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**Primary prevention emphasis and self-reported health behaviors
of nursing students**

Yoder, Ronda Elaine, D.S.N.

University of Alabama at Birmingham, 1994

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PRIMARY PREVENTION EMPHASIS AND
SELF-REPORTED HEALTH BEHAVIORS
OF NURSING STUDENTS

by

RONDA ELAINE YODER

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the Degree of Doctor of Science in Nursing in
the School of Nursing in the Graduate School,
The University of Alabama at Birmingham

BIRMINGHAM, ALABAMA

1994

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1994

ABSTRACT OF DISSERTATION
GRADUATE SCHOOL, UNIVERSITY OF ALABAMA AT BIRMINGHAM

Degree D.S.N. Major Subject Adult Health
Name of Candidate Ronda Elaine Yoder
Title Primary Prevention Emphasis and Self-Reported Health
Behaviors of Nursing Students

The current climate of healthcare reform demands an increased curricular emphasis on primary prevention, yet the relationship between the level of curricular emphasis on primary prevention and the health behaviors of nursing students has not been established. The purpose of the study was to determine if there is a difference in the self-reported health behaviors of nursing students enrolled in baccalaureate nursing programs ranked as having high and low levels of emphasis on primary prevention. Neuman's systems model was the conceptual framework for the study.

The schools selected for participation in this study were derived from the respondents in a study of primary prevention competencies in nursing programs in the Southern Regional Education Board area conducted by Payne (1993). Results of that study were used to determine the ranking of nursing schools in regards to their level of emphasis on primary prevention. Eight schools from the highest and lowest rankings were asked to participate in the study, and four schools (50%) accepted the invitation: two from each of the levels of emphasis on primary prevention. Subjects were

190 students from schools ranked high and 201 students from schools ranked low for emphasis on primary prevention. The Wellness Inventory, college version, and a researcher-developed demographic tool were mailed to the selected schools to be administered to senior nursing students.

A 46.3% overall response rate (181 students) was obtained: 88 students (46.3%) from schools ranked as having a high level of emphasis and 93 students (46.3%) from schools ranked as having a low level of emphasis on primary prevention. Significant differences were found in 3 of the 10 subscales: intellectual wellness, social awareness, and occupational wellness. However, no significant differences were found in the two school groups for the total wellness score. Thus, the hypothesis that there would not be a difference was not rejected.

Recommendations included that more curriculum research and nursing outcome studies be conducted and that nursing curricula should continue to support the inclusion of primary prevention content and activities as part of the nursing curriculum.

Abstract Approved by: Committee Chairman Karen J. Nelson
Program Director E. Stullkenberg
Date 12/15/94 Dean of Graduate School John F. Loden
iv

DEDICATION

to my wonderful husband, Bob,
who has supported, encouraged, and
assisted me with every step of this
process. Thanks for loving me so much.

ACKNOWLEDGMENTS

I want to thank my Savior, the Lord Jesus Christ, for providing me with the strength, wisdom, and understanding to complete this undertaking. Without the direct leading and provision of Christ, I would not have successfully completed this research study within the desired time.

I want to express my heartfelt gratitude to Dr. Kathleen Mikan, who so ably guided my dissertation activities as chairperson of my committee. Her wisdom, insight, patience, and encouragement were readily available, even when her other responsibilities were great. I want to express my appreciation to each member of my committee: Drs. Judy Holcombe, Pam Fordham, David Macrina, and Al Bartolucci. Each member has made a distinct contribution to this dissertation.

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My family has been a constant source of encouragement throughout this educational endeavor. My parents, Charles and Angie Bower, have been so kind as to offer child care for weeks at a time. My husband, Bob, has provided such great support and help in preparing text and data for analysis. His persistent belief that I could finish this degree has been a strong tower for me. My son, Robbie, has been such a source of joy since he was born two and a half years ago; he has made the effort to finish this project even more important. I am also grateful for the love and support of my large extended family as well as my brothers, sisters-in-law, brother-in-law, and their spouses: Roger and Sheryl Bower, Steve and Vivian Payton, Marilyn Averhart, Linda and Danny Carpenter, Ray and Paula Yoder, and Ken and Bev Piper.

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CHAPTER I

Introduction

Healthcare reform is an issue currently before the American population. Nursing, as a profession, is part of this social issue. A major concept within healthcare reform is an increased emphasis on primary prevention (Shugars, O'Neil, & Bader, 1991). Nurses are expected to have a part in facilitating primary prevention knowledge and activities. Historically, nurses have been involved in this role, but the new healthcare reform package places greater emphasis on this focus for all healthcare providers including nurses. If nurses are to fulfill this responsibility, it is necessary that basic nursing education programs provide a theoretical and clinical foundation for the implementation of primary prevention in their curricula.

Problem

Nursing Curriculum

Since the 1980s, nursing curricula have included instruction of primary prevention, including both health promotion and disease prevention (Banks, 1983; Copp, 1984; National League for Nursing, 1983). Frequently nursing instruction has entailed preparing nurses to be involved in patient education and learning (Novak, 1988). One implicit expectation of teaching primary prevention was that nursing

students would value primary prevention and practice good health behaviors themselves. With the growing emphasis in healthcare reform on primary prevention, there is likely to be a commensurate increased emphasis on primary prevention in nursing curriculum. It is hoped that an increase in nursing curricular emphasis on primary prevention would lead to a concurrent increase in nursing students' personal implementation of primary prevention activities.

The need for curricular reform, which includes primary prevention and personal development, is advocated by major professional organizations, specifically the National League for Nursing (NLN) (Lenburg, 1991) and the Pew Health Professions Commission (Pew) (Shugars et al., 1991). The NLN, in 1991, identified new outcome criteria for program evaluation (Lenburg, 1991). One of the outcome criteria identified for baccalaureate programs was personal nursing student development, which includes personal health and wellness. This means, in the present milieu of NLN curriculum reform, nurse educators are expected to determine the outcome of curriculum as it affects student personal development including one's own health behavior. The Pew report addressed the need for curriculum changes to prepare healthcare professionals for healthcare reform (Shugars et al., 1991). Based on a survey of members of healthcare professions, several pertinent educational initiatives were identified. Two of these initiatives were relevant to primary prevention: (a) "How to involve patients/clients and their families as partners in healthcare," and (b) "How to

foster wellness and encourage preventive behaviors" (p. 97). Among the nurse subjects in the study, only 21% indicated they had received excellent training in disease prevention (Shugars et al., 1991). The Pew report recommended changes to all professional healthcare curricula, including nursing, to provide greater emphasis on primary prevention.

Very few studies have been conducted on primary prevention in the nursing curriculum. Olivieri and Ouellette (1986) examined the primary prevention concepts within all NLN accredited nursing programs in the United States and identified a need for increased emphasis on primary prevention in the nursing curriculum. Payne (1993), using a modification of Olivieri and Ouellette's tool, studied the differences in the nature and amount of primary prevention in bachelor of science in nursing (BSN) and associate degree (AD) programs. She found that BSN programs had more emphasis than AD programs on primary prevention concepts and activities. However, Payne recommended that both types of undergraduate programs increase their emphasis on student assessment of "personal primary prevention behaviors and develop personal health goals" (Payne, 1993, p. 75).

Health Behaviors

Health behaviors have been the research variable in studies of different populations (Baier, Grodzin, Port, Leksas, & Tancredi, 1992; Fasser, Mullen, & Holcomb, 1988; Ostwald & Knutson, 1989; Terre, Ghiselli, Taloney, & DeSouza, 1992). Various terms have been used to describe the personal health behaviors of subjects. Kasl and Cobb (1966) first

defined health behavior as "any activity, undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage" (p. 246). This early definition addressed the disease prevention aspect of primary prevention, but ignored the health promotion aspect identified by Leavell and Clark (1965) and Harris and Guten (1979). In most of the health behavior literature, there is little or no differentiation between usage of the terms health behaviors, health practices, or health habits. Often a study will use two or more of the terms interchangeably (Godin, Jobin, & Bouillon, 1986; Horgan, 1987; Kronenfeld et al., 1987). Lifestyle is another descriptor used with the term practices or habits to describe the health behaviors of individuals (Sabina-McVety, Booth, Orban, & Richards, 1988). Butterfield (1990) used the terms health-promoting and health-damaging choices to discuss health behaviors. Often researchers will specify that the behavior is positive or health-promoting to indicate that the behavior is supposed to have a positive effect on health (Horgan, 1987). However, the reverse specification of negative or health-damaging behavior is rarely found (Butterfield, 1990). Although there is great diversity in the terms used to describe one's own health activities, there is a common theme within these various definitions. The theme is that health behaviors are those personal activities in which one engages to improve one's own health and wellness through primary prevention, which includes both health promotion and disease prevention. Health behaviors are

distinct and different from health beliefs (Becker, 1974; Brown, Muhlenkamp, Fox & Osborn, 1983; Richards, 1988).

Since the early 1980s, nurse educators and researchers have studied the general health behaviors of nursing students. Owens (1989) compared the health behaviors of first and second year associate degree students in nursing programs and students in nonnursing programs. She found no significant differences in the wellness scores of the two nursing groups and the group of nonnursing students. Richards (1988) examined freshman and senior nursing and nonnursing students in a small New England school to compare health behaviors, health knowledge, health motivation, and health locus of control. She found no significant difference in the health behaviors of the two nursing groups, but that each nursing group was significantly better than its nonnursing counterpart with regards to health behaviors (Richards, 1988).

Descriptive studies have also been conducted on specific health behaviors of nursing students. Rausch (1985) examined the smoking behaviors of nursing students in three types of educational programs in Alabama. She found that there was a difference in the percentage of students that smoked in each of the three school types. Baccalaureate students had the lowest percentage and diploma students had the highest percentage of smokers. Other negative health behaviors, coffee intake and lack of breakfast consumption, were predictive of smoking. Haack (1987, 1988) examined the relationship of alcohol use and depressive symptoms, stress,

or burnout in a nursing student population. Haack reported increases in alcohol consumption, depressive symptoms, stress, and burnout as years of formal nursing education increased. All of these studies examined the health behaviors of nursing students apart from any evaluation of the nursing curriculum itself.

Support for nurses to practice good health behaviors and be good role models of health behaviors is found in the literature (Holcomb & Mullen, 1986; Pender, Barkauskas, Hayman, Rice, & Anderson, 1992). Even nursing students have recognized the need for nurses to demonstrate positive health behaviors. In a study by Viar and Urey (1988), 87% of the 77 senior baccalaureate students reported believing that nurses should both teach and model good health behaviors for patients.

Studies have also been done that examined the effect of specific courses on the health behaviors of students. Richter, Malkiewicz, and Shaw (1987) examined the health behaviors of junior nursing students before and after completing a course on primary prevention concepts. Students taking the course had a significant difference in their postcourse exercise scores than the students enrolled in a comparison adult health nursing course without specific emphasis on primary prevention concepts.

However, despite the movement towards more integration of primary prevention in the nursing curriculum, no studies were found that investigated the impact of the nursing curriculum, which contains concepts and activities of primary

prevention, on individual nursing students' own health behaviors. Thus, the relationship between the level of curricular emphasis on primary prevention and the self-reported health behaviors of nursing students was the focus of this study.

Statement of the Problem and Significance

The current climate of healthcare reform demands an increased curricular emphasis on primary prevention, yet the relationship between the level of curricular emphasis on primary prevention and the self-reported health behaviors of nursing students have not been established. Thus, the purpose of this study was to determine if the level of curricular emphasis on primary prevention in a nursing program affected nursing student health behaviors.

The focus of this study was to determine if the nursing curriculum makes a difference in the self-reported health behaviors of nursing students. If a difference was to be found, then the results of this study would be significant because they would have implications for nursing curriculum planning and achieving desired student outcomes, such as improved student health behaviors. It was anticipated that the results of this study would further nursing curriculum research and nursing educational outcomes.

Purpose

The purpose of this study was to determine if there is a difference in the self-reported health behaviors of nursing students enrolled in baccalaureate nursing programs ranked as having high and low levels of emphasis on primary prevention.

Hypothesis

The following hypothesis was tested: Nursing students from baccalaureate nursing programs categorized as having a high level of emphasis on primary prevention will have higher self-reported health behavior scores than nursing students from baccalaureate nursing programs categorized as having a low level of emphasis on primary prevention.

Conceptual/Theoretical Framework

Neuman's System model provided the framework for this study. The Neuman framework uses an open systems approach to describe the variables that compose the person and how they interact with the environment (Neuman, 1985). Neuman identifies primary prevention as one method of nursing action initiated to retain, maintain, and attain optimal wellness. As environmental factors interact with the client system, primary prevention intervention acts to strengthen the flexible line of defense and maintain a stable system. The conceptual framework is described in detail in chapter two.

Definition of Terms

Primary prevention--instructional concepts and activities of health promotion and disease prevention in a nursing curriculum.

High level of emphasis--a ranking given to a nursing program that received a high score when Payne's Primary Prevention Concepts in the Curriculum were recoded for primary prevention (see Appendix A).

Low level of emphasis--a ranking given to a nursing program that received a low score when Payne's Primary

Prevention Concepts in the Curriculum were recoded for primary prevention.

Health behaviors--those personal activities in which one engages to improve personal health and wellness through primary prevention activities, which includes health promotion and disease prevention, as measured by the total score on the Wellness Inventory--1993 college version, from the National Wellness Institute (see Appendix B).

