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Perceived Stress and Health-Promoting Behaviors in Nursing Students Using Pender's Health Promotion Model

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PERCEIVED STRESS AND HEALTH-PROMOTING BEHAVIORS IN NURSING STUDENTS USING PENDER'S HEALTH PROMOTION MODEL

By

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ABSTRACT

PERCEIVED STRESS AND HEALTH PROMOTING BEHAVIORS USING THE HEALTH PROMOTION MODEL

The purpose of this descriptive, correlational study was to add support to the literature that there is a relationship between the perceived stress (Student Stress Inventory) that nursing students report and their practice of health-promoting behaviors (Health Promoting Lifestyle Inventory). A convenience sample of 36 first-year associate degree nursing students was obtained. The conceptual framework used was Pender's Health Promotion Model. No relationships were found between demographic variables and perceived stress. Results indicated that subjects reported they engaged in health-promoting behaviors more than sometimes and they perceived themselves overall as slightly stressed. A negative correlation between perceived stress and health-promoting behaviors was identified but it was not statistically significant. Analysis of the stress subscales indicated the area of highest stress was personal factors (four students rated this extremely stressful), followed by classroom and clinical. College environment was perceived as the least stressful.

DEDICATION

I dedicate this thesis to the people who mean most to me--my family. First my parents Homer and Nancy Blackledge who gave me the drive, the desire, and the ability to reach for the stars. Second to my sisters Ann Whitaker and Lynn Gust who were alway there to give a helping hand and words of encouragement. Finally, to the people that have given up the most, the angels I hold most dear--my children, Joshua, Amanda, Nancy and Sarah, who were alway there with a smile to hug me, love me, and scratch my back. I love you all.

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CHAPTER 1

INTRODUCTION

The attrition rate for nursing students is as high as 30 percent (Lees, 1990) and research studies have indicated that stress is a major cause (Lees, 1990; Lindop, 1993). A comparative study by Vaslamatzis, Bazas, Lyketsos & Katsouyanni (1985) indicated that nursing students had significantly higher rates of depression than other college students. The higher rates were associated with the stresses of nursing school expectations. Two highly stressful episodes are identified as academic work and emotional demands (Clark & Ruffin, 1992). There have been conflicting research reports on the nursing students' perceived importance of health-promoting behaviors. Some students identify health promotion as important throughout nursing school (Soeken, Bausell, Winkelstein & Carson, 1989; Gorin, 1992) while other students have a declining perception of health promotion (Donoghue, Suffield, Pelletier & Adams, 1990). Severtsen and Bruya (1986) were able to identify that perceived stress in nursing students declined after six weeks of aerobic exercises. Other studies have shown an increase in health-promoting behaviors by nursing students after implementing a self-appraisal of

their life styles (Boyle & Ahijevych, 1987; Weisensee, Anderson & Lapp, 1989). Studies have indicated that health promotion can help students successfully manage stress (Pender, 1987; Millar & Millar, 1990).

Various research studies (Lindop, 1987, 1989, 1991; Lees, 1990) have established that nursing students leave nursing school for a variety of reasons, but one of the major reasons is stress. Lees (1990) has identified that the attrition rate for nursing students is as high as 30%. In a study done by Severtsen and Bruya (1986) one of the prevalent concerns of the nursing faculty was the students' inability to cope. The faculty felt the problem was not so much the student's coping skills but the extraordinarily high level of stress associated with being in nursing school.

Although many students are aware that one of the roles of a nurse is to promote healthy behaviors, there is a reduction in health-promoting behaviors when a student is in nursing school (Donoghue, et al., 1990). Nursing students experience a conflict between knowing what they should do to be healthy and doing it.

It has been this researcher's experience that nursing students support health-promoting behaviors and are actively teaching their clients these behaviors but do just the opposite for themselves. Students start to eat fast food in greater frequency, eliminate needed sleep, decrease their

exercise and relaxation time while exhibiting increased stress (e.g. decreased ability to adapt to new situations, increased irritability, and reduced attention span). The purpose of this study is to add support to the literature that there is a relationship between the perceived stress nursing students report and their practice of health-promoting behaviors. Stress due to the workload in nursing school could have an impact on the students' health-promoting behaviors (Richter, Malkiewicz & Shaw, 1987). Health promotion behaviors can facilitate effective stress management (Pender, 1987).

CHAPTER 2

LITERATURE REVIEW

The body of literature reviewed consisted of research conducted in the areas of nursing students and perceived stress and health promotion. The first two studies on stress were conducted in Britain and Greece. The remaining studies were conducted in the United States. Also reviewed was the development and utilization of the Health Promotion Model, the conceptual framework to be used in this study.

Stress

The attrition rate in Great Britain for nursing students is 15-30%. A research project was conducted with 20 trained nurses, 20 nursing students and 13 ex-nursing students as participants. The purpose of the project was aimed at providing information to assist in designing a stress management program for nursing students to help decrease attritition rate. The researchers examined the reasons underlying nursing students' attrition and susceptibility to leaving nursing school. The research instruments used were: Open-ended interview, 16PF Personality Questionnaire, Gambrille & Richey Assertion Inventory, Revised Ways Of Coping Questionnaire, and Culture-Free Self-Esteem Inventory. Answers from open-ended

interview were tabulated according to frequency of occurrences. Results indicated that stress was the major cause of attrition in nursing students, with 54% of the students citing stress as the major contributing factor to leaving nursing school (Lees, 1990).

Vaslamatzis, et al. (1985) conducted a comparative study of Greek nursing students. The purpose of this study was a comparative evaluation of anxiety, depression, and personality deviances of nursing students. The experimental group consisted of 275 student nurses and a comparison group of 51 physio-therapy students and 57 education students. The tool used was Foulds' Scale of anxiety and depression and personality deviance. Results indicated that nursing students scored significantly higher in depression than education students and associated this with the stresses of nursing school expectations ($p < 0.001$).

Clark and Ruffin (1992) conducted a research study of nursing students using a questionnaire assessing background and perceived stressors. The purpose of this study was to identify the major stressors, determine whether the sources of stress differed with nursing students, and compare the anticipated levels and sources of stress with the actual levels and sources of stress perceived by the nursing students. The questionnaire was developed by the researchers. Forty first-year nursing students were asked to write a list of all factors they expected to be stressful

in nursing school. A composite list was made containing all items mentioned by four or more nursing students. This list was then reviewed by three nursing education experts and their suggestions were added to complete the list. The responses to the twenty-eight items on the list were submitted to principle component factor analysis. This yielded five factors accounting for 67 percent of the variance. The factors were interpersonal interaction, emotional demands, study demands, family/personal, and technology. The internal consistency of the scales was assessed using Cronbach alpha coefficients. The first three scales all exceeded the acceptable level of .70, with and alpha of .93 for interpersonal interaction, .85 for emotional demands, and .79 for study. The remaining two scales were lower with an alpha of .58 for Family/Personal and .64 for Technology. The lower alphas for the last two scales may have been due to the short length of the scales with only three and two items respectively. All scales were considered to be adequate. The questionnaire was completed by the students during the second week of the academic year and at the conclusion of the first year of their education. There were 306 students from three institutions (university, college of advanced education, and hospital) in the initial sample and 135 out of 189 students in the second sample (due to a different timetable being used by one of the institutions, follow-up data were unavailable). Composite

scores were obtained by computing the mean score across all items on each scale. The area of concern with the highest mean score was study demands (mean = 3.3), and the next highest areas were emotional demands of nursing (3.0), technical equipment (2.8), interpersonal/ interaction (2.4), and family/personal (2.3) (Clark & Ruffin, 1992).

