

ATTITUDES OF REGISTERED NURSES TOWARD HEALTH PROMOTION/
DISEASE PREVENTION: EVALUATION OF A NATIONAL PROGRAM

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COLLEGE OF NURSING

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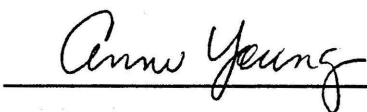
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I am submitting herewith a dissertation written by Elizabeth Frances Sefcik entitled "Attitudes of Registered Nurses Toward Health Promotion/Disease Prevention: Evaluation of a National Program." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

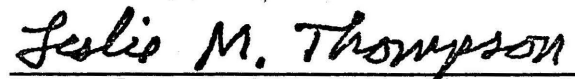

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We have read this dissertation and
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DEDICATION

To my mother, Elizabeth . . .
who gave me so much;

To my father, Joseph . . .
for whom education was a
constant tool in life;

To my sister, Maggie, whose
creativity is boundless;

And to my brother, Don, who
would have been proud. . . .

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ATTITUDES OF REGISTERED NURSES TOWARD HEALTH PROMOTION/
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ABSTRACT

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This two-group, before-after, quasi-experimental study was designed to determine if RNs who completed a 30-hour health promotion/disease prevention curriculum recorded higher attitude scores toward health promotion/disease prevention and incorporated these attitudes with selected health behaviors when compared with RNs who did not complete the course. The curriculum was developed and piloted at TWU for the Division of Nursing, U.S. Department of Health and Human Services. A total of 98 RNs attended the course, completed and returned usable questionnaires (experimental group). All 98 RNs identified a colleague in their work settings to serve as a control subject; 32 control group RNs completed and returned usable questionnaires. To further examine the data, scores from 29 participant and colleague-selected pairs were compared to scores of the total sample.

Demographic data sheet results described the sample.

Using descriptive and inferential statistics, scores from the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument were used to analyze the five hypotheses; significant findings emerged from two hypotheses. For H1, a two-way ANOVA yielded a significant ($p \leq .05$) difference within the groups. There was a significant increase in attitude scores between pretests and posttests. There was a difference in attitude scores in the experimental and control groups. This increase in scores remained a constant. For H3, Spearman rho rank order correlation coefficient and point biserial analyses yielded a positive significant ($p \leq .05$) relationship related to the attitudes--importance of use of seat belts, confidence in ability to convey information and useful skills about use of seat belts--and the selected health behavior of the use of seat belts by the RNs. A positive significant ($p \leq .05$) relationship was found in the attitudes--confidence in ability to convey information and useful skills about exercise three times per week and adherence expectation that, if information and useful skills are conveyed about exercise three times per week, clients will follow through--and the selected personal health behavior of personal exercise three times a week by the RNs.

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CHAPTER 1

INTRODUCTION

An unprecedented decade-long initiative in the United States on health promotion and disease prevention launched by the Surgeon General in his report, Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention (U.S. Department of Health, Education and Welfare [DHEW], 1979), has set a course toward the target year 2000 that has been unrelentless in its purpose. The Surgeon General sought reduction of preventable disease and disability for people at each of the five major life stages--infancy, childhood, adolescence, adulthood, and older adulthood.

In the last century, infectious diseases were the greatest threat to the health of this society. In 1937, the average life span at birth was 51 years. Today, a child born can expect to live to age 74 (American Association of Retired Persons (AARP), [1987]). This increase in longevity is the direct result of vast gains, such as immunizations and antibiotics, in medical sciences and public health.

The 226 health objectives, issued in 1980 to be achieved by 1990, became the initial response to the

challenge of improving health status and reducing risks to health across 15 areas of mortality, morbidity, preventive interventions, and health-related behaviors (U.S. Department of Health and Human Services [DHHS], 1980). By 1985, a status report (U.S. Department of Health and Human Services [DHHS], 1986) indicated that several trends were notable. Public awareness about lifestyle factors and their contributions to health were at a high level. Examples were reductions in smoking and per capita alcohol consumption and increased automobile seat belts use (DHHS, 1986).

Since 1987, the Public Health Service (PHS), Department of Health and Human Services, has coordinated a nationwide process to formulate national disease prevention and health promotion objectives for the year 2000. Health objectives for the year 2000 have been established (U.S. Department of Health and Human Services [DHHS], 1991). Objectives for the year 2000 continue to include such reductions as a 48% decrease in cigarette smoking in adults, a 12% decrease in alcohol-related motor vehicle crashes, and a 36% increase in moderate daily physical activity, as well as a 38% decrease in sedentary lifestyle (DHHS, 1991).

To prevent disease and promote health, health care professionals, such as registered nurses (RNs), must play a major role. The American Nurse's Association ([ANA], 1981) Commission on Nursing Research recommended as a priority

major role. The American Nurse's Association ([ANA], 1981) Commission on Nursing Research recommended as a priority nursing research to generate knowledge to guide practice in promoting health problems throughout the life span.

The Institute of Medicine (1983), in their national report on nursing education, indicated a need for a course in health promotion and disease prevention for registered nurses. This void in nursing curricula on health promotion/disease prevention prompted the Division of Nursing in 1986 to request proposals for the development, testing, and evaluation of a curriculum for registered nurses on health promotion/disease prevention (July, 1988). To that end, Texas Woman's University (TWU), College of Nursing, was awarded a contract from the Division of Nursing, Health Resources and Service Administration, Department of Health and Human Services, for development, testing, and evaluation of Health Promotion and Disease Prevention: A Continuing Education Program for Registered Nurses [July, 1988].

The program was developed in ways that would impact the knowledge level, attitudes, and behaviors of registered nurses within the health care system. The links between attitudes and health practices and attitudes and health status were evident in the literature. Findings from

studies by Smith (1961), Aronson, Turner, and Carlsmith (1963), and Leventhal and Niles (1964) showed that altering attitudes can effectively change behavior. Rokeach (1972) proposed that behavioral change was always a function of at least two attitudes. Pender and Pender (1986) stated that an attitude toward a behavior reflects beliefs concerning the probability of specific consequences following the behavior and favorable or unfavorable evaluation of those consequences. Registered nurses have their own beliefs about what is healthy, and these attitudes (beliefs) may be contrary to current research findings, thereby affecting their practice or behavior in a negative manner. Because these positive or negative attitudes are linked to health promotion/disease prevention behaviors, this study was designed to analyze data about the attitudes toward health promotion/disease prevention practices as recorded by the registered nurses who participated in the national grant on health promotion/disease prevention for registered nurses. This research was the first analysis and evaluation of the data regarding attitudes toward health promotion and disease prevention from the 30-hour course at TWU.

Problem of Study

Guidelines for the national objectives called upon health professionals to familiarize themselves with the concepts of disease prevention and health promotion. Most nurses have had little exposure to disease prevention and health promotion concepts, and even less exposure to their own attitudes and behaviors in fostering healthier lifestyles for themselves, their patients, and their communities (Holcomb & Mullen, 1986; Pender & Pender, 1986). Concurrently, with this national curriculum, Health Promotion and Disease Prevention: A Continuing Education Program for Registered Nurses [July, 1988], this study was done to analyze the attitude scores and some selected health behaviors of registered nurses prior to as compared to following a 30-hour curriculum of health promotion/disease prevention. This research was the first analysis and evaluation of the data regarding attitudes and selected health behaviors from the study funded by the grant. The study was designed to answer the following question: Did registered nurses who completed a 30-hour health promotion/disease prevention curriculum record higher attitude scores toward health promotion and disease prevention and incorporate these attitudes with some

selected health behaviors when compared to registered nurses who did not complete the course?

Rationale for Study

With a void existing in nursing curriculum on health promotion and disease prevention, the Health Resources and Services Administration (HRSA), Division of Nursing sought to redress the void by funding the development and testing of a curriculum. This study was designed to analyze the attitudes of the registered nurses who completed a 30-hour health promotion/disease prevention curriculum and compare their attitudes to those of the registered nurses who did not complete the curriculum.

Attitudes are one of the most important outcomes of nursing education, yet little is known about curricular influences on specific attitudes. Rokeach (1972) proposed that behavioral change was always a function of at least two attitudes. Ajzen and Fishbein (1972) reported that virtually all verbal responses and sometimes even overt actions are considered to be indicants of a person's "attitudes" and measures of these variables are often used interchangeably. However, attitude was seen as only one of the many factors that influence behaviors. Attitude toward a behavior reflects beliefs concerning the probability of

specific consequences following the behavior and favorable or unfavorable evaluation of those consequences (Pender & Pender, 1986). Findings from studies by Smith (1961) and Aronson et al. (1963) showed that altering attitudes can effectively change behavior. The initial attitudinal position was defined on the basis of verbal or written report rather than on the basis of behavior.

Theories of health behavior state that individuals engage in health risk behavior because the behaviors are actively supported or promoted by the norms and beliefs of specific groups or segments of the population (Kirscht, 1983). Larson, Kent, and Larson (1984) found that behavioral changes can be administratively mandated, but people's values are modified in small increments and only after an accumulation of much experience. Larson et al.'s findings suggest that evaluation of attitudes and behavior intentions can serve as one method to assess the success of a program and its likelihood to effect long-term change of attitudes.

As nurse educators and practitioners incorporate health promotion and disease prevention into nursing curricula, the additional knowledge gained from an investigation describing the link between, or influence of, attitudes and some selected health behaviors will help focus on testing

intervention strategies that enhance favorable attitudes and beliefs. Perhaps at this point professional nurses will have lower prevalence of risk factors, such as smoking. Nurses are currently reported to be 25%-39% higher than the approximately 10% smoking prevalence among physicians and dentists (Becker et al., 1986). Furthermore, Becker et al. found that among nurses, attitudes about smoking are most strongly determined by current smoking status independent of many other sociodemographic and nursing structural variables. Smoking nurses clearly hold a more negative view of their role in counseling patients to stop smoking and also are more likely to believe that smoking patients have rights which have priority over those of nonsmoking patients in the hospital environment (Becker et al., 1986).

Registered nurses are in a unique position, as role models, educators, and activists both within the workplace and the community, to promote health and healthy lifestyles among their clients. Attitudes, beliefs, and interventions can change habitual behaviors. Evidence has shown the effectiveness of continuing education in changing practice (Cox & Baker, 1981). As nurse educators incorporate health promotion and disease prevention into nursing curriculums, input into curriculums about developing positive attitudes regarding health and about the attitude-behavior linkage

will aid in practices that can change health provider behaviors. In addition, research based on sound methodology is needed in this area to statistically validate the effects of education in changing attitudes towards health promotion concepts.

Conceptual Framework

The conceptual framework for this study was based upon the Gregory Health Behavior Model (GHBM) (Gregory, 1991). Gregory's model (Figure 1) was developed to guide application of the nursing process when assisting clients in the selection of health promoting behaviors. Since attitudes are a significant component of behaviors, it is important that registered nurses' attitudes be further studied in relation to their client teaching behaviors (Pender, 1987). Use of this model in analyzing different data within the same treatment (the course in health promotion/disease prevention) enabled the researcher to either provide evidence for or against the use of the GHBM in studying attitudes.

Although concepts from other models (Becker, 1974; Becker et al., 1977; Rosenstock, 1974) helped to form the framework for this model, the theory underlying the model

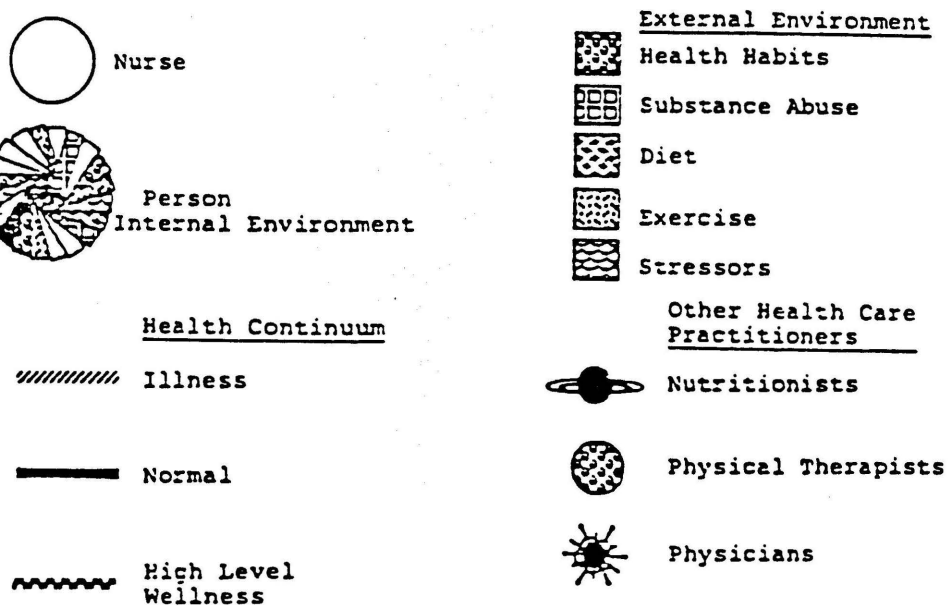
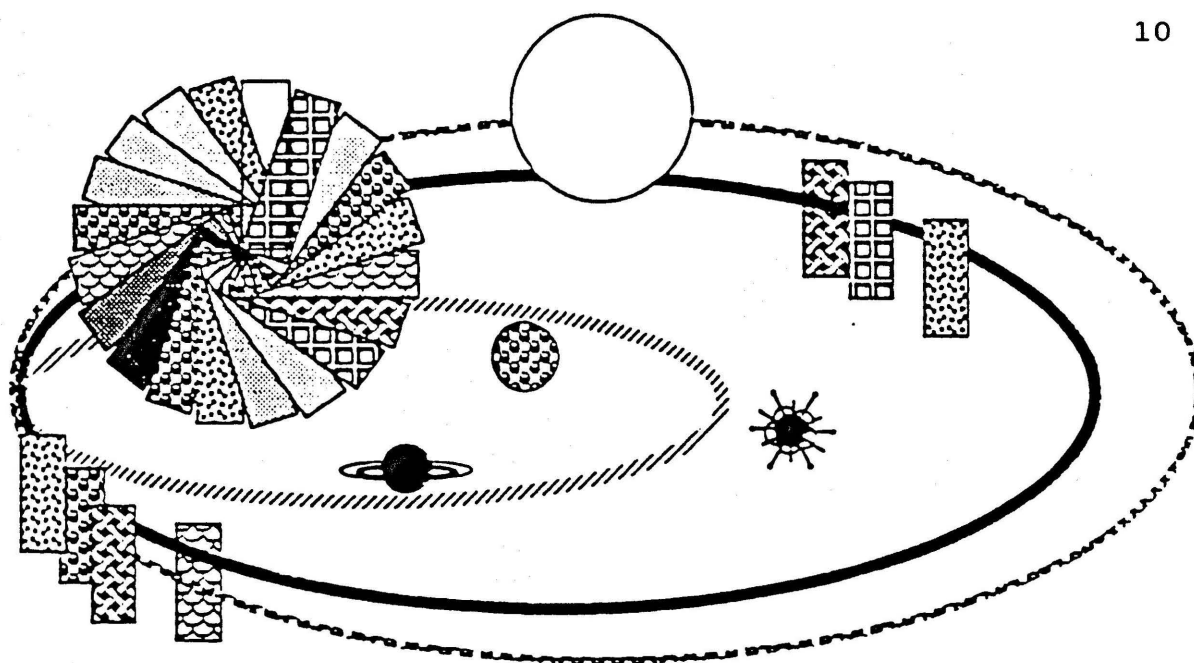


Figure 1. Gregory Health Behavior Model ©

was von Bertalanffy's (1968) general systems model, in which conceptualization of a whole (the person) is composed of parts in interaction within personal boundaries and with the surrounding environment (Gregory, 1991). The more open the system, as with persons, the more variables affect interactions and outcomes.

The GHBM uses a planet, which also serves as the internal environment, to depict a person (or a system). Either an individual or a family unit can comprise the person/planet. Nurses and other health care professionals such as physician(s), nutritionists, and therapists are depicted as satellites and/or other planets which revolve around the person/planet.

The sky is depicted as the external environment. It includes the factors, such as physical, social, cultural, and spiritual, that exert influence on a person. Stressors occasionally disturb the equilibrium or balance of the person in the person's usually orderly external environment. The prescribed or expected orderly orbit of the person/planet is used to depict health (Gregory, 1991). A prescribed circular boundary with a continuum of illness on the inside and high level wellness on the outside indicates the movement of the person/planet system. "Each orbit of the person/planet is independent of the other rotations

within prescribed boundaries" (Gregory, 1991, p. 11). The person/planet moving closer toward the "inside edge" of the health continuum orbit indicates an illness state. More expanded rotations into the total environment are allowed by higher levels of wellness, which in turn allow increased opportunities for interactions with the total environment to occur.

Gregory (1991) defined four concepts (metaparadigms) as used in the GHBM as follows:

1. Environment: internal and external stimuli for an individual which influence life (Becker, 1974; Neuman, 1980).
2. Health: a continuum from illness to high level wellness for each individual that may be affected by personal behaviors or choices (King, 1971).
3. Nursing: assisting clients toward acquisition and/or maintenance of personal health through care and education (Murray & Zentner, 1979; Pender, 1987).
4. Person: a human, dynamic open system which changes as a result of input from the environment; personal health behaviors may or may not be affected by external influences (Orem, 1979). (pp. 9-10)

The nursing process provides the framework for implementing the GHBM. Gregory (1991) defined and applied the four steps of the nursing process as related to her model (Figure 2).