Nursing student--an individual enrolled in the senior year of a baccalaureate nursing program who has not previously earned a nursing degree or diploma.

Assumptions

For the purpose of this study the following assumptions were made:

1. Nursing students will accurately self-report their health behaviors on the questionnaire.
2. The health behavior research instrument selected is sensitive to the variable being examined.
3. Primary prevention educational outcomes can be measured by self-reported wellness-oriented health behaviors.
4. Schools that responded in Payne's study were representative of schools in the Southern Regional Education Board (SREB) area.
5. Nursing faculty have accurately reported the instructional concepts and activities of primary prevention taught in their program on Payne's tool: Primary Prevention Concepts in the Curriculum.

6. The scores used to determine the ranking of the nursing programs approximates the actual level of emphasis on primary prevention within the curriculum.

Limitations

The acknowledged limitations of the study were as follows:

1. Generalization of the findings of the study cannot be made beyond the sample due to data collection strategies.
2. Self-report data is considered less reliable than other means.
3. Sample participation was voluntary.
4. Use of subjects from one geographical location (SREB) limited the representativeness of the sample.
5. Selection of schools for participation in this study was limited to schools that chose to participate in Payne's study.

Summary

An introduction to the study has been discussed in chapter one. This included identification of the problem, significance, purpose, hypothesis, theoretical framework, definition of terms, assumptions, and limitations.

CHAPTER II

Review of Literature

A pertinent review of the literature concerning the health behaviors of nurses and nursing students is provided in this chapter. Also, instruments used to measure health behaviors are examined, and the conceptual framework for this study is explained.

Health Behaviors of Nurses

Nurses, in general, are a frequently sampled population for both general and specific health behavior studies around the world. Hirst (1986) surveyed 38 Australian, female nurses concerning personal breast self-examination (BSE) practice and professional teaching practice. The researcher found that youth, increased breast cancer knowledge, and perception of more susceptibility to breast cancer were related to BSE effectiveness. Cantin and Mitchell (1989) examined the smoking behaviors of a convenient sample of 696 female nurses and compared them with a nationwide survey of Canadian female smoking behaviors. No statistical differences were found between the smoking behaviors of nurses and the general population. However, a subgroup of community health nurses had a statistically significant higher nonsmoking rate than the Canadian female population.

Studies have also been done with specific nursing career groups. A study of the health practices of critical care nurses found many of them reported health behaviors, such as smoking habits (20%), not eating breakfast daily (58%), eating between meals (42%), seat belt use less than frequently (48%), alcohol consumption more than once a week (50%), and physical examinations less than once a year (57%), that were less than desirable (Haughey, Kuhn, Dittmar, & Wu, 1992). Holcomb and Mullen (1986) examined the behaviors of health promotion and disease prevention practiced by 132 certified nurse midwives. A researcher-developed questionnaire, Attitude Toward Health Promotion Instrument, was used to assess health behaviors, the beliefs about health practices, the extent of daily care related to concepts of primary prevention, confidence in personal ability to provide patient education, and expectations of patient outcomes from primary prevention teaching. The results of this study of midwives indicated 9% still smoked cigarettes, 57% always used seat belts, 95% had their blood pressure checked at least every 2 years, 48% engaged in vigorous activity at least three times per week, 78% reported drinking no more than one alcoholic beverage at one sitting, and 67% reported getting an annual Pap smear test. The researchers concluded that most midwives were good health role models and provided a broad range of health promotion and disease prevention education to their patients.

Another study examined the health behaviors of nurses in relation to a specific health directive. McMillan (1990)

studied 3,226 female nurses to determine compliance with American Cancer Society (ACS) guidelines for cancer prevention and detection. The researcher used the Health Habits Assessment Survey (HHAS), a nine-item survey that assesses compliance with selected ACS guidelines. Results of a mailed survey with a return of 17.3% (559) usable response indicated that only 28% of RNs practice BSE monthly. Of nurses 40-49, only 64% reported having a mammogram in the past 2 years. Other questions concerning PAP smears, digital rectal exams, stool guaiac tests, proctosigmoidoscopies, and sunscreen use resulted in even lower compliance rates. The results suggested a lack of protective behaviors for all cancer prevention and detection practices by registered nurses.

Gregory (1991) examined the response of nurses to a 30 hour course in health promotion and disease prevention (HP/DP). A quasi-experimental research design was utilized for the study. Ninety-eight subjects participated in the course with a control group of 32 colleague-selected peers. The nurses were taught using a curriculum developed by the Division of Nursing, United States Department of Health and Human Services. A Health Risk Appraisal (Centers for Disease Control, 1981) was used to collect data on personal health behaviors. The Attitude Toward Health Promotion Instrument (Holcomb & Mullen, 1986) was used to measure health behaviors, the beliefs about health practices, the extent of daily care related to concepts of primary prevention, confidence in personal ability to provide patient education,

and expectations of patient outcomes from primary prevention teaching. Findings indicated the treatment group did report more personal health behaviors than the control group. The treatment group also had higher scores on the Attitude Toward Health Promotion Instrument, which indicated the treatment group taught patients more about health behaviors and collected more health education materials than did the control group.

Given societal current directives for the future, the importance of health behaviors is clearly being emphasized. The Pew report indicated that 79% of all subjects, including physicians, pharmacists, dentists, veterinarians, and nurses, noted the initiative, "How to foster wellness and encourage preventive behavior," was very important (Shugars et al., 1991). However when it came to the amount of training provided in relation to the identified Pew initiatives, 31% of a sample of 300 nurses reported excellent training in treating disease, while only 21% reported excellent training in preventing disease. Considering that the role of preventing disease is as important (if not more so, in light of the healthcare reform movement) as the role of treating disease, these results are relevant to current curriculum planning for nursing education. Past studies on the health behaviors of nurses and the future directives for curriculum reform indicate that further studies on the impact of curriculum on the health behaviors of nursing students are needed.

Health Behaviors of Nursing Students

Specific Health Behaviors

Several studies have addressed the students' health behaviors in specific matters of health promotion and disease prevention, such as smoking (Casey, Haughey, Dittmar, O'Shea, & Brasure, 1989; Haughey et al., 1986; Rausch, 1985; Rausch, Zimmerman, Hopp, & Lee, 1987; Royce, Gorin, Edelman, Rendino-Perrone, & Orlandi, 1990) and alcohol abuse (Haack, 1987, 1988; Haack, Harford, & Parker, 1988).

Studies examining smoking behaviors of nursing students have been conducted in various geographic locations (Casey et al., 1989; Haughey et al., 1986; Rausch, 1985; Rausch et al., 1987; Royce et al., 1990). Each of the studies reported the prevalence of smoking and exsmoking among a population of nursing students taken from several nursing programs. Haughey et al. (1986) conducted a study with 1,163 nursing students in 10 nursing programs and found that 30% of the nursing students were current smokers, while 25% were exsmokers. The majority of the smokers (57%) had a desire to stop smoking at some time (Haughey et al., 1986). Casey et al. (1989) replicated the previous study with a sample of 102 nursing students in three nursing programs in a different location and found that 23% of students were current smokers and 28% were exsmokers. Only 39% of the smokers in this study had a desire to quit smoking (Casey et al., 1989).

Other studies were also done to examine smoking behaviors of nursing students. Rausch et al. (1987) conducted a study with 555 nursing students in 13 nursing

programs in Alabama and found that 26.2% of all the students were current smokers and 7.7% were exsmokers. This study identified a much larger percentage (67.1%) of nonsmokers than in her two previous surveys (Rausch, 1985; Rausch et al., 1987). Royce et al. (1990) examined 607 nursing students from 12 nursing schools who participated in a smoking cessation intervention consisting of workshops and primary prevention materials. The baseline data on smoking status found that 26% of students were current smokers and 14% were exsmokers, and 63% of the smokers said they would like to quit. The posttest data indicated no statistical difference in the cessation rates of students in the intervention and control groups (Royce et al., 1990)

Another study examined the effects of alcohol, stress, depression, and burnout in a sample of 367 nursing students at several points in a longitudinal course, and several reports have been made from the data (Haack, 1987, 1988; Haack et al., 1988). Findings indicated the characteristics indicative of burnout occur more frequently in the senior nursing students than in the sophomores and juniors (Haack, 1987). Alcohol consumption and drinking frequency increased significantly between the sophomore and junior years but did not differ between the junior and senior years (Haack, 1987, 1988; Haack et al., 1988). The increase in alcohol consumption was related to depressive symptoms in nursing students (Haack et al., 1988). These results indicated that nursing students experienced burnout and alcohol consumption that increased with years of formal nursing education. No

other studies were found that examined the chemical dependency behaviors of nursing students.

Ruda, Bourcier, and Skiff (1992) found that increased knowledge of breast cancer did not increase the practice of breast self-examination (BSE) in senior nursing majors. The researchers compared 59 nursing and 55 nonnursing majors in terms of knowledge about breast cancer and prevalence of BSE. Nursing majors as well as nonnursing majors perceived the BSE as beneficial, but this perception did not indicate a statistical relationship with the likelihood of engaging in BSE.

General Health Behaviors

Several researchers have chosen to examine the activities of nursing students in relation to more comprehensive concepts of health promotion and primary prevention (Boyd, 1988; Dittmar, Haughey, O'Shea, & Brasure, 1989; Owens, 1989; Richards, 1988). Owens (1989) examined the health behaviors of beginning and graduating students in a 2-year nursing program. She compared the survey data from the two groups to that of a third group of nonnursing students all from the same community college. Findings indicated no significant differences between the three groups for self-reported health behaviors. One of the results indicated that senior students did have greater knowledge of health behaviors, but that this did not apparently affect their personal health behaviors. A limitation of this study was that the research was done in the school where the researcher was employed to teach nursing.

Dittmar et al. (1989) reported the findings of a study of health behaviors using 1081 nursing students that attended all types of generic nursing programs in the Buffalo, NY, area. Using a researcher-developed questionnaire, the researchers found that students were most successful at getting adequate sleep (82%), being physically active two to three times per week (68%), expending moderate effort in daily activity (68%), limiting coffee consumption to less than two cups per day (57%), and consuming alcohol less than once a week (57%). Students were not as successful at eating breakfast (40%), avoiding too much sugar (34%), not eating between meals (12%), wearing seat belts (17%), flossing teeth (27%), and performing BSEs monthly (27%). The conclusion was that the average nursing student practiced about half of the desired behaviors (Dittmar et al., 1989). No reliability or validity testing was reported for the tool which limits the strength of the study.

Senior nursing students were the subjects of two studies concerning health behaviors (Soeken, Bausell, Winklestein, & Carson, 1989; Viar & Urey, 1988). Each used a researcher-developed questionnaire to measure health behaviors. Viar and Urey (1988) utilized a nonrandom sample of 77 senior baccalaureate students. They found a smoker prevalence of 19% smokers, which was lower than the general population. Alcohol consumption was reported to be high (82%) while nutritional findings indicated students had inappropriate knowledge of appropriate nutritional intake. Only 22% of students reported participation in aerobic exercise. Many

(87%) reported that they believed that nurses should both teach and model good health behaviors (Viar & Urey, 1988).

Soeken et al. (1989) examined the health behaviors of 139 senior nursing students by use of a researcher-developed questionnaire. The questionnaire had 20 items, and for each behavior, subjects indicated personal practice, perceived importance of the behavior, difficulty of compliance, and the desire to engage in the behavior. The findings indicated the nursing students considered all the behaviors important to a healthy lifestyle but recognized some behaviors as being less important or more difficult in which to engage. The researchers found that students were more compliant with the lifestyle behaviors (exercise, nonsmoking, stress reduction, low alcohol intake) than the nutritional behaviors (avoid salt, cholesterol, sugar, caffeine, additives; increase fiber, vitamins and minerals, calcium, fish, and vegetables in cabbage family). The students identified the nutritional behaviors as being more difficult to practice, less desirable, and less important than the lifestyle behaviors.

Richards (1988) conducted a study of 228 female freshman and senior nursing and nonnursing majors at her own institution, a small liberal arts college in New England, to compare health motivation, health knowledge, health locus of control, and health behaviors. Four groups of students were compared to determine differences between the freshman and senior nursing majors, between the freshman nursing majors and freshman nonnursing majors, and between the senior nursing and nonnursing majors. Instrumentation was derived

from surveys with strong reliability and validity testing. Freshmen and senior nursing majors scored higher in health behaviors than freshmen and senior nonnursing majors. It was expected that health behaviors would increase as a product of maturation. Comparison of senior nursing and nonnursing majors found a statistically significant difference that was not explained by maturation. The study recommendations include further study using the same study design in a larger, more diverse nursing student population, such as university students (Richards, 1988).