Richter, et al. (1987) conducted a research study consisting of 78 junior level nursing students. The purpose of the study was to determine if there were significant differences in health promotion behaviors in three groups of nursing students. Group one completed a course in health-promoting behaviors, group two participated in a personalized health assessment program, and group three was a control group where no specific intervention was used. The control group enrolled in the normal ten-week adult health nursing course. The Lifestyle Assessment Questionnaire (LAQ) was given at the initiation of specific interventions and again six months after the initial assessment. The three groups had significant differences ($F = 5.24$, $p \leq .01$) on the LAQ Exercise subscale. The Scheffe Multiple comparison test demonstrated that a difference existed between Group 2 (health assessment program) and Group 1 (health promotion course), and between Group 3 (control group) and Group 1. The mean score decreased for exercise for the subjects in Group 2 and Group 3. The mean score increased slightly for Group 1. After 6 months, Group

1 subjects were the only ones who reported an increase in exercise. The three groups also differed significantly ($F = 7.35$, $p = \leq .01$) in the extent of change to their pulse rate. Scheffe multiple comparison tests indicated the significant differences were between Group 2 and Group 3, and between Group 1 and Group 3. The mean pulse rate, over the course of six months, increased in all groups but the increase was greater when comparing Group 2 to Group 3 and Group 1 to Group 3. Overall there was a decrease in health promotion scores for all three groups over the six months while blood pressure and apical pulse generally increased in all three groups. During the course of the study some of the subjects verbalized frustration to the researchers over the reduction of their health-promoting behaviors--there was a conflict of knowing what they should be doing to be healthy and not being able to achieve these goals because of school schedules.

Severtsen and Bruya (1986) conducted a study to examine the effects of two stress reducing activities on the EEG pattern of nursing students. Ten junior and senior nursing students completed the study. Stress was determined using the Stanford University Stress Level Test and the Holmes-Rahe Social Adjustment Rating Scales. The students met as a group to discuss the Selye General Adaptation Syndrome Model then they completed the Holmes-Rahe Social Adjustment Rating Scale and the Stanford University Stress Level Test.

Baseline EEG readings were obtained on all subjects while in a comfortable recliner chair and with environmental stimuli kept to a minimum. One researcher obtained all EEG's. Following the EEGs subjects were randomly divided into two equal groups. One group was given instructions on a meditation exercise, how to practice meditation, and allowed to practice for five minutes after which there was a discussion on problems. The other group was instructed in the principles of aerobic heart rate. Instructions were given to both groups to follow aerobic exercises or the meditation exercise for a minimum of 15 to 20 minutes each day for six weeks. After six weeks an EEG was repeated under conditions identical to the original exam. All subjects met together to retake the Holmes-Rahe Social Readjustment Scale and Stanford University Stress Level Test and discuss with one researcher their perception of their stress level increasing, decreasing, or remaining the same. Results indicate no statistical significance for either the meditation group or the exercise group on EEG patterns. Changes in self-assessment scores using the Stanford instrument indicate no statistical significance between groups. There was a reduction in perceived stress after six weeks for both groups (meditation before, mean = 7.4, and after, mean = 6.8; exercise before, mean = 10.4, and after, mean = 8). This reduction cannot be attributed to the meditation and exercise alone and other variable were not

investigated. The self-assessment scores on the Holmes-Rahe scale indicate an overall reduction in mean after the six weeks (meditation before, mean = 310.4, and after, mean = 261; exercise before, mean = 686.2 and after, mean = 531.2).

Health Promotion

Gorin (1992) conducted a cross sectional survey of 505 senior nursing students, in 13 different nursing schools, using the Nurses and Health Survey Questionnaire. The purpose of the study was to examine nursing students' attitudes and beliefs toward health promotion. The questionnaire was completed in either the students' second year of nursing school or in October of the senior year of nursing school. Kendall's Coefficient of Concordance was used to measure subjects perception of health promotion importance. Results of Kendall's Test are: N = 505; W = .259; Chi-Square = 2270.01; d.f. = 22; and Significance p = .0000. Results supported a previous study done by Soeken et al. (1989), identifying that nursing students rate health promoting activities (cessation of smoking, improved nutrition, and increased use of safety belts, and participation in medical decision-making) as most important.

A three year longitudinal study was conducted by Donoghue et al. (1990) to determine the attitudes of nursing students toward health promotion. The students were surveyed at the beginning of each academic year, of a three year program, using a open-ended questionnaire format.

Content analysis of written responses were completed and twelve categories of nursing functions were identified. One hundred responses were independently categorized by two researchers and inter-rater reliability was 88.24 percent. The raw scores attained for each function were divided by the number of students completing the questionnaire to give a group mean score. The first group of students, starting nursing school in 1985, ranked health promotion fourth during their first year, third during their second year, and fifth during their third year. The second group of students, starting in 1986, ranked health promotion second during their first and second year, and ranked it fifth during their third year. The final report on the students' starting in 1987 are not in. Current results indicate that nursing students' perception of importance of health-promoting behaviors declined during nursing school.

Weisensee, Anderson & Lapp (1989) implemented a learning project to enable University of Minnesota nursing students to assess, plan and evaluate their own lifestyles. The goal of the project was for students to try to make positive life-style changes. The conceptual model consisted of four parameters that contribute to health (health care system, environment, genetic make-up, and life-style). The project had three phases. In the first phase students wrote their concept of health, completed a health-assessment and developed a health promotion plan for

themselves. For phase two the students submitted a progress report. Most students, recognizing personal and social barriers, found modifications necessary. During the final phase the students synthesized all activities, accomplishments, and wrote their concept of health again. Through this project students became aware that certain parts of their life style needed modification. Many students increased their exercise by enrolling in aerobics classes, walking some of the distance to school, and participating in sports.

Boyle and Ahijevych (1987) devised a teaching method involving microcomputers in the self-appraisal of the persons health with the purpose of stimulating nursing students to adopt positive health-promoting behaviors. Sophomore nursing students (n = 229) from a baccalaureate nursing program completed a computerized Health Risk Appraisal (HRA). Each subject received five computerized reports: health age and longevity appraisal, health risk profile, health hazard appraisal, stress profile, and nutrition profile. Subjects independently used an Interpretation and Planning Guide developed by the researchers to develop a personal health promotion plan. After six months 174 subjects repeated the HRA and received a printout of the results. The project was completed by having the subjects complete a written evaluation of their progress. A total of 130 subjects completed the evaluation

of their progress. Analysis of data was completed on the 130 subjects who completed the whole project. Using the paired *t* -test the following health behaviors showed significant changes: Health habit score (t = 3.68, p = .003, percent improvement = 47.9), potential years added with health change (t = -3.60, p = .0005, percent improvement = 48), empty calories (t = -2.68, p = .0083, percent improvement = 62.1), cigarettes (numbers/day) (t = -2.35, p = .0202, percent improvement = 75), stress scale (t = 3.15, p = .0021, percent improvement = 60), seat belts (percent time used) (t = 2.76, p = .0067, percent improvement = 43.1). Subjects perceived achievement of 84 (61 percent) of their goals; partial achievement of 29 (21 percent), and lack of achievement of 24 (18 percent).

Millar and Millar (1990; 1993) attempted to distinguish between disease detection (e.g., cholesterol check) and health-promoting behaviors (e.g., eating a low fat diet). They proposed that the decision to engage in detection behaviors is associated more with affect and the decision to engage in health-promoting behaviors is more associated with cognition. Two studies were conducted to test this hypothesis. There were 112 subjects in the first study recruited from undergraduate students at a medium-size university. There were 96 subjects in the second study recruited from both the community and undergraduate students from a medium-size university. Participants completed the

Health Behavior Survey. Data were analyzed in a 2 X 2 analysis of variance. Subjects chose more affective statements to describe their reactions to disease detection behaviors [F (1,113) = 10.02; p = .002] and more cognitive statements to describe their reactions to health promoting behaviors [F (1,113) = 23.06; p < .001]. Results in both studies were able to support previous research done by Edwards (1990) that indicated informational messages create greater intention to perform health-promoting behaviors.