STEPS OF NURSING PROCESS	DESCRIPTION
ASSESSMENT	Recognition of internal and external influences on health promotion and disease prevention behaviors for the client.
ANALYSIS AND PLANNING	Identification of variables affecting client behavior or outcomes because of environmental input and development of a mutually agreed upon plan of client goals and behaviors to change outcomes.
INTERVENTION	Interventions are focused on changing or maintaining health promoting and disease preventing behaviors that contribute to a higher level of wellness.
EVALUATION	Evaluation is based on a measurement of acquired skills that contribute to health promotion and disease prevention for the client.

Figure 2. Gregory's (1991, p. 15) Application of the GHBM to the Nursing Process

nursing diagnosis evolve from perceived and/or measurable parameters that provide data about personal choices (Gregory, 1991). According to Gregory, "the response component of the nursing diagnosis would be the output from the system, those choices which may or may not be health promoting or disease preventing" (p. 14). Persons/clients, by using their internal and external resources, can cooperate in the initiation of nursing interventions (Neuman, 1980; Pender, 1987). Nursing interventions can be designed to assist clients in initiating or maintaining health promotion and disease prevention behaviors and, therefore, move them toward higher levels of wellness. Attitudes and selected health behaviors of registered nurses would be evaluated for positive changes in wellness lifestyle. Gregory examined health education and behaviors. In this study, attitudes and selected health behaviors were examined. By using the same conceptual model (Gregory, 1991), data were more efficiently and effectively compared.

Some individuals will attain high level wellness without nursing intervention. However, it was postulated that the health promoting behaviors modeled, taught by, or discussed with the RN will facilitate the acquisition and maintenance of health promoting attitudes as well as behaviors.

that the health promoting behaviors modeled, taught by, or discussed with the RN will facilitate the acquisition and maintenance of health promoting attitudes as well as behaviors.

Assumptions

The following assumptions were based on the conceptual framework used in this study:

1. A person is perceived as a dynamic whole (open system) who interacts with the environment (von Bertalanffy, 1968).
2. The perceiver's world and not the physical environment determines how a person acts; positive, negative, and neutral value regions are contained within the life space in which each individual lives (Rosenstock, 1974).
3. Perceived susceptibility of subjective risk and level of seriousness of a health-threatening condition influence an individual's behavior (Rosenstock, 1974).
4. Health is influenced by choices a person makes (Becker et al., 1974).
5. The person's belief about available and effective choices of action (benefits versus barriers) and not facts alone determine a course of action (Rosenstock, 1974).

6. Individuals move cyclically from cognitive-perceptual factors to participation in health-promoting behaviors (Pender, 1987).
7. Once significant dissatisfaction is experienced, it is assumed that the person will change values, attitudes, and behaviors to make them more integrated with one another and, more important, to make them more consistent with self-concept (Pender, 1987).

Hypotheses

The following hypotheses were formulated for this study:

- H1: Registered nurses who completed a 30-hour health promotion/disease presentation course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than will registered nurses who did not complete the course.
- H2: Registered nurses who completed a 30-hour health promotion/disease prevention course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than will their colleague-selected registered nurses who did not complete the curriculum.

- H3: There will be a positive relationship between attitude scores and selected health promotion behaviors on the Attitude Toward Health Promotion instrument in the group of registered nurses who completed the 30-hour course.
- H4: Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between years as a registered nurse and attitude scores on the Attitude Toward Health Promotion instrument.
- H5: Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between level of education and attitude scores on the Attitude Toward Health Promotion instrument.

Definition of Terms

For the purpose of this study, the following terms were defined:

1. Attitude--a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (Rokeach, 1972). In this study, attitudes toward health promotion and disease prevention were defined as personal attitudes

toward health that reflect the nurse's beliefs as measured by Questions #20 through #25 on the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument.

2. Health promotion and disease prevention course--a self-contained 30-hour program for registered nurses that consists of didactic and clinical practice (Health Promotion, [1988]).
3. Registered nurse (RN)--"a graduate trained nurse who has been licensed by a state authority after passing qualifying examinations for registration" (Webster's, 1981, p. 966). Operationally defined, this RN was a female who applied for admission into and completed the 30-hour health promotion/disease prevention course at TWU during 1987.
4. Selected health promotion behaviors--any activity undertaken by persons believing themselves to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage (Kasl & Cobb, 1966). In this study, health promotion behaviors were the frequency of practiced health behaviors as measured by Questions 6, 7, 9, and 13 of the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument.

Limitations

The limitations of the research study include the following:

1. A convenience sample was used and consisted of registered nurses who elected to participate in a 30-hour course in health promotion/disease prevention. In this study, since a convenience, self-selected sample was used, pretest findings might have been higher for this group than for the population. The primary difficulty with a convenience sample is that this sampling technique does not allow for generalizability to the population (Polit & Hungler, 1983).
2. Control subjects were nurse peers at their workplace chosen by the RN participants. Participants were asked to identify a nurse peer in the same work setting as a control subject for the pretests and posttests. This action provided control subjects of similar age and work experience for the study. This process may have allowed control subjects to seek information from their experimental peers. That activity could have been reflected in higher than anticipated posttest scores for the control group.

Summary

A need exists for the investigation of differences in attitudes in registered nurses toward health promotion and disease prevention education and results of these studies need to be assimilated into registered nurses' personal behaviors as well as educational and practice settings. Attitudes influence behavior; education influences attitudes. The need for educating registered nurses in health promotion/disease prevention skills to facilitate change of attitudes in nursing education and practice was identified. In 1986, the Department of Health and Human Services, Division of Nursing awarded a 24-month contract to TWU, School of Nursing to develop and implement a continuing education program in health promotion and disease prevention for registered nurses. This study was initiated concurrently with the continuing education program.

Positive and negative attitudes that affect health behaviors were postulated to be inherent in promoting health and preventing disease. The purpose of this study was to evaluate the personal health promotion and disease prevention attitudes of the participants and to determine the extent of their correlations to similar concepts in selected personal health promoting behaviors. The conceptual framework for this study was based on the

eclectic Gregory Health Behavior Model (GHBM) (Gregory, 1991), which, in turn, was based on von Bertalanffy's (1968) general systems theory and concepts delineated in today's nursing models (Neuman, 1980; Pender, 1987, Becker et al., 1974; Becker et al., 1977). Gregory (1991) examined behavior in the same course. Health promoting concepts in a curriculum can affect attitudes and influence behaviors. Attitudes are internal influences on health promotion and disease prevention behaviors that contribute to a higher level of wellness. Gregory's (1991) HBGM was used in this study to identify the influence of attitudes on some selected health behaviors.

CHAPTER 2

REVIEW OF LITERATURE

The areas of literature relevant to nurses' attitudes toward health promotion/disease prevention are presented in this chapter. Health promotion is first viewed from a broad perspective and then from a nursing perspective. A discussion of attitudes and health, nurses attitudes toward health promotion, as well as attitudes and their link to health behaviors follows. Demographic characteristics and selected health behaviors are discussed. Lastly, a curriculum on health promotion and disease prevention for registered nurses (RNs) is briefly presented.

Health Promotion

The concept of health promotion is not unique to the 20th century. Health promotion concepts have existed since the Egyptians with their strict rules in matters such as cleanliness, food, drink, exercise, and so forth (Donahue, 1985). Florence Nightingale (1860/1969), as Superintendent of the Female Nursing Establishment of the English General Hospitals in Turkey during the Crimean War, reduced the death rate of the soldiers in the war from 42.7% to 2.2% within 6 months. Health promotion/disease prevention

factors helped in the reduction of the mortality rate (Nightingale, 1860/1969).

The modern era of health as described by Anderson, Morton, and Green (1987) had four phases. The Miasma Phase (1850-1880) and the Disease Control Phase (1880-1920) featured efforts directed toward general eradication of diseases. World War I medical examinations of men being inducted into military service began what was considered the original "broadscale barometer" reflecting health status of U.S. citizens. The high rate of rejection of these men, according to Anderson et al., suggested that health consisted of more than the absence of communicable disease. In the Health Promotion Phase (1920-1960), the health of the individual was emphasized. The Social Engineering Phase, from 1960 to the present, has been geared toward equalizing access to health care which includes health promotion activities.

The 1980s and 1990s will project health promotion and healthier lifestyles across the life span into the 21st century. Healthy People 2000: National Health Promotion and Disease Prevention Objectives (DHHS, 1991) is the plan of the nation for a healthier lifestyle for all Americans. The American Nurses' Association's (ANA) (1991) Nursing's Agenda for Health Care Reform is an action plan for health care that is foremost for health promotion/disease prevention in

the community setting, worksite, and schools. Reform means cost-effective, health-effective change.

The advance of health promotion and healthy lifestyles began in 1973. A task force met to analyze preventive medicine. This group agreed on the relationship of life-style to health and made recommendations to the government for practices and programs to enhance health. As a result, the Surgeon General of the U.S. (DHHS, 1979) set a precedent by seeking reduction of preventable disease and disability for people at each of the five major life stages: infancy, childhood, adolescence, adulthood, and older adulthood. The 226 health objectives, issued in 1980, were the initial response to that challenge (DHHS, 1980). A course toward the target year 1990 was set, and measures were addressed which were designed to improve health status and reduce risks to health in 15 areas of mortality, morbidity, preventive interventions, and health-related behaviors. Promoting Health/Preventing Disease: Objectives for the Nation (DHHS, 1980) brought several notable trends in reduction of lifestyle practices.

The 1990s Health Objectives for the Nation: A Midcourse Review (DHHS, 1986) reported a 12% reduction in smoking from 1965 to 1985. Dramatic progress had been made in the case of men, with a 19% decrease in smoking. At the same time, smoking rates among women at younger ages actually increased

by 14.7%. The review of the 19 objectives that fall in the priority area of misuse of alcohol and drugs disclosed a decline in alcohol-related motor vehicle accident fatalities of 2 deaths per 100,000 people and a reduction in the death rate from cirrhosis and chronic liver disease. Even though 26.5% of the objectives were unlikely to be achieved, and there were no data to measure the progress for the remaining 26%, 13% had been achieved and 34.5% were on track for achievement (DHHS, 1986).

Motor vehicle fatalities account for about half of all unintentional injury deaths and are the leading cause of work-related injury deaths. With respect to safety belts and safety seats, all 50 states and the District of Columbia now require child safety seat use. Early feedback from New York showed that motor vehicle fatalities for January-May, 1985 were 33% lower than the previous 5-year average for those months (1980-1984). These changes are among those that were on track and/or achievable (DHHS, 1986).

In 1987, the Public Health Service (PHS), Department of Health and Human Services (DHHS), coordinated a nationwide process to formulate national disease prevention and health promotion objectives for the year 2000. These objectives, contained in Healthy People 2000 (DHHS, 1991), built upon the efforts of the 1990 objectives (DHHS, 1980). Using the input and expert review of over 7,000 individuals and

groups, the year 2000 objectives paralleled the 1990 objectives. However, the 1990 objectives were expanded and revised with the addition of areas focused on topics such as HIV infection, cancer, and the vitality and independence of older people.

Marked changes in the nation's health occurred in the 1980s (DHHS, 1991). There were major declines in death rates for three of the leading causes of death among Americans: heart disease, stroke, and unintentional injuries. Infant mortality also decreased, and some childhood infectious diseases were nearly eliminated. The more than 40% drop in heart disease mortality since 1970 reflects dramatic increases in high blood pressure detection and control, a decline in cigarette smoking, and increasing awareness of the role of blood cholesterol and dietary fats. The precipitous drop in stroke death rates--over 50% in the same period--also reflects gains in hypertension control and declines in smoking.

The purpose of Healthy People 2000 (DHHS, 1991) was to commit the nation to the attainment of three broad goals that will help bring the U.S. to its full potential while keeping in mind the words of Florence Nightingale (1860/1969) who pointed out that being healthy is the ability to use every power well. The first 21 of the priority areas to be achieved by the year 2000 are grouped

into three broad categories: health promotion, health protection, and preventive services. Achievement of this national agenda depends heavily on changes in individual behaviors. It calls on medical and health professionals to prevent, not just to treat, the diseases and conditions that result in premature death and chronic disability.

In Healthy People 2000 (DHHS, 1991), Sullivan emphasized that if the U.S. is to extend the benefits of good health to the total population, a crucial step is to develop within the most vulnerable populations what he termed a "culture of character." He explained this culture of character as perceptions and actions which actively promote responsible behavior. Thus, this study on nurses and personal health promotion attitudes is centered around the "culture of character" to which both Sullivan and Nightingale (1860/ 1969) have referred in their writing--a way of thinking (attitude) and acting (behavior) that promotes responsible health behavior.

The target objectives for the year 2000, organized broadly into three major sections for the purposes of this study, define the principal type of preventive intervention they involve (DHHS, 1991). These sections are Health Promotion, Health Protection, and Clinical Preventive Services. There are a total of 21 priority areas under these three broad categories. The attitude-behavior

relationships targeted in this study were prioritized as follows in Healthy People 2000, (1991):

- . Health Promotion

1. Physical activity and fitness
2. Tobacco
3. Alcohol and other drugs

- . Health Protection

9. Unintentional injuries (lack of seat belt use)

- . Preventive Services

15. Heart disease and stroke

The eighth priority in Healthy People 2000 (DHHS, 1991) is educational and community-based programs on health promotion.

The target objectives for the Year 2000 were developed from a broad base of input from the scientific community and the voluntary and private sections, and, as such, they represent national priorities and not merely those of the federal government. Achievement of the national objectives calls upon the general population and health professionals to become familiar with the concepts of disease prevention and health promotion and to learn and use techniques that will foster healthier lifestyles for themselves, their clients, and their communities. Healthier lifestyles are the result of changes in attitudes as well as behaviors.

Attitudes and Health

Attitudes influence individuals' behaviors.

Subsequently, health is influenced, both directly through actions and indirectly through lifestyles, by behaviors.

Attitudes

Theories of attitude development and measurement indicate that, although there are many ways to change attitudes, one of the most expedient ways is through formal education and continuing education. Attitude has been defined by Fishbein and Ajzen (1975) conceptually as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object. A person's attitude towards an object is directly related to a set of beliefs about the object. Those beliefs, opinions, or motivations are developed through formal education (or continuing education), through experiences with the object (clinical) and significant others' views about the object.

As early as the 1930s, Allport (1935) defined attitude as a state of readiness, both mental and neural, that has been organized through an experience which exerts a direct and dynamic effect on an individual's response to other relative individuals, objects, and/or situations. In the 37 years that have passed since Allport's definition, there has

been considerable progress in research in the study of attitudes, and some of the major issues have been classified and reformulated.

Campbell (1963) pointed out that the conditions of data collection in social psychology generate a divisive influence upon the conceptualizations of social psychologists. Campbell further believed that the several attributes of attitude are aspects of a common syndrome. Berelson and Steiner (1964) placed opinions, attitudes, and beliefs together. Opinions, according to these authors, are sometimes called impressions or guesses, attitudes are sometimes called views or convictions, and beliefs are sometimes called values or sentiments.

Rokeach (1972) maintained that a person's cognitive functioning is not a thing apart from that individual's affective or emotional functioning. More specifically, Rokeach proposed that behavior with respect to an object within a situation is always a function of at least two interacting attitudes: attitude-toward-object--A(o) and attitude-toward-situation--A(s). If one focuses only on A(o) as a predictor of behavior while ignoring the equally relevant A(s) as has been the case in countless studies since La Piere's (1934), one is almost guaranteed to observe inconsistencies between an individual's expressed attitude and that individual's behavior.

Ajzen and Fishbein (1972) expressed their belief that attitudes are learned. Attitudes develop as the individual develops, in interaction and in relationships with other people, particularly with significant others in the socialization process. Once social attitudes are established, they are considered to be relatively stable and enduring (Newcomb, Turner, & Converse, 1965).

Fishbein (1967) asserted that whenever a new concept is learned, an attitude toward that concept is acquired simultaneously. Once a concept has been learned, a new stimuli may be associated with it, and the mediating evaluative reactions elicited by these new stimuli will also become conditioned to the concept and change the attitude toward it. According to Fishbein, a person's attitude toward any object is a function of that individual's beliefs about the object and the implicit evaluative responses associated with those beliefs.

Personal beliefs in the Fishbein model (Ajzen & Fishbein, 1980) are the informational base concerning a specific behavior and affect the individual's attitudes and intentions toward behavior. Intention is to perform a behavior and is the immediate determinant of a behavior. Behavioral intention, in turn, is a function of attitude (the value to individuals, favorable or unfavorable, of performing the behavior) towards a behavior and the

subjective norm. The subjective norm is composed of perceived beliefs of others (individuals' perceptions of how significant others think they should perform the behavior) and motivation to comply with the behavior. Barring unforeseen events, individuals are expected to act according to their intentions.