Curricular Change and Health Behavior

Nurse researchers have studied the effect of a specific change in the educational curriculum on the students' health behaviors (Boyle & Ahijevych, 1987; Richter et al., 1987). Richter et al. (1987) examined the health behaviors of students enrolled in junior level nursing courses. The study was conducted at the researchers' own institution, and the sample consisted of all female junior nursing students who volunteered. Students were given the Lifestyle Assessment Questionnaire (LAQ) developed by Hettler (1984) that contained a wellness component. The wellness component contained subscales on exercise, nutrition, self-care, vehicle safety, drug awareness, social/environmental factors, emotional awareness, emotional management, intellect, occupation, and spiritual factors. Students completed the survey at the beginning of the junior year, then were nonrandomly assigned to one of three groups. Subjects in one group were enrolled in a 10-week, 2-credit course entitled

Health Promoting Behaviors. A second group of students participated in a personalized health assessment experience in the school health clinic. The assessment was completed by senior nursing students in community health. Subjects in the third group enrolled in a 10-week adult health nursing course and did not receive any emphasis on health promotion. The students were again surveyed 6 months after the initial assessment. Change scores were derived from the pretreatment and posttreatment scores. Differences between the 3 groups were evaluated. Significant differences were only found for the exercise subscale of the LAQ. Groups 1 and 2 differed from Group 3 but not from each other. An unexpected finding indicated that mean scores on the wellness subscales decreased over the 6 months for all groups. Stress from involvement in the nursing curriculum was speculated to be a factor that contributed to the poor results of all the students.

Boyle and Ahijevech (1987) conducted a study with 130 nursing students using computers to promote health behaviors. The researchers used a pretest and posttest design and measured health behaviors with a Health Risk Appraisal (HRA) completed interactively on a computer. The intervention done by the students included completion of a personal wellness plan. After 6 months, students achieved 47% improvement in health habits scores and reported 138 positive changes in personal health behaviors in areas other than the risk area selected for the personal wellness plan (Boyle & Ahijevech, 1987).

Primary Prevention in Nursing Curriculum

Finally, two studies sought to evaluate the nursing curriculum in terms of the primary prevention content (Olivieri & Ouellette, 1986; Payne, 1993). Olivieri and Ouellette (1986) developed a tool to compare primary prevention concepts between nursing programs having integrated and separated courses in primary prevention. The schools were asked if the students were required to assess their own health behaviors and identify personal health goals. Of the schools with separate courses in primary prevention, 84% required students to assess their health behaviors, but only 64% required students to set health goals. In the schools with integrated content in primary prevention, 75% required students to assess their health behaviors, while only 58% required students to set health goals. Olivieri and Ouellette recognized the importance of these activities for assisting the nursing students in assuming the important responsibilities of being role models and teachers of primary prevention. They stated that most nurses are inadequately prepared to engage in health teaching for primary prevention (Olivieri & Ouellette, 1986).

Payne (1993) adapted the tool developed by Olivieri and Ouellette (1986) to compare the primary prevention content in baccalaureate and associate degree nursing programs within the Southern Regional Education Board (SREB) area. Payne sent the tool to 323 undergraduate nursing programs and received 214 completed surveys. The findings for BSN programs indicated that 64% taught primary prevention prior

to acute care experiences, 85% offered clinical experiences related to primary prevention, and only 27% used a specific text for teaching primary prevention. Even more significant were the findings for BSN programs that indicated that 52% required students to identify personal health goals, and 71% had students assess their personal health behaviors. Payne recommended that all nursing programs require students to assess personal health behaviors and identify personal health goals.

Health Behavior Tools

Various tools have been developed to measure health behaviors in different populations. These tools have been labeled with different names, each reflecting a different approach to measuring health behaviors and focusing on a variety of types of activities.

Different tools known as Health Hazard Appraisals (HHAs) or Health Risk Appraisals (HRAs) have been developed to focus on measurement of risk factors. As such, they do not provide a comprehensive measure of health behavior. These tools have a negative connotation and provide limited examination of positive health behaviors (Boyle & Ahijevych, 1987; Zindler-Wernet & Weiss, 1987).

The Health-Promoting Lifestyle Profile (HPLP) (Walker, Sechrist, & Pender, 1985) was developed for use in measuring the health-promoting habits of a healthy adult population especially when using Pender's Health Promotion Model as the theoretical framework. Although it has been used extensively, one of the limitations of the HPLP is that there

are no items in the tool that measure disease-preventing behaviors, such as abstaining from smoking. Pender's Health Promotion Model identifies health-promoting behavior as only those activities related to increasing wellness and not those activities related to protecting health or preventing disease. Since the theoretical framework for this dissertation identified both health-promoting behaviors and disease-preventing behaviors as being a part of primary prevention, disease-preventing behaviors need to be included and, thus, measured in this study.

Another tool that measures health behaviors is the Health Habits Questionnaire (HHQ) developed by Tapp and Goldenthal (1982). This instrument used with 71 adult patients of an outpatient clinic had 44 items clustered in eight categories: nutrition, tobacco use, alcohol use, drug use, road and water safety, exercise and activity, rest and relaxation, and personal healthcare. Due to variations in response choices among questions, this questionnaire is difficult to score. No validity testing was done with this instrument (Tapp & Goldenthal, 1982; Tapp, personal communication, February 2, 1993), and the results of reliability testing are not available (Tapp, personal communication, February 2, 1993).

Holcomb and Mullen (1986) examined the behaviors of health promotion and disease prevention practiced by 132 certified nurse midwives. A researcher-developed questionnaire, Attitude Toward Health Promotion Instrument, was used to assess health behaviors, the beliefs about health

practices, the extent of daily care related to concepts of primary prevention, confidence in personal ability to provide patient education, and expectations of patient outcomes from primary prevention teaching. This tool is lengthy and measures multiple variables not specifically related to health behaviors.

The Health Habits Scale (HHS) was developed to assess health behaviors of adults while attempting to surpass some of the limitations of other tools previously developed for the purpose of measuring health habits (Williams, Thomas, Young, Jozwiak, & Hector, 1991). The tool uses four of the five critical health characteristics associated with mortality in the classic Alameda County Study (Wiley & Camacho, 1980). By developing a brief, yet psychometrically sound instrument, the authors hoped to assess outcomes of patient teaching and counseling (Williams et al., 1991). The tool contains 11 items, 10 are used for scoring purposes. Content validity, test-retest reliability, and internal consistency were established and reported. The brief nature of the tool does not allow for subscale analysis and fails to measure some areas of health behavior (environmental, safety, and spiritual) while offering several questions regarding other areas (nutrition and exercise).

The Lifestyle Assessment Questionnaire (LAQ) developed by Hettler (1984) was designed to measure health behaviors of adults. This instrument includes a 185-item wellness component with subscales on exercise, nutrition, self-care, vehicle safety, drug awareness, social/environmental factors,

emotional awareness, emotional management, intellect, occupation, and spiritual factors. The tool also contains a health risk appraisal, demographic questions, and a tool for selecting topics of personal growth for further information. Reliability of the LAQ was determined with 39 subjects completing the questionnaire on two occasions, 2 weeks apart. Test/retest reliability coefficients among the 11 wellness categories ranged from .57 to .87 with an overall coefficient of .76. The test/retest coefficient for the personal growth section was .87 and for the health risk appraisal was .90. Throughout revision of the tool, content validity has been assured through presentation of the instrument to a panel of health promotion and wellness professionals to verify validity of the content. The LAQ has been used for research studies throughout the country. Richter et al. (1987) examined the health behaviors of students enrolled in junior level nursing courses using the LAQ and reported significant differences only for the exercise subscale of the LAQ. The researchers reported test/retest reliability of the subscales as ranging from .81 to .97, while internal consistency reliability was estimated with Cronbach's alpha, ranging from .67 to .94 for the subscales. This tool is lengthy to administer, and the National Wellness Institute maintains the right to conduct all statistical analyses and provides the researcher with only specific findings without access to the raw data.

The National Wellness Institute completed further refinement of the LAQ into a separate 100-question Wellness

Inventory (T. Nellis, personal communication, February 2, 1993). This tool is used primarily for evaluation of individuals for planning and engaging in behavioral change. A further refinement of the Wellness Inventory was done in 1993 to establish a college version for persons age 18-24 (see Appendix B). This tool includes modified questions from the LAQ relevant to college-aged subjects. Although no reliability or validity testing has been done with the college version of the tool (R. Salewske, personal communication, June 14, 1994), it is derived from and, hence, linked conceptually to the subscales of the LAQ. The tool contains 100 questions: 10 on each of the 10 subscales-- physical fitness, nutrition, self-care and safety, environmental wellness, social awareness, emotional awareness and sexuality, emotional management, intellectual wellness, occupational wellness, and spiritual wellness.

The Wellness Inventory, college version, is a comprehensive tool that measures a variety of health behaviors of interest to nurse researchers. The instructions are clear, and the visual appeal of the tool improves understanding of directions and enhances administration. The 10 subscales of the Wellness Inventory measure the five variables, identified by Neuman, that comprise the client/client system. The three subscales that measure Neuman's physiological variable are (a) physical fitness, (b) nutrition, and (c) self-care and safety. The two subscales that measure Neuman's psychological variable are (a) emotional management and (b) emotional awareness and

sexuality. The three subscales that measure Neuman's sociocultural variable are (a) environmental awareness, (b) social awareness, and (c) occupational wellness. Neuman's developmental variable is measured by the intellectual wellness subscale, and her spiritual variable is measured by the spirituality and values subscale.

Conceptual/Theoretical Framework

Neuman's System model provided the framework for this study. Neuman identified a framework for the education of nurses that is derived from multiple sources (Neuman, 1985). The framework uses an open systems approach to describe the variables that comprise the client system in relation to the environment.

Description of Model

Person. Neuman defined person as a client/client system that is a "composite of 5 interacting variables-- physiological, psychological, sociocultural, developmental, and spiritual" (Neuman, 1989, p. 25). According to Neuman, the person is an open system that interacts with the environment within the five variables identified above. These variables are interrelated and are found in the central core of the client system model.

Barriers of defense encircle the central core of the client. The outermost barrier is the flexible line of defense that serves as a buffer or protection for the stable state of the client. When factors in the environment interact with the flexible line of defense, it maintains a stable state of the client. The second barrier is the normal

line of defense for the client and preserves the normal wellness state of the client.

Environment. The second concept discussed by Neuman is the environment. She defines this as "all internal and external factors or influences surrounding the identified client or client system" (Neuman, 1989, p. 31). She views interaction between the client and the environment as reciprocal. Neuman identifies factors in the environment that interact with the client as intrapersonal, interpersonal, and extrapersonal. The reaction of the client to these factors can be positive or negative.

Health. Neuman described health as optimal system stability or "the best possible wellness state at any given time" (Neuman, 1989, p. 33). Variance from wellness occurs when factors from the environment invade the normal line of defense. Primary prevention is a level of intervention that occurs before a reaction to environmental factors occurs.

Nursing. The goal of nursing is to increase client optimal wellness through retention, attainment, or maintenance of client system stability (Neuman, 1989). In other words, nursing is to maintain, attain, and protect client wellness. Primary prevention is the action required to retain client system stability, secondary prevention is the action required to attain stability, and tertiary prevention is the action required to maintain it. Each level of prevention is identified as an intervention according to Neuman's framework. An intervention is used when the risk of an environmental factor is known, but a reaction has not yet

occurred. Interventions try to decrease the possibility of an environmental interaction or to strengthen the flexible line of defense. Health promotion is a component of primary prevention and prevents illness by increasing the wellness potential and strengthening the flexible lines of defense. Although Neuman identifies all three levels of prevention as being important interventions for nurses to use with patients, for the purposes of this study primary prevention was the only intervention addressed. Permission was obtained from the theorist to utilize the framework in this way (see Appendix C).

Integration of Theory and Research

For the purposes of this study, the nursing student was viewed as a client system with similar environmental factors occurring as in other persons of the same age and developmental level. An implicit outcome of nursing education should be to strengthen the student/client flexible line of defense by affecting the health behaviors for the five variables that comprise the student/client system (Neuman, 1989). The 10 subscales of the Wellness Inventory, 1993 college version, appear to measure the five variables that comprise the client/client system. The level of emphasis on primary prevention in the nursing curriculum acts to decrease the effect of the student's environment and strengthen the flexible line of defense. Therefore, a high level of emphasis on primary prevention in the nursing curriculum should have a greater effect on student's health behavior than a low level of emphasis on primary prevention

in the nursing curriculum, and thereby strengthen the flexible lines of defense. In contrast, a low level of curricular emphasis on primary prevention would fail to strengthen the flexible lines of defense. Thus, the impact of different levels (high and low) of curricular emphasis on primary prevention and the self-reported health behaviors of nursing students was the research focus of this study.

Summary

In summary, research studies that investigated primary prevention in the nursing curriculum and health behaviors of nursing students have been examined. Primary prevention content has been a part of nursing curriculum for more than a decade, and it is likely to increase in the future. While several nurse researchers have studied the health behaviors of nursing students, no studies were found that describe the impact of the emerging increased emphasis on primary prevention in the nursing curriculum on the health behaviors of nursing students.

Because recent curricular reform is emphasizing outcome-based evaluation, it is important to determine the relationship between level of nursing curricular emphasis on primary prevention and its outcome on the health behaviors of nursing students. Thus, that was the purpose of this study.

CHAPTER 3

Methodology

The purpose of this study was to determine if there is a difference in the health behaviors of nursing students enrolled in BSN nursing programs ranked as having high and low levels of emphasis on primary prevention. The study was conducted in two phases. The phases, subjects, protection of human rights, and instruments are discussed in this chapter along with the data analysis methods.

Design

The design for this study was retrospective. The independent variable in the study was level of emphasis on primary prevention in the nursing curriculum. The variable had two levels: low level of emphasis on primary prevention and high level of emphasis on primary prevention. The dependent variable was the student's health behaviors as measured by the total score on the National Wellness Institute's (NWI) Wellness Inventory, college version.