Bonheur and Young (1991) conducted a study on 105 university students using self-esteem and the Health Promotion Model as their conceptual framework. The purpose of the study was to examine differences between exercisers and nonexercisers in self-esteem, perceived benefits of exercise, and perceived barriers to exercise. The research instruments consisted of the Borg Scale, Pender's Exercise Benefits/Barriers Scale (EBBS), and Coopersmith Self-Esteem Inventory (SEI). Results of t -testing indicate a significant difference ($p \leq .01$) in the mean score of exercisers and nonexercisers on self-esteem (exercisers scoring higher). EBBS is divided into two scales: Barriers scale (BAR) and Benefits scale (BEN). Mean scores on the BEN scale for the two groups were significantly different at the $p \leq .01$ level; exercisers scoring higher than nonexercisers. The score on the BAR scale indicated a significant difference between groups at the $p \leq .01$ level;

exercisers perceived fewer barriers to exercise than did nonexercisers. The final question was analyzed using a step-wise multiple regression model to evaluate the relative importance of the three predicator variables (self-esteem, perceived benefits of exercise, and perceived barriers to exercise) on exercise activity. The three variables successfully accounted for 32 percent of the variance of group membership as an exerciser or nonexerciser.

In summary the expectations of nursing school frequently result in high levels of stress (Vaslamatzis et al., 1985; Lees, 1990; Clark & Ruffin, 1992) for the nursing student and is a major cause of attrition (Lees, 1990). Health promotion has been identified as a means for students to successfully deal with stress (Pender, 1987; Millar & Millar, 1990). Research studies addressing the nursing students' perception of health promotion importance differ in their findings (Soeken et al., 1989; Donoghue et al., 1990; Gorin, 1992). There are nursing students who feel that health promotion is important but are unable to follow through with these behaviors because of their school schedule (Richter, et al. 1987). Severtsen & Bruya (1986) were able to show a reduction in perceived stress in nursing students after a six week aerobics program. After self-appraisal of life style by nursing students, health-promoting behaviors increased (Boyle & Ahijevych, 1987; Weisensee et al., 1989). Research needs to be done to see

if there is a relationship between nursing students perceived stress and health-promoting behaviors. If research supports a relationship then efforts can be made to help students reduce perceived stress and increase health-promoting behaviors.

CONCEPTUAL FRAMEWORK

The conceptual model for this study was Pender's Health Promotion Model (HPM). HPM originally was presented by Pender in 1982 and was refined in 1987. HPM is based on Bandura's (1986) social learning theory that emphasizes the cognitive mediating processes in the regulation of one's behavior. Pender indicates the primary goal of health promotion is to remove or avoid activities that may prevent optimal health. Health promotion can help students successfully manage stress and live full and productive lives (Pender, 1987; Millar & Millar, 1990).

The Health Promotion Model

The HPM (Pender, 1987) states that there are three determinants of health-promoting behaviors and they are: cognitive-perceptual factors (individual perceptions); modifying factors; and variables affecting the likelihood of action (cues to action) (See Figure 1). Cognitive-perceptual factors are identified as the primary motivational mechanisms for acquiring and maintaining health-promoting behaviors. Each factor exerts a direct influence on the likelihood of engaging in health-promoting

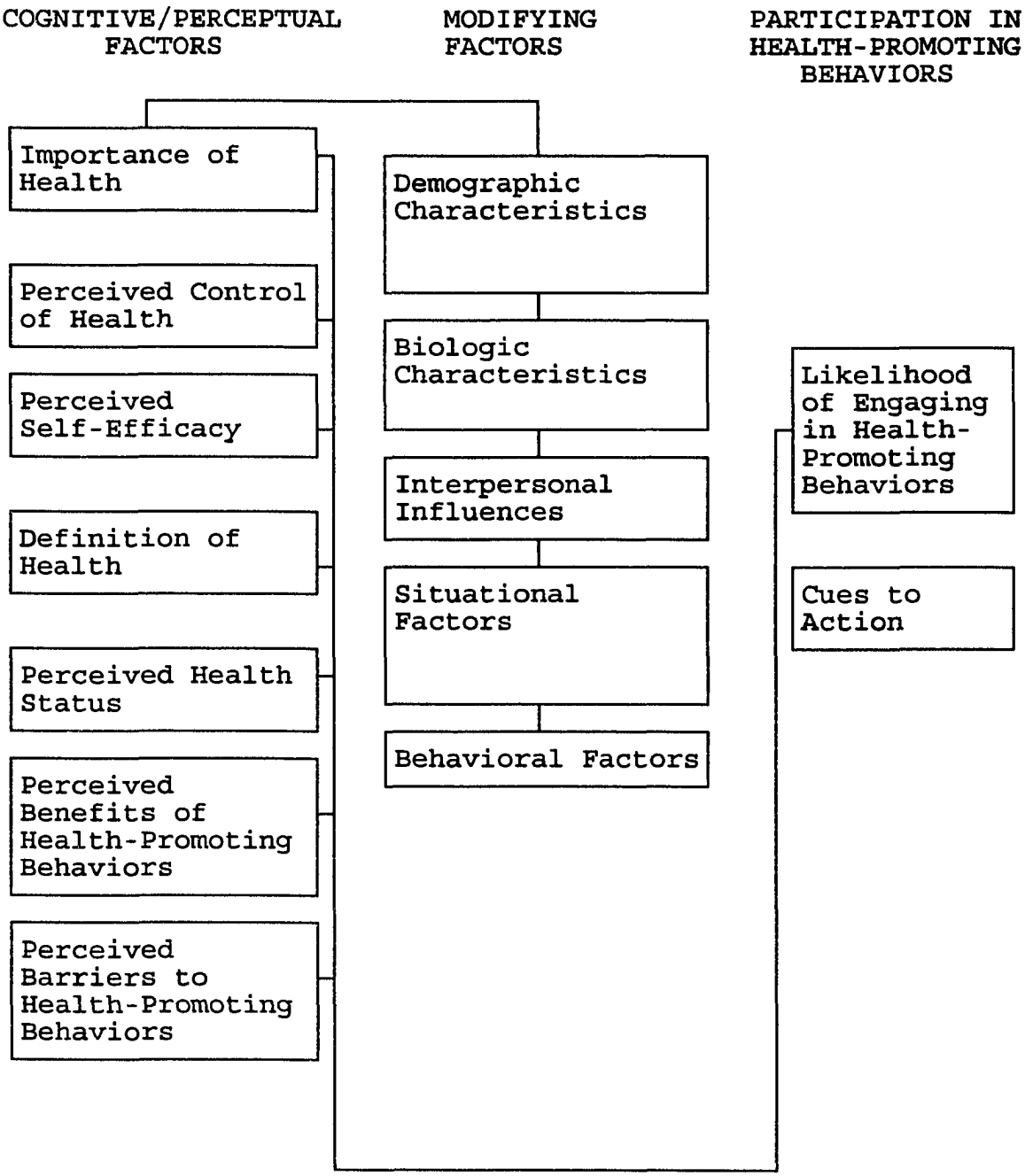

Figure 1. Pender's Health Promotion Model

Pender, N. (1987). Health Promotion in Nursing Practice, 2nd ed. Prentice-Hall. East Norwalk, CO.

actions. Modifying factors indirectly influence health-promoting behaviors by directly impacting on the cognitive-perceptual factors. Cues to action are either internal or environmental. The intensity of the cues needed to trigger action will depend on the level of readiness of the individual.

Definitions of The Health Promotion Model

The following are the primary definitions of the Health Promotion Model as developed and revised by Pender (1987):

Health promotion--a process toward increasing the level of well being and self-actualization of an individual and focuses on movement toward a positive valence state.

Health-promoting behaviors--continuing activities that must be an integral part of an individual's life style (physical exercise, nutritional eating habits, development of social support, use of relaxation and stress management) directed toward maximizing positive arousal (self-awareness, self-satisfaction, enjoyment and pleasure).

Concepts of the Health Promotion Model

The following are the primary concepts of the Health Promotion Model as developed and revised by Pender (1987):

Cognitive-perceptual factors--primary motivational mechanisms for acquisition and maintenance of health promoting behaviors. The cognitive-perceptual factors

include: Importance of health (e.g. the value placed on health in relation to other personal life values), perceived control of health (e.g. the belief that health is self-determined, is influenced by a powerful other, and/or is the result of chance or fate), perceived self-efficacy (e.g. a conviction that the individual can successfully execute the required behaviors to produce a desired outcome), health (e.g. reflects the personal meaning of health to an individual),perceived health status (e.g. the person's perceived status of their health), perceived benefits (e.g. the person's belief that taking a certain course of action will improve their health status), and perceived barriers (e.g. the person's belief that taking a certain course of action will not involve overcoming important negative aspects of the health actions).

