

Self-Reported Health Practices
And Psychological Stress Symptoms In A
Sample of Nurse Managers

By

Bonnie J. Kostelecky, R.N., B.S.N., C.N.A.

A Master's Research Project

Presented to
The Oregon Health Sciences University
School of Nursing
in partial fulfilment of the requirements
for the degree of
Master of Science

Approval

[Redacted]

Marie Berger, R.N., PhD., Associate Professor, Master's Research Project
Advisor

[Redacted]

Susan Will, R.N., M.S., Associate Professor, First Reader

[Redacted]

Carol Allen, R.N., M.S.N., Field Services Manager, Oregon State Health
Division, Second Reader

[Redacted]

Carol Lindeman, R.N., PhD., F.A.A.N., Dean, School of Nursing

Table of Contents

<u>Chapter</u>	<u>Page</u>
I Introduction.....	1
Statement of the Problem.....	4
Review of the Literature.....	4
Stress.....	5
Health Practices.....	8
Hypothesis.....	10
Conceptual Framework.....	10
II Methods.....	12
Design.....	12
Subjects.....	12
Data Collection Instruments.....	15
General Well Being Schedule (GWBS).....	15
Health Risk Appraisal (HRA).....	17
Data Collection Procedures.....	20
Pilot Study	20
Data Collection.....	21

Table of Contents

<u>Chapter</u>	<u>Page</u>
III Results and Discussion.....	22
Sample Characteristics.....	22
Health Risk Appraisal.....	28
Clinical Implications.....	32
General Well Being Schedule.....	36
Pearson's Correlation.....	40
Theoretical Implications.....	42
One Way Analysis of Variance.....	44
Multiple Regression.....	44
IV Summary, Conclusions, and Recommendations.....	46
Limitations of the Study.....	48
Health Risk Appraisal.....	48
Methodology.....	49
Sample Homogeneity.....	50
Recommendations.....	51

Table of Tables and Figures

<u>Title</u>	<u>Page</u>
Figure 1. Conceptual Framework.....	10
Figure 2. Nursing Management Progression.....	13
Figure 3. Stress Symptom and Health Status Correlations.....	44
Table 1. Nurse Managers' Basic Nursing Education, Advanced Education, and Current Educational Pursuits.....	24
Table 2. Direct Patient Care Responsibilities of Nurse Managers.....	26
Table 3. Marital Status, Number of Children, and Salary for Sample...	27
Table 4. Managers Overweight, at Recommended Weight, and Underweight by Percent.....	30
Table 5. Nurse Managers by Health Risk Appraisal Scores and Health Risk Levels.....	31
Table 6. Nurse Manager GWBS Scores Compared to National Norms.....	36
Table 7. Participants' Mean Subscale Scores on the GWBS According to Percent.....	37
Table 8. Cummulative Regression of Demographic/Organizational Variables and GWBS Scores.....	45

Financial Acknowledgement

This research study was completed with partial support of government traineeships numbered 2A11 NU00250-10 and 2A11 NU00250-11.

Acknowledgements

The author wishes to acknowledge Dr. Marie Berger for her willing help and encouragement in the completion of this research endeavor.

Special thanks are extended to the participants of this study and the Portland Council of Nurse Executives for their help and advisement. Those hospitals who wished to be acknowledged for their participation follow:

Good Samaritan Medical Center	Riverside East
Mt. Hood Medical Center	Woodland Park Hospital
Holladay Park Hospital	Eastmoreland General Hospital
Riverside Hospital	Cedar Hills Hospital
Shriners Hospital for Children	Right Step Treatment Center
Bess Kaiser Medical Center	Horizon Recovery Center
Doernbeckers Hospital for Children	Willamette Falls Medical Center

Chapter I

Introduction

In many ways, nurse managers are a unique group in the business world. The majority of them are women who began careers in a service helping profession and advanced within that profession to a functionally different career, that of business and management. As a unique occupational group, nurse managers may be at risk for certain health hazards associated with the outcomes of long term stress. The occupational setting in which they work, the dual nature of their positions (nursing and management), and the degree of responsibility and accountability which they hold may increase certain morbidity risks for this group (Marshall & Cooper, 1979; Davidson & Cooper, 1983).

Historically, nurses have moved into management positions not because of their expertise in business or management, but because of their expertise and abilities in a clinical area in nursing. Promotion and advancement in nursing have become recognition of excellence in clinical practice. Newly promoted nurses, as middle managers, are subjected to what Gleeson, Nelson, & Riddel (1983) term "promotion trauma". Suddenly, the nurse is no longer functioning in a clinical nursing capacity, caring for patients, but has entered the unending and unfamiliar world of cost-containment, work-load measures, cost-benefit analysis, balance sheet management, and take-home work. Generally, this promotional move is made with little or hurried orientation and training to the function and practice of the management position (Schofield, 1986).

Nurse managers are different from both women managers and clinical nurses in that they must maintain expertise in both clinical nursing and management to provide effective and knowledgeable supervision in the health care delivery setting. The credibility and integrity of the executive nursing position demands that the decision-making process be grounded in a basic knowledge and understanding of the nursing activities performed in the care-giving environment (Freund, 1985).

