from a list of 15 items (i.e. "cold turkey", hypnosis, nicotine patches, Zyban), which were summed and scored for the total number of cessation methods tried. A tobacco history was also obtained on nonsmoking participants. Nonsmokers were asked if they had ever tried smoking cigarettes, and if so, at what age they had tried smoking. All participants were asked about use of other tobacco products (i.e. pipes, cigars, chewing tobacco). Responses to these items were scored on a range of 1 (not in the last year) to 5 (at least once a day), and summed. All participants were also asked if others around them smoke (i.e. spouse, family, co-workers).

Nicotine dependence. Two versions of the well-known and well-used Fagerstrom scale for nicotine dependence exist, and are based on smoking behaviors such as number of cigarettes smoked per day, and time interval between awakening and smoking the first cigarette of the day. The latest version, the Fagerstrom Test for Nicotine Dependence (FTND), varies from the first in that the last two items of the original version were eliminated and scoring was revised, as past coefficient alphas for internal consistency have been low, suggesting items are not homogeneous (Fagerstrom, 1978; Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). However, C. S. Pomerleau et al. (1994) presented reliability and validity data for the FTQ, and the revised version (FTND). Both scales were found to be reliable and valid, although internal consistency was somewhat higher for the FTND (r=.64) than for the FTQ (r=.58). The FTND was used for this study, and the items were scored by point values and summed. A score of six or greater on the FTND was considered an indicator of dependence. Because of the small number of current smokers in this study, internal consistency reliability was not calculated.

<u>Procedure for Data Collection</u>

Data were collected over a three-week period. Survey packets were mailed to all undergraduate nursing students at the College of Nursing Levels 1 through 5, not to include RN to BSN students. The student investigator visited each class to give a verbal explanation of the project and the survey packet. It was anticipated that the surveys would take approximately 20-30 minutes to complete. All data were collected anonymously. Consent for participation was obtained through return of a completed survey. If an individual did not wish to participate, they did not complete and return the survey packet. Each participant was supplied with an anonymous return postage-paid mailing envelope included in the survey packet. The participants were informed that the student investigator and the research advisor would be available by phone or email if they had any questions regarding the surveys or the research project. Surveys were returned to the research advisor and were stored in a locked file cabinet in the research advisor's office. The surveys were accessible only to the student investigator and the student's research advisor. At the time a completed questionnaire was returned, it was assigned an Identification Number to allow tracking of the data during data entry and analysis.

<div align="center">Data Analysis</div>

<u>Plan</u>

The Statistical Package for Social Sciences for Personal Computers(SPSS-PC) version 11.0 software was used to analyze the data using the statistics described below:

Descriptive statistics (i.e., frequencies, means, ranges, and standard deviations) were used to analyze the demographic data, tobacco history, and scales measuring participants' thoughts and opinions about smoking and smoking behaviors.

Nonparametric tests (i.e., Kruskall Wallis "Analysis of Variance" by Ranks; Spearman Rank correlations) were used to determine relationships between demographic data, smoking histories, and self-concept variables. Correlations were also used to determine internal consistency reliability and concurrent validity.

CHAPTER IV.

RESULTS

Introduction

This chapter presents the findings of this study exploring the relationships among nursing students' current self-concept and smoking behaviors. Included are: (a) description about the types and numbers of surveys distributed, (b) a presentation of participant characteristics (N=80), and (c) presentation of the findings of the research questions.

Survey Distribution

One hundred fifty eight anonymous questionnaires were mailed to the target population of 158 nursing students and 80 students completed the survey for a 51% return rate. All returned questionnaires were usable. All surveys were mailed to the research advisor.

Participant Characteristics

The sample ($\underline{N}$ = 80) consisted of 10 (13%) smokers, 17 (21%) former smokers, and 53 (66%) nonsmokers. A complete description of the sample is presented in Table 1. The mean age was 25.6. There was a difference in age by smoking status, but this difference was not statistically significant (X^2=4.99, df=2, p=.08). Nonsmokers and former smokers were, on average, 3-5 years older than smokers. Likewise, there were no significant differences among the groups on perceived health status (X^2=3.08, df=2, p=.21) or health satisfaction (X^2=0. 21, df=2, p=.90). All smokers were female and the 3 males who participated were all former smokers.