Phase One

This research was based on Payne's study, conducted in 1993, which described the teaching of primary prevention competencies in BSN and AD nursing programs in the Southern Region Educational Board (SREB). In Payne's study, questionnaires were sent to all (323) NLN accredited nursing

programs in SREB, of which 152 programs offered a BSN. The identified purposes of Payne's study were to ascertain the extent to which schools were preparing practitioners to meet the primary prevention competencies identified by the Pew Health Professions Commission and to determine if there was a difference in the "nature and amount of content for primary prevention competencies taught in BSN and AD nursing programs in the SREB area" (Payne, 1993, pp. 4-5). The questionnaire used was a modified version of a tool developed by Olivieri and Ouellette (1986) to examine primary prevention in a nursing curriculum. The researchers reported they had six nurse educators critically examine the questionnaire to identify "any unclear and/or ambiguous wording" (Olivieri & Ouellette, 1986, p. 26). They reported no further testing of the tool. Payne (1993) modified the questionnaire and reported that it was then "analyzed by four doctorally prepared educators for appropriateness of content for primary prevention" (p. 28). The Payne questionnaire yielded descriptive data about the nature and amount of content about primary prevention, but did not quantify an individual score for level of emphasis on primary prevention in a nursing curriculum. The questionnaire included seven yes/no questions, one multiple choice question, and two short answer questions (see Appendix A).

In order to determine a level of emphasis on primary prevention for each school for the purpose of this study, permission was obtained from Dr. Payne to examine and reanalyze the data collected from BSN nursing programs in her

study (see Appendix D). The data collected from 102 baccalaureate schools of nursing were re-analyzed anonymously. Two schools returned incomplete questionnaires; and for the purpose of recoding, these schools were eliminated. The remaining 100 schools were used to determine the ranking of an individual school in regards to its level of emphasis on primary prevention. The raw data from Payne's study were recoded by assigning point values to various answers. Of the 10 questions on Payne's tool, 6 questions were deemed to be relevant to determining a level of emphasis on primary prevention in the curriculum, and the other 4 questions were determined by this researcher not to be directly relevant. Five of the usable responses were yes/no questions and one was short answer (see Appendix E). Of the five yes/no questions, two (#3 & #4) were thought to be more important indicators of level of emphasis on primary prevention and thus were weighted higher in the recoding.

For question 5, Payne's subjects were asked to record the actual number of lecture hours provided for each of nine specific content areas pertaining to primary prevention. These hours were recoded into low, middle, and high thirds based on frequencies and were given point values of 0, 1, and 2, respectively. A recode value of 0 was given for all schools in the lower third, a recode value of 1 was given for all schools in the middle third, and a recode value of 2 was given for all schools in the upper third.

This method of recoding Payne's questionnaire created a possible score range of 0-25. The raw data were treated to

this recoding that generated a new score for each school that reflected its nursing program's level of emphasis on primary prevention. The final range of these scores was 2 to 25. Twenty-five percent of the 100 BSN schools had scores ranging between 2 and 7, 50% had scores ranging between 8 and 19, while the final 25% had scores ranging between 20 and 25. Once the ranking was completed, the researcher identified the highest four programs and the lowest four programs according to the newly derived score of level of emphasis on primary prevention.

Phase Two

Because of anonymity, this investigator did not know the names of the highest and lowest ranked schools according to level of emphasis on primary prevention in the nursing curriculum. Thus, special steps were taken to assure this anonymity while beginning Phase Two of the study. After approval of human use was obtained from the Institutional Review Board (IRB), the researcher arranged with Dr. Payne to prepare materials for a joint mailing. The eight programs were contacted through a joint mailing sent by Dr. Payne. The researcher provided a letter of invitation to participate in the study addressed generically to the dean of the school of nursing (see Appendix F). An addressed, stamped postcard, included in the mailing, provided a means for the dean to accept or refuse the invitation to participate and to provide needed nursing program information to the researcher (see Appendix G). The postcard was returned to Dr. Payne, who then informed the researcher of the program's name if, and

only if, the postcard indicated an acceptance of the invitation to participate in the study. A reminder postcard was sent by Dr. Payne to any school that had not responded after 2 weeks (see Appendix H). In appreciation for participating, the dean was offered a report of the results of their own students' health behaviors as well as an abstract of the study.

If the school agreed to participate, the dean was asked, on the postcard, to identify a contact person at the school. Arrangements were made to distribute questionnaires to subjects before or after a class in which a majority of the seniors were available. Selection of the course and time was arranged with the designated contact person at each school.

Subjects

The subjects for the study were generic nursing students enrolled in the senior level of an undergraduate BSN nursing educational program of the NLN accredited schools in the SREB region of the United States. Approximately half of the subjects were enrolled in nursing programs that were ranked as having a high level of emphasis on primary prevention and half of the subjects were enrolled in nursing programs that were ranked as having a low level of emphasis on primary prevention. The ranking of the schools according to level of emphasis on primary prevention was conducted as Phase One of this study.

Continued Sample Selection

To determine a medium effect-size difference with an alpha .05 and a power of .85, each of the two levels of

emphasis on primary prevention was to include 120 subjects. Because the study was done at multiple schools, a total of 120 in each of the two nursing program subgroups (students from programs having high and low level of emphasis on primary prevention) from all schools was targeted. It was determined that subjects (nursing students) would be obtained from a minimum of at least two schools in each subgroup.

As the schools indicated their willingness to participate in this study, the total possible number of senior nursing students available to participate was monitored. When the number of senior nursing students (and thus, potential subjects) in each level of emphasis on primary prevention exceeded 120, no additional schools were invited to participate.

Protection of Human Rights

Approval of the IRB at the University of Alabama at Birmingham was sought and obtained prior to data collection (see Appendix I). School identity remained anonymous until the researcher received, via Dr. Payne, an acceptance of the invitation to participate from the dean of the nursing program. The postcard was returned to Dr. Payne, who then informed the researcher of the school's name. Completion of the questionnaire was considered consent by the individual subjects to participate, and no names or identifying characteristics linked the completed questionnaire to the individual student subjects.

Instrumentation

Wellness Inventory

The Wellness Inventory, college version (see Appendix B), was developed in 1993 and was derived from the LAQ and the shorter Wellness Inventory. This tool was established for persons age 18-24 and included modified questions from the LAQ relevant to college-aged subjects. The tool contained 100 questions: 10 on each of the 10 subscales-- physical fitness, nutrition, self-care and safety, environmental wellness, social awareness, emotional awareness and sexuality, emotional management, intellectual wellness, occupational wellness, and spiritual wellness.

The instrument used a Likert scale with choices including almost never or less than 10% of the time (1), occasionally or approximately 25% of the time (2), often or approximately 50% of the time (3), very often or approximately 75% of the time (4), and almost always or 90% or more of the time (5). All behavior statements were worded positively. The score was obtained by adding all the points in a subscale together and then adding all the subscale totals together. The scores range from 50 to 500 with the best possible score being 500.

The National Wellness Institute identified three ranges for interpreting the results. Scores between 425-500 indicated a high level of wellness; scores between 350-424 indicated many positive aspects in overall lifestyle, while identifying areas that needed improvement; and scores of 349

or less indicated lifestyle choices that could adversely affect health status (National Wellness Institute, 1992).

A test-retest design was used to determine reliability for the instrument. For reliability, the instrument was administered twice, 2 weeks apart, to senior level nursing students at a school not used in the research study. The Cronbach's alpha was used to determine internal consistency and correlation coefficient. The alpha coefficient was .8211 for the first administration and .8457 for the repeat administration. These values indicated that the instrument had a high degree of internal consistency. The correlation coefficient for each subscale between the two administrations was computed to determine the stability of the instrument. Nine of the subscales had a coefficient of .6937 or above.

Demographic Tool

Two screening questions on the demographic tool identified students who have completed a college degree or a nursing diploma programs. These questions were used to eliminate any subjects who were not generic nursing students. The other items on the demographic tool contained information about age, gender, race, formal education, and marital status as well as information regarding subjects' living arrangements, housing, responsibility for meal preparation, work hours per week, and mode of transportation (see Appendix J). This information was collected because it appeared relevant to possible extraneous variables that could have affected nursing students' own health behaviors.

Administration of Instruments

Students were invited to voluntarily participate in the study. Specific guidelines were given to all individuals (contact persons) who administered the instrument in order to standardize the information given (see Appendixes K & L). Eligibility criteria were included in the guidelines to screen for students who had completed any degree or nursing diploma programs. The questionnaire took approximately 20 minutes to complete. Time was allowed for questions. In appreciation for participation, a small primary prevention memento was provided to subjects in exchange for their returned questionnaires.

Data Analysis

For the purpose of data analysis, the following null hypothesis was tested at the alpha level of .05.

The null hypothesis is: No difference will be found between the health behaviors of nursing students from BSN nursing programs ranked as having a high level of emphasis on primary prevention and the health behaviors of nursing students from BSN nursing programs ranked as having a low level of emphasis on primary prevention ($H_0: \mu_1 = \mu_2$).

The alternate hypothesis is: Nursing students from BSN nursing programs categorized as having a high level of emphasis on primary prevention will have higher health behavior scores than nursing students from BSN nursing programs categorized as having a low level of emphasis on primary prevention ($H_a: \mu_1 > \mu_2$).

Analysis of the data included descriptive data related to the demographic data collected. Quantitative analysis of the questionnaires was done using t tests between the means of the two levels of emphasis on primary prevention. Multiple regression analysis was used to associate the wellness scores with the two levels of emphasis on primary prevention and demographic variables. Data were analyzed using the Statistical Package for the Social Sciences, Macintosh edition (SPSS Inc., 1990).

Summary

Chapter three provided a discussion of the methodology that included the research design and phases, subjects, protection of human rights, and instrumentation. Collection and analysis of data were also discussed.

CHAPTER IV

Findings and Discussion

The fourth chapter contains a presentation, analysis, and discussion of the findings of the study.

Presentation and Analysis of Findings

Population and Sample

Phase one. Data from nursing education programs that had participated in Payne's study were re-analyzed, and schools were ranked as to level of emphasis on primary prevention. The method of ranking the schools was described in chapter three. The final range of the re-analyzed scores was 2 to 25. Twenty-five percent of the 100 BSN schools had scores ranging between 2 and 7, 50% had scores ranging between 8 and 19, while the final 25% had scores ranging between 20 and 25. The highest ranked four programs and the lowest ranked four programs, which were clustered at the top and bottom of the rankings, were invited to participate in the study.

Of the eight schools that were initially invited to participate in this study by Dr. Payne, five schools responded with an agreement to participate. Follow-up reminders were sent to the three schools that did not respond to the initial invitation. This resulted in one additional favorable response. The researcher remained unaware of the names of the schools that were invited to participate by Dr.

Payne but did not respond or that declined to participate, except for one school that originally agreed to participate but later declined due to heavy curricular demands on the senior nursing students. Two of the six initial schools declined to participate. Thus the response rate was four (50%) of the initial eight schools that had been invited to participate. Three of the schools that agreed to participate were designated as public institutions, while one dean indicated her school was private and religious. All schools were accredited by the NLN and were not registered nurse (RN) completion programs. Schools were not informed as to the level of emphasis on primary prevention that had been derived from the re-analysis of Dr. Payne's data.

Phase two. The instruments were administered to the senior level nursing students before or following a class in which a majority of the seniors were available at each of the four selected schools. Not all students responded to all items on the demographic instrument or on the Wellness Inventory. These surveys were processed for data analysis as appropriate, but their incomplete subscale scores and total scores were eliminated from the analysis. Table 1 shows the response rates of students by each program's level of emphasis on primary prevention. Of the 391 nursing students invited to participate, 181 (46.3%) completed the survey. Of these, 88 were from schools having a high level of emphasis on primary prevention, and 91 were from schools having a low level of emphasis on primary prevention. One survey was

eliminated from the low school group, because the subject indicated prior completion of a nursing diploma program.

Table 1

Response Rates of Students by Program's
Level of Emphasis on Primary Prevention

Program	Number of senior nursing students	Number of student participants	%
High level of emphasis			
School A	109	67	61.5
School B	81	21	25.9
Total	190	88	46.3
Low level of emphasis			
School C	44	36	81.8
School D	157	57	36.3
Total	201	93	46.3

Demographic variables were examined according to the level of emphasis on primary prevention in schools. Age, gender, race, years of formal education since high school, other degrees begun or earned, and marital status were examined according to the high or low levels of emphasis on primary prevention in schools. Table 2 presents the range and mean values for age and years of formal education since high school. The mean ages for the two school groups were 27.6 for the high and 26.0 for the low level of emphasis. However, 22 and 23 were the most frequent age responses for both groups, with 40% of the high group and 37% of the low

group selecting one of those two responses. The independent t test was used to determine the statistically significant difference in age and years of formal education since high school according to the level of emphasis on primary prevention in schools. No statistically significant differences were found in the demographic variables of age ($t = 1.60$, $df = 173$, $p = .112$) and years of formal education since high school ($t = 1.00$, $df = 174$, $p = .320$) according to the level of curricular emphasis on primary prevention.