Position descriptions of nursing managers have evolved to include additional demands of an administrative nature, further supporting the complexity of the work encompassed in top levels of nursing management. In private hospital settings, it is not unusual for the nursing manager to be responsible for program development, marketing, and public relations. Nursing management positions have been discussed in the literature in terms of role conflict, role ambiguity, and functions. Unlike their counterparts of a decade ago, nursing managers are responsible for more than the nursing department. For example, many managers now have administrative responsibility for a number of ancillary departments, a widely diverse nursing staff including clinical specialists and practitioners, and a growing number of in- and out- patient programs.

Although the literature reviewed presents discussion of a decrease in stressors related to patient care at management levels in nursing (Harris, 1984), there seems to be much evidence to support position related stress as a constant in upper level nursing management positions. Upper level nurse managers, such as Directors of Nursing, Presidents of Nursing Services, and Nurse Supervisor/Managers, generally represent a population

of women who have been in nursing and management for a number of years (Poulin, 1984), and whose current career status represents the successful survival of middle management promotion trauma (Gleeson, Nestor, & Riddel, 1983; Darling & McGrath, 1983).

The physical and psychological consequences of long term stress are well documented in the literature (Kasl, 1984; Lazarus, 1966). Physiologic findings related to stress have included heart disease, elevated blood pressure, migraine headaches, and gastrointestinal illnesses including ulcers and ulcerative colitis. Psychological findings have included such symptoms as irritability, anxiety, sadness, nervousness, and decreased energy level. Health risks to any population functioning under constant stress are great. Nurse managers may be an unusual group because of their prior health education, or dual positions in management and nursing, both of which can be considered stressful when held separately.

Recent research on the management of stress and stress symptoms has suggested that certain health practices are useful in the reduction of both physical and psychological stress symptoms (Giamatteo & Giamatteo, 1980; Grantham, McKay, & Allison, 1985; Sheridan & Vrendenburgh, 1978). Furthermore, successful maintenance of these health practices has been shown to be highly correlated with decreased morbidity and mortality (Belloc, 1973; Belloc & Breslow, 1976). Such health practices as a) not smoking, b) not drinking alcohol, c) eating breakfast regularly, d) not eating between meals, e) sleeping six to eight hours per night, f) exercising regularly, and g) maintaining appropriate weight have

correlated with higher levels of health and feelings of well being in the general population. Although there are additional health practices that may have implications for improving health status and well being, these seven seem to be central and critical across the literature.

These personal health practices provide a sound basis for avoiding acquired physiologic illnesses, and may also provide a basis for avoiding the health consequences of stress related and acquired illnesses. Nurse managers who work in a highly stressful occupation with dual professional responsibilities, compose an interesting population for study. While their occupation may place them at greater risk for developing stress-related symptoms, the nature of their prior nursing education may affect their health practices and mitigate their perceptions and reports of the stress in their work.

Statement of the Problem

The research study conducted examined the nature of the relationship between personal health practices and the psychological stress symptoms reported in a group of middle and upper level nurse managers.

Review of the Literature

The review of relevant research and literature contains discussion of the work that has been done on stress and burnout. Some of the more critical studies focus on men in management, staff nurses, women in management who are not nurses, and specific variables thought to affect the perception of stress. Additional studies have examined both the

definition and consequences of certain health practices in a general population. In this review of the literature identifiable health practices will be examined within the context of a health and wellness continuum.

Stress. Marshall & Cooper (1979) examined a group of male managers and the stress factors intrinsic to the business organizational setting. Their findings indicate five factors that affect the stress male managers report. These included: relationships at work, individual considerations, extra-organizational sources of stress, organizational sources of stress, and those sources of stress intrinsic to the job. Three of the categories were work related and two were non-work related. Results of this study support already existing material that identifies male managers as suffering physiologic stress symptoms such as heart disease, hypertension, and ulcers.

A number of studies have documented the existence of stress and stress symptoms in the nursing profession. For example, Harris (1984), Gray-Toft & Anderson (1985), and Ivancevich & Matteson (1980) all identify burnout as a psychophysiologic outcome of a variety of stressors generic to staff nurse positions. The physical environment, nature of the work, and supervisory style are identified as factors that affect perceived stress in the work arena. These findings generally support the hypothesis that stress in the nursing profession is extremely costly in a financial, physical, and psychological sense. Nurses use accrued sick time to take extra days off, do as little as is necessary to get through a shift, and

sometimes leave the profession in order to decrease the stress of their jobs. Lost work time, decreased productivity, and depersonalization have a significant impact on the hospital organization (Gray-Toft & Anderson, 1985; Harris, 1984).

The stress of nursing is additionally supported by one seemingly controversial study conducted by Davidson and Jackson (1985). The authors compare the symptoms of repeated exposure to the traumatic experiences inherent in nursing to those also found in Vietnam veterans, victims of natural disaster, and survivors of holocaust. They describe three groups of symptoms that correlate with delayed stress reaction which may be applicable. The first is an intrusive re-experiencing of a traumatic event. Reduced emotional involvement is the second suggested symptom, and lastly, a variety of dysphoric and cognitive symptoms which include anxiety, poor impulse control, memory difficulties, depression, violent outbursts, dehumanization, numbing, and withdrawal. At least some of these symptoms, such as dehumanization of patients and withdrawal in the sense of detachment, are common to definitions of burnout symptomatology. This study is focused on the maladaptive outcomes of the stressful and traumatic environment for staff nursing roles, and suggest that, again, the health consequences of long-term stress are significant.