Table 1. Characteristics of Sample (N=80) by Smoking Status

Background Variables	Smokers (n=10; 13%)	Former Smokers (n=17; 21%)	Non-Smokers (n=53; 66%)	Total (N=80; 100%)
Age: X (SD)	22.6 (2.01)	28.76 (7.97)	25.15 (6.66)	25.6 (6.78)
Range	20-26	21-43	20-49	20-49
Gender				
Male	0 (0%)	3 (4%)	0 (0%)	3 (4%)
Female	10 (13%)	14 (17%)	53 (66%)	77 (96%)
Ethnicity				
Caucasian	10 (13%)	17 (21%)	50 (63%)	77 (97%)
African-American	0 (0%)	0 (0%)	1 (1%)	1 (1%)
Hispanic	0 (0%)	0 (0%)	1 (1%)	1 (1%)
Other	0 (0%)	0 (0%)	1 (1%)	1 (1%)
Education				
High School	1 (1%)	3 (4%)	13 (17%)	17 (22%)
Some College	8 (10%)	13 (16%)	32 (40%)	53 (66%)
College Graduate	1 (1%)	1 (1%)	8 (10%)	10 (12%)
BSN Level				
Level 1	4 (4%)	3 (4%)	16 (20%)	23 (28%)
Level 2	4 (4%)	4 (4%)	8 (10%)	16 (18%)
Level 3	2 (3%)	4 (4%)	13 (17%)	18 (24%)
Level 4	2 (2%)	3 (4%)	7 (8%)	10 (14%)
Level 5	0 (0%)	4 (5%)	9 (11%)	13 (16%)
Graduate School				
Definitely will	3 (4%)	5 (6%)	10 (13%)	18 (23%)
Probably will	5 (6%)	8 (10%)	23 (29%)	36 (45%)
Probably will not	2 (3%)	4 (5%)	19 (24%)	25 (32%)
Perceived Health X (SD)	4.12 (.81)	4.14 (.68)	4.28 (.43)	4.23 (.54)
Health Satisfaction X (SD)	3.37 (1.02)	3.92 (.77)	3.91 (.68)	3.85 (.76)

Table 1 displays the demographic information of the sample.

Research Findings

Question 1: Smoking Histories

Research question 1 was: What are the smoking histories of a selected sample of baccalaureate nursing students prior to entering nursing school and during nursing school with regards to: (a) age at first cigarette, (b) age of regular smoking, (c) current amount smoked, (d) other tobacco products used, (e) number of quit attempts, (f) longest period of abstinence (continuous abstinence), (g) types of smoking cessation methods used, and (h) coping strategies for abstinence?

Age at first cigarette. The mean age of the first time a cigarette was used was 14.58 years (SD = 3.52), with ages ranging from 0-21. The mean age for each group is as follows: smokers M = 12.90 (SD = 2.56), range = 6-15; former smokers M = 13.65 (SD = 2.67), range = 5-16; and nonsmokers M = 15.67 (SD = 3.90), range = 0-21 (see Table 2). This difference was statistically significant (X^2=17.11, df=2, p=.00).

Age of regular smoking. The mean age of regular cigarette smoking was 16.20 years (SD = 2.27), with ages ranging from 10-20. The mean age for each group is as follows: smokers M = 12.9 (SD = 1.23), range = 14-18; former smokers M = 16.50 (SD = 2.28), range 12-20; and nonsmokers M = 16.20 (SD = 3.70), range 10-19. This difference was not statistically significant (X^2=2.07, df=2, p=.35).

Current amount smoked. The mean number of cigarettes smoked a day by current smokers is .77 (SD =3.06) with a range of 0-20.

Other tobacco products used. The 3 males and 13 female participants reported using other tobacco products. Smokers reported using other forms of tobacco at a rate of

30%, former smokers 35%, and nonsmokers 13%. As a group, 8 participants (10%) reported past use (i.e. not in the last year) of chewing tobacco and 1 person (1.3%) pipe smoking. Ten (12.5%) reported past cigar smoking and 2 (2.5%) current use of cigars.

Number of quit attempts. The number of quit attempts ranged from 1 to 9 with a mean of 2.97 ($\underline{SD}$=2.57).

Longest period of abstinence. Most (12) former smokers reported their longest period of abstinence to be greater than 1 year and 5 less than 1 year. In contrast, 9 current smokers reported their longest abstinence as less than 1 year. Only 1 current smoker reported a longest period of abstinence greater than 1 year.

Types of smoking cessation methods used. Most of the former smokers (88%) stated that they stopped smoking on their own, or "cold turkey". The other 12% stopped smoking using the nicotine patch. Smokers also reported stopping or trying to stop smoking on their own at a rate of 80%, 20% had tried nicotine patches, and 10% had tried Zyban. See Table 2 for data on smoking histories of participants.