Modifying factors--Factors that directly impact on cognitive-perceptual mechanisms causing an indirect affect on health-promoting behaviors. The modifying factors include: Demographic factors (e.g. age, gender, race ethnicity, education and income), biological characteristics (e.g. weight), interpersonal influences (e.g. expectation of significant other, family patterns of health and interactions with health professionals), situational factors (e.g. availability of health-promoting options), and behavioral factors (e.g. previous experience, knowledge and skills of health-promoting actions).

Cues to action--activating stimulus, either of internal or external origin, for the initiation of the decision-making process (e.g. radio, television, billboard ads, and the desire to improve health).

Utility of The Health Promotion Model

Frank-Stromberg, Pender, Walker and Sechrist (1990) conducted a research program that included four separate research projects to be conducted by the individual investigators. The purpose of the research was testing the validity of the HPM as an explanatory framework for health-promoting lifestyle. A cross-sectional, descriptive design was used. The total number of subjects in the program was 2,020. The individual research projects assessed differing populations: ambulatory cancer patients, cardiac rehabilitation patients, employees in a employer sponsored health promotion program, and older adults living in the community. The following tools were used: Importance of health--Value Survey (VS); perceived control of health--Multidimensional Health Locus of Control Scale (MHLCS); definition of health--Laffrey Health Conception Scale (LHCS); perceived health status--Subjective Health Rating; perceived benefits and barriers to health-promoting behavior--Exercise Benefits/Barriers Scale; health-promoting lifestyle--Health-Promotion Lifestyle Profile (HPLP); and modifying factors--Demographic Questionnaire. Analyses of data in all studies were: hierarchical multiple regression

analyses to ascertain the effects of the independent variables (cognitive/perceptual and modifying factors) on the dependent variables (health-promoting lifestyle and exercise); path analysis and structural equation analysis to evaluate causal models explaining health actions; analysis of interviews to verify the importance and meaning of significant HPM variables; and cluster analysis to develop related types of health-promoting lifestyles. Results support the applicability of the HPM as an explanatory framework for health-promoting lifestyles. Importance of health was the only cognitive/perceptual variable that failed to function as a major determinant of lifestyle.

Summary and Implications

In summary there is a high attrition rate for nursing students and a major factor is the high rate of stress while in nursing school (Lindop, 1987, 1988, 1989, 1991; Lees, 1990). Pender (1987) and Millar and Millar (1990) both feel that health promotion can help students effectively deal with stress. Students often enter nursing school participating in some form of health-promotional activity, but once in nursing school the health-promoting activities reduce (Richter, et. al. 1987). Once in nursing school, research indicates there is a change in the students emphasis concerning health-promoting behaviors (Soeken, et al., 1989; Donoghue, et al., 1990; Gorin, 1992).

This study's intent was to add support to the

literature by identifying a relationship between perceived stress in nursing students and their reported health-promotion behaviors.

Research Question

The research question is: What is the relationship between health-promoting behaviors and perceived stress reported by nursing students?

Definition of terms

For the purpose of this study perceived stress is identified as a modifying factor in the Health Promotion Model. The modifying factor involved is situational. The situational factor is that the students are in nursing school and the problem would not exist if they were not in nursing school. This study examined three modifying factors in Pender's Health Promotion Model. The Demographic characteristic of marital status, number of hours worked, and number of children at home were examined. The biological characteristics of age and gender were also examined. Situational factors that were included in the study were nursing students' perception of stress (see Figure 2). The following definitions will be used for this study:

Perceived stress--something in a person's environment that he/she believes or feels is upsetting, threatening, or endangering to her/him (Lazarus & Folkman, 1984).

Nursing students (subjects)--nursing students in their

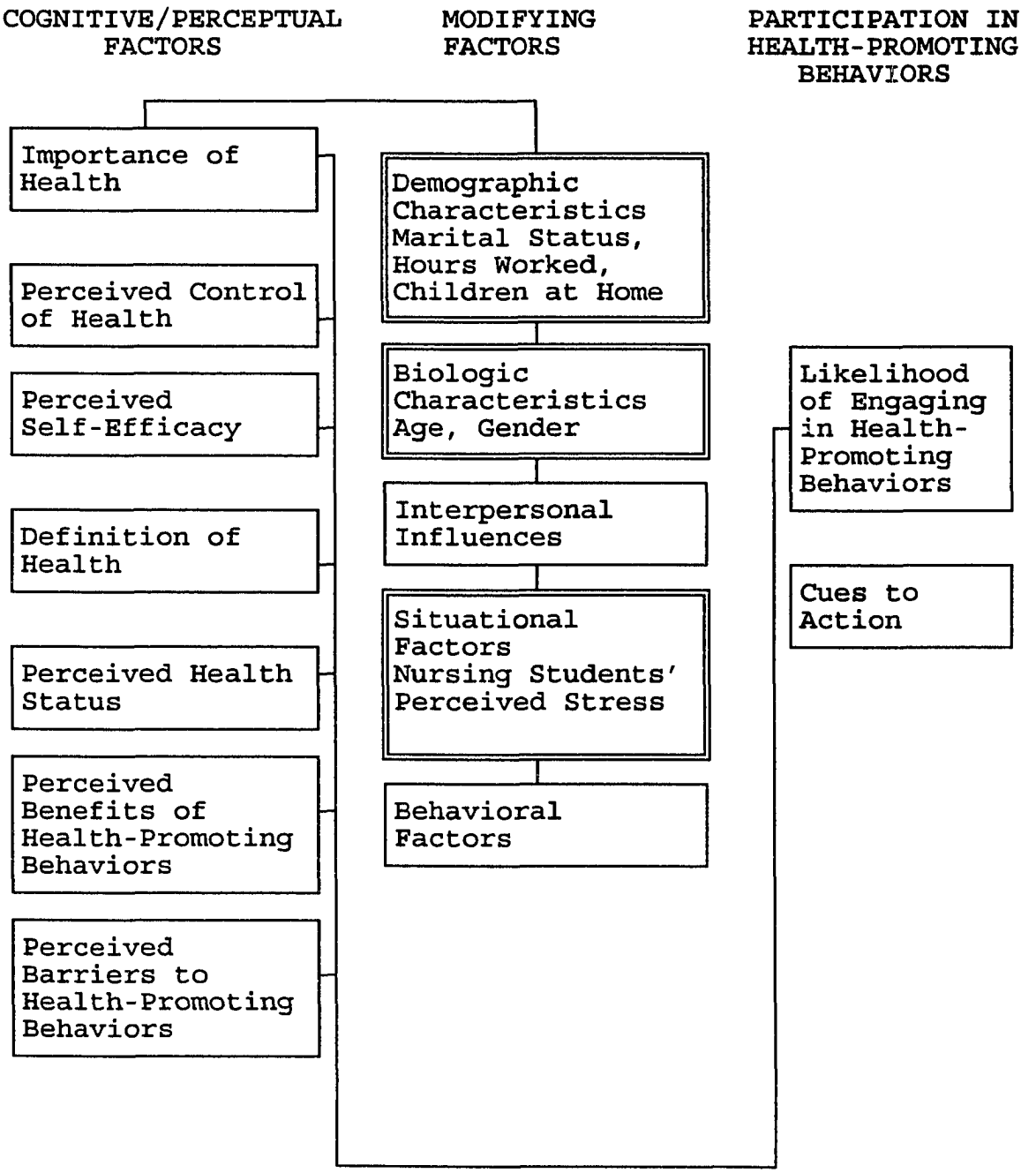

Figure 2. Modifying factors in Pender's Health Promotion Model that were used for this study.

Pender, N. (1987). Health Promotion in Nursing Practice, 2nd ed. Prentice-Hall. East Norwalk, CO.

second semester of nursing school in an associate degree program (total of six semesters in nursing program).