Davidson & Cooper (1983) have done considerable work with women who occupy management positions in the business and industrial areas. Their work examines the causative and outcome factors of the stress of management positions as perceived by women managers. They were able to identify the same five key factors in their study with women that other

researchers (Marshall & Cooper, 1979) noted with a population of male managers. While this is an interesting finding, it is of greater interest to note that the authors maintain that "...women in management are experiencing higher pressure levels stemming from stressors in the work, home/social and individual arenas, and more manifestations of psychosomatic symptoms and poorer work performance than are men managers." (Davidson & Cooper, 1983, pp. 171 & 173). Six hundred women managers, none from nursing, and a control group of 180 men, rather than other women not in management positions were studied.

Some additional variables addressed in the literature which may have an effect on the stress symptoms that a group of nurse managers may report include the number of years in nursing and the number of years in management. Newly promoted nurses have transitional stressors to handle (Gleeson, et al., 1983; Scholfield, 1986) in addition to those attributed to the administrative job description. Education level and type such as a Masters' degree in community or Nursing Administration (Freund, 1985; Williams, 1985) may better prepare nurses to handle the work in a management position and reduce the effect of stress symptoms that nurse managers report from the work environment. Several authors suggest that formal and informal preparation is necessary to promote adequate functioning in a nursing management position (Scholfield, 1986; Harris, 1984; Gleeson, et al., 1983; Nyberg, 1982; and Darling & McGrath, 1983). Additional considerations can be made for organizational structure (Ivancevich & Donnelly, 1975) and sex of immediate supervisor (Davidson & Cooper, 1983). Respectively, these authors identified less stress in

organizations that had fewer management levels, and more stress in positions that had members of the opposite sex as supervisors.

Results of these previous studies offer supportive evidence that stress symptoms exist in both nursing and management careers, and further suggest that as a group, women managers perceive stress-related symptoms to a greater degree than do men in management positions. Studies correlating health practices with stress symptoms in any definable population were not found in the literature.

Health Practices. Belloc (1973) and Belloc & Breslow (1976) conducted two large studies that examined the health practices of the general population in relation to morbidity and mortality. These health practices included eating and sleeping habits, alcohol and drug consumption, smoking history, and exercise regularity. Their findings supported the long-standing cliché that "clean living" allows for longer, healthier living. Neither of these studies address a specific population such as nurse managers, nor do they suggest that a precursor to morbidity, such as prolonged constant stress, could be effected in some way by personal health practices.

More recently, attention has been given to one's ability to control stress responses to illness through specific health behaviors. For example, proponents of health promotion activities suggest that one can control the risks incurred from stress by changing certain health and lifestyle behaviors (Black & Ashton, 1985). These behaviors include those that Belloc studied (1973), i.e., eating breakfast regularly,

maintaining appropriate weight, exercising regularly, etc., and include several others such as, use of seat belts, number of miles driven per year, indicators of familial disease, and regularity of medical care.

The underlying principle that appears to drive health promotion activities can be explained by Blum (1974). He suggests that there are four major inputs to health factors in any population; heredity, environment, medical care, and behavior. Environmental factors, medical care, and behavior can all be altered on some level by the individual to bring about a change in health and well being. Health practices include those behaviors linked to his factors of environment, medical care, and behavior, thus suggesting that changes in these behaviors will promote health and well being in a population.

Although the literature is replete with studies on both stress symptoms and the health practices of individuals, there is very little that examines the nature of the relationship between the two. A considerable amount of work has examined the effect of stress on an individuals' health, yet does not address the effect that health practices can have on stress symptoms. Furthermore, nurse managers have not been examined as a population of study in relation to these variables. The present study examined the self-reported health practices of a group of nurse managers in relation to the stress symptoms they perceived themselves to have.

Hypothesis

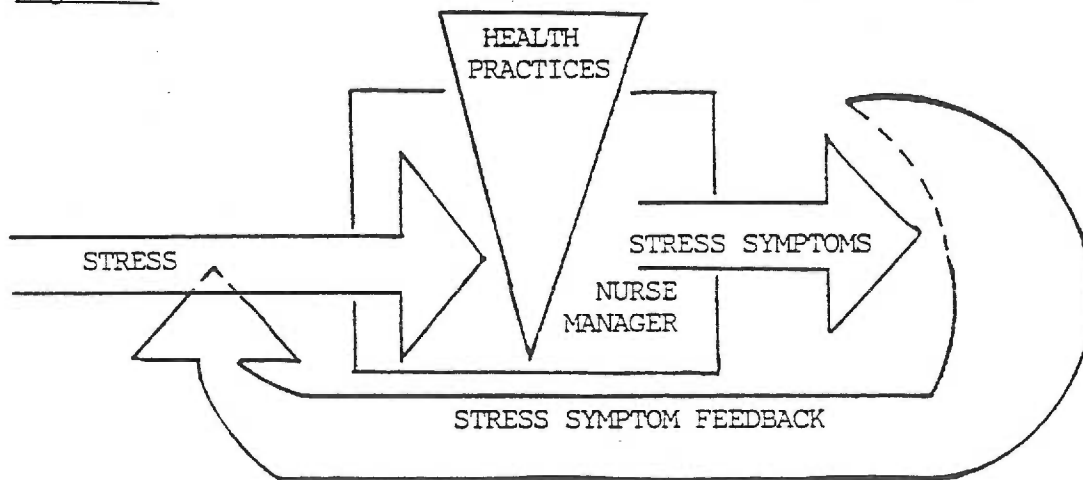
The hypothesis under study was; nurse managers who maintain good personal health practices will report fewer psychological stress symptoms than those nurse managers who do not maintain good health practices.