Evaluative or affective consistency is what distinguishes between attitude and other concepts. The evaluative dimension has frequently been regarded as the most distinctive feature of attitude (Fishbein, 1967; Osgood, Suci, & Tannenbaun, 1957; Thurstone & Chave, 1929). Attitudes toward health promotion are based on belief systems and are influenced by learning and feedback in the form of consequences of behavior, approval of significant others, and the attainment of goals.

Pender (1987) addressed some of the factors that affect continuation of positive health behaviors. These factors include the following:

- . Number of personal beliefs and attitudes that support the target behavior.
- . Extent of affective and cognitive commitment to target behavior.
- . Ease of incorporating behavior into lifestyle.
- . Centrality of health as a value. (p. 278)

Cognitive or evaluative elements, affective or emotional elements, and/or behavioral or cognitive elements

are all components descriptive of attitude (Jarvis, 1984; Vaughan, 1988). Dawson (1992) wrote that these components will usually imply (a) a deliberate consideration of the value of an event or phenomenon; (b) a liking for, or a dislike of, a phenomenon, based on one's feelings towards it; and (c) a tendency to behave towards a given phenomenon, person, or thing in a specified way (or to express the intention to do so).

In summary, the concept of attitude has been central to social psychology and personality theory because it has been generally regarded as important to the determination and prediction of behavior. The concept of attitude has become central to nursing and health professionals because it has become important in attitude-behavior consistency in the delivery of health care.

Health

Pender (1987) stated that the centrality of health is a value. Health is a value that has been defined as a disease-free state in the first half of the 20th century with health and illness viewed as extremes on a continuum; the absence of one indicates the presence of the other. In 1987, Pender, on the other hand proposed the following definition of health:

Health is the actualization of inherent and acquired human potential through goal directed behavior, competent self-care, and satisfying relationships with others while adjustments are made as needed to maintain structural integrity and harmony with the environment. (p. 27)

Both actualizing and stabilizing tendencies have been incorporated into Pender's definition of health. The World Health Organization (WHO) (1986) defined health as a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity.

The assumption is made frequently that a disease-free population is a healthy population. Mortality and morbidity have continued to be the traditional methods used by public health and medicine for defining and measuring the level of health within a given population. Mortality and morbidity data provide information about the prevalence of illness; they do not provide information about the level of health within a given population. Mortality and morbidity data are actually illness indexes rather than health status indexes.

Health-damaging lifestyles are estimated by morbidity and mortality indexes. Experts have estimated that 50% of the deaths in the U.S. each year result from health-damaging lifestyles. Habits and attitudes, beliefs, and values detrimental to health that are established by individuals in early childhood and continue throughout their lifespan not

only decrease the potential for healthful and productive living but increase morbidity and mortality.

Nurses' Attitudes Toward Health Promotion

Because health-care providers (RNs) are engaged frequently in trying to change the behaviors of their patients, RNs are a primary target for nursing intervention. The ANA (1991), in Nursing's Agenda for Health Care Reform, has presented its cost-efficient, relevant, effective agenda to the government for health care reform. The agenda includes new emphasis on primary care, and health promotion and disease prevention, delivered in the workplace, school, and other community settings. Most importantly, it calls for a renewed commitment to programs devoted to the public health, active participation in self-care, and personal responsibility for health and wellness. Further, since providers differ from patients in the domain of behavior change, providers should refrain from believing that their own experiences with health-relevant behavior change will generalize to those of their patients.

Salovey et al. (1987) reported that RNs' attitudes were found to be better predictors of their behaviors than were attitudes of nonproviders. Discussion might clarify what accounts for the greater congruence between attitudes and behaviors among the registered nurses as compared with

nonproviders such as teachers and students. For registered nurses, health is more prominent, because they confront health-relevant stimuli somewhat more frequently than teachers or students. Registered nurses may have considered their answers to the health promotion behaviors in the same study as more public than the nonproviders because nurses are health care providers and believed that as a result, their answers would be expected to be consistent, or their behaviors might have more profound social implications for providers than for nonproviders. Such an interpretation parallels research findings showing that increased self-awareness augments attitude-behavior consistency (Carver, 1975; Pryor et al., 1977; Wicklund, 1975).

Sidney and Shephard (1977) reported that those individuals who viewed themselves as very healthy indicated higher motivation to engage frequently and intensively in health-promoting behaviors than did individuals who viewed themselves as only moderately healthy. Abelson (1982) wrote that attitude-behavior consistency might be promoted when this consistency is socially expected. Although highly socially expected (i.e., scripted) situations generally decrease attitude-behavior consistency, some situations may actually be scripted for consistency, such as the public expectation that a health care provider engages in healthy practices.

Attitudes Affecting Health Promotion Behavior

Attitudes could be a primary construct used to explain health behaviors. Altering attitudes can effectively change behavior, as was found in studies by Smith (1961), Aronson, Turner, and Carlsmith (1963), and Levanthal and Niles (1964). However, considering the results of these studies, attempts to infer behavior from stated attitudes have generally failed, whereas inferring attitudes from behavior has proven to be more valid in terms of predicting future behavior.

Salovey et al. (1987) compared the attitude-behavior consistency for health promotion behaviors in a group of health care providers (registered nurses) and nonproviders (public school teachers and college students). The argument (Regan & Fazio, 1977) that direct experience with the attitude object increases attitude-behavior consistency was one of the justifications for predicting greater consistency in providers versus lay people in the study. The question of the study was as follows: Are there differences in the attitude-behavior relationship for providers and nonproviders? Because health-care providers are engaged frequently in trying to change the behaviors of their patients, clarifying factors that link attitudes to behaviors seems especially important. Further, contrary to current thinking, providers differ from patients in this

domain, and providers should refrain from believing that their own experiences with health-relevant behavior change will generalize to those of their patients. Salovey et al. reported that registered nurses demonstrated a higher correspondence between their attitude about the importance of a health promoting behavior and their reported performance of such a behavior than the nonproviders. This relationship was stronger for behaviors that were relatively specific and delineated versus more general behaviors (e.g., using dental floss versus getting enough sleep).

According to Ajzen and Fishbein (1980), in the theory of reasoned action, attitudes toward a behavior together with perceived normative pressure determine a person's intention and thus that individual's actual performance of the behavior. A number of factors, however, have been found to influence this attitude-behavior relation. Perhaps the most frequently studied factor is direct exposure to the attitude object. A number of investigators (Fazio & Zanna, 1981; Regan & Fazio, 1977) have shown that individuals who form their attitudes based on actual experiences with the object of those attitudes display increased attitude-behavior consistency.

Keiser and Bickle (1980) in their studies partially confirmed the hypothesis that as attitude change increased, behavioral implementation would increase. Furthermore,

Keiser and Bickle's results showed that subjects with greater changes in attitudinal position were more likely to engage in behavior related to implementing primary nursing.

Another factor affecting attitude-behavior consistency is the social context of the behavior. Salancik (1982) argued that attitude-behavior consistency is more likely observed when the motivational properties of the attitude direct the behavior according to particular "implications," such as public behavior rather than private (Tittle & Hill, 1967; Warner & DeFleur, 1969). In addition, researchers (Carver, 1975; Pryor, Gibbon, Wicklund, Fazio, & Hood, 1977; Wicklund, 1975) have shown that increased self-awareness, and perhaps awareness of one's professional role, augments attitude-behavior consistency. Snyder (1981) articulated that attitude availability and attitude relevance should increase attitude-behavior consistency. By attitude availability, he was suggesting increased access to knowledge of the applicability of the attitude. Such knowledge in the health behavior realm should be more thoroughly possessed by providers than by nonproviders.

Demographic Characteristics and Health Promoting Behaviors

Some researchers (Ostwald & Knutson, 1989; Schoen, 1992; Sullivan & Hale, 1987) have investigated attitudes toward health promoting behaviors and their relationship to

demographic variables. From a national survey of 3,000 ANA members, Sullivan and Hale (1987) found in the sample of 1,026 nurses that those who had received their nursing education in hospital diploma programs and those with master's degrees had more positive beliefs (attitudes) about alcoholism than either baccalaureate prepared nurses or nurses with doctoral degrees. In addition, they found that female nurses expressed positive beliefs more often than did male nurses. However, age, length of time in nursing, type of position, and size and type of institutions were unrelated to beliefs. The number of years in nursing in their sample varied from 1 year to more than 20 years, with a mean of 14.5 years in nursing.

Laffrey (1985) studied health promotion's relevance to nursing practice. Regardless of educational level, most nurses in Laffrey's (1985) study defined health as more than the absence of disease. The responses of all participants overwhelmingly included mental and physical ideas of health and provided information that could be used profitably in nursing practice.

Schoen (1992) found an association between attitudes which were more favorable toward the nurses' control over their practice and more college-based initial nursing education programs. Ostwald and Knutson (1989) found that employees who were older, married, or better educated

reported the best nutritional habits. Generally, however, Ostwald and Knutson reported that there were few differences in health practices or attitudes based on age, gender, marital status, or educational level.

There is a definite link between personal health promoting behaviors and attitudes. Healthy People 2000 (DHHS, 1991) uses health promotion, health protection, and disease prevention in discussing these global concepts that are health behaviors. The four personal health behaviors selected by this investigator for study of relationships were also studied extensively by Gregory (1991) in the same total population. The four selected behaviors correlated in this study were tobacco use, seat belt use, alcohol use, and exercise.

Tobacco Use

At the end of the 1980s, there were still more than 50 million Americans using tobacco products, but the numbers would have been higher without widespread anti-smoking campaigns (Warner, 1989). In 1965, 34% of women smoked cigarettes; by 1987, the figure had dropped to 27%. Scherer (1989) reported results from a survey of smoking habits of nurses from North Carolina in 1981 and repeated in 1987. Findings indicated that the number of the nurses smoking in

1981, 32%, had dropped by 1987 to 19%. In addition, more than 90% of the nurses in Scherer's study indicated they had tried to quit with over half of the 90% having tried to quit three or more times.

Seat Belt Use

In 1988, 4,000 lives were saved after auto accidents with seat belt use. Of these survivors, 3,100 lived in states with seat belt use laws (DHHS, 1991). Since 1988, the federal government requires mandated seat belt use as a prerequisite for financial assistance with road construction (DHHS, 1991). For the year 2,000, the objectives for the nation include that 85% of vehicle occupants will have a protection devise, such as automatic seat belts, air bags, and/or child safety seats.

Exercise

Lack of exercise closely follows smoking, high blood pressure, and elevated cholesterol as a risk factor contributing to coronary artery disease (DHHS, 1991). Moderate physical exercise is showing evidence of having important, increasing health benefits, including the decrease of the risk of coronary heart disease (DHHS, 1991). Moderate physical exercise is defined as exercise three or more times per week for 20 minutes (DHHS, 1991).

Shephard (1989) emphasized the health enhancement component of exercise as a means of encouraging more individuals to participate and adopt other healthful behaviors. Shephard pointed out that perhaps physical activity might be a primary agent in healthier eating habits and reduced fat intake, reduced alcohol consumption and a higher possibility of eliminating cigarette smoking.

Alcohol Use

Approximately 70% of Americans consume alcohol (DHHS, 1991). An individual who consumes 1 ounce of pure alcohol or ethanol a day, for example 24 ounces of beer, 8 ounces of wine, or 2 ounces of whiskey, is considered to be a heavy drinker (DHHS, 1991). In 1985, 9% of the people age 21 or older consumed more than two drinks a day (DHHS, 1991). The health objective for the year 2000 is to reduce that number to less than 5%. Alcohol is considered to be the primary factor in half of the suicides, homicides, and traffic fatalities, causes cirrhosis of the liver with long-term abuse, and also causes fetal alcohol syndrome when used by a pregnant woman (DHHS, 1991).

A Curriculum on Health Promotion/Disease Prevention for Registered Nurses

The purpose of evaluative studies are to measure the effects of a program against the objectives the program is

designed to achieve. The curriculum on Health Promotion and Disease Prevention: A Continuing Education Program for Registered Nurses [1988], developed and taught at Texas Woman's University (TWU), is an example of continuing education that adds to nursing's body of knowledge and skills for practice. The curriculum was developed and piloted as a result of a contract awarded to TWU from the Division of Nursing, Health Resources and Services Administration, Department of Health and Human Services. This program was piloted to 159 RNs in 1987, and 111 RNs completed the course.

The curriculum has four program objectives with each of the 15 modules having objectives for the didactic portion of learning (30 classroom hours) and objectives for the clinical component (60-90 clinical hours). The four program objectives are expressed in broad terms. These objectives included describing personal attitudes toward health promotion and disease prevention. Through application of the nursing process, nursing strategies specific to health promotion/disease prevention were formulated. Evaluation of the program occurred on both the educational setting and the practice setting.

A national, polished curriculum such as this could carry forth the ANA's (1991) Nursing's Agenda for Health Care Reform. This agenda calls for assurance of necessary

and effective health services to all people. The federally-defined "standard package" of essential health care benefits emphasizes that primary care, health promotion and disease prevention be made available to all Americans. This curriculum provides one strategy for providing a specific knowledge base to effectively function in this new plan. Education, attitude change, and behavior change are essential before RNs will be able to effectively enhance client health. Changes will need to be made in undergraduate and graduate nursing curriculums to include primary health care and preparation in the administration of community health services.

The Health Promotion and Disease Prevention [1988] curriculum presents participants with a knowledge base from the public health sciences, nursing practice, and theories of learning, motivation, and behavior change. Throughout the curriculum, the nursing process is applied in methodologies and strategies to promote health promotion and disease prevention in the settings recommended in the ANA's (1991) health care reform agenda. These settings include the community, school, workplace, and home. Scott, Greig, and Neighbor (1986) wrote about the beliefs of RNs and explained that attitudes toward preventive care can be influenced by educational curricula. Therefore, it is necessary for attitudes and beliefs to be included in any

curriculum-based program to promote wellness. However, unless these attitude changes are supported and reinforced in the workplace, the change may be only temporary. According to Scott et al., one of the modalities for reinforcing attitude change in the workplace could be an inservice or continuing education program. The present study was designed to evaluate the attitudes and selected health behaviors of the course participants.

Summary

An examination of the concept of health promotion provided insight into the origins and developmental milestones that will bring the U.S. to the year 2000 and beyond. Since the early 1970s, the initiative has been "mind-sweeping" in terms of objectives for the nation. The American public has not been aware and/or cooperative in decreasing risk factors which contribute to illness and diseases. The efforts prior to HEALTHY PEOPLE (DHEW, 1979) were voluntary. Even with the best structured educational programs, Americans and American health professionals continued to focus on treatment of illness and cure of diseases, rather than disease prevention and health promotion.

Throughout the 1980s and now in the 1990s, health promotion and disease prevention have become paramount; they

have also become mandated. Health care costs, a dramatic increase in the aging population into the 21st century, as well as an upturn in chronic diseases have caused a major reorganization of health care with an emphasis on determining new methodologies and strategies to have a healthier America.

Many beliefs and attitudes have contributed to an unhealthy lifestyle for many Americans. Health professionals, educated with illness models, have contributed to beliefs, attitudes, and intentions that leave a taste that illness and disease behavior is a part of anyone's lifestyle. RNs, the largest group of health care providers, now have Nursing's Agenda for Health Care Reform (ANA, 1991). The Health Promotion and Disease Prevention: A Continuing Educational Program for Registered Nurses [1988] can provide strategies for meeting this agenda. This study was designed to measure the effectiveness of the above curriculum in changing the attitudes of RNs toward health promotion/disease prevention, which in turn influences behavior changes.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

A two-group, before-after, quasi-experimental research design was used to determine the effects of a 30-hour course on health promotion/disease prevention on attitude and behavior levels of registered nurses (RNs). The course, Health Promotion and Disease Prevention: A Continuing Education Course for Registered Nurses [1988], was designed by two faculty members to prepare registered nurses with the knowledge and skills necessary to promote health and prevent disease in three major community environments: the school, the workplace, and the home. No curriculum had been available prior to the development of the course described in this study. The 15 module, 30-hour course enabled adult learners to describe their personal philosophy and attitudes toward health promotion/disease prevention and to apply their knowledge and skills in nursing strategies specific to health promotion/disease prevention. By applying adult teaching-learning, attitudinal, motivational, and behavioral theories, the participants were to implement a health promotion/disease prevention plan at the work site and evaluate the plan.

The study design included two groups: an experimental group that consisted of female registered nurses who attended the 30-hour health promotion/disease prevention course at Texas Woman's University (TWU) and a control group that consisted of female registered nurses who did not attend the course. Pre course information collected on the control group helped to strengthen the study, since beginning similarities could be observed and post course test differences in the experimental group could then be attributed to intervention (Abdellah & Levine, 1979).

Quasi-experimental designs have either a control group or randomization (Polit & Hungler, 1983). A control group subject was identified by each participant at the time of course enrollment; therefore, no random assignment was possible. Subsequently, the design for this study was quasi-experimental. The basic weakness of a quasi-experimental design is the inability to infer causal relationships (Polit & Hungler, 1983). In addition, generalizing to all registered nurses would not be appropriate because of the nonrandomization of the sample (Polit & Hungler, 1983).