Table 2. Participants' (N=80) Smoking History by Smoking Status

Smoking History Variables	Smokers (n = 10; 13%)	Former Smokers (n = 17; 21%)	Non-Smokers (n = 53; 66%)	Total (N=80; 100%)
Ever smoked?				
Yes	10	17	30	57
No	0	0	23	23
Age at first smoke: X(SD)	12.9 (2.56)	13.65 (2.67)	15.67 (3.90)	14.58 (3.52)
Age at regular smoking: X(SD)	15.67 (1.23)	16.5 (2.28)	16.2 (3.70)	16.2 (2.27)
Other tobacco products used?				
Yes	3	6	7	16
No	7	11	46	64
FTND X (SD)	.8(1.62)	-	-	-

Table 2 displays the smoking history of the sample.

Question 2: Relationships between current and future selves and smoking behaviors.

Question 2 was: What are the relationships between a selected sample of baccalaureate nursing students' current and future possible selves and their past and current smoking behaviors?

As can be seen in Table 3, current smokers scored higher on the Smoker Self-Concept scale, whereas other participants scored higher on the Abstainer Self-Concept scale. This finding was expected and shows that current smokers maintain an identity as a smoker. In comparison to other students, current smokers rated themselves significantly lower on self-descriptor scales. This suggests a discrepancy between their smoker self-concept and other components of the self (i.e., professional nursing characteristics). Finally, there was a significant difference on future intent to smoke based on smoking status, with current smokers reporting greater intent for future smoking (X^2=40.68, df=2, p=.00).

Table 3. Results of Group Differences (Kruskal-Wallis Test for K Independent Groups) for Selected Smoking-Related Variables.

Variable	Kruskal-Wallis Test: Mean Ranks					
	Nonsmokers (n=57)	Former Smokers (n=17)	Current Smokers (n=10)	Chi-square	df	Sig.
Age: First Smoked	37.17	22.17	15.20	17.11	2	.00
Health Satisfaction	42.05	42.56	28.80	3.08	2	.21
Functional Status	40.84	38.41	42.25	.21	2	.90
Smoker Self	36.10	36.65	70.35	48.89	2	.00
Abstainer Self	46.42	40.47	9.15	40.50	2	.00
Typical Smoker	39.54	34.31	47.60	2.12	2	.35
Former Smoker	38.16	42.28	42.00	.54	2	.76
Self-Descriptors	43.02	42.94	19.30	9.33	2	.01
Future Smoking	34.78	38.88	73.55	40.69	2	.00

Table 3 shows group differences on selected smoking-related variables.

Table 4. Spearman Rank Correlations for Selected Smoking Related Variables.

Variable	1	2	3	4	5	6	7	8	9	10
1. Smoke Status	--									
2. Health Satisfaction	-.13	--								
3. Functional Satisfaction	-.01	.37**	--							
4. Smoker Self	.55**	-.33**	-.04	--						
5. Abstainer Self	-.58**	.21	.00	-.79**	--					
6. Typical Smoker	.03	-.15	.17	.22	-.20	--				
7. Typical Former Smoker	.08	-.05	.12	.02	.02	.09	--			
8. Self-Descriptors	-.24*	.34**	.41**	-.28*	.28*	.08	.23*	--		
9. Other Tobacco Use	.24*	-.08	-.01	.09	-.07	.02	-.01	-.14	--	
10. Future Smoking	.56**	-.28*	-.01	.71**	-.80**	.28*	.11	-.24*	.11	-

*p ≤ .05
**p ≤ .01

Table 4 shows the rank correlations among the smoking-related variables.

Question 3: Reliability of instruments.

Question 3 was: What is the reliability (internal consistency) of the following instruments used to measure smoker self-concept: (a) Abstainer Self-Concept, and (b) Smoker Self-Concept.

See Table 5 for reliability coefficients. As can be seen in the table, all instruments showed acceptable reliability (≥.70)

Table 5. Reliability Coefficients (alpha) for Selected Scales

Scale	N	# of items	Possible range	Mean (SD)	alpha coefficient
Smoker self-concept	80	5	5-50	7.17 (7.91)	.98
Abstainer self-concept	80	4	4-40	37.45 (7.18)	.95
Perceived health status	80	3	3-15	11.53 (2.28)	.93
Perceived health satisfaction	80	5	2-25	21.13 (2.71)	.84

Table 5 reports descriptive information including means and standard deviation about standard scales used in this study and the internal consistency reliabilities. All reliabilities were acceptable (i.e. > 70).