Conceptual Framework

General systems theory provided the basic theoretical framework for the research study. As discussed in Hall & Weaver (1985), the nurse manager acts as the open system through which stress, as a constant of the position, moves. The managers' behavioral personal health practices were considered the intervening variable which acted on the manager in some way to produce the psychological stress symptoms that the manager perceived.

(Figure 1.)

Figure 1.



With these stress symptoms as feedback, the manager could then choose to 1) alter self, 2) alter the input (constant stress), 3) withdraw from the environment (management position), or 4) alter her desired state, (Hall & Weaver, 1985, p.27) that is, to accept a less relaxed, more tense condition as natural. Health practices were seen as one way in which to "alter self" without changing the nature of the job, withdrawing from the position, or accepting a much more tense state of being. In this context, health would become a variable within the control of the individual. It was viewed on a wellness continuum that conceptualized health as a multidimensional concept which included the components of mental health, social well being, spiritual faith, and physical fitness (Hoyman, 1975).

Chapter II

Methods

Design

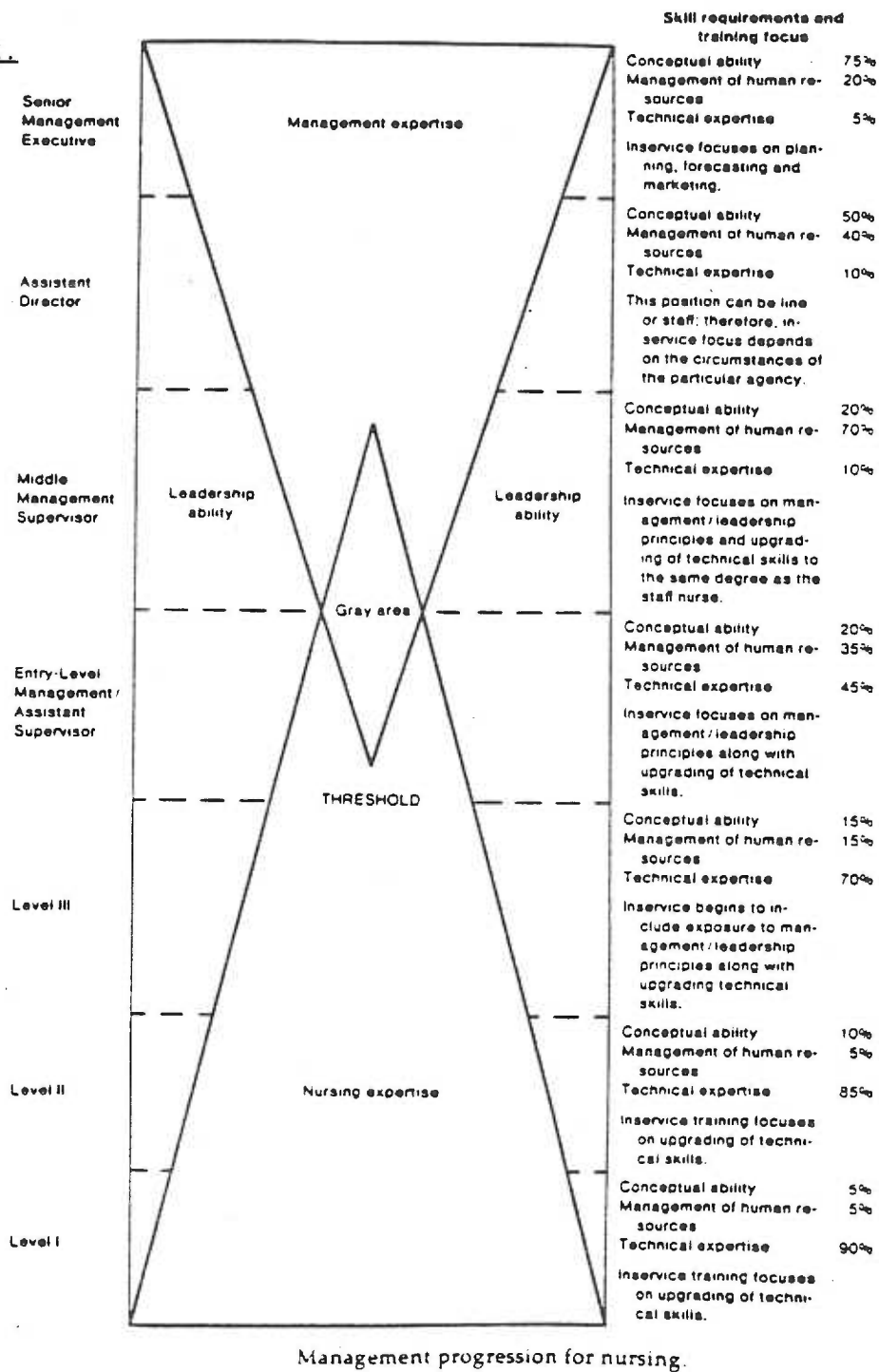
This study was an ex post facto, nonexperimental correlational design. The nurse managers' behavioral health practices have already taken place in the course of their health habit formation. Attempts were made to infer a causal relationship "...after the fact..." (Polit & Hungler, 1983). The health practices of the managers were not manipulated in any way by the researcher.