Health-promoting behaviors--continuing activities that must be an integral part of an individual's life-style (physical exercise, dietary habits, development of social support, use of relaxation and stress management) directed toward maximizing positive arousal (self-awareness, enjoyment and pleasure) (Pender, 1987).

CHAPTER 3

DESIGN

The design for this study was a descriptive correlational. The goal of the descriptive correlational study was to describe the relationship among the variables instead of inferring a cause and effect relationship (Polit & Hungler, 1991). A descriptive correlational study has no control over the variables.

Population

The subjects were in the class of 1996. They were in their second semester of a six semester Associate Degree nursing program. There were 66 students in the class and any nursing student in the class that wished to participate in the research study did so. The sample was a convenience sample of 36 students. One of the 36 students left 12 answers blank on one of the questionnaires and so was not included in the analysis.

Instruments

Two questionnaires administered: the Student Stress and Coping Inventory (SSCI) (Waltz & Strickland, 1988) (Appendix A), and Health-Promoting Lifestyle Profile (HPLP) (Frank-Stromberg, 1988) (Appendix B). For the purpose of this study, only the stress portion of the SSCI was used.

Dr. B.J. Cohen (personal communication, March 2, 1995), SSCI author, stated that the SSCI tool had not been previously used for a research study but there are three different research studies in progress using the tool; and, that one of the subscales could be eliminated (nonnursing classes and laboratories) due to the repetition of questions in another subscale (nursing classes).

Student Stress

The SSCI is a norm-referenced questionnaire designed to identify psychological stress factors in nursing students' environment. Dr. B.J. Cohen (personal communication, March 30, 1995) stated that the tool was developed as part of a research report written for a University of Maryland faculty development workshop. The research conducted to develop this tool has, to date, not been published. Dr. Cohen, a nursing faculty member for many years, was very concerned with the amount of reported stress by her students. When the workshops were offered by the University of Maryland, she utilized this opportunity to research this topic. In 1987 she developed the tool using 300 nursing students. The subjects consisted of: 280 students from two large inner city universities and 20 students from a small private Catholic university (the 20 students were used because a graduate student teaching at the university was interested in this topic and requested to be part of the study). The questionnaire had 69 questions and was divided into four

subscales. The four subscales identified were: Nursing classes, nursing clinical, college environment, and social/personal. A four-point Lickert scale was used to score the response. A mean for each subscale was obtained by summating the subscales and then dividing by the number of completed responses. A total stress score was the sum of the scores for the four areas with a possible range of 4 to 16. For the purpose of this study the total stress score used the 1 to 4 scale used by the subscales. The consistent terminology facilitated easier understanding of the results. The 1 to 4 scale was be determined by dividing the total stress score by the number of subscales used. Internal consistency was assessed with Cronbach's alpha for each of the scales. The reported alpha coefficients were: nursing classroom, .85; nursing clinical situation, .91; college environment, .84; social/personal environment, .85; total stress, .81. Reliability coefficients were well above the .50 levels (considered satisfactory for use with groups of 25 or more) (Waltz & Strickland, 1988). There were no negative corrected item-total correlations, and all were of sufficient magnitude ($r > .113$) to differ from 0 (Waltz & Strickland, 1988). Content validity judges who rated the scale items were nursing faculty members at Lehman College and were experienced in conducting stress workshops for nursing students and other members of the collective community. The content validity index (CVI) for the stress

subscale were: nursing classroom, .625; clinical situations, .79; college environment, .50 (items were not changed because they were generated from student interviews); social/personal environment, 1.00 (Waltz & Strickland, 1988).

Health Promotion Lifestyle Profile

The HPLP was a summated behavior rating scale that used a four-point scale response format to measure self-reported health promoting behaviors. The HPLP was scored by summing the responses to all 48 items. The items were entered into a principal axis factor analysis, with six factors extracted and obliquely rotated. All items loaded on expected factors at a level of .35 or higher and the six factors explained 47.1 percent of the variance in the instrument. Second-order factor analysis of the correlations among the six identified factors (nutrition, stress management, exercise, health responsibility, interpersonal support, and self-actualization) extracted a single factor measured by the instrument, which was interpreted as health-promoting lifestyle. There was high internal consistency (alpha=.922), with each of the six subscales having acceptably high internal consistency estimates, with alphas ranging from .7 to .9. To evaluate stability, the instrument was administered twice to a sample of 63 adults at an interval of two weeks. Pearson's *r* was .93 for the total score and ranged from .18 to .91 for the subscales

(Frank-Stromberg, 1988).

Demographic Questionnaire

The demographic questionnaire addressed age, gender, marital status, hours worked while in nursing school, and how many children living at home.

Procedure

The subjects were recruited by the investigator during the second semester, first year of nursing school. The questionnaires were administered week 13 in the "Care of the Adult I" course. The subjects were asked to participate in the nursing research project on a voluntary basis. The subjects were assured that their decision to participate in the study, or not, had no bearing on their progression in the nursing program. The subjects were assured that their answers would be held confidential. The investigator distributed the questionnaires at the end of a class session. The time to complete the questionnaires was approximately one half hour. The investigator distributed the tool with the directions written on a face sheet. Also on the face sheet was a place for students to write their names and address if they would like the results of the survey. The investigator first verbalized the written directions and then left the room. There were two boxes left in the room. One box for the questionnaires, the other box for the face sheet requesting results of the research, thereby maintaining confidentiality of subjects and their

responses. Completion of the questionnaire indicated agreement to participate.

While giving the instructions on how to properly fill out the questionnaires, the investigator might have unconsciously communicate expectations. To reduce the possibility of this happening, the investigator wrote the directions down on a face sheet, gave it to all of the subjects, and read the instructions off of the face sheet.

The subjects may have been concerned that the answers they gave in this study would effect their grade in nursing school because the investigator is on faculty at this nursing school. To reduce the possibility of this happening, while instructions were being given, the investigator assured the subjects of the confidentiality of their answers. They were assured that their answers had no reflection of their grades in nursing school. The investigator left the room while subjects completed the questionnaires.

CHAPTER 4

This chapter will discuss the analysis of the data. First will be discussed the characteristics of the subjects then the reliability testing of the tools. Next the hypothesis testing will be discussed. Finally the demographics variables will be addressed.

Characteristics of Subjects

There were 36 subjects that completed the questionnaires. There were three groups of ages identified. One group was too small making statistical analysis inappropriate. The age groups were combined into two groups defined as traditional and nontraditional to allow for analysis of data. The demographic data is shown in Table 1. One subject left 12 questions blank and so was not included in the analysis. The typical subject was female, between the ages of 26 and 35, married, not working while in school, and no children living at home.

Reliability Testing

Reliability coefficients for the Health Promoting Lifestyle Profile (HPLP) support the tool as reliable with this sample (alpha = .8785). Reliability coefficients for the Student Stress and Coping Inventory (SSCI) supported the total tool and each subscale as reliable with this sample (total tool, alpha = .9097; classroom, alpha = .8458,

Table 1

Demographic data of research subjects

Name	Number	Percent
Age		
Traditional		
17-25	14	40%
Non-traditional		
26-35	17	49%
36-45	4	11%
Gender		
Male	5	14%
Female	30	86%
Marital Status		
Never been married	12	34%
Single	2	6%
Widowed	1	3%
Married	15	43%
Divorced	5	14%
Work While in School		
None	14	40%
1-20 hours a week	12	34%
21-40 hours a week	8	23%
> 40 hours a week	1	3%
Children at Home		
None	15	43%
one	6	17%
two	9	26%
three	4	11%
four	1	3%

clinical, alpha = .8136; college environment, alpha = .7954, and personal, alpha = .6431). Reliability on the personal subscale was lower than the other three subscales. Questions on the personal scale assess both interpersonal and intrapersonal. The personal scale may have a higher reliability coefficient when divided into two separate scales.

Hypothesis Testing

The research question was: What is the relationship between health promoting behaviors and perceived stress in nursing students? Analysis of data were done using Pearson's *r*. Results indicated a negative correlation between the two variables but it was not statistically significant ($r = -.20951$).