Table 2

Age and Years of Formal Education Since High School by Program's Level of Emphasis on Primary Prevention

	Level of emphasis on primary prevention			
	High ($n = 87$)		Low ($n = 92$)	
	Range	\bar{M}	Range	\bar{M}
Age	21-48	27.6	20-51	26.0
Years of formal education since high school	2-9	5.1	3-8	4.9

Chi-squared analysis was used to examine all of the nominal demographic variables for differences according to the level of emphasis. Of the 88 students from the schools with high level of emphasis, 20 (22.7%) were male and 68 (77.3%) were female. Of the 92 students from the schools with low level of emphasis that responded to this question, 11 (12.0%) were male and 81 (88.0%) were female. There was

not a significant difference in gender in the two school groups ($\chi^2 = 3.66$, $df = 1$, $p = .0557$).

Table 3 shows the frequency and percentage responses to the question of race. There was a significant difference in race between the schools with the two levels of emphasis on primary prevention ($\chi^2 = 14.29$, $df = 3$, $p = .00253$). This difference appears to be related to the presence of Asian subjects only in schools with the low level of emphasis and Hispanic subjects only in schools with the high level of emphasis. While each of the school groups contained one school located in Texas, the Texas school in the high level of emphasis group was closer to the Mexican border, which could explain the difference in number of Hispanic students. The incidence of Asian students in the low school group could not be explained.

Table 3

Race by Program's Level of
Emphasis on Primary Prevention

Race	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 91$)	
	f	%	f	%
White	73	83.0	82	90.1
Black	4	4.5	7	7.7
Hispanic	11	12.5		
Asian			2	2.2

Concerning education prior to nursing enrollment, there was a significant difference in students who reported beginning or completion of another degree in the two school groups ($\chi^2 = 11.57$, $df = 3$, $p = .009$). Table 4 provides the frequency and percentage responses for the two school groups to this question. Programs with low level of emphasis had significantly more students who reported having completed another degree or certification than did programs with high level of emphasis on primary prevention.

Table 4

Education Prior to Nursing Enrollment by
Program's Level of Emphasis on Primary Prevention

Education prior to nursing enrollment	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 92$)	
	f	%	f	%
None	56	63.6	48	52.2
Begun, not health related ^a	20	22.7	20	21.7
Begun, health related ^b	12	13.6	13	14.1
Degree ^c			11	12.0

^aNonhealth related programs: accounting, agricultural science, biology, business, computers, education, fashion merchandising, finance, journalism, liberal arts, math, microbiology, pipe fitting, political science, and psychology.

^bHealth related programs: kinesiology, physical therapy, pre-medicine, pre-pharmacy, radiation technology, and health and physical education.

^cPrograms completed for a degree or certification: accounting, biology, marketing, emergency medical, paralegal, and psychology.

Marital status was reported by all but one of the subjects. Table 5 provides the frequency and percentage responses for this question. There was not a significant difference in marital status according to the program's level of emphasis on primary prevention ($\chi^2 = 3.43$, $df = 4$, $p = .4879$).

Table 5

Marital Status by Program's Level of Emphasis on Primary Prevention

Marital status	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 92$)	
	f	%	f	%
Single	43	48.9	54	58.7
Married	38	43.2	30	32.6
Widowed	1	1.1	1	1.1
Divorced	5	5.7	7	7.6
Separated	1	1.1		

All students in both school groups indicated that driving a car was their primary means of transportation. Concerning living arrangements, students were asked "With whom do you live?" Table 6 presents the frequency and percentage responses to this question. There was not a significant difference in living arrangements in the two school groups ($\chi^2 = 8.202$, $df = 5$, $p = .1455$).

Table 6

Living Arrangements by Program's Level
of Emphasis on Primary Prevention

Living arrangements	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 92$)	
	f	%	f	%
Alone	9	10.2	16	17.4
Friends/roommates/ significant other	19	21.6	31	33.7
Parents/siblings	15	17.0	12	13.0
Spouse	18	20.5	17	18.5
Spouse & children	20	22.7	13	14.1
Children	7	8.0	3	3.3

Table 7 presents the frequency and percentage responses to the question of housing. There was not a significant difference in housing between the two school groups ($\chi^2 = 4.133$, $df = 2$, $p = .1266$).

Table 7

Housing by Program's Level of
Emphasis on Primary Prevention

Housing	Level of emphasis on primary prevention			
	High ($n = 87$)		Low ($n = 92$)	
	f	%	f	%
House	59	67.8	52	56.5
Apartment/condo	24	27.6	38	41.3
Dormitory	4	4.5	2	2.2

Meal preparation was examined by asking "Who is primarily responsible for your meal preparation?" Table 8 presents the frequency and percentage results for this question. No significant difference in meal preparation was found between subjects in the two school groups ($\chi^2 = 12.46$, $df = 7$, $p = .0865$).

Table 8

Meal Preparation by Program's Level
of Emphasis on Primary Prevention

Meal preparation	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 92$)	
	f	%	f	%
Self	61	69.3	68	73.9
Parent	7	8.0	9	9.8
Spouse	7	8.0	6	6.5
School (cafeteria)	5	5.7		
Restaurants	5	5.7	3	3.3
Self & spouse	2	2.3	1	1.1
Self & restaurants			5	5.4
Parent & restaurants	1	1.1		

Table 9 provides frequency and percentage responses of the subjects concerning work responsibilities while in school. There was a significant difference in hours worked per week in the two school groups according to the level of emphasis on primary prevention ($\chi^2 = 26.213$, $df = 5$, $p = .00008$). The subjects in programs with a high level of

emphasis on primary prevention worked more hours than the subjects in schools with a low level of emphasis on primary prevention.

Table 9

Work Hours While in School by Program's
Level of Emphasis on Primary Prevention

Work hours while in school	Level of emphasis on primary prevention			
	High ($n = 88$)		Low ($n = 92$)	
	f	%	f	%
None	17	19.3	34	37.0
1-10 hours	20	22.7	31	33.7
11-20 hours	22	25.0	22	23.9
21-30 hours	12	13.6	4	4.3
31-40 hours	15	17.0	1	1.1
More than 40 hours	2	2.3		

Table 10 presents the summary independent t tests and chi-squared analyses for the demographic variables. Significant differences between the two school groups were indicated. Students in schools with the two levels of emphasis on primary prevention were significantly different for the demographic variables of race, completion of another degree program, and number of hours worked per week while in school. Schools with a high level of emphasis on primary prevention had Hispanics and students who worked more hours while in school than did schools with a low level of emphasis on primary prevention. Conversely, schools with a low level

of emphasis on primary prevention had Asian students, students with more education prior to nursing enrollment, and students who worked less while in school than schools that had a high level of emphasis on primary prevention.

Table 10

Summary of Demographic Characteristics

Demographic characteristics	Calculated statistic	Probability	
Age	$t = 1.60$	.112	NS
Years of formal education since high school	$t = 1.00$	.320	NS
Gender	$\chi^2 = 3.66$	.0557	NS
Race	$\chi^2 = 14.29$	.0025	S
Education prior to nursing enrollment	$\chi^2 = 11.57$	.0090	S
Marital status	$\chi^2 = 3.43$	.4879	NS
Living arrangements	$\chi^2 = 8.20$	.1455	NS
Housing	$\chi^2 = 4.13$	.126	NS
Meal preparation	$\chi^2 = 12.46$	.0865	NS
Work hours while in school	$\chi^2 = 26.21$	.00008	S

S = Significant.

NS = Not Significant.

Based on the NLN demographic data reported annually, the study sample of senior nursing students appears to be representative, except for the percentage of male, Hispanic, and Asian students, of the national generic nursing student

population (NLN, 1994). The study sample consisted of 17.2% male students while the NLN reports 10.4% male students graduating from baccalaureate nursing programs in 1992. White students comprised 86% of the study sample and 85.7% of all NLN baccalaureate nursing programs in the report. Black students comprised 6.1% of the study sample in contrast to 7.2% of all NLN baccalaureate nursing programs. Hispanic students comprised 6.1% of the study sample compared to 3.0% of the NLN student population, while Asian students were 0.1% of the study sample and 3.5% of the NLN student population. Overall, this study sample had more males, Hispanics, and fewer Asians than the NLN senior/graduating student population. Other demographic variables of the NLN population were not available for further comparisons with the study sample.

Hypothesis and Findings

The null hypothesis of the study was: No difference will be found between the self-reported health behaviors of nursing students from BSN nursing programs ranked as having a high level of emphasis on primary prevention and the self-reported health behaviors of nursing students from BSN nursing programs ranked as having a low level of emphasis on primary prevention.

The hypothesis was tested with t tests for independent samples of groups. The 10 subscales scores of the Wellness Inventory and the total score of the Wellness Inventory were tested. The independent t test was used to determine statistically significant difference in subscale scores for

the 10 subscales according to the nursing program's level of emphasis on primary prevention. Table 11 compares subscale scores by the level of emphasis on primary prevention in schools. The 10 subscales of the Wellness Inventory were: (a) physical fitness, (b) nutrition, (c) self-care and safety, (d) environmental awareness, (e) social awareness, (f) emotional awareness and sexuality, (g) emotional management, (h) intellectual wellness, (i) occupational wellness, and (j) spirituality and values. The range of possible scores for each subscale was 10-50. Scores between 10 and 20 indicated subjects engaged in those behaviors 10-25% of the time, while scores between 20 and 30 demonstrated students did those activities 25-50% of the time. Scores between 30 and 40 indicated behaviors occurred 50-75% of the time, and scores between 40 and 50 reflected that students did the activities 75-90% of the time.

Based on the average scores, both school groups had low mean scores (scores less than 30) for the physical fitness and environmental wellness subscales. This meant that the students in both groups indicated they engaged in physical fitness and environmental wellness health behaviors less than 50% of the time. Students in both school groups reported scores between 30 and 40 for the subscales of nutrition, self-care and safety, social awareness, and intellectual wellness, which indicated the behaviors measured by these subscales were reported to occur 50 to 75% of the time. Subjects had scores between 40 and 50 for the subscales of

Table 11

Wellness Inventory Subscale Scores According to Program's Level of Emphasis on Primary Prevention

Wellness Inventory subscale scores	Level of emphasis on primary prevention				Separate variance estimate			
	n	High M	SD	n	Low M	SD	t value	Two-tail probability
Physical fitness	86	24.12	9.101	91	27.70	9.255	-2.60	.010 S
Nutrition	88	30.68	7.524	90	32.01	8.183	-1.13	.261 NS
Self-Care and safety	87	35.77	7.019	89	35.18	6.746	.57	.570 NS
Environmental wellness	88	27.40	6.113	91	27.70	7.554	-.30	.766 NS
Social awareness	88	37.93	5.679	90	35.88	5.621	2.42	.016 S
Emotional awareness and sexuality	87	45.21	3.628	88	45.51	4.054	-.52	.601 NS
Emotional management	87	40.18	6.129	89	38.81	6.039	1.50	.136 NS
Intellectual wellness	86	39.98	7.589	89	36.53	7.456	3.03	.003 S
Occupational wellness	88	46.07	3.835	89	44.25	5.24	2.64	.009 S
Spirituality and values	88	41.92	5.93	90	41.44	5.793	.54	.589 NS

S = Significant.

NS = Not Significant.

emotional management, emotional awareness and sexuality, occupational wellness, and spiritual wellness, which showed that students reported doing the activities 75-90% of the time.

Of the 10 Wellness Inventory subscales, there were significant differences on four of the subscales. Nursing programs with a high level of emphasis were significantly greater than schools with a low level of emphasis on the subscales of intellectual wellness, occupational wellness, and social awareness. Nursing programs with a low level of emphasis was significantly greater than schools with a high level on only one subscale--physical fitness.

Table 12 compares the total Wellness Inventory scores by nursing program's level of emphasis on primary prevention. The range of possible scores for the total Wellness Inventory score was 50-500. No statistically significant differences were found in the total Wellness Inventory scores, so the null hypothesis was not rejected.

Table 12

Wellness Inventory Scores According to Program's
Level of Emphasis on Primary Prevention

	Level of emphasis on primary prevention						t	p
	High (n = 82)		Low (n = 83)		M	SD		
	M	SD	M	SD				
Total Wellness Inventory scores	368.94	34.3	363.65	43.6	.87	.387	NS	

S = Significant.

NS = Not Significant.

To further explore the effectiveness of the demographic variables and the nursing program's level of emphasis on primary prevention for predicting student health behaviors, multiple regression was conducted with the following variables: age, gender, marital status, race, years of formal education since high school, other degree education, housing, living arrangements, hours worked while in school, meal preparation responsibility, and level of emphasis on primary prevention. None of the variables were identified as being a statistically significant factor in predicting the total Wellness Inventory scores, although gender, age, and marital status were significant predictors of individual subscale scores. Gender was a significant predictor of the emotional awareness and sexuality subscale scores ($\beta = .1947$, $p = .0245$, $R^2 = .0545$) and the self-care and safety subscale scores ($\beta = .2881$, $p = .0004$, $R^2 = .1884$). Age was a significant predictor of the environmental wellness subscale scores ($\beta = .1935$, $p = .0427$, $R^2 = .0520$) and the self-care and safety subscale scores ($\beta = .2040$, $p = .0212$, $R^2 = .1884$). Marital status was a significant predictor of the physical fitness subscale scores ($\beta = .2903$, $p = .0177$, $R^2 = .1198$) and the self-care and safety subscale scores ($\beta = -.3007$, $p = .0106$, $R^2 = .1884$).

Another means of interpreting the findings of this study was in terms of Neuman's conceptual framework (Neuman, 1989). The 10 subscales of the Wellness Inventory were used to measure Neuman's five variables that comprise the client/client system.