Subjects

The subjects (N=100) used for the study were a voluntary convenience sample of nurse managers who occupied positions in the top three levels of nursing administration within fourteen acute care hospitals in the Portland metropolitan area. Their primary responsibility within the organization was any one or all of the following three functions; financial management and budget, human resource management, and/or program development or direction. The upper levels of nursing management positions were chosen for study in order to adequately examine some of the organizational variables such as position occupied within the organizational structure, profit/non-profit status, and private or public status of the hospital which may have had an influence on the outcome of the study.

Figure 2. displays Gleeson's, et al., (1983) categorization of the

Figure 2.



(Gleeson, et al., 1983, p. 14)

levels of nursing management progression. The levels of management the authors describe include such job titles as Senior Management Executive, Assistant Director, and Middle Management Supervisor. The sample of nurse managers used for this study reported position titles which included Assistant Administrator, Vice President for Nursing Services, Director of Patient Care Services, Director of In or Out Patient Services, Nursing Supervisor, Nurse Manager, Nursing Education Specialist, Director of Nursing Research, and Patient Care Coordinator. In contrast to Gleeson's, et al., (1983) description of these levels of management, this group included managers (n=44) who had secondary responsibility for direct patient care in a clinical setting. According to the authors, the lower four levels of nursing management were responsible for increasing amounts of technical expertise and direct patient care and contact. Previous research has indicated that nurse managers in the middle areas of management were subject to the additional stressors of meeting administrative demands for coordinating function, and also their subordinates' demands for performance of clinical function (Anderson, 1964).

Other criteria for sample selection included; a) definition by administration as a nurse manager, b) full-time employment in an acute care hospital setting, and c) R.N. licensure. Nurse managers also had one or more of the following management responsibilities; a) responsibility for finance and/or budget, b) responsibility for human resources, and c) responsibility for program direction/development.

Data Collection Instruments

Two data collection instruments were used in this study; 1) the National Center for Health Statistics' General Well Being Schedule (GWBS) [see APPENDIX A for complete instrument], and 2) the Atlanta Center for Disease Control's Health Risk Appraisal (HRA) [see APPENDIX B for instrument]. An additional information sheet was developed for this study to assess data suggested in the literature as possibly significant [see APPENDIX C for information form]. Suggestions in the literature support the probability that other variables such as size of organization, organizational type and status, number of years in nursing, management, and in current position, number of hours per week spent in direct patient care all contribute to the presence or severity of psychological stress symptoms. Demographic information collected included: age, marital status, educational preparation, and annual income. Selected items from the demographic information sheet were included in an analysis of variance and a multiple regression to determine if they in fact affected the findings of this study.

General Well Being Schedule (GWBS). The General Well Being Schedule (GWBS) is an 18 item self-administered questionnaire which measures subjective psychological symptoms experienced during the past month in an adult population (Dupuy, 1974). The instrument contains six subscales which measure domains of 1) freedom from health concern or worry, 2) energy level, 3) satisfying and interesting life, 4) cheerful versus depressed mood, 5) relaxation versus tension or anxiety, and 6) emotional

control and stability.

Examples of the items include:

2. Have you been bothered by nervousness or your "nerves?"
 - 1[] Extremely so--to the point where I could not work
or take care of things
 - 2[] Very much so
 - 3[] Quite a bit
 - 4[] Some--enough to bother me
 - 5[] A little
 - 6[] Not at all

7. Have you had reason to wonder if you were losing your
mind, or losing control over the way you act, talk,
think, feel, or of your memory?
 - 1[] Not at all
 - 2[] Only a little
 - 3[] Some, but not enough to be concerned
 - 4[] Some, and I've been a little concerned
 - 5[] Some, and I'm quite concerned
 - 6[] Much, and I'm very concerned

The sub-scales are scored individually and then totaled to indicate a total psychological stress symptom score for the manager. The range of scores is 0 to 110 points on the total measure. High scores on the instrument are indicators of lower levels of psychological stress symptoms

reported by the manager [see APPENDIX D for example of the GWBS results]. Some of the items in the instrument are reversed and weighted.

The GWBS has been used in other adult populations for similar purposes and has shown reliability coefficients of .85 when used with a population of college students (N=195) over a three month test-retest period (Fazio, 1977). Dupuy (1978) reported .80 reliability coefficients with his test group (N=108), also over a test-retest period of three months. Brook, Ware, & Davis-Avery (1979) reported an internal consistency of .93 among GWBS items. Fazio (1977) reported an internal consistency of .912 for males and .945 for females. In his study of depression in college students (N=195), the GWBS was found to have the highest correlations with interviewer ratings when compared to the Zung and Minnesota Multiphasic Personality Inventory (MMPI) Depression scale, indicating representative validity of the instrument.

Fazio was able to substantiate the ability of the instrument to measure distress adequately, and suggests that this is the major strength of the General Well Being Schedule. He discusses the instruments' utility for measuring the concept of well-being as less adequate than that of distress. Thus, the title of the instrument may be construed a misnomer.