Question 4: Validity of instruments.

Question 4 was: What is the concurrent validity of the following instruments used to measure smoker self-concept: (a) Abstainer Self-Concept, and (b) Smoker Self-Concept. As can be seen in Table 4, the smoker self-concept scale was moderately and positively correlated with both smoking status ($r_s=.55$, $p \leq .01$) and future smoking intentions ($r_s=.71$, $p<.01$). Likewise, the abstainer self-concept scale was moderately and negatively correlated with smoking status ($r_s= -.58$, $p<.01$) and highly and negatively correlated with future smoking intentions ($r_s= -.80$, $p \leq .01$). Because these relationships are significant and in the expected direction, they give support for the concurrent validity of these scales.

CHAPTER V.

DISCUSSION

Results

The majority of the sample (n=57; 71%) had experimented with smoking. The mean age at first cigarette was 14.58(SD=3.52). Current smokers had started smoking at a younger age (X=12.9) than former smokers (X=13.65) and nonsmokers (X=15.67) (X^2=17.11, df=2, p=.000). The 3 male participants and 13 female participants reported trying other forms of tobacco. Smokers reported using other forms of tobacco at a rate of 30%, former smokers 35%, and nonsmokers 13%. Most of the former smokers (88%) stated that they stopped smoking on their own, or "cold turkey".

There was a positive relationship (r_s=.55; $\leq$.01) between current smokers' smoker self-schema and smoking status as well as intent to smoke in the future (r_s=.71, p$\leq$.01). Current smokers had a significantly lower abstainer self-schema than nonsmokers and former smokers (X^2=40.50, df=2, p=.000). Current smokers also scored significantly lower on a self-descriptive adjective rating scale than nonsmokers and former smokers (X^2=9.33, df=2, p=.009).

Conclusions

Compared to samples reported in the literature, there was a low level of current smoking in this group. This study showed a 13% current smoking rate as compared with 30% in a study on nursing students by Haughey et al (1986) and 26% in a study by McKenna et al (2001). Chalmers, Seguire, & Brown (2002) noted a smoking rate in a

sample of baccalaureate nursing students to be 22.1%. The low number in this study may be due to the convenience sample as smokers may have chosen not to participate.

Of the 10 current smokers in this study, a low level of nicotine dependence was noted on the Fagerstrom Nicotine Tolerance Scale. Chalmers, Seguire, & Brown (2002) also found a low level of nicotine dependence using the same scale. Students' use of other forms of tobacco suggests that researchers and clinicians need to inquire about all forms of tobacco use by nursing students.

In comparison to other students, current smokers rated themselves lower on self-descriptors. These finding were similar to the findings in a study by Thornton, Douglas, and Houghton (1999) where students were noted to have positive aspects of the self-concept decrease (i.e., physical, family, social) as the habit of smoking increased. This suggests a discrepancy between their smoker self-concept and other components of the self (e.g., professional nursing characteristics). Similar negative descriptors were reported by Lee (1989) in a study of nursing students' perception of nursing students who smoke. This difference needs to be addressed in helping nursing students achieve cessation.

<center>Limitations</center>

Generalizability. Due to the convenience sample, the findings of this study cannot be generalized beyond the sample to other groups of nursing students.

Self-selection. Only 51% of those invited chose to participate. It is possible that individuals who smoked chose not to participate, thus lowering the percentage of students enrolled in this nursing program who smoked, or artificially deflating the smoking rate. It is assumed that those who chose to participate answered questions truthfully and accurately.

<u>Data not collected</u>. Several studies had questioned participants about changes in smoking behaviors during nursing school. Gorin (2001) found that 45% of the sample had started or resumed smoking since beginning nursing school. This information, though not collected for this study, may be useful to design better smoking cessation strategies for nurses.

Implications for Nursing Practice

It is imperative that advanced practice nurses and other health care providers are aggressive with implementing smoking prevention and cessation programs for clients. In order to accomplish this, smoking rates need to decrease in the nurse and nursing student population. According to Chalmers, Seguire, & Brown (2002), nurses that smoke are not as likely to discuss smoking prevention and cessation with the clients. The nursing students who reported current smoking in this study indicated that they had tried to quit. Thus, the desire to quit was also translated to behavior, but not yet successfully.