Neuman's physiological variable was measured in this study by the Wellness Inventory's subscales of: (a) physical fitness, (b) nutrition, and (c) self-care and safety. The range of possible scores for the physiological variable was 30-150. Two Wellness Inventory subscales measured Neuman's psychological variable: (a) emotional management and (b) emotional awareness and sexuality. The range of possible scores for the psychological variable was 20-100. There was no significant difference in the mean scores of Neuman's physiological variable and psychological variable.

The three Wellness Inventory subscales that measured Neuman's sociocultural variable were: (a) environmental awareness, (b) social awareness, and (c) occupational wellness. The range of possible scores for the sociocultural variable was 30-150. Neuman's developmental variable was measured by the intellectual wellness subscale, and Neuman's spiritual variable was measured by the spirituality and values subscale of the Wellness Inventory. The range of possible scores for the developmental and spiritual variables was 10-50.

The independent t test was used to determine statistically significant difference in Neuman's variable scores for the five variables according to the nursing program's level of emphasis on primary prevention. Table 13 presents the comparison of Neuman's variable scores by the level of emphasis on primary prevention in schools.

Table 13

Neuman's Variables According to Program's
Level of Emphasis on Primary Prevention

Neuman's variables	n	Level of emphasis on primary prevention			Separate variance estimate		t	Two-tail probability	
		High M	SD	Low n	M	SD			
Physiological	85	90.7	14.9	88	94.8	19.3	-1.55	.123	NS
Psychological	87	85.4	7.7	88	84.4	8.9	.80	.425	NS
Sociocultural	88	111.4	11.2	88	107.6	13.2	2.09	.038	S
Developmental	86	40.0	7.6	89	36.5	7.5	3.03	.003	S
Spiritual	88	41.9	5.9	90	41.4	5.8	.54	.589	NS

S = Significant.

NS = Not Significant.

Concerning Neuman's conceptual framework, significant differences were found in two of the five variables. Students from nursing programs with a high level of emphasis on primary prevention scored significantly higher than students from schools with a low level of emphasis on primary prevention for Neuman's sociocultural and developmental variables of the client system.

Discussion of Findings

Several demographic variables were examined in the study. The demographic characteristics of age, gender, and marital status were the only ones that influenced the subscale results, and none of the demographic characteristics influenced the total score results. These results were consistent with the fact that the Wellness Inventory was

designed for college age subjects, who were also the subjects in this study.

Although several of the subscale t tests for independent samples were statistically significant, the overall score t test for independent samples was not statistically significant. This finding was consistent with the study by Owens (1989) that reported no significant differences between beginning and senior nursing students in terms of self-reported health behaviors. The mean scores of the total Wellness Inventory for both school groups occurred within the range of 350-424, which indicated that the students had many positive aspects in overall lifestyle, yet identified areas that needed improvement. The subjects may have perceived the reporting of positive health behaviors to be highly desirable, and this perception could have influenced the self-reported values. There were no reported results of the Wellness Inventory, college version, in the literature with which to compare these findings (R. Salewske, personal communication, June 14, 1994).

Both school groups had low mean scores for the physical fitness subscale, which was consistent with findings from the study by Viar and Urey (1988) that reported that only 22% of senior nursing students engaged in aerobic exercise. This finding may have been related to the absence of specific instruction concerning physical fitness in most nursing curricula, the lack of time students report having to engage in these behaviors, or the relatively young age of most of the subjects. The schools with a low level of emphasis on

primary prevention had a significantly higher score on the physical fitness subscale. The reason for this finding is unknown.

Six of the Wellness Inventory subscales showed no significant differences in schools with high or low levels of emphasis on primary prevention. The environmental wellness and spirituality and values subscales are not typically addressed in a nursing curriculum and may not be an appropriate measure of level of curricular emphasis. Nutrition, emotional management, emotional awareness and sexuality, and self-care and safety are a part of most nursing curricula, and both school groups demonstrated high mean scores on these subscales, although there were no significant differences in the two levels of emphasis on primary prevention. The high mean scores on the emotional management subscale was in contrast to findings by Haack et al. (1988) that indicated a high prevalence of burnout and depressive symptoms in senior nursing students.

Intellectual wellness is not directly addressed in the nursing curriculum, yet students from schools with a high level of emphasis on primary prevention scored significantly higher on this subscale than did students from schools with a low level of emphasis on primary prevention. It was noteworthy that students from schools with a high level of emphasis on primary prevention also scored significantly higher on the social awareness and occupational wellness subscales than did students from schools with a low level of emphasis on primary prevention, since the content of these

subscales is usually a relevant part of the nursing curriculum. It is of interest to note that the students in the school group with a high level of emphasis also worked more hours per week while in school than did the students in the school group with a low level of emphasis. Perhaps working more hours influences students' self-reported social awareness and occupational wellness activities.

Neuman's (1989) healthcare system model was used as the framework for the study. Using this model, the influence of the curricular emphasis on primary prevention was viewed as a primary prevention intervention on the lives of the nursing students. This conception may have been inaccurate, since the students may not have perceived that the nursing education content about primary prevention was relevant to their own personal health. This study only measured one small part of Neuman's model, and the role of other environmental factors was not measured as a part of this study. Significant differences were found in two of Neuman's variables that are influenced by nursing education content: sociocultural and developmental. As stated before, no significant difference was found in Neuman's other variables: physiological, psychological, and spiritual. Although Neuman's physiological and psychological variables are usually covered to varying degrees in nursing curricula, reference may be made to the content without emphasis on personal enactment of the behaviors.

Summary

Chapter four presented an analysis of the findings. The chapter included the description of the sample for Phases One and Two, the sample demographic characteristics, study findings, Neuman's variables, and the analysis of the null hypothesis.

CHAPTER V

Conclusion, Implications, and Recommendations

The current study used the Neuman systems model (Neuman, 1989) as a framework for the research. The purpose of the study was to determine if there was a difference in the self-reported health behaviors of nursing students enrolled in baccalaureate nursing programs ranked as having high and low levels of emphasis on primary prevention. In this chapter, the study conclusion will be presented, and implications of the conclusion for nursing practice, education, and research will be discussed along with the recommendations for further study.

Study Conclusion

The following conclusion was drawn from the findings of this study given the assumptions and limitations cited in chapter one.

There is no significant difference in the self-reported health behaviors of nursing students from schools having a high level and schools having a low level of emphasis on primary prevention in the nursing curriculum. This means that the level of emphasis on primary prevention in the nursing curriculum does not appear to make a difference in nursing students' own wellness-oriented health behaviors.

The lack of significant results of this study may be due to the possibility that other factors influence and play a stronger role on nursing students' health behaviors than does the emphasis of primary prevention content and activities in a nursing curriculum. Another consideration may be that the instrument selected to measure student health behaviors was not sensitive to student health behaviors that are affected by the curriculum. Conversely, nursing curricular content and learning activities may not emphasize the specific health behaviors that were measured by the Wellness Inventory, college version.

Other possible explanations of the results may be related to the methodology of the study. Perhaps the assumptions made about the study were incorrect. In relation to Phase One of the study, the data from Payne's study may not have discriminated sufficiently between schools, due to imprecise measures of primary prevention content and activities in the curriculum. The recoding of the data from her study may have been inappropriate as the sole determinant of a school's ranking of emphasis on primary prevention. Overall, nursing schools may be more alike than different in their emphasis on primary prevention.

Concerning Phase Two, student self-report of wellness-oriented activities on the Wellness Inventory may have been influenced by personal perceptions of the social desirability of reporting positive health behaviors. The high mean scores found on most of the subscales may have been a result of

students reporting ideal self-behaviors instead of actual behaviors.

Implications

Although the findings of the current study cannot be extended beyond the study population and are influenced by the assumptions and limitations identified in chapter one, there are implications of the research findings for nursing education, nursing practice, and nursing research.

Nursing Education

The findings suggest that further studies are needed on the impact of nursing educational programs on the outcomes of personal health behaviors of nursing students. Nursing faculty need to develop effective means of measuring student outcomes concerning personal health behaviors as an indicator that students have successfully embraced the primary prevention instruction provided in the curriculum. More sensitive, valid, and reliable measures of level of emphasis on primary prevention in the nursing curriculum need to be developed and tested. Finally, a means of verifying faculty reports of primary prevention content and activities in the nursing curriculum needs to be designed.

Nursing Practice

The practice of engaging in primary prevention behaviors by nurses in their personal lives, including in the practice setting, needs to be encouraged. Primary prevention education and learning activities should be an established part of continuing nursing education and become a part of the nurse's daily role modeling of health behaviors. If nurses

practice what they know about promoting and maintaining their own health, this will foster increased nursing credibility with healthcare consumers.

Nursing Research

Nurse researchers should develop methodologies to measure curricular outcomes, including students' own health behaviors. It may be relevant in future studies to examine some physical characteristics, such as height, weight, blood pressure, and lab values (blood cholesterol and blood sugar), along with other self-reported health behaviors. Additional instruments for evaluating curriculum need to be developed at all levels of nursing education. Terminology used to study primary prevention, health promotion, disease prevention, and wellness needs to be defined and standardized to enhance understanding of the practice of nursing through further nursing research.

Recommendations

Based on the findings of the current study, the researcher recommends that:

1. Nurse researchers continue to assess the factors that influence students' health behaviors.
2. Nurse researchers continue to study the impact of the curriculum and educational outcomes.
3. Further testing of the Wellness Inventory, college version, is needed so that findings could be compared across studies.

4. Longitudinal studies be conducted to determine the nursing curricular influence on personal health behaviors of students.

5. Nursing faculty support the inclusion of primary prevention content and activities as part of the nursing curriculum in light of the emerging increased emphasis on this content area as part of healthcare reform.

6. Further development of valid and reliable tools to measure health behaviors that are based on nursing frameworks should be undertaken.

7. The study be replicated with a wider nursing school population using reliable and valid tools and methodologies.

Summary

The findings of this study have added to the body of nursing knowledge about the effects of nursing curricula on nursing students' self-reported health behaviors, as measured by a national wellness inventory in one area of the country. There continues to be a need for increased curricular emphasis on primary prevention. This study found that schools with high and low levels of curricular emphasis on primary prevention had little effect on differences in students' own health behaviors. This finding may reflect the similarities that exist among nursing educational programs rather than diversities. It is hoped the findings of this study will help move nursing education forward toward improved measurements of student outcomes and will assist nursing educators to meet the challenges of the rapidly changing educational and healthcare environments.

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APPENDIX A

Payne's Primary Prevention Concepts in the Curriculum

PAYNE'S PRIMARY PREVENTION CONCEPTS
IN THE CURRICULUM

DIRECTIONS: Circle the number for the appropriate answer or fill in the blank for each question.

1. Is the primary prevention (health promotion & disease prevention) material taught prior to the student's first acute care experience?

1. Yes 2. No

Comments:

2. Approximately where in the nursing program are these concepts primarily taught?

1. Into the first half of the nursing program.
2. Into the second half of the nursing program.
3. Into both halves of the nursing program.
4. Other _____

Comments:

3. Within your particular framework of primary prevention (health promotion & disease prevention) concepts, are the students required to assess their own primary prevention behaviors?

1. Yes 2. No

Comments:

4. Within your particular framework of primary prevention (health promotion & disease prevention) concepts, are the students required to identify personal goals related to these concepts?

1. Yes 2. No

Comments:

5. Within your curriculum framework, approximately how many lecture hours are allocated to each of the following topics?

A. Care of the Community's Health

"Understand the determinants of health, work with others in the community to integrate a range of activities that promote, protect and improve health" (*O'Neil, 1993, p. 8) with special note of cultural values.

1. The Health Belief Models/Betty Neuman Model or Other Health Promotion Model _____
2. Community Assessment _____
3. Environmental Stressors _____
4. Other _____

B. Practice of Prevention and Promotion of Healthy Lifestyles

"Emphasize primary and secondary preventive strategies for all people and help individuals, families and communities maintain and promote healthy behaviors" (*O'Neil, 1993, p. 8).

1. The Nurse's Role in Primary Prevention (Health Promotion & Disease Prevention) _____
2. Biopsychosocial Stressors _____
3. Personal Practices Health Inventory _____
4. Other _____

C. Involve Patients and Families in the Decision-Making Process

"Expect patients and their families to participate actively both in decisions regarding their personal healthcare and in evaluating its quality and acceptability" (*O'Neil, 1993, p. 8).

1. Principles of Teaching/Learning _____
2. Nutrition in Health _____
3. Change Theory _____
4. Other _____

6. Within the integration of these concepts into your curriculum, do you use any texts that are exclusively devoted to primary prevention (health promotion & disease prevention)?

1. Yes 2. No

(If yes, please list the text and author _____).
_____).

7. Does your integrated curriculum include a clinical experience that relates to primary prevention (health promotion & disease prevention)?

1. Yes 2. No

Comments:

8. If students have any experiences that are related to primary prevention (health promotion & disease prevention) at any of the following clinical settings, are they participants or observers:

<u>Setting</u>	<u>Participant</u>	<u>Observer</u>
Adult Day Care	_____	_____
Health Fairs	_____	_____
Schools	_____	_____
Clinics	_____	_____
Community Health Agencies	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Is your primary prevention content based on a nurse theorist?

1. Yes 2. No

If yes, which one? _____

10. Is your nursing curriculum based on a nursing theorist?

1. Yes 2. No

If yes, which one? _____

APPENDIX B

Wellness Inventory

INSTRUCTIONS:

On the answer sheet provided, **please circle the number** that best identifies your response to each corresponding statement.