Health Risk Appraisal (HRA). The second instrument, an index of health practices, is the Center for Disease Control's Health Risk Appraisal (HRA). Most frequently, this instrument is used in a health promotion setting to measure health risk indicators such as smoking, overweight, amount of exercise, etc., and from this profile an

individual's health risks to morbidity and mortality are projected. In the present study, the HRA was used to assess and score the nurse manager's behavioral health practices.

The HRA was developed in 1970 by Robbins & Hall with the intent to use identified health risks to encourage individual patients to change certain behaviors, thereby improving their health status (Black & Ashton, 1985). The HRA is comprised of 35 items categorized into the four major areas of health assessment, 1) heredity, 2) environment, 3) medical care, and 4) lifestyle. The information is gathered via self-administered questionnaire format and relies on the individuals' knowledge of family health history and information pertinent to their health record, such as:

2. Did either of your parents die of a heart attack before age 60?
- [1] Yes, One of them [2] Yes, Both of them
- [3] No [4] Not sure
18. Fasting Cholesterol Level (If known- otherwise leave blank) ____
29. Did your mother, sister, or daughter have breast cancer?
- (Women only)
- [1] Yes [2] No [3] Not sure

The range of scores is 0 to 100 points for the total instrument. High scores on the HRA are indicative of good personal health practices and lessened risk of mortality from the top twelve United States national causes of death. In a health promotion setting, a relatively high score would clinically mean that the individual would not be required to change

many health behaviors to decrease their risks to mortality from certain diseases. Certain items in the instrument are weighted according to the Geller tables for morbidity and mortality for certain diseases and health behaviors. Responses are totaled to give a score for the individuals' health risk [see Appendix E for an example of the Health Risk Appraisal results].

The literature supports the face validity of the items measuring family history, environment, frequent use of medical screening services, and lifestyle factors such as smoking, drinking alcohol, maintaining appropriate weight, and exercising regularly (Blum, 1974; Belloc, 1973; and Belloc & Breslow, 1976). Reliability and other validity coefficients were not reported in the literature. Much of the research discussion on the utility of the instrument has centered on its' capability and use in health educational circles for modifying lifestyle behaviors that have an effect on morbidity or mortality.

The data collected in this study were analyzed using descriptive and inferential statistics. Both the GWBS and the HRA are computerized formats which provide an individual score for each participant on both the health and stress scales. Means for the groups' scores on the GWBS and on the HRA were compiled via a comparison against the national base population and the Geller tables, respectively. The Pearson r statistic was used to summarize the magnitude and direction of the relationship between the variables of psychological stress symptoms and personal health practices.

Both the GWBS and the HRA are relatively brief and require little

explanation prior to administration. The two instruments and the demographic information sheet required one half hour to complete, a significant factor to consider for the selected population and work setting.

Data Collection Procedures

Pilot Study. The top level nurse executives (N=13) of the acute care hospitals in the Portland Metropolitan area were presented with the plan for study via a personal contact with the Portland Council of Nurse Executives in the spring of 1986. They pre-tested a set of instruments for data collection and provided critical information involving the nature of stress in the nursing management setting within hospitals. They were asked to indicate any particularly stressful events taking place in the work environment which could have an effect upon the level of stress they perceived. Responses to this inquiry included; Medicare site survey, Joint Commission on Accreditation of Hospitals (J.C.A.H.) survey, budgetary constraints, union negotiations, staffing shortages, recent program installations, and reorganization of the nursing administrative organizational chart with management and staffing cuts.

While nurse executives felt these issues were additional stressors to their positions, they are in fact intrinsic to the job descriptions which they occupy, thus lending further support to the belief that stress is an inherent part of the management position in the hospital. These factors may not be overtly apparent but do covertly direct much management energy.

This group of nurse executives were asked to provide the researcher with a verbal agreement to access upper level nurse managers within their respective hospitals [see Appendix F for form letter].

Data Collection. Data collection took place in the work setting at nursing management meetings in fourteen of twenty one Portland hospitals who were asked to participate. A twenty minute presentation was given by the researcher on the nature of the study. Nurse managers were invited to participate, screened according to the set criteria, and administered the data collection instruments. The participants were instructed to complete the data collection instruments in relation to their present jobs. The instruments were completed in the presence of the researcher in order to respond to questions that arose. The data were numerically coded in order to protect the anonymity of the participants in the study.

One interesting factor during the data collection periods was the number of interruptions that occurred in all of the meetings. The nurse managers routinely left the meeting to return calls, answer pages, and respond to questions brought to them by their staff. The researcher did not note a single occasion that the staff was deferred to another time, nor were they asked to solve the problem in the absence of the manager. Interruptions included a variety of requests regarding staffing, bed assignments, policy questions, vacations, sick calls, and a request for help with restraining a patient. The managers seemed to encourage their staff to ask questions and seek advice of them even during what is considered exclusively management time.

Chapter III

Results and Discussion

The subjects (N=100) used for this study completed both the HRA and the GWBS to determine their respective health scores and psychological stress symptom scores. Findings from all of the data collection instruments will be reported and discussed. The Pearson product moment statistic was used to determine a correlational relationship between health practices and psychological stress symptoms. A one way analysis of variance and multiple regression were conducted to determine personal and organizational variables other than health practices which affected the outcome of the study.