The independent variable was the method of instruction: a formal course or no formal course. The dependent variable in this study was the attitude of registered nurses toward health promotion and disease prevention as determined by the

Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument and some selected health behaviors on the same instrument. Extraneous variables included age, level of nursing education preparation, previous knowledge on health promotion/disease prevention, experience in health promotion/disease prevention, work setting, and years of experience as a registered nurse. Extraneous variables were controlled by employing a colleague-selected control group. Prior knowledge and experience in health promotion and disease prevention were regulated by comparisons of the control group pre course tests with those of experimental group participants. The participants were asked not to share course work with control subjects.

Setting

TWU, a large university located in the expansive Texas Medical Center, Houston, with an approximate enrollment of 1,100 students, provided the setting for this study. Both didactic and clinical components were included in the 30-hour health promotion/disease prevention course for registered nurses. The didactic component of the course was taught at TWU, Houston Center in a classroom setting by two doctorally prepared faculty with expertise in health promotion and disease prevention. The nurses' worksites

provided the settings for their clinical practice component of the course.

Population and Sample

The target population were registered nurses who worked in community health settings. The registered nurses met the criteria established for the course. The criteria indicated that the participant must be:

1. Licensed as a registered nurse.
2. Employed in a community setting.
3. Approved by their supervisor in writing to incorporate skills learned in the course at the work site.

A total of 159 registered nurses met the course criteria and elected to enroll in the course. The experimental group consisted of those course participants who completed and returned useable pre course tests and post course tests.

The control group was obtained by asking each participating nurse on the first day of class to identify a nurse colleague and to request that individual to complete and return the pretest prior to the next class time. The posttest was mailed to the control group subjects after the last class period.

The final sample consisted of those registered nurses who completed and returned useable pre course tests and post

course tests. A total of 98 course participants comprised the experimental group and 29 colleague-selected nurses comprised the control group.

Protection of Human Subjects

Because this study was conducted in an educational setting and involved educational programs and questionnaire survey of adults, the study was exempt from full review by Texas Woman's University Human Subjects Review Committee (Appendix A). However, agency approval to collect the data was obtained from Texas Woman's University. Informed consent was obtained from all participants prior to data collection (Appendix B) after a cover letter introducing the researcher and explaining the purpose of the study was given to them. Anonymity was not possible; however, subjects' confidentiality was protected by use of a coding system.

Control subjects were selected by participants. They received the same letter of informed consent as the participants (Appendix B). The letter and questionnaire were given to the participants to give to their selected control members. A stamped, addressed envelope was provided for the control subjects to mail the questionnaire back if they chose to participate. If they answered and returned the questionnaires, the letter stated that this action indicated their informed consent to participate in the study. Confi-

dentiality was maintained in that control subjects were identified only by a code number.

The benefits the subjects would derive were explained in the cover letter and the alternatives of nonparticipation were addressed. Participants and control subjects were free to withdraw from the investigation at any time. A telephone number was provided should the control subjects have questions about the research and their rights as possible subjects. Participants were informed that no medical services or compensation would be provided by the university.

Instruments

Instruments used in this study included a demographic data sheet and the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument (Appendix C). The instruments were chosen following a literature review. In addition, the 30-hour Health Promotion and Disease Prevention: A Continuing Education Course for Registered Nurses [1988] was used as the treatment.

Demographic Data Sheet

The demographic data sheet was constructed by the course instructors and the investigator. Demographic data included age, work setting, years as an RN, years at present agency, years in current position, basic nursing education, and highest degree earned.

Attitude Toward Health Promotion Instrument

The Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument was developed to determine to what extent health promotion and disease prevention behaviors were part of the lifestyles of certified nurse midwives ($n = 116$) and their role in health promotion. Permission was given by Mullen to this investigator to use the instrument (Appendix D). The 25 statements were designed to primarily collect information on personal attitudes toward health promotion, personal health behaviors, and attitudes toward nursing practice in health promotion and disease prevention.

Questions 20, 21, 22, 23, 24, and 25 are attitudinal questions which contain data used for the analysis of all five hypotheses of this study. A 4-point Likert-type scale is used for each of the questions. Question 20 asks "How important do you think each of the following behaviors is in promoting health?" Items of importance are scored as Very Important = 4, Somewhat Important = 3, Somewhat Unimportant = 2, and Very Unimportant = 1. Question 21 asks "How certain are you that you can convey to clients appropriate information and useful skills for modifying the following [behaviors]?" and Question 22 asks "Given that you feel you could convey, how certain are you that the average person will follow through?" Responses to Questions 21 and 22 are scored as Very Certain = 4, Somewhat Certain = 3, Somewhat

Uncertain = 2, and Very Uncertain = 1. Questions 23 and 24 ask respondents to rate statements of health promotion/disease prevention. Question 23 asks "Increasing emphasis on health promotion in this practice is:" and Question 24 asks "Please rate the following statements in terms of the scale below by writing the appropriate number in the space next to the statement"; for example, "Appraising clients' behavioral risk factors is an important part of my role." The items in Questions 23 and 24 are scored as Strongly Agree = 4, Agree Somewhat = 3, Disagree Somewhat = 2, and Strongly Disagree = 1. Question 25 rates the attitude of priority of health promotion in the registered nurses practice. Question 25 asks "Taking into consideration all of your current responsibilities, how high a priority do you place on health promotion?" This item is scored as Very High = 4, Somewhat High = 3, Somewhat Low = 2, and Very Low = 1.

To determine the relationship between the registered nurses' attitude scores and selected health promotion behaviors (H3), four behavior questions on the Attitude Toward Health Promotion instrument, 6, 7, 9, and 13, were used. Responses were used to determine the correlation between attitudes of Questions 20, 21, and 22 and the selected behaviors of Questions 6, 7, 9, and 13.

Of the four questions (6, 7, 9, 13) used to collect data for health behaviors of subjects, two questions, 9, and 13, were at the nominal level of measurement and were used to collect information on having engaging in exercise at least 3 times a week (Yes = 1, No = 0), and use of alcohol per setting (0-1 Drink = 1, 2-4 Drinks = 0, More than 4 Drinks = 0). Two questions, 6 and 7, were at the ordinal level of measurement, and they were used to collect information on cigarette use (Yes = 0, Quit Smoking = 1, Never Smoked = 2) and seat belt use (Always = 2, Sometimes = 1, Never = 0). A higher score indicated more positive health behaviors than did a lower score. The maximum score for this aspect of the analysis was 6.

For descriptive purposes, registered nurses' attitudes toward health promotion, as obtained from scores on the Attitudes Toward Health Promotion instrument, were categorized by this researcher into three dimensions. These dimensions were (1) importance of health behavior, (2) confidence in ability to convey information and useful skills, and (3) adherence expectation that, if information and use skills are conveyed, clients will follow through (Mullen, Holcomb, & Fasser, 1988).

Reliability for the entire instrument, using a sample of 116, was measured at a Cronbach alpha of .7969 (Holcomb & Mullen, 1986). An alpha of .9120 was calculated for

Question 20. Question 21 had a calculated alpha of .9131, while Question 22 was calculated at .9170. Question 23 had a calculated alpha of .1742 and Question 24 had a calculated alpha of .0027 (Holcomb & Mullen, 1986).

Health Promotion and Disease Prevention Curriculum

This 15-module 30-hour course was designed by two TWU faculty to enable Registered nurses as adult learners to describe their personal philosophy and attitudes toward health promotion and disease prevention. In addition, the module encompassed nursing strategies specific to health promotion/disease prevention; the knowledge and skills to plan, implement, and evaluate a health promotion/disease prevention program at the worksite; and application of theories of learning, teaching, motivation, and behavioral change. These 15 modules comprised the didactic component of the curriculum (Health Promotion, [1988]).

The curriculum also contained clinical components relating to didactic components listed previously. In addition to the 30-hour didactic portion of the course, participants were to spend approximately 90 hours of clinical practice at the worksite. At the end of the 30-hour course, during class time, participants presented their ideas and the model programs they instituted at their worksite.

Several model programs related to this study were instituted by program participants. Examples of these model programs included the following:

1. Smoking: Successfully implemented designated non-smoking areas in a large sugar mill.
2. Exercise: Instituted a "wellness" program in a large oil company which began with an exercise program for workers.
3. Blood pressure monitoring: Presented the Heart at Work program to all teachers in a school district.

Outcome evaluation was measured both in 90% to 100% student satisfaction response and in student reports of programs that were developed at the worksite. As a final evaluation of the program, presentations of the results of the overall program were made by this researcher, by Gregory (1991), and by the two PhD faculty members to an invited audience of nationally known nurse educators and advisory committee. Input was solicited from these experts prior to the final draft of the curriculum being sent to the Department of Nursing, Health and Human Services.

Data Collection

As a first step in collecting data, a cover letter explaining the purpose of the study, outlining the elements

of informed consent, and providing instructions for returning materials was provided to each subject with the questionnaires. The materials from which the data were collected were the demographic data sheet and the Attitude Toward Health Promotion instrument.

Two questionnaire packets were distributed to each course participant at the first class session. One packet was for the experimental group subjects (class participants) and one was for the control group subjects. A cover letter for each class participant and each control subject contained an explanation of the purpose of the study. It also outlined the elements of informed consent and provided instructions for returning materials. One instrument in this packet (the Health Risk Appraisal [Centers for Disease Control, 1981]) was used by Gregory (1991) in her study. The other two instruments in each packet were the Attitude Toward Health Promotion Instrument (Holcomb & Mullen, 1986) and the demographic data sheet used in the present study. The participants were asked to complete one set (pre course) at the beginning of the first class and take the other set of questionnaires to a colleague to complete and return by mail within one week to a course instructor.

Post course questionnaires (Attitude Toward Health Promotion instrument) were handed to all class participants prior to the last class. The participants were asked to

complete and return the questionnaires during the last class session. Additionally, post course questionnaires were mailed to control subjects, who were requested to complete and return them by mail in a stamped, pre-addressed envelope.

Treatment of Data

The data derived from this study were treated in the following manner. Appropriate descriptive statistics were used to describe the experimental and control groups. Age, work setting, years as a registered nurse, years at present agency, years in present position, basic nursing preparation, and highest degree held were described by frequency distribution. Data on years of practice were treated as interval level data, while levels of education were treated as ordinal level data. These data were presented by frequencies, percentages, means and standard deviations and were used to describe the sample. The means and standard deviations were used to compare the variables as described above.

Inferential statistics were used to make inferences regarding the data in the study and to evaluate the hypotheses. Although the Attitudes Toward Health Promotion Instrument (Holcomb & Mullen, 1986) is a Likert-type scale, and the levels of attitude are in the form of ordinal level

data, the statistical assumptions were violated and parametric statistics were used to analyze means of total scores. This practice was discussed by Roscoe (1975) when there was a large sample size and high instrument reliability. Therefore, a two-way analysis of variance (ANOVA) for repeated measures was used to analyze whether or not changes in attitude scores were statistically significant in relation to the 30-hour course on health promotion/disease prevention (H1 and H2).

To treat H3, a Spearman rank correlation coefficient was used to test the relationship between attitudes--

- (1) importance of health behaviors (ordinal level),
- (2) confidence in ability to convey information and useful skills (ordinal level), and (3) adherence expectation that, if information and useful skills are conveyed, clients will follow through (ordinal level), and behaviors--(1) smoking (ordinal level) and use of seat belts (ordinal level). The relationship between the same three attitudes and two other selected behaviors-- (1) exercise three times per week (nominal level), and (2) amount of alcoholic beverages per sitting (nominal level)--were tested using the point biserial coefficient. For all data analysis the level of significance was established at $p \leq .05$.

A Pearson product-moment correlation coefficient was used to determine if a positive relationship existed between

years as an registered nurses and attitudes about health promotion (H4). A Spearman rank correlation coefficient was used to determine if a positive relationship existed between levels of education and attitudes about health promotion (H5).

CHAPTER 4

ANALYSIS OF DATA

Data reflective of the sample of registered nurses (RNs) used in this two-group, before-after, quasi-experimental study are included in this chapter. The experimental group contained registered nurses who participated in a 30-hour health promotion/disease prevention course at Texas Woman's University (TWU); the colleague-selected control group nurses did not participate in the course.

Demographic data were collected by a demographic data sheet. Attitudes of Registered nurses toward health promotion/disease prevention were measured by the Attitude Toward Health Promotion instrument. These attitudes are described in terms of importance of health behavior, confidence in ability to convey information and useful skills, and adherence expectation that, if information and useful skills are conveyed, the client will follow through. Selected health behaviors are described according to actual smoking, use of seat belts, being engaged in vigorous physical activity three times per week, and number of alcoholic beverages consumed per setting. The presentation

of findings is first organized around the two dependent variables of attitudes of registered nurses and selected health behaviors. Overall findings are then related to the hypotheses.

Description of Sample

Registered nurses in community health settings were invited to attend the 30-hour course in health promotion and disease prevention. Participants met the pre stated criteria. Each participant was asked to complete two questionnaire packets, one before and one after the course. In addition, they were asked to identify a registered nurse work colleague as a control subject for this study. The control subjects needed to complete the pre and post course questionnaires to remain in the study.

A total of 111 class participants met the pre stated criteria and completed the 30-hour course; however, only 98 (88%) completed and returned the pre and post questionnaires (experimental group). Of the 111 colleague-selected control group nurses, 32 (28.8%) completed and returned both questionnaires. Therefore, the total sample was comprised of 130 subjects. In addition, the same test analysis was completed on 29 course participants and colleague-selected nurses. These colleagues were studied to assess differences in data between participants and self-selected peers.

All subjects were female, and all were registered nurses employed in various community agencies. Frequencies and percentages were computed for job title. The largest group of RNs from the total sample were school nurses (35; 26.9%). Others in the total sample were occupational health nurses, registered nurses from various work settings such as public health nurses, and nurses serving special populations such as correctional facilities and youth centers. Eight (6%) RNs were educators.

Ages of the total sample varied from 28 years to 64 years (Table 1). The largest group of registered nurses, 48 (37.1%), were from 31 to 40 years old. The mean age of all participants was 45 years ($SD = 9.0$) with a range of 36 years. Over half (53%) were below 45 years of age, while 47% were 45 years and older. Only 7 (5.3%) subjects were 30 years of age or under.

The years as a registered nurse, years at present agency, and years in current position were reported by the subjects. The means, standard deviations, and medians were calculated by groups (Table 2). All nurses in the total sample had been RNs from 2 to 43 years which yielded a mean of 20 ($SD = 10.3$) years as a registered nurse. Only 23 (20.9%) of the subjects had less than 10 years as an RNs.

The registered nurses in the study were employed with

Table 1
Frequency and Percentage Distribution of Sample of
130 RNs by Age

Age Group (Years)	<u>n</u>	%
28-30	7	5.3
31-40	48	37.1
41-50	45	34.9
51-60	27	20.4
61-64	<u>3</u>	<u>2.3</u>
Total	130	100.0

their present agency from 1 to 35 years, with a mean of 8 (SD = 4.7) years, and had been in their current position for 1 to 23 years, with a mean of 6 (SD = 6.0) years.

Basic nursing education and highest degree earned were reported, and frequencies and percentages were computed by groups (Table 3). Basic nursing education for all subjects included diploma, associate degree, and baccalaureate preparation. Almost one half (53; 59%) of the 98 subjects in the experimental group were baccalaureate or higher degree graduates, while (37.5%) of the control group subjects indicated a baccalaureate or higher degree graduates. One-third of the 98 experimental subjects, and one-third of the control subjects were diploma graduates.

Table 2

Means, Standard Deviations, and Medians for Years as an RN,
Years at Present Agency, and Years in Current Position
by Groups

Variables	Total Sample						Colleague-Selected Pairs					
	Experimental (n = 98)			Control (n = 32)			Experimental (n = 29)			Control (n = 29)		
	<u>M</u>	<u>SD</u>	<u>Md</u>	<u>M</u>	<u>SD</u>	<u>Md</u>	<u>M</u>	<u>SD</u>	<u>Md</u>	<u>M</u>	<u>SD</u>	<u>Md</u>
Years as an RN	20	10.3	19	17	9.5	14	21	11.0	18	16	9.0	13
Years at Present Agency	8	4.7	6	8	4.6	7	8	5.2	6	8	4.5	7
Years in Current Position	6	6.0	4	6	4.6	5	5	4.0	3	7	4.6	5

Md = Median Years

A profile was formulated from the demographic data to further describe the sample. From both experimental and work colleague-selected control groups, the subject was a 45-year-old baccalaureate degree nurse who began as a diploma graduate with 19 years experience as an RN. The registered nurse was employed in a school or occupational setting for 8 years and in the same position for 7 years.

Table 3

Frequencies and Percentages of Basic Nursing Preparation
and Highest Degree Held for 130 RNs by Group

Variable	<u>Experimental</u>		<u>Control</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
<u>Basic Education</u>				
Diploma	48	49.0	13	40.6
Associate Degree	12	12.2	12	37.5
Baccalaureate Degree	37	37.8	5	15.6
No Response	<u>1</u>	<u>1.0</u>	<u>2</u>	<u>6.3</u>
Total	98	100.0	32	100.0
<u>Highest Degree Held</u>				
Diploma	33	33.7	11	34.4
Associate Degree	9	9.2	8	25.0
Baccalaureate Degree	34	34.7	7	21.9
Master's Degree	18	18.4	5	15.6
Other	3	3.0	0	0.0
No Response	<u>1</u>	<u>1.0</u>	<u>1</u>	<u>3.1</u>
Total	98	100.0	32	100.0

The majority of the experimental and control group subjects worked as a school nurse, while the majority of participants in the colleague-selected pairs worked in the occupational setting.