Demographic Variables

Other data were analyzed to see if traditional versus non-traditional students demonstrated more health promoting behaviors or perceived greater stress. The data were analyzed using a *t* -test. The first group was identified as the traditional college student with ages ranging from 17 to 25. The second group was identified as the non-traditional college student with ages ranging from 26 to 45. Analysis of the data, as shown in Table 2, indicated that there was no statistically significant difference between traditional versus non-traditional students in either health promoting behaviors or perceived stress.

Table 2

Traditional versus non-traditional students demonstration of health-promoting behaviors and perceived stress

Name	*t*	*p*
Health Promoting Lifestyle Profile	.10	.917
Student Stress Coping Inventory (SSCI)--Total	.63	.532
SSCI--Classroom	.12	.903
SSCI--Clinical	1.28	.210
SSCI-Environment	-.14	.886
SSCI--Personal	.57	.573

Note: *t* = *t* -test score; *p* = level of significance

Data were analyzed, using Pearson's *r* to see if the number of children living at home was related to the perceived stress in the nursing students. Results indicated that there was no statistical significant difference in the number of children at home and the nursing student's perceived stress ($r = -.02291$).

Data were analyzed, using Spearman rho, to see if the number of hours worked while in school affected the perceived stress of the nursing students. Results indicated that there was no statistical significance (rho = -.0321) in the number of hours worked while in school and the nursing students' perceived stress.

There were insufficient numbers of subjects for each category of gender, marital status, and number of hours worked to complete statistical analysis.

The HPLP scoring of responses were: never-1; sometimes-2; often-3; and, routinely-4. Analysis of data indicated that the subjects reported that they engage in health-promoting behaviors more than sometimes but less than often (mean = 2.8, n = 35, SD = .32, median = 2.8, range = 2.1-3.3).

The SSCI scoring of responses were: not at all stressful-1; slightly stressful-2; moderately stressful-3; extremely stressful-4. Analysis of data, as shown in Table 3, indicated that students perceived themselves overall as slightly stressed in nursing school (n = 35; mean =

Table 3

Perceived stress of nursing students using Student Stress and Coping Inventory

Name	mean	SD	median	range
Total	2.3	.64	2.3	1.8-2.0
Personal	3.0	.48	3.1	2.1-4.0
Classroom	2.6	.41	2.5	1.8-3.4
Clinical	2.2	.36	2.2	1.4-3.0
College	1.8	.44	1.7	1.1-2.8

Note: 1 = not at all stressed; 2 = slightly stressed; 3 = moderately stressed; 4 = extremely stressed

2.3). Subscale analysis indicated that the nursing students perceived themselves stressed at varying degrees in each of the areas. The area of highest stress was personal factors, followed by classroom factors and clinical factors. College environment was perceived as the least stressful.

In summary, the data were analyzed using: Pearson's *r*; t - test, and Spearman rho. The analysis of data indicated that there was no statistical significance between: health-promoting behaviors and perceived stress in traditional versus nontraditional nursing students. Results indicated that the nursing students were: engaging in health-promoting more than sometimes but less than often and overall were sightly stressed while in school. Subscale analysis of stress indicated that subjects have moderate stress in the classroom and their personal life. Three of the subjects were extremely stressed intheir personal life.

CHAPTER 5

Discussion

Analysis of the data supports previous studies (Vaslamatzis, et al., 1985; Lees, 1990; Clark & Ruffin, 1992) that attending nursing school frequently results in stress. Even though the mean score for stress indicated slight stress (2.3). Three students scored 4 (extremely stressed) on the personal subscale, and these are the students that are most at risk. It could also be said that students perceive health-promoting behaviors as important for themselves by engaging in health promoting behaviors "more than sometimes", therefore, supporting previous findings that nursing students feel health promoting behaviors are important (Soeken, et al., 1989; Gorin, 1992).

The data did not support that health promotion can help students successfully manage stress (Pender, 1987; Millar & Millar, 1990) because data did not support a relationship between health-promoting behaviors and perceived stress. Results from this sample also did not support perceived stress as a modifying factor in Pender's Health Promotion Model. Even though the study looked at parts of the modifying factors in Pender's Health Promotion Model there are many other modifying factors (see Figure 2). Analysis of data indicated a negative correlation between health

promoting behaviors and perceived stress but there was no statistical significance (r = -.20951). One reason for the lack of significance could be the small sample size.

Application

Results indicated that some students have a high level of personal stress while in nursing school. Three students had a 4 (4 = extremely stressful). One of the ways to help decrease stress in their personal life is to develop a presentation on stress in nursing school and methods to deal with it. Having new students and their families attend an orientation day and presenting them with an overview of what nursing school will be like, might help them deal with the stress. Nursing faculty could help reduce stress by organizing each term so that tests and assignments could be evenly spaced throughout the term trying to prevent overload during particular weeks; develop computerized testing (testing outside of the classroom time) so that students may come into a lab during a given time-frame that would best meet their needs. While in the clinical setting the instructor could have the students develop care plans and appropriate teaching plans on each other. This might allow the student to find out that they are not alone in the way they feel and learn resources available to them (support groups, counseling, and etc). College counselors can be used as a referral source for students that have been identified as highly stressed. Classes and clinical

experiences could be offered at varying times and locations, on a full or part-time basis, to best meet individual student needs.

This study supports the premise that students identify health promotion as important by engaging in health-promoting activities "more than sometimes". Nursing faculty could help facilitate coping mechanisms by: encouraging stress management, aerobic (or other physically oriented) classes, and independent studies aimed at personal health promotion for elective courses; build in assignments in the classroom focusing on health promotion; and, have knowledge of resources available. Administration could have healthy food available in the vending machines and on the cafeteria menus.

Limitations

The greatest limitation of the study was the sample size. A correlation was identified between health promotion and perceived stress (r = -.20951) however not significant. A larger sample size might identify a statistically significant relationship between the perceived stress and health-promoting behaviors. Another limitation was the time frame. The questionnaires were administered in the thirteenth week of a sixteen week term which could have been too close to the end of the term. Due to a change in the school's original schedule the questionnaires were administered at the end of a class period in which a test

had been given. Both of the time factors could have created a bias in the students' answers about perceived stress.

Suggestions for further research/modifications

With the data suggesting a negative correlation between perceived stress and health promoting behaviors this study should be repeated, to determine if the relationship is statistically significant, utilizing a larger sample size. The larger sample size could be achieved by using other schools of nursing and varying levels in nursing school. Other areas for further research could include: identifying effective coping strategies to deal with perceived stress; further identification of personal stress (interpersonal versus intrapersonal); and, identification of activities that would best suit the nursing students ability to initiate and maintain health promoting behaviors.

APPENDIX A

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Fax: (212) 941-7842

Gail E. Dunham, RN, BSN
3216 East Long Lake Road
Harrison MI 48625

Please refer to this number in correspondence:

BPL 94 - 145

Dear Ms. Dunham,

Thank you for your request of 17 November 1994 to reprint from our publication

Waltz/Strickland: MEASUREMENT OF NURSING OUTCOMES, Vol 3; 1990

the following material:

SSCI, pp 337 - 344 (20 - 70 cc)

Your reprint is requested for inclusion in: (Title, Author, Publisher, Date)
Thesis: PRECEIVED STRESS AND HEALTH-PROMOTING BEHAVIORS IN NURSING STUDENTS, G. Dunham, Grand Valley State University; Spring 1995

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Dorothy Kouwenberg, Permissions Coordinator Date: 21 November 1994

STUDENT STRESS INVENTORY

Stressful Situations or Experiences

Stress is defined as something in a person's environment that he/she believes or feels is upsetting, threatening, or endangering to him/her.

The items in this section are divided into 4 areas of a student nurse's environment. These items describe situations or experiences which may be perceived as stressful. Please circle one answer indicating the level of stress that you have experienced.

In responding to these items you are to consider only the time period that has elapsed since the BEGINNING OF THIS SEMESTER.