- 1 ... **Almost never** (less than 10% of the time)
- 2 ... **Occasionally** (approximately 25% of the time)
- 3 ... **Often** (approximately 50% of the time)
- 4 ... **Very often** (approximately 75% of the time)
- 5 ... **Almost always** (90% or more of the time)

◆ PHYSICAL FITNESS

1. I exercise aerobically (continuous, vigorous, sweat-producing exercise for 20-30 minutes) at least 3 times per week.
2. Stretching is a routine part of my exercise program.
3. I walk or cycle as a means of transportation whenever possible.
4. I include weight training in my exercise program at least 2 times per week.
5. If I am not in shape, I avoid sporadic (once a week or less) strenuous exercise. (If you are in shape, answer "5".)
6. I engage in an adequate amount of physical activity to keep my resting heart rate at 60 beats or less per minute.
7. My friends and family support my efforts to exercise regularly.
8. I know my exercise target heart rate and exercise within my target zone.
9. An integral part of my leisure time includes physical activity instead of TV viewing.
10. I maintain my body fat percentage in the acceptable range for my gender. (If you do not know your body fat percentage, answer "1".)

◆ NUTRITION

11. I eat a variety of wholesome, minimally processed foods (fruits, vegetables, whole grains and whole grain products, low fat dairy, and low fat/high protein foods) in moderation.
12. I drink at least eight 8-ounce glasses of water every day.
13. I consume all of my calories before 8:00 p.m.
14. I include cruciferous vegetables (cabbage, broccoli, cauliflower, Brussels sprouts) in my daily diet.
15. I limit my salt intake by not salting my food at the table.
16. I avoid eating foods that are high in fat (fatty cuts of meat, whole milk dairy products, fried foods, hot dogs, processed foods, rich desserts, and creamy sauces).
17. I eat at fast food restaurants once per week or less.
18. I include whole grain breads and/or cereals in my diet every day.
19. I maintain the recommended weight for my height and gender.
20. I eat at least five servings (one serving equals 1/2 cup) of fruits and/or vegetables every day.

Copyright, 1993 by the National Wellness Institute, Inc. All rights reserved. No part of this questionnaire may be reproduced, stored, or transmitted by any means—mechanical, electronic, or otherwise. National Wellness Institute, Inc., 1045 Clark Street, Suite 210, Stevens Point, WI 54481-2962; (715) 342-2969

◆ SELF-CARE AND SAFETY

21. I refrain from riding with vehicle operators who are under the influence of alcohol or other drugs.
22. I examine my breasts or testes on a monthly basis.
23. I choose not to use tobacco products.
24. I get 6 - 8 hours of sleep every day.
25. I wear my seat belt and/or shoulder harness while traveling.
26. I floss my teeth every day.
27. When I travel on a motorcycle, bicycle, or all-terrain vehicle, I wear a helmet.
28. I take action to protect my skin from damage caused by overexposure to the sun, tanning booths, or sun lamps.
29. I choose to enjoy myself without the use of alcohol or drugs.
30. I maintain my blood cholesterol level within the range recommended by my doctor. (If you have never had your cholesterol checked, answer "1".)

◆ ENVIRONMENTAL WELLNESS

31. To conserve energy, I turn off lights and electrical appliances (such as stereos, televisions, or curling irons) when I am not using them.
32. I carpool or take as many riders as I safely can when I am driving a car. (If you do not drive, answer "5".)
33. In order to protect fish and wildlife, I cut or tear plastic six-pack rings before throwing them away. (If you do not use these items, answer "5".)
34. I do not purchase food packaged in styrofoam.
35. When I go shopping, I take my own reusable bag to carry my purchases rather than accept plastic or paper bags.
36. I do not let the faucet run while I am brushing my teeth, shaving, or washing my car.
37. I regularly recycle my paper, plastic, glass and aluminum.
38. I am involved in learning more about how I can protect the environment.
39. I encourage others to support efforts to protect the environment.
40. I purchase products made with recycled materials whenever possible.

◆ SOCIAL AWARENESS

41. My behavior reflects fairness and justice.
42. I contribute to the feeling of acceptance with my family, friends, and coworkers.
43. I resolve conflict in a positive and respectful manner.
44. I refrain from operating a vehicle while I am under the influence of alcohol or other drugs.
45. I keep up to date with world news.
46. I participate in local or national politics.
47. I help others in need.
48. When I notice a safety hazard, I take action to correct the situation.
49. I initiate discussions with individuals who are from a different cultural or ethnic background from me.
50. I participate in university/community events.

◆ EMOTIONAL AWARENESS AND SEXUALITY

51. I am able to develop close, intimate, personal relationships.
52. I respect the value of a long-term monogamous relationship.
53. I have positive relationships with men in my life.
54. I have positive relationships with women in my life.
55. I have satisfying relationships with other people that are not sexual in nature.
56. I respect other people's decisions to engage or not engage in sexual behavior.
57. I understand how sexually transmitted diseases, including AIDS, are spread.
58. If I engage in sexual intercourse I use reliable, proven methods to prevent unwanted pregnancy. (If you do not engage in sexual intercourse, answer "5".)
59. I respect the rights of others who have different sexual orientations.
60. If I engage in sexual behavior I use condoms to minimize the risk of spreading or contracting sexually transmitted diseases. (If you do not engage in sexual behavior, answer "5".)

◆ EMOTIONAL MANAGEMENT

61. I express my feelings of anger in ways that are not hurtful to others.
62. I can say "no" without feeling guilty.
63. I can accept the things about myself that I cannot change.
64. I keep things in perspective.
65. I include relaxation time as part of my daily routine.
66. When I make mistakes, I learn from them.
67. I set realistic objectives for myself.
68. I can relax my body and mind without the use of drugs or alcohol.
69. I accept responsibility for my actions.
70. I accept responsibility for creating my own feelings.

◆ INTELLECTUAL WELLNESS

71. I keep informed about social and political issues.
72. I am interested in learning about scientific discoveries.
73. I make an effort to maintain and improve my writing and verbal skills.
74. I seek opportunities to learn new things.
75. I participate in activities such as visiting museums, exhibits, and zoos, or attending plays and concerts at least three times a year.
76. I watch educational programs on television or listen to educational programs on the radio.
77. I actively pursue learning about topics that interest me.
78. I read about different topics from a variety of newspapers, magazines, or books.
79. I gather information from several sources before making important decisions.
80. I am interested in understanding the views of others.

◆ OCCUPATIONAL WELLNESS

81. Enjoyment is a consideration I use when making occupational choices.
82. I take advantage of opportunities to learn new skills which will enhance my future employment possibilities.
83. I am knowledgeable about the skills necessary for the occupations in which I am interested.
84. I am aware of the time commitment necessary to pursue the occupations of my choice.
85. I am aware of how plans for my personal life may affect future occupational choices.
86. I strive to attain a good work ethic.
87. I am satisfied with my ability to make my own choice of occupation.
88. I actively pursue information about different occupations that may be of interest to me.
89. I am aware of occupational choices that I am well suited for.
90. I am aware of my own strengths and skills.

◆ SPIRITUALITY AND VALUES

91. I am satisfied with my spiritual life.
92. I spend a portion of every day in prayer, meditation, and/or personal reflection.
93. I feel a sense of connectedness with other human beings.
94. I am mainly guided by my "inner self" rather than the expectations of others.
95. I am concerned about humanitarian issues.
96. My values guide my daily life.
97. My leisure time activities are consistent with my values.
98. I respect the right of others to choose different values and beliefs.
99. I offer support to individuals who are seriously ill or dying.
100. I feel that my life has a positive purpose.



National Wellness Institute, Inc., 1045 Clark Street, Suite 210, Stevens Point, WI 54481-2962 (715) 342-2969

APPENDIX C

Permission to Use Neuman Systems Model

July 9, 1994

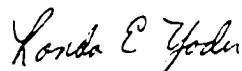
Dr. Betty Neuman
Box 77
Watertown, OH 45787

Dear Dr. Neuman:

I am preparing to complete my dissertation research for a doctoral degree at the University of Alabama-Birmingham. I am studying the health behaviors of nursing students as they are affected by the amount of teaching about primary prevention done in their nursing programs. My dissertation builds on the research of Peggy Payne's dissertation on the teaching of primary prevention competencies in BSN and AD nursing programs in the SREB area. I have ranked the schools in the SREB, which completed Dr. Payne's tool, based on the amount of primary prevention taught in the program. My subjects will be drawn from the highest and lowest ranked schools to survey the health behaviors of their senior nursing students, using the Wellness Inventory, College version, developed by the National Wellness Institute.

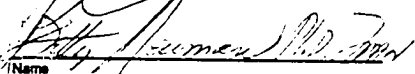
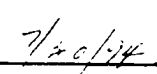
I request permission to use a copy of diagrams of the model in my dissertation. I will be looking forward to hearing from you.

Sincerely,



Ronda E. Yoder

I give permission for use of my theoretical framework and copies of diagrams of the model in the dissertation described above.


Name
Date

APPENDIX D

Permission to Use Payne's Research Data

1245 Langley Ave.
Pensacola, FL 32504
May 2, 1994

Dr. Peggy L. Payne
5327 Coronado Drive
Charlotte, NC 28212

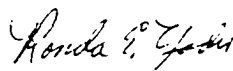
Dear Dr. Payne:

I am preparing to complete my dissertation research for a doctoral degree at the University of Alabama-Birmingham. I am studying the health behaviors of nursing students as they are affected by the amount of teaching about primary prevention done in their nursing programs. I would like to build on the research of your doctoral dissertation on the teaching of primary prevention competencies in BSN and AD nursing programs in the SREB area.

By using the anonymous data you obtained, I would like to recode the results of your tool: Primary Prevention Concepts in the Curriculum to obtain a ranking of the schools in the SREB, which completed your tool, based on the level of emphasis of primary prevention taught in the program. My subjects for the second phase of my research would then be drawn from the highest and lowest ranked schools to survey the health behaviors of their senior nursing students, using the Wellness Inventory, College version, developed by the National Wellness Institute.

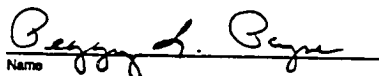
I request permission to use your anonymous data and to include a copy of your tool in my dissertation. I will be looking forward to hearing from you.

Sincerely,



Ronda E. Yoder

I give permission to use my anonymous data to rank schools based on level of emphasis on primary prevention and to include a copy of my tool: Primary Prevention Concepts in the Curriculum in the dissertation described above.


Name

5/4/94
Date

APPENDIX E

Phase One Recoding Procedure

After obtaining the raw data from Payne's study and entering the data into SPSS, four questions (2, 8, 9, 10) were determined to be irrelevant to a ranking of emphasis on primary prevention. Five yes/no questions (1, 3, 4, 6, 7) and one short answer (5) were selected as being particularly relevant to a ranking of level of emphasis on primary prevention.

I. Question 1: "Is the primary prevention (health promotion & disease prevention) material taught prior to the student's first acute care experience?" (Payne, 1993, p.83) yes/no

- Richardson and Petrarca (1990) identified the importance of providing primary prevention teaching and clinicals before acute care experiences so the students can value primary prevention activities as a major part of the nurse's role.
- Thus, a "yes" response was assigned one point, and a "no" response was assigned zero points.

II. Question 2: "Approximately where in the nursing program are these concepts primarily taught?" (Payne, 1993, p.83) first half/second half /both/other

- This question was ambiguous, and schools had difficulty determining what was meant by each of the response choices. No foundation was found for weighting any of the responses as being more beneficial to primary prevention learning.
- This item was not used in the ranking.

III. Question 3: "Within your particular framework of primary prevention (health promotion & disease prevention) concepts, are the students required to assess their own primary prevention behaviors?" (Payne, 1993, p.83) yes/no

- All sources consulted identified the importance of this question for enhancing student health behaviors. Payne (personal communication, June 16, 1994) identified this question as being one of the most important indicators she had of the level of instruction on primary prevention.
- Thus, a "yes" response was assigned two points, and a "no" response was assigned zero points.

IV. Question 4: "Within your particular framework of primary prevention (health promotion & disease prevention) concepts, are the students required to identify personal goals related to these concepts?" (Payne, 1993, p.83) yes/no

- All sources consulted identified the importance of this question for enhancing student health behaviors. Payne (personal communication, June 16, 1994) identified this question as being one of the most important indicators she had of the level of instruction on primary prevention.
- Thus, a "yes" response was assigned two points, and a "no" response was assigned zero points.

- V. Question 5: "Within your curriculum framework, approximately how many lecture hours are allocated to each of the following topics?" (Payne, 1993, p.84)
1. The Health Belief Models/Betty Neuman Model or Other Health Promotion Model
 2. Community Assessment
 3. Environmental Stressors
 4. The Nurse's Role in Primary Prevention (Health Promotion & Disease Prevention)
 5. Biopsychosocial Stressors
 6. Personal Practices Health Inventory
 7. Principles of Teaching/Learning
 8. Nutrition in Health
 9. Change Theory
- Payne (personal communication, June 16, 1994) identified this question as being one of the most important indicators she had of the level of instruction on primary prevention, yet there was a wide range of hour reported for each of the nine content areas.
 - A cumulative frequency was obtained for each response. By determining the response that marked the break at 33% and 66% of the frequencies, a recode score was obtained. A recode value of 0 was given for all values less than a cumulative frequency of 33%, a recode value of 1 was given for all values having a cumulative frequency between 34-66%, and a recode

value of 2 was given for all values having a cumulative frequency greater than 66%.