Sample Characteristics

The sample of nurse managers selected for study was composed of 96 women and 4 men, slightly different from the general population of nurses in Oregon which consists of 94% women to 6% men (Oregon State Board of Nursing, 1986). Ages of the group ranged from 30 to 68 years, with a mean age of 40.9 years. The overwhelming majority (n=97) of the sample were white. One hispanic and two asian nurses were participants in the study.

The managers had worked an average of 17.5 years in nursing, had 7.7 years of nursing management experience, and had been in their current position in the hospital a mean of 4.9 years. Eighteen percent of the sample worked in for-profit hospitals, and ten percent worked in public facilities, the largest portion of the sample worked in non-profit and

private hospitals. Forty participants occupied positions of management in mid-sized hospitals (151-300 beds), thirty three in small facilities (0-150 beds), and twenty seven worked in hospitals with greater than 300 beds.

Of the fourteen hospitals taking part in the study, five had only one level of management above the head nurse level, three hospitals had two levels of management, four facilities had three levels, and two hospitals stated they had four levels of nurse management above the head nurse level. This becomes a critical factor in terms of understanding the implications of the job responsibilities of those managers who have mixed clinical/management duties.

Forty five percent of the sample had their basic nursing educational preparation in Baccalaureate programs, 32% in Diploma programs, and 22% in Associate degree programs (one missing case). Fifty four percent of the sample (N=100) had not considered continuing their education beyond their initial nursing education. Of the group who did advance their education (n=46), 19 did so in Bachelor of Science in Nursing programs or in Bachelor of Arts or Science in other disciplines, 6 earned Master's degrees in Nursing, 6 earned Master's of Science degrees in other disciplines, 3 earned Master's of Science in Nursing, 2 earned Doctoral degrees, 3 earned Master's degrees in Business or Public Administration, and another 2 recieved Master's degrees in Health Administration.

At the time of the study, 27% of the sample were completing degrees and in school on a part-time basis in addition to working full time as nurse managers in a hospital. Educational pursuits of the group included;

Table 1.

Nurse Managers' Basic Nursing Education, Advanced Education, and CurrentEducational Pursuits

	n	%
Basic		
Associate Degree	22	22
Diploma	32	32
Baccalaureate	45	45
Total	n=99 ^a	%=99 ^a
Advanced	n	%
Bachelor of Science/Science in Nursing	19	19
Master's Degree in Nursing/Master's of Science in Nursing	9	9
Master's of Science (various, unnamed)	6	6
Master's Degree in Business/Public Administration	3	3
Master's Degree in Health Administration	2	2
Doctorate	2	2
Subtotal	n=41 ^b	%=41 ^b
Current Pursuits	n	%
Bachelor of Science/Science in Nursing	12	12
Master's Degree in Nursing/Master's of Science in Nursing	4	4
Master's of Science (various, unnamed)	3	3
Master's Degree in Business/Public Administration	5	5
Master's Degree in Health Administration	1	1
Doctorate	1	1
Subtotal	n=26 ^c	%=26 ^c

Note. ^aindicates missing cases. ^balthough 46 subjects indicated that they had advanced their education beyond original nursing education, 5 did not indicate what their educational pursuits had been. ^cindicates one case who did not report what degree they were currently pursuing.

a) B.S.N. and B.S. (12%), b) M.N. (2%), c) M.S. (3%), d) M.S.N. (2%), e) PhD. (1%), f) M.P.A. and M.B.A. (5%), and g) M.H.A. (1%) (Table 1).

No nurse managers under study had any previous alternative preparation for their present positions. Furthermore, only twelve of the nurses reported having any management experience other than that in the nursing profession. This information supports findings reported in the literature, which is that nurse managers generally do not have management experience in other areas. The practical experience they receive in terms of their management function is limited to the nursing environment.

Nurse managers reported an average of 21.77 staff who were directly responsible to them, and an average of 50.89 staff for whom they were indirectly responsible. However, forty nine percent of the group reported that they had no indirect responsibility for employees indicating either a flat organizational structure for that subsample, or a small department such as Infection Control, Staff Development, Quality Assurance, etc.

The majority of the nurse managers (n=80) reported to female supervisors and had a range of 0 to 35 peers at their level in the organization. Only 11% of the sample reported that they had no peers at their management level. This 11% represents positions which were either the top executive level in nursing administration or were one person departments.

The amount of direct patient contact that the nurse managers reported was of considerable interest. On the average, forty four percent of the sample reported that they spent more than 10% of their work time in direct patient care. Ten percent of the sample reported spending up to eight hours per week, nine percent reported nine to sixteen hours, and fifteen percent reported spending more than sixteen hours per week in direct

patient care (Table 2). This phenomenon occurred in small, mid-sized, and large hospital organizations, and did not appear to be an outcome related to the number of nursing management levels within the organization.

This finding suggests a flat organizational structure and the absence of true middle managers as defined in the traditional sense to mean that the middle manager is the representative of staff to administration, and the representative of administration to staff, belonging to neither group exclusively. The role of the head nurse has been expanded to encompass both middle management functions and patient care responsibilities. Administrators in the pilot study stated that this practice was now common. They indicated that reorganization of the nursing administrative structure typically resulted in reduced middle management nursing positions.

Table 2.