Do not write in this space		1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
	I. NURSING CLASSROOM				
____ (6)	1. Excessive workload (e.g. amount of work, type of assignments, amount of content covered).	1	2	3	4
____ (7)	2. Competition with other students.	1	2	3	4
____ (8)	3. Preparing for exams (focusing on textbook/ lecture material).	1	2	3	4
____ (9)	4. Announcements of course requirements (handouts, syllabus).	1	2	3	4
____ (10)	5. Meeting the demands of more than one course (assignments, tests, too many credits).	1	2	3	4
____ (11)	6. Presentation of content in examinations not sure what is being asked, manner in which questions are structured).	1	2	3	4
____ (12)	7. Attitude of faculty.	1	2	3	4
____ (13)	8. Student participation in developing course content and requirements.	1	2	3	4
____ (14)	9. Due dates of assignments (negotiating dates with faculty, change of dates by faculty.	1	2	3	4
____ (15)	10. Course content not stimulating/challenging.	1	2	3	4

PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE

Do not write in this space		1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
_____ (16)	11. Possibility of failure.	1	2	3	4
_____ (17)	12. Physical environment (length of classes, size of classes, seating, acoustics, temperature of room).	1	2	3	4
_____ (18)	13. Availability of faculty for academic help.	1	2	3	4
_____ (19)	14. Receptiveness of faculty for academic help.	1	2	3	4
_____ (20)	15. Taking examinations.	1	2	3	4
_____ (21)	16. Asking questions/speaking in class (language difficulty, public speaking).	1	2	3	4
_____ (22)	17. Interactions with other students.	1	2	3	4
_____ (23)	18. Coordinating classes and clinical schedules.	1	2	3	4
_____ (24)	19. Academic skills needed for level of work required.	1	2	3	4
_____ (25)	20. Meeting own expectations of academic performance.	1	2	3	4

Do not write in this space	II. NURSING CLINICAL EXPERIENCES	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
_____ (26)	1. Evaluation by instructor(s) (being observed).	1	2	3	4

_____ (27)	2. Meeting own expectations in caring for clients.	1	2	3	4

PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE

Do not write in this space		1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
_____ (28)	3. Availability of instructor(s) for assistance.	1	2	3	4
_____ (29)	4. Receptiveness of instructor(s) for assistance.	1	2	3	4
_____ (30)	5. Level of own competency (feeling of preparedness for client care).	1	2	3	4
_____ (31)	6. Condition of clients assigned (dying, critically ill, disfigured clients).	1	2	3	4
_____ (32)	7. Age of client.	1	2	3	4
_____ (33)	8. Sex of client (client of same/opposite sex).	1	2	3	4
_____ (34)	9. Communicating with clients.	1	2	3	4
_____ (35)	10. Interaction with members of the health care team.	1	2	3	4
_____ (36)	11. The physical environment of clinical (equipment, odor, sights).	1	2	3	4
_____ (37)	12. Own abilities to meet requirements of clinical assignment.	1	2	3	4
_____ (38)	13. Exposure to experiences that will prepare me for nursing practice (level of assignment).	1	2	3	4
_____ (39)	14. Possibility of making an error (medication, assessment).	1	2	3	4
_____ (40)	15. Exposure to contagious disease "catching" something for the clients.	1	2	3	4

____ (41)	16. Performing psych-motor skills.	1	2	3	4
____ (42)	17. Being in an emergency situation.	1	2	3	4
____ (43)	18. Organizational structure of clinical agency (channels of communication and authority).	1	2	3	4

PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE

Do not write in this space	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful

____ (44)	19. Being in a new environment/situation.	1	2	3	4
____ (45)	20. Evaluation of performance by nursing staff.	1	2	3	4
____ (46)	21. Preparing for clinical assignments.	1	2	3	4
____ (47)	22. Traveling to clinical setting.	1	2	3	4
____ (48)	23. Evaluation of performance by client(s).	1	2	3	4
____ (49)	24. Physical contact with a stranger.	1	2	3	4

Do not write in this space	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful

III. COLLEGE ENVIRONMENT

____ (50)	1. Change in major field of study.	1	2	3	4
____ (51)	2. Travel to college (time, distance).	1	2	3	4
____ (52)	3. Parking.	1	2	3	4
____	4. Seeking and/or receiving academic counseling				

(53)	college and department requirements.	1	2	3	4
_____ (54)	5. Seeking and/or receiving student counseling (personal).	1	2	3	4
_____ (55)	6. Seeking and/or receiving tutorial assistance.	1	2	3	4
_____ (56)	7. Interaction with students in other disciplines.	1	2	3	4

PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE

Do not write in this space	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful

_____ (57)	8. Orientation to the college.	1	2	3	4
_____ (58)	9. Registering for courses.	1	2	3	4
_____ (59)	10. Library facilities (use and physical) environment.	1	2	3	4
_____ (60)	11. Adding/dropping courses.	1	2	3	4
_____ (61)	12. Purchasing textbooks and other course materials.	1	2	3	4
_____ (62)	13. Registration process.	1	2	3	4
_____ (63)	14. Involvement to campus extracurricular activities.	1	2	3	4

IV. SOCIAL/PERSONAL ENVIRONMENT IN RELATION TO ATTENDING SCHOOL

_____ (64)	1. Holding a job while attending school.	1	2	3	4
_____ (65)	2. Fatigues/energy level.	1	2	3	4

_____ (66)	3. Ability to sleep.	1	2	3	4
_____ (67)	4. Present financial status.	1	2	3	4
_____ (68)	5. Child care.	1	2	3	4
_____ (69)	6. Relationships/interactions with friends.	1	2	3	4

PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE

Do not write in this space	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful

_____ (70)	7. Relationships/interactions with family members.	1	2	3	4
_____ (71)	8. Relationships/interactions with spouse.	1	2	3	4
_____ (72)	9. Family responsibilities.	1	2	3	4
_____ (2-1)	10. Insufficient time to do the things you want.	1	2	3	4
_____ (2-2)	11. Physical status (weight, health).	1	2	3	4

Note. From Measurement of Nursing Outcome, Vol. 3. (p. 337-344) by Barbara J. Cohen, 1990, Philadelphia: Springhouse. Copyright 1990 by Springer Publishing Company, Inc., New York 10012. Used by permission.

APPENDIX B

Dear Colleague:

We are pleased to reply to your request for information about our Health-Promoting Lifestyle Profile. In order to respond promptly to the large volume of correspondence we receive, we have found it necessary to prepare this standard letter containing information that is commonly sought. We hope that you will feel free to write or call as necessary to obtain any further information that you may need.

The Health-Promoting Lifestyle Profile measures health-promoting behavior, conceptualized as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual. The 48-item summated behavior rating scale employs a 4-point response format to measure the frequency of self-reported health-promoting behaviors in the domains of self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. It was developed for use in research within the framework of the Health Promotion Model (Pender, 1987), but has subsequently been employed for a variety of other purposes as well. The development and psychometric evaluation of the English language versions were described by Walker, Sechrist and Pender (1987) and scores among the initial study sample were reported by Walker, Volkan, Sechrist and Pender (1988). The translation and psychometric evaluation of the Spanish language version as well as scores among a Hispanic sample were reported by Walker, Kerr, Pender and Sechrist (1990).

There is no charge for such authorized use, but we would appreciate receiving notification of your intent to use the instrument and a report of your completed study/project for our files. It is particularly useful to know of any publications reporting use of the instrument so that we can maintain an accurate complete listing. To facilitate record keeping, all information should be sent to:

Susan Noble Walker, Ed.D., R.N.
Associate Professor
University of Nebraska Medical Center
College of Nursing
600 South 42nd Street
Omaha, Nebraska 68198-5330
(402) 559-6561

We thank you for your interest in using the Health-Promoting Lifestyle Profile and wish you much success with your efforts.