Findings

Data were collected on the two dependent variables of attitude and selected health behaviors. The Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument was

used to obtain this information.

Data analysis included analyzing attitudes of registered nurses toward health promotion, comparing attitude toward health promotion scores and selected health behaviors, comparing total attitude scores and years as an RN, and viewing total attitude scores and highest degree earned. Further data analysis included analyzing the attitudes of registered nurses toward health promotion by total attitude scores and categorizing the attitudes into the dimensions of importance of health behavior, confidence in ability to convey information and useful skills, and adherence expectation that, if information and useful skills are conveyed, clients will follow through. In addition, data analysis included comparisons of attitudes with selected health behaviors. Five hypotheses were formulated to examine these concerns.

Prior to hypotheses testing, descriptive data for the total sample (experimental and control groups) and the colleague-selected peer group were computed for the attitudes toward promoting health, which included importance of health behaviors, confidence in ability to convey information and useful skills, and adherence expectation that, if information and useful skills are conveyed, the clients will follow through. Means and standard deviations were computed for the subjects' total scores by pre and post

course for total sample and colleague-selected pairs. In addition, attitudes toward increasing the emphasis on health promotion in nursing practice were measured as well as attitudes relating to 18 statements about health promotion/disease prevention. Finally, an attitude on priority placed on health promotion in practice was measured.

Attitudes Toward Health Promotion/ Disease Prevention

Scores from the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument were used to measure the attitudes of registered nurses in this study. Questions were related to attitudes toward smoking, drinking alcohol, diet, weight control, blood pressure control, decreasing salt consumption, safe storage of firearms, decreasing stress, physical examinations, exercise three times per week, relaxation methods, seat belt use, sleeping about 7 hours each night, isolation and loneliness, drug usage, immunizations, dental health, prenatal and postnatal care, sexually transmitted diseases, and family planning.

The maximum score for registered nurses' attitudes as measured by the Attitude Toward Health Promotion instrument was 269. The variation of the attitude scores after the course for the experimental group was 128 to 278, and for the control group, it was 169 to 288. The pre and post mean

scores per attitude are displayed by groups in Appendix E, Tables A-F. From Tables D, E, and F (Appendix E), the following profile might be drawn from post course means in the colleague-selected experimental group who participated and completed the course. The registered nurse would be a 45-year-old female baccalaureate or higher degree graduate with 18 years of experience as an RN who has been employed in a school or occupational setting for 8 years. At the end of the course, the registered nurse agreed that increasing the emphasis on health promotion in her practice is not likely to be well received by her clients, although with her support and encouragement, her clients will try to change behaviors detrimental to their health. After taking the health promotion/disease prevention course, the registered nurse changed her perspective and agreed that she could get a greater sense of gratification from providing preventive care rather than the conventional treatment for chronic diseases. Prior to the course, the registered nurse felt that as much as she would like to influence clients to adopt healthy habits or lifestyles, she felt she lacked the skills to be effective in this area. After the 30-hour health promotion/disease prevention course, she had a 22% increase in her confidence level. However, she disagreed that she had received adequate feedback from her clients regarding the outcome of her health education efforts. In addition,

because of this 30-hour health promotion/disease prevention course, this registered nurse has possibly stopped smoking (Table G, Appendix E) and is now exercising at least three times per week.

The means and standard deviations of the pre and post course scores of the total sample, by group, as well as the colleague-selected pairs were calculated. These findings are shown in Table 4.

Table 4

Means and Standard Deviations for Pre and Post Course Scores on Attitudes of RNs Toward Health Promotion/Disease Prevention by Experimental and Control Groups and Colleague-Selected Pairs

Scores	Total Sample				Colleague-Selected Pairs			
	Experimental (n = 98)		Control (n = 32)		Experimental (n = 29)		Control (n = 29)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<u>Course</u>								
Pre	232.23	19.64	226.78	26.93	227.52	23.72	225.55	27.87
Post	238.64	22.63	232.59	19.55	235.00	27.35	232.44	19.90

Collection of Health Behavior Information

The Attitude Toward Health Promotion instrument was used to determine the amount of selected health behaviors for each participant. Respondents were asked to indicate

the appropriate response to each of the questions, 6 through 14. Four health behaviors, questions 6, 7, 9, and 13, were selected for this study, which yielded a maximum score of 6 for health promoting behaviors. The means of the course participants' behaviors were higher than the means of the control group's behaviors (Table G, Appendix E).

Analysis of the Hypotheses

Two hypotheses were formulated to examine differences between and among the groups for the variable, attitude toward health promotion and disease prevention. In addition, attitudes of registered nurses toward health promotion/disease prevention and selected behaviors were analyzed to determine if correlations existed. The registered nurses years of practice and level of education also were analyzed to determine if correlations emerged between the two variables and registered nurses' attitudes toward health promotion/disease prevention. Each hypothesis and the appropriate statistical treatment(s) is presented. A significance level of $p \leq .05$ was used in this study.

Hypothesis 1. The first hypothesis was as follows:

Registered nurses who completed a 30-hour health promotion/disease prevention course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than will

nurses who did not complete the course.

A total score was obtained for each subject, and comparisons were calculated using group means by two-way analysis of variance (ANOVA) (Table 5). The groups means for the experimental and control subjects were calculated from data collected prior to and after the course in health promotion and disease prevention to determine differences between and within the groups. A significant ($p \leq .05$) difference was found within the groups. There was a significant increase in attitude scores between pre course and post course testing. There was a difference in attitude scores in the experimental and control groups. This increase in scores remained a constant. Post hoc Sheffé testing did not reveal where the significance existed.

Table 5

Two-Way Analysis of Variance for Mean Scores on Attitudes of RNs Toward Health Promotion/Disease Prevention for Experimental and Control Groups

Variable	<u>SS</u>	<u>df</u>	<u>MS</u>	F	p
Between Groups	1,595.846	1	1,595.846	3.364	.068
Within Groups	2,548.446	1	2,548.446	5.371	.021*
Interaction	4.280	1	4.280	.009	.924

* $p \leq .05$

There was no significant interaction between the groups.

Therefore, H1 was partially supported.

Hypothesis 2. The second hypothesis was as follows:

Registered nurses who completed a 30-hour health promotion/disease prevention course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than will their colleague-selected registered nurses who did not complete the curriculum.

This hypothesis was formulated to analyze attitudes of the 29 registered nurses' colleague-selected pairs taken from the total sample analyzed for H1. Total scores for the experimental and control colleague-selected pairs were analyzed by group means with two-way ANOVAs to determine differences between and among the groups (Table 6).

Table 6

Two-Way Analysis of Variance for Mean Scores on Attitudes of RNs Toward Health Promotion/Disease Prevention for Colleague-Selected Pairs

Variable	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Groups	147.940	1	147.940	.238	.626
Within Groups	1,499.040	1	1,499.040	2.411	.123
Interaction	2,491	1	2.491	.004	.950

No significant differences were found between the colleague-selected pairs, or within each group, or by interaction.

Thus, H2 was not supported.

Hypothesis 3. The third hypothesis was as follows:

There will be a positive relationship between attitude scores and selected health promotion behaviors on the Attitude Toward Health Promotion instrument in the group of registered nurses who completed the 30-hour course.

The attitudes of registered nurses for importance of health behavior, confidence in ability to convey information and useful skills, and adherence expectation that, if information and useful skills are conveyed, clients will follow through were correlated with selected health promotion behaviors for the experimental subjects. Point biserial analysis was used for nominal level behavioral responses, and Spearman rank order correlation coefficient was used for ordinal level behavioral responses. All attitude scores were ordinal level data. Positive significant relationships ($p \leq .05$) were found between the attitudes of importance of health behavior, use of seat belts, and the RNs' use of seat belts, as well as confidence in ability to convey information and useful skills about seat belts and the RNs' use of seat belts (Table 7). In addition, positive significant relationships ($p \leq .05$) were

found between the attitudes of confidence in ability to convey information and useful skills about exercising three times per week and the registered nurses exercising three times per week, as well as adherence expectation that, if information and useful skills regarding exercise three times per week are conveyed, clients will follow through and the registered nurses exercising three times per week. All other correlations in H3 were not significant. Therefore, H3 was only partially supported.

Hypothesis 4. The fourth hypothesis was as follows:

Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between years as a registered nurse and attitude scores on the Attitude Toward Health Promotion instrument.

The Pearson product-moment correlation coefficient was used to test H4. No significant correlation ($r = -.0368$, $p = .359$, one-tail test) was found between attitudes of Registered nurses toward health promotion and years as an RN. Therefore, H4 was not supported.

Hypothesis 5. Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between level of education and attitude scores on the Attitude Toward Health Promotion instrument.

Table 7

Correlations Between Post Course Scores on Attitudes of RNs
Toward Importance of Health Behavior, Confidence in
Ability to Convey Information and Useful Skills,
Adherence Expectation That, If Information and
Useful Skills Are Conveyed, Clients Will
Follow Through and Selected Health
Behaviors for Total Sample

Category/ Variables	Post Course Scores	
	<u>r</u>	<u>p</u>
<u>Importance of Health Behavior</u>		
Smoking	-.1151	.078
Seat Belts	.1953	.013*
Exercise 3 Times per Week	.0197	.424
Alcoholic Beverages	.0669	.257
<u>Confidence in Ability to Convey Information and Useful Skills</u>		
Smoking	-.0461	.326
Seat Belts	.1660	.030*
Exercise 3 Times per Week	.1732	.045*
Alcoholic Beverages	.0267	.397
<u>Adherence Expectation That, If Information and Useful Skills Are Conveyed, Clients Will Follow Through</u>		
Smoking	-.1289	.103
Seat Belts	-.0846	.169
Exercise 3 Times per Week	.1764	.041*
Alcoholic Beverages	-.0654	.261

*p≤.05

The total attitude scores of participants who completed the course were correlated with levels of education by using a Spearman rank correlation coefficient (Spearman rho).

There was no significant correlation ($r = .1133$, $p = .135$, one-tailed test) between attitudes toward health promotion and levels of education varying from associate degree to doctoral degree. Thus, H5 was not supported.

Summary

Data collected on 98 participants of a health promotion and disease prevention course and 32 control subjects were described and reported by use of descriptive and inferential statistics. Attitude scores of the total sample ($n = 98$) experimental group and the control group were evaluated to determine changes in attitudes. Data from colleague-selected pairs ($n = 29$), composed of participants and colleague-selected control subjects, were separately analyzed to determine any significant differences that may not have existed for the entire group.

Although the statistical data did not support H2, H4, and H5, H1 was partially supported. A significant difference was found in scores on attitudes of Registered nurses who were in the experimental group and the control group within the pre course and post course attitude test. This difference remained constant. Post hoc Sheffé testing

did not reveal where the significance existed.

H3 was also partially supported. A significant positive correlation ($p \leq .05$) was found for attitudes of importance of the health behavior, use of seat belts, and the selected health behavior, use of seat belts, as well as confidence in ability to convey information and useful skills regarding use of seat belts and use of seat of seat belts by the RNs. Registered nurses who felt it was more important to wear seat belts and who had more confidence in their ability to convey information and useful skills regarding use of seat belts usually used seat belts themselves. In addition, a significant positive correlation ($p \leq .05$) was found for the attitudes of confidence in ability to convey information and useful skills regarding exercise three times per week and the selected health behavior, exercise three times per week, as well as the registered nurses adherence expectation that, if information and useful skills regarding exercising three times per week are conveyed, clients will follow through and the selected health behavior, RNs' exercising three times per week. If the registered nurse exercised three times a week, the more confident the RN was of conveying appropriate information and useful skills about exercise three times per week, as well as the greater the adherence expectation that the

client would follow through on exercising three times per week.

Significant findings emerged in two of the five hypotheses. As postulated in H1, significant differences ($p \leq .05$) were found in scores on attitudes of Registered nurses who were in the experimental group between pretesting and posttesting. There was also a difference in the experimental and control groups. This difference remained constant. Thus, H1 was partially supported. A positive correlation ($p \leq .01$) was also found for attitudes of registered nurses on health promotion/disease prevention and the selected health behavior of personal use of seat belts and exercise three times per week, as postulated in H3. Therefore, H3 was supported.

CHAPTER 5

SUMMARY OF STUDY

The purpose of this study was to examine the following question: Did registered nurses who completed a 30-hour health promotion/ disease prevention curriculum record higher attitude scores toward health promotion and disease prevention and incorporate these attitudes with some selected health behaviors when compared to registered nurses who did not complete the course? A 30-hour course in health promotion and disease prevention taught at Texas Woman's University provided the setting and population for this study. Course participants and control subjects completed the Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument prior to and after the course. After data from the total sample were analyzed, the sample was separated into colleague-selected pairs for repeat analysis. The following hypotheses were formulated for this study:

H1: Registered nurses who completed a 30-hour health promotion/disease prevention course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than

will registered nurses who did not complete the course.

H2: Registered nurses who completed a 30-hour health promotion/disease prevention course will have a significant difference in attitude scores on the Attitude Toward Health Promotion instrument than will their colleague-selected nurses who did not complete the curriculum.

H3: There will be a positive relationship between attitude scores and selected health promotion behaviors on the Attitude Toward Health Promotion instrument in the group of registered nurses who completed the 30-hour course.

H4: Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between years as a registered nurse and attitude scores on the Attitude Toward Health Promotion instrument.

H5: Registered nurses who completed a 30-hour health promotion/disease prevention course will record a positive relationship between level of education and attitude scores on the Attitude Toward Health Promotion instrument.

Summary

A two-group, before-after, quasi-experimental research design was used in this study. The independent variable in the study was the 30-hour course in health promotion and disease prevention taught from a curriculum developed and piloted at Texas Woman's University (TWU) for the Division of Nursing, United States Department of Health and Human Services (Health Promotion, [1988]). The dependent variable was the attitude of registered nurses toward health promotion and disease prevention and some selected health behaviors practiced by the registered nurses.

A curriculum, one instrument, and a demographic data sheet were used to collect data. The Health Promotion and Disease Prevention Curriculum: A Continuing Education Program for Nurses [1988] was used as the teaching treatment. The Attitude Toward Health Promotion (Holcomb & Mullen, 1986) instrument was used to collect information on both the attitudes of registered nurses and selected health behaviors of the same registered nurses on health promotion and disease prevention. The demographic data sheet provided information with which to describe the sample.

A total of 98 participants who attended the course in health promotion and disease prevention completed and returned usable questionnaires. These participants

identified a colleague in their work setting to serve as a control subject; 32 usable questionnaires were completed and returned by registered nurses who comprised the control group. To further examine the data, scores from 29 pairs consisting of a participant and a colleague-selected nurse were compared to those of the total sample.

Data were analyzed by descriptive statistics for the demographic variables to provide a profile of the sample. Each attitude question (Holcomb & Mullen, 1986) was also analyzed to determine whether the post course means in experimental and control groups in both the total sample and colleague-selected pairs reflected increases in means of $\geq 5\%$ in order to describe a profile of Questions 23, 24, and 25. The dependent variable, attitude of registered nurses and selected health behaviors, was manifested by changes in attitudes in the registered nurses' post course total scores in H1 and by four positive significant correlations between attitudes and selected personal health behaviors.

Descriptive and inferential statistics were used to analyze the five hypotheses. Two-way analyses of variance (ANOVAs) yielded significant ($p \leq .05$) findings for the within group differences for registered nurses' attitudes toward health promotion/disease prevention. The change in attitude scores was significantly greater in the pretest and posttest

scores. There was a difference in the attitude scores in the experimental and control groups. This increase in scores remained constant. H1, therefore, was only partially supported. In addition, point biserial and Spearman rank correlation coefficient analyses yielded a positive significant ($p \leq .05$) relationship related to the attitudes--importance of seat belts, confidence in ability to convey information and useful skills about seat belts--and the selected health behavior of the use of seat belts by the registered nurses in this study. In addition, a positive significant ($p \leq .05$) relationship was found in the attitudes--confidence in ability to convey information and useful skills about exercise three times per week and adherence expectation that, if information and useful skills are conveyed about exercise three times per week, clients will follow through--and the selected personal health behavior of personal exercise three times a week by the registered nurses in this study.

Discussion of Findings

The results of this study indicated that a 30-hour health promotion/disease prevention course did significantly change the attitudes of registered nurses who completed the course in the experimental total sample group. There was

also a difference in the attitude scores between the control group pretests and posttests. This difference remained constant. There were no significant differences in attitudes in the colleague-selected pairs. Perhaps no significance in the colleague-selected pairs could be explained by the fewer degrees of freedom in Hypothesis 2 that might contribute to a Type II error. The smaller sample ($n = 29$) of colleague-selected pairs may have decreased the power of the test.