VI. Question 6: "Within the integration of these concepts into your curriculum, do you use any texts that are exclusively devoted to primary prevention (health promotion & disease prevention)?" (Payne, 1993, p.85)
yes/no

- Since nursing students continue to use textbooks as references after graduation, requiring a text for primary prevention would enhance the student's resources for learning.
- Thus, a "yes" response was assigned one point, and a "no" response was assigned zero points.

VII. Question 7: "Does your integrated curriculum include a clinical experience that relates to primary prevention (health promotion & disease prevention)?" (Payne, 1993, p.85) yes/no

- Clinical experiences provided would enhance the student's learning about primary prevention.
- Thus, a "yes" response was assigned one point, and a "no" response was assigned zero points.

VIII. Question 8: "If students have any experiences that are related to primary prevention (health promotion & disease prevention) at any of the following clinical settings, are they participants or observers:" (Payne, 1993, p.85)

1. Adult Day Care
2. Health Fairs

3. Schools
4. Clinics
5. Community Health Agencies

- There was no clear way to score this answer in the ranking of level of emphasis on primary prevention. Question 7 had addressed similar material with a yes/no response and was considered adequate for measuring this material.
- This item was not used in the ranking.

IX. Question 9: "Is your primary prevention content based on a nurse theorist?" (Payne, 1993, p.85) yes/no

- The relevance of having a specific theorist for primary prevention for enhancing the level of emphasis on primary prevention was unclear.
- This item was not used in the ranking.

X. Question 10: "Is your nursing curriculum based on a nursing theorist?" (Payne, 1993, p.86) yes/no

- This question was not of value in ranking the level of emphasis on primary prevention.
- This item was not used in the ranking.

APPENDIX F

Dean's Invitation to Participate

1245 Langley Ave.
Pensacola, FL 32504
August 5, 1994

Dear Dean:

As a doctoral candidate in the Graduate School of the School of Nursing, University of Alabama - Birmingham, I would like to invite you to participate in a study to examine the curriculum outcome health behaviors of senior nursing students. The purpose of this study is to identify the extent to which your curriculum's primary prevention emphasis is affecting the outcome health behaviors of your nursing students. The results of this study will further nursing curriculum research and nursing educational outcomes.

As you are aware, I am building my study on the doctoral research of Peggy Payne. By using data from Dr. Payne's 1993 research on primary prevention competencies in nursing programs, your school has been selected to be included in my study about the health behaviors of nursing students. I would like to administer the Wellness Inventory, college version, to a volunteer sample of the generic senior nursing students in your program. It will take approximately 20 minutes for your students to complete the questionnaire.

At this time, I am unaware of your school's identity, as this letter is being sent to you by Dr. Payne. I would appreciate your willingness to participate in my study. Please complete and return the enclosed postcard addressed to Dr. Payne with your decision of whether or not you consent to participate in my study. Upon receipt of your positive response, Dr. Payne will provide me with your school name, and then I will contact your representative to arrange for administering the survey. If you do not wish to participate, Dr. Payne will not provide your school's name to me.

In appreciation of your participation, I would like to offer you a summary of the results of your students health behaviors as measured by the nationally-known Wellness Inventory, as well as an abstract of my dissertation. If you would like to receive either of these items, please indicate that on the enclosed postcard.

I look forward to your acceptance of my invitation for your school to participate in this research and to a successful curriculum outcome research study.

Sincerely,

Ronda E. Yoder, RN, MSN
Doctoral Candidate

APPENDIX G
Response Postcard

Primary Prevention - Health Behavior Study

Yes, I agree to have our nursing program participate in the Health Behavior Study, and I give permission for Dr. Peg Payne to provide my name to the researcher of this study.

No, I do not wish to have our nursing program participate in this study.

Signature of Dean of Nursing School Name

Printed Name of Dean Address

Name of Contact Person Address of Contact Person

Phone Number(s) of Contact Person Address of Contact Person

Date semester begins _____

Fall 1994 generic senior nursing student enrollment _____

Type of institution (check all that apply):

public private religious

Request reports: Abstract of study

Summary of school results

APPENDIX H
Reminder Postcard

Dear Dean:

A few weeks ago, we sent you a mailing inviting your senior nursing students to participate in a doctoral research study concerning health behaviors. We requested a response with your acceptance or dissent to participate in the study. Perhaps you have forgotten or have been too busy to respond. Would you please take time to respond at this time?

If you no longer have the materials we sent, we would be glad to send you a replacement. Please contact Dr. Peggy Payne at the following address:

Dr. Peggy Payne
5327 Coronado Dr.
Charlotte, NC 28212
(704) 563-1293

Thank you very much for your attention in this matter.

Sincerely,

Ronda E. Yoder, RN, MSN
Doctoral Candidate

Peggy L. Payne, RN, DSN

APPENDIX I

Institutional Review Board Approval



Office of the Institutional Review Board for Human Use

FORM 4: IDENTIFICATION AND CERTIFICATION OF
RESEARCH PROJECTS INVOLVING HUMAN SUBJECTS

THE INSTITUTIONAL REVIEW BOARD (IRB) MUST COMPLETE THIS FORM FOR ALL APPLI-
CATIONS FOR RESEARCH AND TRAINING GRANTS, PROGRAM PROJECT AND CENTER GRANTS,
DEMONSTRATION GRANTS, FELLOWSHIPS, TRAINEESHIPS, AWARDS, AND OTHER PROPOSALS
WHICH MIGHT INVOLVE THE USE OF HUMAN RESEARCH SUBJECTS INDEPENDENT OF SOURCE
OF FUNDING.

THIS FORM DOES NOT APPLY TO APPLICATIONS FOR GRANTS LIMITED TO THE SUPPORT
OF CONSTRUCTION, ALTERATIONS AND RENOVATIONS, OR RESEARCH RESOURCES.

PRINCIPAL INVESTIGATOR: RONDA E. YODER

PROJECT TITLE: IMPACT OF EMPHASIS ON PRIMARY PREVENTION IN THE NURSING CURRICULUM
ON THE HEALTH BEHAVIORS OF SENIOR NURSING STUDENTS

1. THIS IS A TRAINING GRANT. EACH RESEARCH PROJECT INVOLVING HUMAN
SUBJECTS PROPOSED BY TRAINEES MUST BE REVIEWED SEPARATELY BY THE
INSTITUTIONAL REVIEW BOARD (IRB).
2. THIS APPLICATION INCLUDES RESEARCH INVOLVING HUMAN SUBJECTS. THE
IRB HAS REVIEWED AND APPROVED THIS APPLICATION ON _____
IN ACCORDANCE WITH UAB'S ASSURANCE APPROVED BY THE UNITED STATES
PUBLIC HEALTH SERVICE. THE PROJECT WILL BE SUBJECT TO ANNUAL
CONTINUING REVIEW AS PROVIDED IN THAT ASSURANCE.
- THIS PROJECT RECEIVED EXPEDITED REVIEW.
- THIS PROJECT RECEIVED FULL BOARD REVIEW.
3. THIS APPLICATION MAY INCLUDE RESEARCH INVOLVING HUMAN SUBJECTS.
REVIEW IS PENDING BY THE IRB AS PROVIDED BY UAB'S ASSURANCE.
COMPLETION OF REVIEW WILL BE CERTIFIED BY ISSUANCE OF ANOTHER
FORM 4 AS SOON AS POSSIBLE.
4. EXEMPTION IS APPROVED BASED ON EXEMPTION CATEGORY NUMBER(S) 2.

DATE: 8-12-94

Russell Cunningham, M.D.
RUSSELL CUNNINGHAM, M.D.
INTERIM CHAIRMAN OF THE
INSTITUTIONAL REVIEW BOARD

The University of Alabama at Birmingham
1170R Administration Building • 701 South 20th Street
Birmingham, Alabama 35294-0111 • (205) 934-3789 • FAX (205) 975-5977

APPENDIX J
Demographic Tool

DEMOGRAPHIC INFORMATION

1. Sex: Male ₁ Female ₂ (6)
2. Race: White ₁ Black ₂ Hispanic ₃ Asian ₄ American Indian ₅ Other ₆ _____ (Specify) (8)
3. Age: _____ (10-11)
4. Years of full time formal education since high school: _____ (13)
5. Have you ever pursued coursework in another major besides nursing?
No ₁ Yes ₂ Please specify discipline _____
Degree (if completed) _____ (15)
6. Have you ever completed a nursing degree/diploma program?
No ₁ Yes ₂ _____ (Specify type of program) (17)
7. Marital status: Married ₁ Widowed ₂ Separated ₃ Divorced ₄
Single ₅ (19)
- Which of the following choices **BEST** describes your living situation while attending school? (21)
8. With whom do you live? Alone ₁ Friends/Roommates ₂ Parents ₃ Spouse ₄
Spouse & children ₅ Children ₆ Other ₇ _____ (Specify) (23)
9. Which best describes your housing? Dormitory ₁ Apartment/Condo ₂
House ₃ Other ₄ _____ (Specify) (25)
10. Who is primarily responsible for your meal preparation? Self ₁ Parent ₂ Spouse ₃
School (cafeteria) ₄ Restaurants ₅ Other ₆ _____ (Specify) (27)
11. Primary mode of transportation: Drive car ₁ Ride in car ₂ Bike ₃ Public
transportation ₄ Walk ₅ Other ₆ _____ (Specify) (29)
12. Do you work while attending school? No ₁ Yes ₂ (31)
- If yes, how many hours per week do you work, on an average, while attending school?
1-10 ₁ 11-20 ₂ 21-30 ₃ 31-40 ₄ > 40 ₅ (31)

APPENDIX K

Letter to Contact Person

1245 Langley Avenue
Pensacola, FL 32504
September 6, 1994

Dear

:

Enclosed please find the materials we discussed for the health behavior study with senior nursing students. I want to again express my appreciation to you for assisting in this part of data collection. Your efforts will really help me complete this study in a timely manner.

As we have discussed, the students eligible for the study are generic senior nursing students who are expected to graduate during the 1994-1995 school year. Enclosed are the guidelines to be read when instructing the students prior to completing the surveys. Please read the instructions for yourself prior to the survey time. If you have any questions about the administration of the survey, please feel free to call me at 904-484-8228. When you are reading the instructions to the students, please read verbatim from the script. This will insure all students at all schools are getting the same instructions. Please allow time for questions after giving the instructions and before the surveys are completed.

I have enclosed adequate survey packets for more than ___ senior nursing students. There are also small appreciation gifts for you and the students enclosed. My name and phone number are on these items, should the students have further questions about the study.

When the surveys are completed, place all the survey packets in the enclosed self-addressed, stamped envelope, along with any extra appreciation gifts and return the envelope to me. If you have any further questions or comments during the administration, you may write them on the back of the student instructions and return that to me as well. I will respond as soon as I receive the surveys.

According to my notes, you stated you plan to administer the surveys _____. I request that you return the completed surveys by _____. Again, I must express my sincere appreciation for the extra effort you are taking to assist me in this endeavor. I really am grateful for your interest in this research and am looking forward to the successful conclusion of this study.

Sincerely,

Ronda E. Yoder, RN, MSN
Doctoral Candidate

APPENDIX L

Student Instruction Guidelines

You are invited to participate in a study of the health behaviors of senior nursing students. Students at several other schools in the South are also being asked to participate. The purpose of the study is to determine if there is a difference in the health behaviors of nursing students enrolled in BSN nursing programs that have different levels of emphasis on primary prevention.

Participation in this study is voluntary. We are interested in collecting data from senior nursing students who do not have a college degree or a nursing diploma. Therefore, if you are not a senior nursing student or you have a college degree or a nursing diploma, you are free to leave at this time. The survey will take approximately 20 minutes to complete. All information provided on the survey will remain anonymous. I will place the completed surveys in an envelope and return them to the researcher. The code found on the questionnaire will only help the researcher in record-keeping and cannot be linked to you in any way. If you do not choose to participate, you may leave at any time. Completion of the survey will be considered consent to participate in the study. When you are finished, return your survey packet to me. You will be given a small health promotion memento in appreciation for participating in the study.

You may use a pen or dark pencil to complete the survey. Please be sure to clearly mark one answer for each question. Please direct your attention to the wellness survey. At the top of the first page you will find instructions for

selecting responses. If you are unsure about how to respond to a question, please refer again to these instructions, which are also found at the top of the answer sheet. It would be helpful to refer to these instructions throughout your completion of the survey.

Your participation in this survey is greatly appreciated.

Does anyone have any questions?

GRADUATE SCHOOL
UNIVERSITY OF ALABAMA AT BIRMINGHAM
DISSERTATION APPROVAL FORM

Name of Candidate Ronda B. Yoder

Major Subject Adult Health Nursing

Title of Dissertation Primary Prevention Emphasis and Self-Reported

Health Behaviors of Nursing Students

Dissertation Committee:

Kathleen J. Mahan, Chairman _____
Camela Ardva _____
Alfred G. Bantleman _____
Judy Holcombe _____
R. D. M. J. J. J. _____

Director of Graduate Program Elyabeth Stullenbarger

Dean, UAB Graduate School John F. L. L.

Date 10-28-94