This exploratory pilot study on the smoking behaviors of nursing students can be used to continue research in the area of smoking prevention and cessation by focusing programs on changing the students' current self and possible future self. Brown (1996) found in older adults that had quit smoking that the schemas had changed as the subjects were successful in cessation. By developing programs that focus on changing the possible future self, it is possible to reduce the number of nurses who smoke, which will in turn benefit clients that are in contact with the nurses.

Suggestions for Future Research

<u>Gender</u>. Three males in this sample were former smokers. Although the number of males who participated did not allow for exploration of differences in smoking patterns

between males and females, as more males enter the profession these differences may need to be explored to better tailor smoking cessation based on gender.

Self-Concept. Further research is needed to determine the discrepancy between smoker self-concept and current self-concept, which includes characteristics of the professional nurse. Finally, as discussed previously, these findings can be used to develop interventions for nursing students who smoke to help them lessen or decrease their smoker self-concept. Such intervention will also theoretically lessen these nurses' perceptions of their possible future selves as smokers.

APPENDIX A

SURVEY QUESTIONNAIRES

Background Data Form

The background information you provide here will help us describe, in general terms, the people who participated in our study and will also help us compare our results with other studies. *Instructions:* Please answer the following questions by either checking the response that best describes you, or filling in the blanks with the most appropriate response.

1. Age: _____ years.
2. Gender: ___ Male ___ Female
3. Marital status:
   ___ Single or Never Married
   ___ Married
   ___ Separated
   ___ Divorced
   ___ Widowed
4. Your highest educational level prior to enrollment in the BSN program:
   ___ Graduated High School
   ___ Some College, Technical, Vocational School (AA, LPN, etc.)
   ___ Graduated College (BS, BA, etc.) (Please state major: _____)
   ___ Graduate Degree (Please state major: _____)
5. Your level in the BSN program:
   ___ Level 1
   ___ Level 2
   ___ Level 3
   ___ Level 4
   ___ Level 5
6. Your current employment status:
   Nursing:
   ___ RN
   ___ LPN
   ___ CNA
   ___ Other (Please identify)_____
   ___ Other Health Care Profession (Please identify)_____
   ___ Other Type of Employment
   ___ Not Currently Employed
7. Do you plan to attend graduate school in nursing or another discipline?
   ___ Definitely Will
   ___ Probably Will
   ___ Probably Will Not
   ___ Definitely Will Not
8. Which one of the following ethnic groups do you identify with?
   ___ Asian/Pacific Islander
   ___ Black/African-American
   ___ Hispanic
   ___ Native American/Eskimo
   ___ White non-Hispanic
   ___ Other (please state ethnic group)_____

PERCEIVED HEALTH STATUS SCALE

Directions: Please tell us about your health by using the following response format:

Questions 1-3:
1 = Poor
2 = Fair
3 = Good
4 = Very Good
5 = Excellent

Questions 4-8:
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

_____ 1. In general, would you say your health is:_____

_____ 2. Compared to other people your age, would you say your health is:_____

_____ 3. Compared to one year ago, how would you rate your health in general now?

Following are some additional questions:

_____ 4. I am satisfied with my thinking ability.

_____ 5. Of course, most people get sick now and then, but overall, I am satisfied with my own health.

_____ 6. Considering any physical or health restrictions that I have, I am satisfied with my ability to do my usually activities (employment, housework, daily life).

_____ 7. I am satisfied with my ability to remember things.

_____ 8. I am satisfied with my ability to do the things that I think I should be able to do.

Self-Concept Scale (Part I)

Please answer the following questions from 1 to 10 using the scale shown below:

Strongly Disagree..Strongly Agree

     1   2   3   4   5   6   7   8   9   10

1. _____ Smoking is part of my self-image.

2. _____ Smoking is part of "who I am".

3. _____ Smoking is a part of my personality.

4. _____ Smoking is a large part of my daily life.

5. _____ Others view smoking as part of my personality.

Self-Concept Scale (Part II)

Please answer the following questions from 1 to 10 using the same scale used above:

1. _____ I am able to see myself as a non-smoker.

2. _____ It is easy to imagine myself as a non-smoker.

3. _____ Not smoking is "like me".

4. _____ I am comfortable with the idea of being a non-smoker.