In the first two hypotheses, it was postulated that there were significant differences in scores on the Attitude Toward Health Promotion instrument between the experimental and control groups. Statistically significant ($p \leq .05$) differences were found for H1; specifically, 98 registered nurses who completed a course in health promotion and disease prevention had higher posttest scores than pretest scores on Holcomb and Mullen's (1986) Attitude Toward Health Promotion instrument. In addition, the 32 control group registered nurses who did not complete the course in health promotion and disease prevention had higher posttest scores than pretest scores on the Attitude Toward Health Promotion instrument. These differences remained constant. This control group's increase in attitude scores may have occurred because of their awareness and knowledge of health

promotion/disease prevention concepts and attitudes as health care providers, particularly in the community setting. Because the study took place in a large medical center metroplex, media coverage on health promotion and disease prevention may have "pre-educated" this sample.

These same statistically significant results, however, did not hold for the colleague-selected pair analysis (H2), even though the mean scores in the experimental groups of both the total sample ($n = 98$) and the colleague-selected pairs ($n = 29$) after the course were higher. In the total sample experimental group, the pre course mean score was 232.23 while the post course total sample experimental group mean score was 238.64. The colleague-selected pre course experimental group mean score was 227.52, while the post course experimental group mean score was 235.0.

The findings were both consistent and inconsistent with those of other researchers. The findings of this study demonstrated a change in attitudes toward health promotion/disease by the registered nurses who completed the 30-hour course on health promotion and disease prevention. The findings revealed a statistical significance ($p \leq .05$) between the pretest and posttest of the experimental group, with a difference in the pretest and posttest of the control group, partially supporting the first hypothesis. This

finding is consistent with Rokeach (1972) who maintained that a person's cognitive functioning is not a thing apart from that person's affective or emotional functioning. More specifically, Rokeach proposed that behavior with respect to an object within a situation is always a function of at least two interacting attitudes. Fishbein (1967) asserted that whenever a new concept is learned, an attitude toward that concept is learned simultaneously. Personal beliefs in the Fishbein model (Ajzen & Fishbein, 1980) are the informational base concerning a specific behavior and affect the individual's attitudes and intentions toward behavior. Intention is to perform a behavior and is the immediate determinant of a behavior. Behavioral intention is a function of attitude toward behavior. Barring unforeseen events, individuals are expected to act according to their intentions. In this study, the post course attitude scores of the experimental group (n=98) were significantly higher than the pre course attitude scores. In addition, the post course attitude scores of the control group (n=32) were higher. This control group's increase in attitude scores may have occurred because of their awareness and knowledge of health promotion/disease prevention concepts and attitudes as health care providers, particularly in the community setting. The 30-hour course not only applied

theories of motivation, attitude, and behavior change, but also applied knowledge and skills in nursing strategies specific to health promotion and disease prevention.

In H3, it was postulated by correlation that specific registered nurses' attitudes toward health promotion and selected health behaviors for the total sample would be positive. Spearman rank correlation coefficient revealed a significant correlation between the RN attitude toward the importance of use of seat belts and the selected behavior, the use of seat belts, as well as attitude toward the confidence in ability to convey information and useful skills about seat belt use and the selected behavior, the use of seat belts for the experimental group in the total sample analysis. When registered nurses reported higher personal use of seat belts, at the same time they thought it was very important for clients to use seat belts, and the registered nurses were more certain in their ability to convey information and useful skills in modifying the client's behavior in the use of a seat belt.

In addition, findings supported a significant positive relationship ($p \leq .05$) in H3 for the attitude of confidence in ability to convey information and useful skills for exercise three times per week and the selected behavior, exercise three times per week, as well as the adherence expectation

that, if information and useful skills about exercising three times per week are conveyed, clients will follow through and the selected health behavior, exercise three times per week by registered nurses for the experimental groups in the total sample analysis and the colleague-selected pair analysis. That is, if registered nurses personally exercised three times per week, they are more confident in conveying information and useful skills to clients, and are more certain of adherence expectation on client follow-through, after conveying the information and skills.

All other correlations in H3 were not significant. It may be of interest to note that certain of the correlations, although not significant, were inversely related. The data suggested that on the inverse relationship of the attitudes and health behavior on smoking, there was a chance relationship that if registered nurses quit smoking, the more important they felt it was not to smoke, and the more certain the nurse would be on adherence expectation of the client. This may raise some question of registered nurses' hostility at times with clients who are "non-compliant".

The findings in these correlations were both consistent and inconsistent with those of other researchers. Salovey, Rudy, and Turk (1987) reported that registered nurses

demonstrated a higher correspondence between their attitude about the importance of health promotion and their reported performance of such a behavior than the nonproviders in their study. In this study, there was a higher correspondence between the attitude about the importance of seat belt use and the reported performance of such a behavior, seat belt use for the registered nurse. However, there was no significant relationship between the attitude about the importance of exercise use and the reported performance of such a behavior, exercise three times a week. A number of investigators have shown that individuals who form their attitudes based on actual experiences with the object of those attitudes (i.e., seat belt use, exercise) display increased attitude-behavior consistency (Fazio & Zanna, 1981; Regan & Fazio, 1977).

Salovey et al. (1987) found that RN attitudes were better predictors of their own behaviors. However, contrary to current thinking, Regan and Fazio (1977) reported that providers (registered nurses) should refrain from believing that their own experiences with health-relevant behavior change will generalize to those of their patients. In this study, registered nurses who wore seat belts, and demonstrated a higher correspondence between their attitude about the importance of seat belt use, and confidence in the

ability to convey information and useful skills about seat belt use, these same registered nurses did not demonstrate a significant relationship in adherence expectation of the client. Perhaps the registered nurse can assess that a problem exists, but have not been adequately educated in health promotion strategies in the health education system that will incorporate additional attitude-behavior consistencies. Presently there are no educational programs directed exclusively to the skills required for health promotion and disease prevention except for this 30-hour health promotion/disease prevention curriculum (Health Promotion, [1988]).

The Gregory Health Belief Model (GHBM) (Gregory, 1991) served as a conceptual framework for this study. According to Gregory, the GHBM was designed to demonstrate the use of the nursing process when assisting clients in the selection of health promoting behaviors. The GHBM demonstrated the active role of the client toward acquiring or maintaining personal health. Registered nurses completing the 30-hour course in health promotion/disease prevention showed higher attitude scores toward health promotion and disease prevention and significant attitude-behavior relationships that add support to the attitude-behavior consistency studies.

With the national objectives for the year 2000 targeting change in behaviors and promoting healthy lifestyles, it has become important to continue studies in attitude-behavior links. Snyder (1981) articulated that attitude availability and attitude relevance should increase access to knowledge of the applicability of the attitude. By attitude availability, Snyder was suggesting increased access to knowledge of the applicability of the attitude. Such knowledge in the health behavior realm should be more thoroughly possessed by providers than nonproviders. Perhaps registered nurse participants in the 30-hour course in health promotion/disease prevention were seeking health promoting concepts which influenced their attitude-behavior consistency level and supported this attitude-behavior consistency link in the use of seat belts and exercise three times per week.

Conclusions and Implications.

The results of this study led to the following conclusions and implications:

1. Attendance of registered nurses at a 30-hour health promotion/disease prevention course showed a significant difference within the groups. There was a significant difference between pretest and posttest attitude scores.

There was also a difference in control group attitude scores between pretesting and posttesting. These differences, however, remained constant.

2. After completing the health promotion/disease prevention curriculum, the registered nurses' attitudes toward the importance of seat belt use and their confidence in ability to convey information and useful skills showed a significant positive relationship with the registered nurses personal use of seat belts.
3. The post course attitude scores of registered nurses who completed the 30-hour health promotion/disease prevention curriculum supported a significant positive relationship between registered nurses' attitudes toward confidence in ability to convey information and useful skills regarding exercise three times per week and the adherence expectation that, if information and useful skills are conveyed, clients will follow through on exercise three times a week, and the registered nurses exercising three times per week.

One primary implication emerged from the conclusions of this study. The 30-hour course in health promotion/disease prevention developed for practicing registered nurses was associated with a significant increase in attitude scores toward health promotion and disease prevention. However,

the difference also occurred in the control group. The 30-hour course for registered nurses was also associated with a positive correlation with three attitudes and two selected health behaviors, namely, use of seat belts and exercise three times per week.

This health promotion/disease prevention program for registered nurses was developed with a basis in the public health sciences and nursing practice. It has theories of learning, motivation, and change incorporated throughout the curriculum. The curriculum was evaluated by the two faculty members at TWU who developed it, by Gregory (1991) who studied behaviors, and by this researcher in the study of attitudes of registered nurses.

Curriculum in health promotion/disease prevention is imperative for Healthy People 2000 (DHHS, 1991) and to accomplish Nursing's Agenda for Health Care Reform (ANA, 1991). Dissemination of health promotion and disease prevention concepts, attitude-behavior strategies for nursing practice is mandated. Nursing's Agenda for health Care Reform is in line with projected targets for the mandates of Healthy People 2000. This agenda for nursing is the first full-fledged plan by the nursing profession which addresses access to health care, as well as financing and

implementation. The nursing plan outlined in the agenda includes the following provisions:

1. A federally-defined "standard package" of essential health care benefits emphasizing primary care, health promotion and disease prevention, available to all citizens and residents of the United States.
2. Nursing's agenda places new emphasis on primary care services delivered in the workplace, school, and other community settings.
3. Nursing's agenda calls for active participation in self-care and personal responsibility for health and wellness.

Curriculums throughout the nation, both undergraduate and graduate, as well as continuing education, may include a didactic and clinical component in their curriculum such as this one in this study that has supported concept change, attitude-behavior changes in line with targeted goals of Healthy People 2000 (DHHS, 1991). These areas include select testing of relationships between attitudes and behaviors. Findings from this study have demonstrated a linkage of attitudes with behaviors. This curriculum contains content, both didactic and clinical, for registered nurses at all levels of education, including faculty members. This curriculum offers a way to strategize and

evaluate Nursing's Agenda for Health Care Reform (ANA, 1991).

This study was designed to examine the change in attitudes after the 30-hour course, and to examine the relationship between the higher scoring of positive attitudes and subsequent self-reported behaviors of RN participants. The year 2000 connotes changes. Its arrival must motivate actions that can improve American lives. The curriculum, Health Promotion and Disease Prevention: A Continuing Education Course for Registered Nurses [1988] has been studied and has been proven to be a viable curriculum for registered nurses in most nursing education and practice settings. In evaluating the program, it has meet the criteria (Anderson & McFarlane, 1988) of relevancy, cost efficiency, effectiveness, and impact. The fundamental question was as follows: Were RN attitudes and personal health behaviors significantly different? Results of this study have supported this question. Can Nursing's Agenda for Health Care Reform (ANA, 1991) recommend this curriculum as relevant, cost efficient, and effective? The time for change is now for the year 2000 and healthy people.

Recommendations for Further Study

The findings of this study resulted in the following recommendations for further study:

1. This curriculum and evaluation should be replicated in other areas of the United States. Findings from these studies could then be compiled and compared to formulate a clearer picture of attitudes toward health promotion/disease prevention of registered nurses on a national level.
2. Replication of this curriculum and accompanying evaluation should be done with a larger sample with matched pairs from a more heterogeneous nursing population to maximize variability and increase generalizability.
3. Another study should have a second posttesting at 4 to 6 months after completion of the course to measure long-term changes and reliability of attitude changes.
4. This curriculum and evaluation should be replicated with a more sensitive attitude instrument.

REFERENCES

- Abdellah, F. G., & Levine, E. (1979). Better patient care through nursing research (2nd ed.). New York: Macmillan Publishing Co., Inc.
- Abelson, R. P. (1982). Three modes of attitude-behavior consistency. In M. P. Zanna, E. T. Higgins, & C. P. Herman (Eds.), Consistency in social behavior: The Ontario symposium (Vol. 2, pp. 131-146). Hillsdale, NJ: Lawrence Erlbaum.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), Handbook of social psychology (pp. 798-844). Worcester, MA: Clark University Press.
- American Association of Retired Persons. [1987]. A profile of older Americans: 1986. Washington, DC: Author.
- American Nurses' Association (ANA). (1981). Research priorities for the 1980's: Generating a scientific basis for nursing practice (Publication No. D-68). Kansas City, MO: Author.
- American Nurses' Association (ANA). (1991, April). Nursing's agenda for health care reform. Kansas City, MO: Author.
- Anderson, C. L., Morton, R. F., & Green, L. W. (1978). Community health (3rd ed.). St. Louis: C. V. Mosby.
- Anderson, E. T., & McFarlane, J. M. (1988). Community as client. Philadelphia: J. B. Lippincott Company.
- Aronson, E., Turner, J. A., & Carlsmith, J. M. (1963). Communicator credibility and communication discrepancy as determinants of opinion change. Journal of Abnormal Social Psychology, 67, 31-36.

- Becker, D. M., Myers, A. H., Sacchi, M., Weida, S., Swank, R., Levine, D. M., & Pearson, T. A. (1986). Smoking behavior and attitudes toward smoking among hospital nurses. American Journal of Public Health, 76, 1449-1451.
- Becker, M. H. (Ed.). (1974). The health belief model and personal health behavior. Thorofare, NJ: Charles B. Slack, Inc.
- Becker, M. H., Drachman, R. H., & Kirscht, J. P. (1974). A new approach to explaining a sick-role behavior in low-income populations. American Journal of Public Health, 64(3), 205-216.
- Becker, M. H., Hoefner, D. P., Kasl, S. V., Kirscht, J. P., Maiman, L. A., & Rosenstock, I. M. (1977). Selected psychosocial models and correlates of individual health-related behavior. Medical Care, 15(5; Supplement), 27-44.
- Berelson, B., & Steiner, G. A. (1964). Human behavior; an inventory of scientific findings. In Human behavior (pp. 557-585). New York: Harcourt, Brace & World.
- Campbell, D. T. (1963). Social attitudes and other acquired behavioral dispositions. In S. Koch (Ed.), Psychology: A study of science. Study 11. Empirical substructure and relation with other science. Vol. 6. Investigation of man as socius; their place in psychology and the social sciences (pp. 94-172). New York: McGraw-Hill.
- Carver, C. S. (1975). Physical aggression as a function of objective self-awareness and attitudes toward punishment. Journal of Experimental and Social Psychology, 11, 510-519.
- Centers for Disease Control. (1981). Health risk appraisal. Atlanta, GA: Author.
- Cooper, S. S., & Hornback, M. (1966). Profile of continuing learner in nursing. Nursing Outlook, 14(12), 28-31.
- Cox, C. L., & Baker, M. G. (1981). Evaluation: The key to accountability in continuing education in nursing. The Journal of Continuing Education in Nursing, 12(1), 11-19.
- Dawson, K. P. (1992). Attitudes and assessment in nursing education. Journal of Advanced Nursing, 17, 473-479.

- Donahue, M. P. (1985). Nursing: The finest art. St. Louis: C. V. Mosby.
- Fazio, R. H., & Zanna, M. P. (1981). Direct experience and attitude behavior consistency. In I. Berkowitz (Ed.), Advances in experimental and social psychology (pp. 161-202). New York: Academic Press.
- Festinger, I. (1957). Theory of cognitive dissonance. Evanston, IL: Row, Peterson.
- Fishbein, M. (1967). A consideration of beliefs and their role in attitude measurement. In M. Fishbein (Ed.), Readings in attitude theory and measurement (pp. 257-266). New York: John Wiley.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley Publishing Co.
- Gregory, E. K. (1991). Health and nursing practice behaviors of registered nurses related to completion of health promotion/disease prevention course. Unpublished doctoral dissertation, Texas Woman's University, College of Nursing, Houston Campus.
- Health promotion and disease prevention: A continuing education course for registered nurses (National Technical Information Service No. HRP-0907205). [1988]. Washington, DC: U.S. Department of Health and Human Services.
- Holcomb, J. D., & Mullen, P. D. (1986). Certified nurse-midwives and health promotion and disease prevention. Journal of Nurse-Midwifery, 31(3), 141-147.
- Institute of Medicine. (1983). Nursing and nursing education: Public policies and private actions. Washington, DC: National Academy Press.
- Jarvis, P. (1984). Professional education. London: Churchill Livingstone.
- Kasl, S. V., & Cobb, S. (1966). Health behavior: Illness behavior and sick role behavior. Archives of Environmental Health, 12, 246-266; 534-541.

- Keiser, G. J., & Bickle, I. M. (1980). Attitude change as a motivational factor. Nursing Research, 29(5), 290-294.
- King, I. M. (1971). Toward a theory of nursing. New York: John Wiley & Sons, Inc.
- Kirscht, J. P. (1983). Preventive health behavior: A review of research and issues. Health Psychology, 2, 277-301.
- Laffrey, S. C. (1985). Health promotion--relevance in nursing. In Topics in clinical nursing. Rockville, MD: Aspen Systems Corp.
- La Piere, R. (1934). Attitudes versus actions. Social Forces, 13, 230-237.
- Larson, E., Kent, L., & Larson, J. S. (1984). The effects of enforced behavior change on attitudes. Journal of Continuing Education Nursing, 15(4), 143-145.
- Levanthal, H., & Niles, P. (1964). A field experiment on fear arousal with data on the validity of questionnaire measures. Journal of Personality, 32, 459-479.
- Mullen, P. (1988, April). Unpublished statistical data. University of Texas School of Public Health, Houston, TX.
- Mullen, P. D., Holcomb, J. D., & Fasser, C. E. (1988). Selected allied health professionals' self-confidence in health promotion counseling skills and interest in continuing education programs. Journal of Allied Health, 17(2), 123-133.
- Murray, R. B., & Zentner, J. P. (1979). Nursing assessment and health promotion through the life span (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Neuman, B. (1980). The Betty Neuman health-care systems model: A total person approach to patient problems. In J. Riehl & C. Roy (Eds.), Conceptual models for nursing practice (pp. 119-134). Norwalk, CT: Appleton-Century-Crofts.
- Neuman, B. (1989). The Neuman systems model (2nd ed.). Norwalk, CT: Appleton & Lange.