Sincerely,

Susan Noble Walker Karen R. Sechrist Nola J. Pender

Health Promoting Lifestyle Profile

DIRECTIONS: The questionnaire contains statements regarding your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the regularity with which your engage in each behavior by circling:

DO NOT
WRITE IN
THIS SPACE

____ 1. Eat breakfast.
(2-3) Never Sometimes Occasional Routinely

____ 2. Report any unusual signs or symptoms to a physician.
(2-4) Never Sometimes Occasional Routinely

____ 3. Like myself.
(2-5) Never Sometimes Occasional Routinely

____ 4. Perform stretching exercises at least 3 times per week.
(2-6) Never Sometimes Occasional Routinely

____ 5. Choose foods without preservatives or other additives.
(2-7) Never Sometimes Occasional Routinely

____ 6. Take some time for relaxation each day.
(2-8) Never Sometimes Occasional Routinely

____ 7. Have my cholesterol level checked and know the results.
(2-8) Never Sometimes Occasional Routinely

____ 8. Am enthusiastic and optimistic about life.
(2-10) Never Sometimes Occasional Routinely

____ 9. Feel I am growing and changing personally in a positive direction.
(2-11)
Never Sometimes Occasional Routinely

____ 10. Discuss personal problems and concerns with people close to me.
(2-12) Never Sometimes Occasional Routinely

____ 11. Am aware of the sources of stress in my life.
(2-13) Never Sometimes Occasional Routinely

____ 12. Feel happy and content.
(2-14) Never Sometimes Occasional Routinely

____ 13. Exercise vigorously for 20-30 minutes at least three times per week.
(2-15) Never Sometimes Occasional Routinely

____ 14. Eat three regular meals a day.
(2-16) Never Sometimes Occasional Routinely

____ (2-17) 15. Read articles or books about promoting health.
Never Sometimes Occasional Routinely

____ (2-18) 16. Am aware of my personal strengths and weaknesses.
Never Sometimes Occasional Routinely

____ (2-19) 17. Work toward long-term goals in my life.
Never Sometimes Occasional Routinely

____ (2-20) 18. Praise other people easily for their accomplishments.
Never Sometimes Occasional Routinely

____ (2-21) 19. Read labels to identify the nutrients in packaged food.
Never Sometimes Occasional Routinely

____ (2-22) 20. Question my physician or seek a second opinion when I do not agree with recommendations.
Never Sometimes Occasional Routinely

____ (2-23) 21. Look forward to the future.
Never Sometimes Occasional Routinely

____ (2-24) 22. Participate in supervised exercise programs/activities.
Never Sometimes Occasional Routinely

____ (2-25) 23. Am aware of what is important to me in life.
Never Sometimes Occasional Routinely

____ (2-26) 24. Enjoy touching and being touched by people close to me.
Never Sometimes Occasional Routinely

____ (2-27) 25. Maintain meaningful and fulfilling interpersonal relationships.
Never Sometimes Occasional Routinely

____ (2-28) 26. Include roughage/fiber (whole grains, raw fruits, raw vegetables) in my diet.
Never Sometimes Occasional Routinely

____ (2-29) 27. Practice relaxation or mediation for 15-20 min. daily.
Never Sometimes Occasional Routinely

____ (2-30) 28. Discuss my health care concerns with qualified professionals.
Never Sometimes Occasional Routinely

____ (2-31) 29. Respect my own accomplishments.
Never Sometimes Occasional Routinely

____ (2-32) 30. Check my pulse rate when exercising.
Never Sometimes Occasional Routinely

_____ (2-33) 31. Spend time with close friends.
Never Sometimes Occasional Routinely

_____ (2-34) 32. Have my blood pressure checked & know what it is.
Never Sometimes Occasional Routinely

_____ (2-35) 33. Attend educational programs on improving the environment in which we live.
Never Sometimes Occasional Routinely

_____ (2-36) 34. Find each day interesting and challenging.
Never Sometimes Occasional Routinely

_____ (2-37) 35. Plan or select meals to include the "basic Four" food groups each day.
Never Sometimes Occasional Routinely

_____ (2-38) 36. Consciously relax muscles before sleep.
Never Sometimes Occasional Routinely

_____ (2-39) 37. Find each day interesting and challenging.
Never Sometimes Occasional Routinely

_____ (2-40) 38. Engage in recreational physical activities (i.e. walking, swimming, soccer, bicycling).
Never Sometimes Occasional Routinely

_____ (2-41) 39. Find my living environment pleasant and satisfying.
Never Sometimes Occasional Routinely

_____ (2-42) 40. Concentrate on pleasant thoughts at bedtime.
Never Sometimes Occasional Routinely

_____ (2-43) 41. Find constructive ways to express my feelings.
Never Sometimes Occasional Routinely

_____ (2-44) 42. Seek information from health professionals about how to take good care of myself.
Never Sometimes Occasional Routinely

_____ (2-45) 43. Observe my body at least monthly for physical changes/danger signs.
Never Sometimes Occasional Routinely

_____ (2-46) 44. Am realistic about the goals that I set.
Never Sometimes Occasional Routinely

_____ (2-47) 45. Use specific methods to control my stress.
Never Sometimes Occasional Routinely

_____ (2-48) 46. Attend educational programs on personal health care.
Never Sometimes Occasional Routinely

_____ 47. Touch and am touched by people I care about.
(2-49) Never Sometimes Occasional Routinely

_____ 48. Believe that my life has purpose.
(2-50) Never Sometimes Occasional Routinely

APPENDIX C

DEMOGRAPHIC DATA

CHOOSE ONLY ONE ANSWER FROM EACH SECTION

DO NOT WRITE IN THIS SECTION

_____ (1)	AGE 1. ___ 17-25 2. ___ 26-35 3. ___ 36-45 4. ___ 46-55 5. ___ 56-65
_____ (2)	GENDER 1. ___ Female 2. ___ Male
_____ (3)	MARITAL STATUS 1. _____Never Married 2. ___ Single 3. ___ Widow 4. ___ Married 5. ___ Divorced
_____ (4)	HOURS WORKING WHILE IN NURSING SCHOOL 1. ___ None 2. ___ 1-20 hrs/wk 3. ___ 21-40 hrs/wk 4. ___ greater than 40 hrs/wk
_____ (5)	HOW MANY CHILDREN LIVING AT HOME 1.___None 2.___one 3.___two 4.___three 5.___four 6.___five 7.___six 8.___seven or more

APPENDIX D

MMCC
Mid Michigan Community College
1375 S. Clare Avenue Harrison, Michigan 48625-9447 Telephone 517/386-6622

March 22, 1995

Gail Dunham
3126 East Long Lake Road
Harrison, MI 48625

Dear Gail

As Director of Nursing, you have my permission to survey the 1994-1995 consenting Level I Nursing students.

I understand that the questionnaire information will be used to complete your research project for your Masters of Science in Nursing at Grand Valley State University.

Sincerely

[redacted]

Beth L. Sendre, R.N., M.S.N.
Director of Nursing

APPENDIX E

GRAND VALLEY STATE UNIVERSITY
1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

April 13, 1995

Gail E. Dunham
3216 E. Long Lake Road
Harrison, MI 48625

Dear Gail:

Your proposed project entitled "***Perceived Stress and Health-Promoting Behaviors Using The Health Promotion Model***" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

[redacted]

Paul Huizenga, Chair
Human Research Review Committee

APPENDIX F

Directions For Completing the Questionnaires

The following questionnaires are part of a research study as partial requirement of a Master of Science, Nursing Degree. The focus of research is to determine the correlation between perceived stress and health-promoting behaviors in nursing students.

Your decision to participate, or not, in the research study will have NO BEARING ON YOUR PROGRESSION, OR GRADES, IN NURSING SCHOOL. ALL ANSWERS WILL BE HELD CONFIDENTIAL. Completion of the questionnaires indicate your consent to be part of the research study.

It will take approximately 1/2 hour to complete the questionnaire. If you would like the results of the survey write your name and address on this page. When you finish the survey separate this face sheet from the questionnaire and place them separately in the two boxes identified at the front of the room (this will also help to assure confidentiality because your name will not be able to be placed with your answers).

The first questionnaire addresses perceived stress. With each question circle the one answer that best indicates the level of stress you are experiencing.

The second questionnaire addresses your health-promoting life style. Indicate the regularity with which you engage in each behavior.

It is important that you respond to each item as accurately as possible, and try not to skip any item.

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