Smoking/Tobacco Use: Future Behaviors

Please try to visualize yourself in the future and answer the following questions about your thoughts about smoking/tobacco use behaviors at each of these future time periods:

1. Do you think you will smoke/use tobacco within in the next month?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

2. Do you think you will smoke/use tobacco in the next year?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

3. Do you think you will smoke/use tobacco when you graduate from nursing school?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

4. Do you think you will smoke/use tobacco when you start your first nursing position?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

5. Do you think you will smoke/use tobacco when/if you start graduate school?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

6. Do you think you will smoke/use tobacco five years after graduating from nursing school?

Definitely Will Not						**Definitely Will**
1	2	3	4	5	6	7

Person Descriptions – Typical Smoker

The following adjectives can be used to describe characteristics of persons. Please think about the **Typical Smoker** and use the scale from 1 (Not Descriptive at All) to 7 (Extremely Descriptive) to indicate how much each adjective describes the **Typical Smoker**. Please consider the entire scale (i.e., 1 to 7) as you make your judgments.

	Not at All Descriptive						Extremely Descriptive
The typical smoker is:							
1. Considerate	1	2	3	4	5	6	7
2. Dependent	1	2	3	4	5	6	7
3. Friendly	1	2	3	4	5	6	7
4. Smart	1	2	3	4	5	6	7
5. Honest	1	2	3	4	5	6	7
6. Healthy	1	2	3	4	5	6	7
7. Reliable	1	2	3	4	5	6	7
8. Sophisticated	1	2	3	4	5	6	7
9. Weak	1	2	3	4	5	6	7
10. Neat	1	2	3	4	5	6	7
11. Attractive	1	2	3	4	5	6	7
12. Calm	1	2	3	4	5	6	7
13. Disorganized	1	2	3	4	5	6	7
14. Focused	1	2	3	4	5	6	7
15. Risk-taking	1	2	3	4	5	6	7
16. Tense	1	2	3	4	5	6	7
17. Irrational	1	2	3	4	5	6	7
18. Careful	1	2	3	4	5	6	7
19. High-Achieving	1	2	3	4	5	6	7
20. Immature	1	2	3	4	5	6	7
21. Popular	1	2	3	4	5	6	7
22. Boring	1	2	3	4	5	6	7
23. Self-confident	1	2	3	4	5	6	7
24. Clean	1	2	3	4	5	6	7
25. Efficient	1	2	3	4	5	6	7

Person Descriptions – Typical Former Smoker

The following adjectives can be used to describe characteristics of persons. Please think about the **Typical Former Smoker** and use the scale from 1 (Not Descriptive at All) to 7 (Extremely Descriptive) to indicate how much each adjective describes the **Typical Former Smoker**. Please consider the entire scale (i.e., 1 to 7) as you make your judgments.

	Not at All Descriptive					Extremely Descriptive	
The typical former smoker is:							
1. Considerate	1	2	3	4	5	6	7
2. Dependent	1	2	3	4	5	6	7
3. Friendly	1	2	3	4	5	6	7
4. Smart	1	2	3	4	5	6	7
5. Honest	1	2	3	4	5	6	7
6. Healthy	1	2	3	4	5	6	7
7. Reliable	1	2	3	4	5	6	7
8. Sophisticated	1	2	3	4	5	6	7
9. Weak	1	2	3	4	5	6	7
10. Neat	1	2	3	4	5	6	7
11. Attractive	1	2	3	4	5	6	7
12. Calm	1	2	3	4	5	6	7
13. Disorganized	1	2	3	4	5	6	7
14. Focused	1	2	3	4	5	6	7
15. Risk-taking	1	2	3	4	5	6	7
16. Tense	1	2	3	4	5	6	7
17. Irrational	1	2	3	4	5	6	7
18. Careful	1	2	3	4	5	6	7
19. High-Achieving	1	2	3	4	5	6	7
20. Immature	1	2	3	4	5	6	7
21. Popular	1	2	3	4	5	6	7
22. Boring	1	2	3	4	5	6	7
23. Self-confident	1	2	3	4	5	6	7
24. Clean	1	2	3	4	5	6	7
25. Efficient	1	2	3	4	5	6	7

Person Descriptions – Your Self

The following adjectives can be used to describe characteristics of persons. Please think about **yourself** and use the scale from 1 (Not Descriptive at All) to 7 (Extremely Descriptive) to indicate how much each adjective describes **yourself**. Please consider the entire scale (i.e., 1 to 7) as you make your judgments.