- Newcomb, T. M., Turner, R. H., & Converse, P. E. (1965). Social psychology; the study of human interaction. New York: Holt, Rinehart and Winston.
- Nightingale, F. (1969). Notes on nursing. New York: Dover Publications. (Reprinted from 1860)
- Orem, D. E. (1979). Concept formalization in nursing. Boston: Little, Brown and Company.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). The measurement of meaning. Urbana, IL: University of Illinois Press.
- Ostwald, S. K., & Knutson, M. (1989). Employee health practices, relationships between attitudes, perceptions, and behaviors. AAOHN Journal, 37(1), 26-32.
- Pender, N. J. (1987). Health promotion in nursing practice (2nd ed.). Norwalk, CT: Appleton-Lange.
- Pender, N. J., & Pender, A. R. (1986). Attitudes, subjective norms and intentions to engage in health behaviors. Nursing Research, 35(1), 15-18.
- Polit, D., & Hungler, B. (1983). Nursing research (2nd ed.). Philadelphia: J. B. Lippincott.
- Pryor, J. B., Gibbon, F. X., Wicklund, R. A., Fazio, R. H., & Hood, R. (1977). Self-focused attention and self-report validity. Journal of Personality, 45, 513-527.
- Regan, D. T., & Fazio, R. H. (1977). On the consistency between attitudes and behavior: Look to the method of attitude formation. Journal of Experimental and Social Psychology, 13, 28-45.
- Rokeach, M. (1972). Beliefs, attitudes, and values. San Francisco: Jossey-Bass, Inc.
- Roscoe, J. T. (1975). Fundamental research statistics for the behavioral sciences (2nd ed.). New York: Holt, Rinehart, & Winston, Inc.

- Rosenstock, I. M. (1974). Historical origins of the health belief model. In M. H. Becker (Ed.), The health belief model and personal health behavior (pp. 1-8). Thorofare, NJ: Charles B. Slack, Inc.
- Salancik, G. R. (1982). Attitude-behavior consistencies as social logics. In M. P. Zanna, E. T. Higgins, & C. P. Herman (Eds.), Consistency in social behavior: The Ontario symposium (pp. 51-73). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Salovey, P., Rudy, T. E., & Turk, D. C. (1987). Preaching and practicing: The structure and consistency of health-protective attitudes and behaviors. Health Education Research, 2(3), 195-205.
- Scherer, P. (1989). Nurses are fighting hard to quit smoking. American Journal of Nursing, 89, 913-914.
- Schoen, D. C. (1992). Nurses' attitudes toward control over nursing practice. Nursing Forum, 27(1), 27-33.
- Scott, C. S., Greig, L. M., & Neighbor, W. E. (1986). Curricular influences on preventive care attitudes. Preventive Medicine, 15, 422-431.
- Shephard, R. J. (1989). Exercise and lifestyle change. British Journal of Sports Medicine, 23(1), 11-19.
- Sidney, K. H., & Shephard, R. J. (1977). Perception of exertion in the elderly, effects of aging, mode of exercise and physical training. Perceptual and Motor Skills, 44, 999-1010.
- Smith, E. E. (1961). The power of dissonance techniques to change attitudes. Public Opinion Quarterly, 25, 626-639.
- Snyder, M. (1981). On the influence of individuals on situations. In N. Cantor & J. F. Kihlstrom (Eds.), Personality, cognition, and social interaction (pp. 304-329). Hillsdale, NJ: Lawrence Erlbaum.
- Sullivan, E. J., & Hale, R. E. (1987). Nurses' belief about the etiology and treatment of alcohol abuse: A national study. Journal of Studies on Alcohol, 48, 456-460.

- Thurstone, L. L., & Chave, E. J. (1929). The measurement of attitude. Chicago: University of Chicago Press.
- Tittle, G. R., & Hill, R. J. (1967). Attitude measurement and prediction of behavior: An evaluation of conditions and measurement techniques. Sociometry, 30, 199-213.
- U.S. Department of Health, Education, and Welfare (DHEW). (1979). Healthy people: The Surgeon General's report on health promotion and disease prevention (U.S.DHEW Publication No. 79-55071). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services (DHHS). (1980). Promoting health/preventing disease: Objectives for the nation. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services (DHHS). (1986). A mid-course review: The 1990 health objectives for the nation (DHHS Publication No. 191-691/70228). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services (DHHS), National Center for Health Statistics, Public Health Service. (1988). Vital statistics of United States, 1986. Vol. II, Mortality, Part b (DHHS Publication No. (PHS) 88-1114). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services (DHHD). (1991). Healthy people 2000: National health promotion and disease prevention objectives (DHHS Publication No. (PHS) 91-50212). Washington, DC: U.S. Government Printing Office.
- Vaughan, A. J. (1988). Student nurses' attitudes to different teaching methods. Unpublished MPhil. Thesis, University of Bath.
- von Bertalanffy, L. (1968). General systems theory. New York: George Braziller.
- Warner, K. E. (1989). Effects of the antismoking campaign: An update. American Journal of Public Health, 79, 144-151.
- Warner, L. G., & DeFleur, M. L. (1969). Attitudes as an

interactional concept: An evaluation of conditions and measurement techniques. American Sociology Review, 34, 155-169.

Webster's new collegiate dictionary. (1981). Springfield, MA: G. & C. Merriam Company.

Wicklund, R. A. (1975). Objective self-awareness. In I. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 8; pp. 233-275). New York: Academic Press.

World Health Organization (WHO). (1986). Health promotion: A discussion document on the concepts and principles. Public Health Reviews, 14(3-4), 245-253.

APPENDIX A
HUMAN SUBJECTS REVIEW COMMITTEE EXEMPTION

HUMAN SUBJECTS REVIEW COMMITTEE - HOUSTON CENTER

EXEMPT FROM HSRC REVIEW

If it is the decision of the research committee (for student research) or the department coordinator (for faculty research) that the proposed research is exempt from expedited or full review by the Human Subjects Review Committee (HSRC), please complete the following form. A copy of this properly signed form must be submitted to the chairman of the HSRC.

Principal investigator: Elizabeth Frances Sefcik

Social Security Number: _____

Title of the Research: Attitudes of Registered Nurses Toward Health Promotion, ,
Disease Prevention: Evaluation of a National Program

1. Give a brief description of the study (use continuation pages or attachments, if necessary). Describe the procedure that relates to the subjects' participation, i.e., what will the subjects do or what will be done to them. Pretesting and posttesting (paper/pencil) of adult RNs to determine if RNs who participated in a 30-hour health promotion/disease prevention education program record more positive attitudes toward selected health promotion/disease prevention behaviors and incorporate them into nursing practice will be done.

2. What are the potential risks to the human subjects involved in this research or investigation (use continuation pages if necessary)?

No known risks are inherent.

3. Is research being conducted for a nonuniversity sponsor? Yes _____ No X

Name of sponsor: _____

I certify that this research meets the requirements for being exempt from review by the HSRC as specified in the Human Subjects Program Guideline (March 1986, revised). Three committee members sign for proper paper or thesis, and all committee members sign for the dissertation research.

Joeth McLarlane Chairman, research committee, Date 1-30-92

Ann Young committee member

John Fehir committee member

_____ committee member

or, in the case of faculty research

_____ Department Coordinator, Date _____

Department _____

Date received by HSRC Chairman _____ Initials _____

APPENDIX B
LETTER OF INFORMED CONSENT



Texas Woman's University

1130 M.D. Anderson Blvd., Houston, Texas 77030 (713) 794-2102

COLLEGE OF NURSING
HOUSTON CAMPUS

111

January 1987

You have been chosen to participate in the following study by one of your colleagues who is a student in the Health Promotion and Disease Prevention course at Texas Woman's University. The Health Promotion and Disease Prevention course in which your colleague is enrolled is funded through a contract from the Department of Health and Human Services, Division of Nursing. The contract is to develop, implement and evaluate a continuing education program to prepare registered nurses with the knowledge and skills to promote health and prevent disease.

To evaluate the program we are requesting each student and two colleagues of the student to complete the enclosed questionnaires. All information will be kept confidential and only group data will be reported. The identifying code is for computation purposes only.

Completion of the questionnaires is strictly voluntary. Should you choose not to participate there are no repercussions. No medical service or compensation is provided to participants by the Texas Woman's University.

Should you agree to participate, please fill out the questionnaires and return them in the stamped, addressed envelope. Additional materials will be sent to you for completion in the next several months. At the completion of the study a computer-generated health risk appraisal evaluation will be sent to you in appreciation for your cooperation.

YOUR ANSWERING OF THE QUESTIONS ON THESE QUESTIONNAIRES CONSTITUTES YOUR INFORMED CONSENT TO PARTICIPATE IN THE STUDY.

Thank you,

Judith McFarlane, Dr.P.H., RN,C.
Project Faculty

Elizabeth T. Anderson, Dr.P.H., RN,C.
Project Faculty
Health Promotion and Disease Prevention Program

APPENDIX C
INSTRUMENTS

CODE _____

HEALTH PROMOTION AND DISEASE PREVENTION

Demographic data sheet. Please answer the following questions about yourself and your employing agency:

Agency of employment _____	Column (6)
Job Title _____	(7)
How long in present position? _____ years	(8-9)
How long at present agency? _____ years	(10-11)
Are you the <u>only</u> health-care professional at your worksite? 1 ____ Yes 2 ____ No	(12)
If no, how many health care professionals are there? _____	(13-14)
How many in each category?.....RN _____	(15-16)
MD _____	(17-18)
LVN _____	(19-20)
Health Educator _____	(21-22)
Other _____	(23-24)
Your <u>basic</u> nursing education:.....	(25)
AD _____	(1)
Diploma _____	(2)
BS _____	(3)
<u>Highest</u> degree you have earned:.....	(26)
AD _____	(1)
Diploma _____	(2)
BS/BA _____	(3)
Masters _____	(4)
DOC _____	(5)
Other _____	(6)
How many years have you been an RN?.....Years _____	(27-28)
Present age.....Years _____	(29-30)
Gender.....	(31)
Male _____	(1)
Female _____	(2)

SURVEY ON HEALTH PROMOTION FOR COMMUNITY HEALTH NURSES

DIRECTIONS: Please circle the number next to the answer that best corresponds to your opinion or answer, unless there is a different instruction.

1. Are you involved in full-time community health nursing? If (32)
not, please note your principle activity.

(please specify area of practice) _____ Yes 1
No 2
Not practicing at all 3

2. Are you certified? (33)

(specify type) _____ Yes 1
No 2
Other 3

3. In which setting do you principally work? (circle one answer.) (34)

School or other educational institution 1
Industry/Company 2
Health department/Clinic 3
(please specify) _____ Other 4

4. How many state and/or national professional meetings have you (35)
attended in the past three years?

None 1
1-2 2
3-5 3
More than 5 4

5. What sources of information do you trust most when it comes to (36-37)
scientific information that would affect your practice? (Circle
the numbers of the two most trusted sources.)

Colleagues practicing in my community 1
Medical journals 2
(please specify) _____ Other journals 3
National meetings 4
Continuing education courses or seminars 5
Nurse faculty 6
(please specify) _____ Other 7

Please circle the appropriate response to questions 6 through 14.

6. Do you smoke cigarettes?.....(38)

Yes	1
I have quit smoking	2
I have never smoked	3

7. Do you wear seatbelts?.....(39)

Always	1
Sometimes	2
Never	3

8. Do you check your blood pressure, or have it checked at least once every two years? (40)

Yes	1
No	2

9. Do you engage in vigorous physical activity at least three times a week?.....(41)

Yes	1
No	2

10. Do you usually sleep 7-8 hours per day?.....(42)

Yes	1
No	2

11. Do you eat breakfast almost every day?.....(43)

Yes	1
No	2

12. Do you eat between meals?.....(44)

Always	1
Once in a while	2
Never	3

13. How many alcoholic beverages do you drink at one sitting? (45)

0-1 drink	1
2-4 drinks	2
more than 4 drinks	3

14. Do you have an annual pap test?.....(46)

Yes	1
No	2

15. Approximately what percentage of your average number of daily client visits would you say are preventive in nature? (That is, visits where the clients' principal reason for the visit is preventive care, such as blood pressure check questions.)

_____ per cent of _____ patients per day
(47-48) (49-51)

16. As part of a preventive check-up, how often do you educate (52) clients or advise them about their health risks and lifestyles as they affect their health? Would you say

All of the time 1
Most of the time 2
Some of the time 3
Rarely or never 4

17. For clients who come in for an illness visit, that is, with (53) specific symptoms, how often do you educate or advise them about their health risks and lifestyles? Would you say

All of the time 1
Most of the time 2
Some of the time 3
Rarely or never 4

18. Please circle below the number that indicates the extent to which you gather information on clients in each of the areas listed.

	Routinely	Occasionally, When indicated	Rarely/Never	
Blood pressure	1	2	3	(54)
Smoking	1	2	3	(55)
Alcohol intake	1	2	3	(56)
Weight problems	1	2	3	(57)
Fat consumption	1	2	3	(58)
Diet profile (overall)	1	2	3	(59)
Drug consumption (OTC)	1	2	3	(60)
Illicit drug use	1	2	3	(61)
Emotional problems	1	2	3	(62)
Stress level	1	2	3	(63)
Use of seat belts	1	2	3	(64)
Pattern of physical activity	1	2	3	(65)
Isolation/loneliness	1	2	3	(66)
Pre and postnatal care	1	2	3	(67)
Immunization	1	2	3	(68)
Dental health	1	2	3	(69)
Sexually transmitted diseases	1	2	3	(70)
Family planning	1	2	3	(71)
Well baby care	1	2	3	(72)
Gynecology status	1	2	3	(R2) (1)
Other _____				(2)

19. To what extent do you actually educate clients on the risk factors listed below?

	To a great extent	Usually	Occasionally	Rarely	Not at all	
Elevated blood pressure	1	2	3	4	5	(3)
Smoking	1	2	3	4	5	(4)
Alcohol problems	1	2	3	4	5	(5)
Weight problems	1	2	3	4	5	(6)
High fat diet	1	2	3	4	5	(7)
Drug problems (OTC)	1	2	3	4	5	(8)
Illicit drug abuse	1	2	3	4	5	(9)
Emotional problems	1	2	3	4	5	(10)
High stress	1	2	3	4	4	(11)
Non-use of seat belts	1	2	3	4	5	(12)
Lack of exercise	1	2	3	4	5	(13)
Isolation/loneliness	1	2	3	4	5	(14)
Pre and postnatal care	1	2	3	4	5	(15)
Immunization	1	2	3	4	5	(16)
Dental health	1	2	3	4	5	(17)
Sexually transmitted diseases	1	2	3	4	5	(18)
Family planning	1	2	3	4	5	(19)

20. How important do you think each of the following behaviors is in promoting the health of the average person?

	Very Important	Somewhat Important	Somewhat Unimportant	Very Unimportant	
Not smoking cigarettes	1	2	3	4	(20)
Drinking alcohol mod- erately or not at all	1	2	3	4	(21)
Avoid high cholesterol foods	1	2	3	4	(22)
Taking daily vitamin supplements	1	2	3	4	(23)
Minimizing sugar intake	1	2	3	4	(24)
Eating a balanced diet	1	2	3	4	(25)
Controlling weight	1	2	3	4	(26)
Decreasing salt consumption	1	2	3	4	(27)
Storing firearms safely	1	2	3	4	(28)
Avoiding undue stress	1	2	3	4	(29)
Having periodic physical exams	1	2	3	4	(30)
Engaging in vigorous physical exercise at least 3 times a week	1	2	3	4	(31)
Practicing relaxation methods	1	2	3	4	(32)
Always using a seat belt	1	2	3	4	(33)
Sleeping about 7 hours each night	1	2	3	4	(34)
Avoiding isolation and loneliness	1	2	3	4	(35)
Controlled drug use	1	2	3	4	(36)

21. How certain are you that you can convey to clients appropriate information and useful skills for modifying the following?

	Very Certain	Somewhat Certain	Somewhat Uncertain	Very Uncertain
Elevated blood pressure	1	2	3	4 (37)
Smoking	1	2	3	4 (38)
Alcohol problems	1	2	3	4 (39)
Weight problems	1	2	3	4 (40)
High fat diet	1	2	3	4 (41)
Drug problems (OTC)	1	2	3	4 (42)
Illicit drug abuse	1	2	3	4 (43)
Emotional problems	1	2	3	4 (44)
High stress	1	2	3	4 (45)
Non-use of seat belts	1	2	3	4 (46)
Lack of exercise	1	2	3	4 (47)
Isolation/loneliness	1	2	3	4 (48)
Pre and postnatal care	1	2	3	4 (49)
Immunization	1	2	3	4 (50)
Dental health	1	2	3	4 (51)
Sexually transmitted diseases	1	2	3	4 (52)
Family planning	1	2	3	4 (53)

22. Given that you feel that you could convey appropriate information and skills to clients, how certain are you that the average patient will, in fact, follow through?

	Very Certain	Somewhat Certain	Somewhat Uncertain	Very Uncertain
Elevated blood pressure	1	2	3	4 (54)
Smoking	1	2	3	4 (55)
Alcohol problems	1	2	3	4 (56)
Weight problems	1	2	3	4 (57)
High fat diet	1	2	3	4 (58)
Drug problems (OTC)	1	2	3	4 (59)
Illicit drug abuse	1	2	3	4 (60)
Emotional problems	1	2	3	4 (61)
High stress	1	2	3	4 (62)
Non-use of seat belts	1	2	3	4 (63)
Lack of exercise	1	2	3	4 (64)
Isolation/loneliness	1	2	3	4 (65)
Pre and postnatal care	1	2	3	4 (66)
Immunization	1	2	3	4 (67)
Dental health	1	2	3	4 (68)
Sexually transmitted diseases	1	2	3	4 (69)
Family planning	1	2	3	4 (70)

23. Please rate the following statements in terms of the scale below by writing in the appropriate number in the space next to the statement. All of these statements refer to the effects of increasing the emphasis on health promotion in your current practice setting.

- 1 Strongly agree
2 Agree somewhat

- 3 Disagree somewhat
4 Strongly disagree

Increasing the emphasis on health promotion in this practice is.....

a major departure from the usual scope of primary care.....(71)

not likely to be well received by our clients.....(72)

of obvious value in the minds of most nurses in this community.....(1)(R3)

costly in terms of time spent by me and other practice staff.....(2)

not disruptive of usual office or clinic procedures.....(3)

going to be more important in the future.....(4)

likely to have little payoff for our work setting.....(5)

not expected to promote increased client behavior changes....(6)

24. Please rate the following statements in terms of the scale below by writing in the appropriate number in the space next to the statement.

- 1 Strongly agree
2 Agree somewhat

- 3 Disagree somewhat
4 Strongly disagree

Appraising clients' behavioral risk factors is an important part of my role.....(7)

Not enough is known about the value of prevention to make it a major part of my role.....(8)

With my support and encouragement most clients will try to change behaviors detrimental to their health.....(9)

Assisting clients in modifying health habits is an important part of my role.....(10)

Persons in my profession should be active in supporting legislation to promote health.....(11)

Persons in my profession should work to promote health in their communities through health education to the public.....(12)

Health education materials should be available in the practice setting.....(13)

1 Strongly agree
2 Agree somewhat

3 Disagree somewhat
4 Strongly disagree

Talking to clients about their health habits and behaviors is more appropriately the job of other health professionals not mine..... (14)

Most clients are skeptical when a person in my profession recommends a change in personal habits or lifestyle rather than recommending a more traditional therapy..... (15)

Prevention, including client education, will be a major part of the practice of community nursing in the future..... (16)

Persons in my profession should be knowledgeable about community resources for education and risk modification..... (17)

In general, I get a greater sense of gratification from identifying health problems and developing treatment plans for clients with chronic disease that I do from providing preventive care..... (18)

No matter what I say to clients about health habits, they are not going to change their ways..... (19)

I find educating clients to be a challenging and enjoyable part of my practice role..... (20)

As much as I would like to influence clients to adopt healthy habits or lifestyles, I feel I lack the skills to be effective in this area..... (21)

The lack of time is one of the major obstacles to the provision of educational services..... (22).

I get adequate feedback from clients regarding the outcomes of my health education efforts..... (23)

I find clients do not want to spend time on health education. (24)

25. At the present time, taking into consideration all of your current responsibilities, how high a priority do you place on health promotion as an aspect of your practice role?..... (25)

Very high 1
Somewhat high 2
Somewhat low 3
Very low 4

26. Compared to other persons in your profession, how much emphasis do you place on health promotion in your practice role?.....(26)

Much more 1
Somewhat more 2
Somewhat less 3

27. Please indicate your interest in the following:

	<u>Not</u>	<u>Somewhat</u>	<u>Very</u>	<u>Already</u>
	<u>Interested</u>	<u>Interested</u>	<u>Interested</u>	<u>Using</u>
Information on patient referral resources	1	2	3	4
Continuing education courses on:				5 (27)
Alcohol abuse	1	2	3	4
Exercise	1	2	3	4
Nutrition	1	2	3	4
Smoking	1	2	3	4
Stress management	1	2	3	4
Blood pressure control	1	2	3	4
Illicit drug use	1	2	3	4
Use of seat belts	1	2	3	4
Isolation/loneliness	1	2	3	4
Pre & postnatal care	1	2	3	4
Immunizations	1	2	3	4
Dental health	1	2	3	4
Sexually transmitted diseases	1	2	3	4
Family planning	1	2	3	4
Health education methods (general)	1	2	3	4
Other	1	2	3	4

(please specify)

APPENDIX D
PERMISSION TO USE INSTRUMENT

Judy McFarlane, DrPH
Liz Sefcik, RN,MS
Texas Woman's University
College of Nursing
1130 M.D. Anderson Blvd.
Houston, Texas 77030

Dear Judy and Liz:

This letter serves as my permission for Bets Anderson, DrPH, Judy McFarlane, DrPH, Betty Gregory, RN,MS, and Liz Sefcik, RN, MS to use the Mullen Instrument which was used to survey the nurse-midwives as published in my article, "Certified Nurse-Midwives and Health Promotion and Disease Prevention" in the Journal of Nurse-Midwifery, May/June, 1986.

Sincerely,

Patricia D. Mullen

Patricia D. Mullen, DrPH

APPENDIX E
TABLES OF MEANS

Table A

Means for Collection of Importance of (Attitude) Behaviors
in Promoting Health of the Average Person Prior to and
After a Course in Health Promotion/Disease Prevention
by Groups

Attitudes Toward Health Behavior	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Smoking	3.93	3.95	3.97	3.84	3.90	4.00	4.00	3.82
Drinking Alcohol	3.83	3.87	3.74	3.84	3.86	3.89	3.75	3.90
Avoiding High Cholesterol Foods	3.83	3.80	3.66	3.75	3.82	3.72	3.66	3.79
Taking Daily Vitamin Supplements	2.71	2.89a	2.66	2.77	2.55	2.86a	2.66	2.79
Minimizing Sugar Intake	3.47	3.62	3.13	3.38	3.37	3.55a	3.14	3.35
Eating a Balanced Diet	3.93	3.93	3.81	3.78	3.89	3.90	3.79	3.79
Controlling Weight	3.89	3.89	3.69	3.84	3.82	3.79	3.69	3.86
Decreasing Table Salt	3.74	3.83	3.53	3.66	3.51	3.69	3.55	3.69
Storing Firearms Safely	3.64	3.75	3.70	3.78	3.55	3.82a	3.79	3.79
Avoiding Undue Stress	3.68	3.76	3.50	3.72	3.69	3.72	3.52	3.72
Periodic Physical Exams	3.77	3.81	3.56	3.56	3.82	3.79	3.59	3.55
Vigorous Exercise 3 Times/Week	3.67	3.85a	3.34	3.55	3.62	3.89a	3.38	3.59
Practice Relaxation Methods	3.44	3.61	3.13	3.39	3.37	3.51	3.14	3.39
Always Use Seat Belts	3.85	3.87	3.69	3.69	3.82	3.83	3.69	3.72
Sleep 7 Hours/Night	3.55	3.68	3.38	3.47	3.48	3.59	3.35	3.48
Avoid Isolation and Loneliness	3.47	3.58	3.28	3.50	3.37	3.55a	3.24	3.48
Controlled Drug Use	3.85	3.87	3.68	3.88	3.86	3.82	3.64	3.72

a = Increase $\geq 5\%$

Table B

Means for Collection of Certainty of Conveying (Attitude)
Appropriate Information and Use Skills for Modifying
Behaviors Prior to and After a Course in Health
Promotion/Disease Prevention by Groups

Attitudes Toward Health Behaviors	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Elevated Blood Pressure	3.65	3.74	3.66	3.72	3.67	3.72	3.66	3.72
Smoking	3.51	3.58	3.55	3.59	3.50	3.48	3.54	3.59
Alcohol Problems	3.20	3.32	3.39	3.47	3.21	3.24	3.39	3.52
Weight Problems	3.34	3.51a	3.36	3.44	3.46	3.35	3.35	3.45
High Fat Diet	3.21	3.33	3.03	3.06	3.36	3.14	3.00	3.07
OTC Drug Problems	3.07	3.26a	3.26	3.16	3.10	3.24	3.25	3.14
Illicit Drug Abuse	2.97	3.02	3.16	3.09	2.93	2.79	3.18	3.10
Emotional Problems	2.97	3.15a	3.28	3.16	2.89	3.10a	3.24	3.14
High Stress	3.12	3.31a	3.38	3.26	3.21	3.35a	3.36	3.25
Non-Use of Seat Belts	3.39	3.56a	3.34	3.28	3.39	3.54a	3.35	3.28
Lack of Exercise	3.42	3.46	3.31	3.28	3.50	3.38	3.31	3.28
Isolation/Loneliness	2.91	3.16a	3.13	3.16	2.89	3.30a	3.07	3.14
Pre & Postnatal Care	3.14	3.30a	2.97	3.03	2.96	3.38a	2.93	3.00
Immunization	3.62	3.71	3.56	3.34	3.46	3.70a	3.52	3.35
Dental Health	3.37	3.44	3.13	3.25	3.32	3.31	3.03	3.24
Sexually Transmitted Disease	3.28	3.39	3.16	3.16	3.37	3.48	3.10	3.14
Family Planning	2.98	3.16a	2.91	2.84	2.85	3.31a	2.90	2.79

a = Increase $\geq 5\%$

Table C

Means for Collection of If Certain of Conveying (Attitude),
Then How Certain Are RNs of Client Follow Through
Prior to and After a Course in Health Promotion/
Disease Prevention by Groups

Attitudes Toward Health Behaviors	Total Sample				Colleague-Selected Pairs			
	Experimental (n = 98)		Control (n = 32)		Experimental (n = 29)		Control (n = 29)	
	Pre <u>M</u>	Post <u>M</u>	Pre <u>M</u>	Post <u>M</u>	Pre <u>M</u>	Post <u>M</u>	Pre <u>M</u>	Post <u>M</u>
Elevated Blood Pressure	2.87	2.94	2.72	2.91	2.82	2.83	2.69	2.90
Smoking	2.14	2.34	2.13	2.31	2.00	2.31a	2.10	2.31
Alcohol Problems	2.12	2.22	2.09	2.32	1.89	2.21a	2.14	2.36
Weight Problems	2.38	2.36	2.19	2.48	2.32	2.31	2.24	2.50
High Fat Diet	2.40	2.45	2.25	2.44	2.29	2.45	2.31	2.48
OTC Drug Problems	2.35	2.42	2.41	2.58	2.32	2.41	2.41	2.54
Illicit Drug Abuse	2.03	2.15	2.03	2.03	1.75	2.10a	2.07	2.00
Emotional Problems	2.34	2.46a	2.42	2.56	2.25	2.52a	2.39	2.55
High Stress	2.47	2.60a	2.48	2.66	2.50	2.66a	2.43	2.66
Non-Use of Seat Belts	2.64	2.75	2.42	2.44	2.62	2.73	2.39	2.41
Lack of Exercise	2.62	2.70	2.25	2.72	2.60	2.76a	2.17	2.69
Isolation/Loneliness	2.27	2.47a	2.40	2.66	2.12	2.54a	2.33	2.62
Pre & Postnatal Care	2.84	2.80	2.82	2.84	2.64	2.83a	2.81	2.83
Immunization	3.13	3.26	3.07	3.16	3.07	3.17a	3.00	3.14
Dental Health	2.65	2.76	2.63	2.75	2.57	2.72a	2.56	2.69
Sexually Transmitted Disease	2.58	2.77a	2.70	2.72	2.54	2.79a	2.63	2.69
Family Planning	2.49	2.59	2.60	2.68	2.36	2.66a	2.54	2.64

a = Increase $\geq 5\%$

Table D

Means for Collection of Responses on Increasing the Emphasis
on Health Promotion in Nursing Practice Prior to
and After a Course in Health Promotion/
Disease Prevention by Groups

Attitudes	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
A Major Departure from Usual Scope	1.95	1.92	2.09	1.78b	1.83	1.78	2.00	1.76b
Not Likely Well Received by Clients	1.71	1.76	1.81	1.59b	1.48	1.57a	1.76	1.55b
Value to Most Nurses in Community	3.59	3.54	3.45	3.45	3.59	3.54a	3.43	3.43
Costly in Time Spent	2.23	2.13	2.10	1.81b	2.10	2.18	2.04	1.79
Not Disruptive of Office Procedures	3.07	3.17	3.23	3.25	3.00	2.89	3.25	3.24
More Important in Future	3.78	3.83	3.71	3.75	3.83	3.79	3.71	3.76
Little Payoff in Our Setting	1.52	1.42	1.48	1.53	1.62	1.39b	1.30	1.48a
Will Not Promote Client Changes	1.75	1.73a	1.71	1.78	1.83	1.79a	1.68	1.76a

a = Increase $\geq 5\%$

b = Decrease $\geq 5\%$

Table E

Means for Collection of RN Scores on a Scale of Strongly Agree to Strongly Disagree on Statements About Health Promotion/Disease Prevention Prior to and After a Course in Health Promotion/Disease Prevention by Groups

Attitudes	Total Sample				Colleague-Selected Pairs			
	Experimental (n = 98)		Control (n = 32)		Experimental (n = 29)		Control (n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Appraising Risk								
Factors Important	3.54	3.56	3.06	3.16	3.41	3.50	3.10	3.14
Value of Prevention								
Unknown	1.37	1.40	1.38	1.41	1.24	1.29	1.24	1.38a
Most Clients Will								
Change with Support	3.01	3.29a	3.13	3.09	3.00	3.43a	3.14	3.10
Assisting Modifica-								
tion Important	3.67	3.71	3.39	3.50	3.59	3.67	3.43	3.52
Support Legislation								
to Promote Health	3.72	3.88	3.91	3.75b	3.69	3.89a	3.93	3.76b
Health Education								
to Public	3.86	3.88	3.84	3.88	3.83	3.89	3.86	3.90
Materials Should Be								
Available in								
Practice	3.94	3.92	3.97	3.97	3.93	3.89	3.97	3.97
Talking About Health								
Behaviors Not My Job	1.25	1.38	1.41	1.50	1.21	1.46a	1.41	1.52a
Clients Like Tradi-								
tional Therapy, Not								
Change in Lifestyle	2.17	2.04	1.90	1.88	2.14	2.14	1.86	1.90
Prevention More								
Important in Future	3.87	3.93	3.81	3.71	3.93	3.96	3.83	3.71
Knowledgeable About								
Community Resources	3.93	3.91	3.88	3.90	3.93	3.96	3.86	3.89
Like Treatment More								
Than Preventive Care	1.77	1.83	1.68	1.81	1.90	1.75b	1.61	1.83a
Clients Not Going								
to Change	1.85	1.83	1.81	1.91a	1.76	1.86a	1.76	1.90a
Education Challenging								
Role	3.77	3.73	3.81	3.66	3.62	3.70	3.82	3.62b

Table E (Continued)

Attitudes	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Feel I Lack Skills								
to Influence Clients	2.09	1.84b	1.87	1.97	2.28	1.79b	1.86	1.93
Lack Time	3.12	3.11	2.88	2.63b	3.28	3.32	2.86	2.66b
Feedback from Clients								
on Outcome of Health								
Education	2.69	2.62	2.74	2.61	2.41	2.61a	2.79	2.61b
Clients Not Spend								
Time on Health								
Education	2.14	2.27a	2.29	2.28	2.28	2.37	2.25	2.28

a = Increase $\geq 5\%$ b = Decrease $\geq 5\%$

Table F

Means of RNs Attitude on Priority Placed on Health Promotion
as Part of Practice Role Prior to and After a Course
in Health Promotion/Disease Prevention by Groups

Attitudes	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Priority of Health Promotion	3.55	3.71a	3.63	3.41b	3.45	3.61	3.67	3.41b

a = Increase $\geq 5\%$

b = Decrease $\geq 5\%$

Table G

Means for Collection of Selected Health Behaviors
Prior to and After a Course in Health Promotion/
Disease Prevention by Groups

Attitudes	Total Sample				Colleague-Selected Pairs			
	Experimental		Control		Experimental		Control	
	(n = 98)		(n = 32)		(n = 29)		(n = 29)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
Do Not Smoke Cigarettes	1.38	1.46a	1.38	1.44	1.48	1.59a	1.38	1.45
Wear Seat Belts	1.91	1.92	1.84	1.88	1.97	1.90	1.83	1.86
Blood Pressure Checked Every 2 Years	1.00	1.00	0.94	1.00	1.00	1.00	0.93	1.00
Vigorous Physical Exercise 3 Times/Week	0.47	0.56a	0.31	0.44	0.48	0.55a	0.35	0.45
Number of Alcoholic Beverages at 1 Setting	0.83	0.85	0.74	0.81	0.86	0.86	0.71	0.79

a = Increase $\geq 5\%$