I am:	Not at All Descriptive					Extremely Descriptive	
1. Considerate	1	2	3	4	5	6	7
2. Dependent	1	2	3	4	5	6	7
3. Friendly	1	2	3	4	5	6	7
4. Smart	1	2	3	4	5	6	7
5. Honest	1	2	3	4	5	6	7
6. Healthy	1	2	3	4	5	6	7
7. Reliable	1	2	3	4	5	6	7
8. Sophisticated	1	2	3	4	5	6	7
9. Weak	1	2	3	4	5	6	7
10. Neat	1	2	3	4	5	6	7
11. Attractive	1	2	3	4	5	6	7
12. Calm	1	2	3	4	5	6	7
13. Disorganized	1	2	3	4	5	6	7
14. Focused	1	2	3	4	5	6	7
15. Risk-taking	1	2	3	4	5	6	7
16. Tense	1	2	3	4	5	6	7
17. Irrational	1	2	3	4	5	6	7
18. Careful	1	2	3	4	5	6	7
19. High-Achieving	1	2	3	4	5	6	7
20. Immature	1	2	3	4	5	6	7
21. Popular	1	2	3	4	5	6	7
22. Boring	1	2	3	4	5	6	7
23. Self-confident	1	2	3	4	5	6	7
24. Clean	1	2	3	4	5	6	7
25. Efficient	1	2	3	4	5	6	7

Background Data Form

Smoking History

Instructions: The following information will help us describe the smoking history of the people participating in our study and will also help us compare our results with other studies.
Please fill in the blank/check the response that most accurately describes your smoking history.

1. Have you ever smoked at least one cigarette in your life time?   ___ Yes

    ___ No

2. Are you currently smoking at this time?   ___ Yes

    ___ No

3. Approximately how many cigarettes do you (did you if no longer smoking)

    smoke a day?   ___ cigarettes

If you answered "Yes" to Question 1, please go to Question 4. If you answered "No," please go to question 6.

4. At what age do you remember trying your first cigarette: ___ Years

5. Approximately how many cigarettes have you smoked in your life time?

    ___ Less than 100

    ___ More than 100

6. Do you / have you use(d) other forms of tobacco products?   ___ Yes

    ___ No

If *yes*, please specify which product(s) and how often:

	Not in the last year	Less than Once a Month	At least Once a Month	At least Once a Week	At least Once a Day
___ Pipe tobacco	1	2	3	4	5
___ Chewing tobacco	1	2	3	4	5
___ Snuff	1	2	3	4	5
___ Cigars	1	2	3	4	5

If you answered "yes" to Question 1, please go to Question 7. If you answered "no" to Question 1, please go to Question 12.

7. At what age did you start regular cigarette smoking? ___ Years

8. How many times have you seriously attempted to stop smoking

    in the past? ___

    Please record "0" for never attempted.

9. When was the last time you tried to stop smoking? ___ / ___ / ___

    Please record "NA" for never tried. MO/DY/YY

    ___ Not Applicable

10. Since you started regular cigarette smoking, what was the longest time

    you ever stayed off cigarettes?

    Please check one:

    ___ Never stayed off   ___ 1 to 6 months

    ___ Less than 24 hours   ___ 7 months to 1 year

    ___ 1 to 6 days   ___ More than 1 year

    ___ 1 to 4 weeks

11. What methods have you used in previous attempts to stop smoking?

    Please check all that apply:

    ___ Not applicable

    (have never tried to stop smoking before) ___ Habitrol

    ___ Nicotine Gum (Nicorette)   ___ Nicoderm

    ___ On my own (i.e., cold turkey) ___ Nicotrol

    ___ Clonidine (Catapres)   ___ Nicotine Nasal Spray

    ___ Group sessions   ___ Nicotine Inhaler

    ___ Hypnotism   ___ PROSTEP

    ___ Acupuncture   ___ Zyban (buproprion)

    ___ Nicotine patches   ___ Other method: *Please Specify*

    _____

12. Does your spouse/significant other smoke?　　____ Yes

　　　____ No

　　　____ Not applicable

13. Excluding your spouse/significant other, does anyone else in your family smoke?

　　　____ No one

　　　____ Some Members

　　　____ Almost Everyone/The Majority

　　　____ Everyone

14. How many of your friends or co-workers smoke?　　____ None

　　　____ Some

　　　____ About Half

　　　____ Almost Everyone/The Majority

15. If you currently smoke, please rate your interest in attending a smoking cessation program.

　　　____Extremely Interested

　　　____Very Interested

　　　____Somewhat Interested

　　　____Not Interested

Stages of Change Scale

Instructions: The following questions ask about your smoking behaviors and intentions to quit. Please place **(1) for YES** and **(2) for NO** on the line in front of the following questions to indicate your response.

_____ 1. Are you currently smoking?

_____ 2. Are you seriously considering quitting in the next 6 months?

_____ 3. Are you planning to quit in the next 30 days?

_____ 4. Have you quit smoking for a period of at least 24 hours in the past year?

_____ 5. How long have you been off cigarettes?   ___/___/___

                                                                              MO/DY/YY

Please complete the following scale if you are currently smoking:

Fagerstrom Test for Nicotine Dependence (FTND)

Instructions: Below are a list of questions about smoking behaviors. Please **Circle** the number corresponding to the response for each question that best describes your smoking behaviors.

1.	How soon after you wake up do you smoke your first cigarette?	Within 5 minutes	3
		6-30 minutes	2
		31-60 minutes	1
		After 60 minutes	0
2.	Do you find it difficult to refrain from smoking in places where it is forbidden (examples; in church, at the library, in cinema, etc.?)	Yes	1
		No	0
3.	Which cigarette would you hate most to give up?	The first one in the morning	1
		All others	0
4.	How many cigarettes/day do you smoke?	10 or less	0
		11-20	1
		21-30	2
		31 or more	3
5.	Do you smoke more frequently during the first hours after waking than during the rest of the day?	Yes	1
		No	0
6.	Do you smoke if you are so ill that you are in bed most of the day?	Yes	1
		No	0

(Thank you for completing this questionnaire)

APPENDIX B

INTERNAL REVIEW BOARD APPROVAL

NEBRASKA'S HEALTH SCIENCE CENTER
A Partner with Nebraska Health System

Institutional Review Board (IRB)
Office of Regulatory Affairs (ORA)-

October 28, 2002

Julia Houfek, PhD
College of Nursing
UNMC - 5330

IRB#: 341-02-EX

TITLE OF PROTOCOL: Relationships Between Nursing Students' Self-Concept and Smoking Behaviors

Dear Dr. Houfek:

The IRB has reviewed your Exemption Form for the above-titled research project. According to the information provided, this project is exempt under 45 CFR 46:101b, category _2_. You are therefore authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project.

Please be advised that the IRB has a maximum protocol approval period of three years from the original date of approval and release. If this study continues beyond the three year approval period, the project must be resubmitted in order to maintain an active approval status.

Sincerely,

Ernest Prentice, PhD/ gok

Ernest D. Prentice, Ph.D.
Co-Chair, IRB

EDP/gdk

APPENDIX C

LETTER OF INTRODUCTION

COLLEGE OF NURSING

NEBRASKA'S HEALTH SCIENCE CENTER
A Partner with Nebraska Health System

IRB # 341-02-EX   November 1, 2002

Dear Nursing Student:

As part of the requirements for a Masters Degree in Nursing, I am conducting a research study that focuses on the smoking behaviors of nursing students. The title of my study is: **Relationships Among Nursing Students' Self-Concept and Smoking Behaviors**. You are one of approximately 150 nursing students who will be invited to participate in this study. We are interested in having smokers, former smokers, and nonsmokers participate. You will be asked to complete the enclosed written survey. Some of the questions are general and ask for information about yourself, such as your age and education level. Other questions are more specific and ask for your thoughts about reasons that nursing students smoke and the intentions that smokers have to quit. The data you provide will be helpful in developing nursing interventions to prevent individuals from starting to smoke or helping people to quit. The survey will take about 20-30 minutes to complete. You may complete your survey at a time that is convenient for you. Please return your completed survey via mail in the enclosed self-addressed postage-paid envelope. We would appreciate receiving completed surveys in the next two weeks.
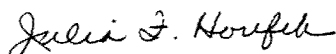
All data for this study is being collected anonymously. Your participation in this study will not affect your relationship with the University of Nebraska Medical Center or your grade in any class. You are free to withdraw from this study at any time. There are no risks associated with this study, but the questions about smoking may cause you to think about your behaviors more than you usually do. Your completion of this study will be considered a sign of consent for participating in the study. There is no monetary compensation available for your participation.

If you have any questions, please do not hesitate to call me at (402) 935-0921, or by email (mbsmith@unmc.edu). My research advisor, Dr. Julia Houfek, is also available to answer any questions you may have at (402) 559-6542, or by email (jhoufek@unmc.edu). Thank you for your interest in my research study and for your willingness to contribute to my educational endeavors.

Sincerely,

Mary B. Smith, RN, BSN
Graduate Student

Julia Houfek, PhD, RN, CS
Faculty Advisor

IRB APPROVED
VALID UNTIL 10 · 7 · 05

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