Direct Patient Care Responsibilities of Nurse Managers

Hours per Week of Direct Patient Care	Percentage
0-4	66
5-8	10
9-16	9
> 16	15
Total	100

Other characteristics of the sample such as marital status, number of children, and salary ranges are displayed in Table 3. The majority of the group was married, had a mean of 1.7 children (less than the national average), and had an annual salary between 31,000 and 35,000 dollars. According to a Nursing 86 survey, this salary compares equitably to national norms which indicate that head nurses average a salary of \$30,700, nursing supervisors \$30,800 to \$32,200, and directors of nursing average \$47,000 per year.

Table 3.

Marital Status, Number of Children, and Salary for Nurse Manager Sample

Marital Status	<u>n</u>	Children	<u>n</u>	Annual Salary	<u>n</u>
Married/SLWSO*	63	None	29	<30K	23
Single/Widowed	22	One	17	31-35K	43
Divorced	14	Two	26	36-40K	23
Separated	1	Three	16	41-45K	3
		>Four	12	>46K	3
<u>Total</u>	<u>100</u>		<u>100</u>		<u>95^a</u>

Note. ^aindicates missing data. *Single, living with significant other.

Health Risk Appraisal (HRA)

The range of possible scores on the HRA instrument was from zero to one hundred. Those subjects who scored closer to the high end of the range are considered to be in good health, requiring no behavioral changes to improve their health status. Those scores falling towards the lower end of the range were considered to be in a less optimum state of health and at greater risk of mortality from one of the twelve major national causes of death. The range of scores for the nurse managers participating in this study was 69 to 100, with a mean score of 86.21, indicating a relatively healthy group.

Health status was determined by examining two specific areas, that of external health care and that of lifestyle behaviors. In terms of the former, 34% of the nurse managers in this sample reported that they did not receive annual rectal examinations from a physician, 28% stated that they did not have routine Pap smears, and the greater majority (65%) did not do monthly breast self-examinations. Further, 5% of the group reported elevated blood pressures for which they either had not been treated, or were not under a physicians' care and management.

With regard to lifestyle health practices, 15% of the sample were smokers, 22% considered themselves as ex-smokers, and the remaining 63% were non-smokers. These figures compare to 1985 national norms that indicated that 28% of women considered themselves smokers, 18% ex-smokers, and the remaining 64% had never smoked (Smoking and Health, 1985). Fourteen percent of the nurse managers reported that they drank more than one alcoholic drink per day, and six percent reported that they used drugs

frequently to affect their mood or to help them relax. It is not known how many of this group were under a physicians' direction to do so.

There is considerable variation in national statistics reporting on alcohol consumption in adults. Although it is difficult to compare alcohol consumption when different measures for what is abnormal are used, this sample is similar to reported statistics that 10 to 15% of the nation drink on a daily basis (Milam & Ketcham, 1981), yet would be considered overusers when compared to the Schounborn & Danchik (1981) standards which state that 3.4% of the population consumed five or more drinks on days when alcohol was consumed.

The overwhelming majority of the sample (77%) reported that they do not exercise regularly. The HRA instrument determines regularity in the instance of exercise to be scheduled exercise of twenty minutes three times per week. An additional factor in the area of lifestyle behaviors emerged from findings using the HRA. More than one fourth of the nurse managers (27%) reported that they do not use seat belts consistently.

This particular group of nurse managers have one predominant health problem in that more than half (54%) of the participants were overweight. Some participants were overweight by as little as 4%, and some by as much as 75% above normal weight, as established by the 1983 Metropolitan Life Insurance tables. Thirty nine percent of the subjects were overweight by greater than 10% of what is considered the norm, and twenty seven percent of the participants were considered morbidly obese, that is, weighing 20% or more than the accepted norms. Underweight was a decided health problem for 2% of the nurse managers in the sample with two of the subjects being

Table 4.

Managers Overweight, at Recommended Weight, and Underweight by Percent

Percentage Overweight	<u>n</u>	Percent of Sample (N=100)
<10%	15	15
11-20%	12	12
21-30%	9	9
31-40%	10	10
41-50%	2	2
<u>51-75%</u>	<u>6</u>	<u>6</u>
Subtotal	54	54

Percent at Recommended Weight	<u>n</u>	Percent of Sample (N=100)
	<u>44</u>	<u>44</u>
Subtotal	44	44

Percentage Underweight	<u>n</u>	Percent of Sample (N=100)
0-20%	1	1
<u>21-23%</u>	<u>1</u>	<u>1</u>
Subtotal	2	2

Total	100	100
-------	-----	-----

Note. HRA determines percentage over- and under- weight from 1983 Metropolitan Life weight tables.

underweight by eighteen and twenty three percent (Table 4).

Four subjects scored the maximum possible 100 points. Scores for the HRA, presented in Table 5, indicate relative groupings of high, moderate, and low risk health practices. This categorization proved helpful in generating differences within the group on their health behaviors and practices.

Table 5.

Nurse Managers by Health Risk Appraisal Scores and Health Risk Levels

Health Risk Level	Score Intervals	n
High Risk	69-80	28
Moderate Risk	81-90	35
Low Risk	91-100	37
Total		100

Clinical Implications

Based on the HRA Geller tables, the following health problems were identified; overweight, poor exercise habits, and inadequate health care monitoring as discussed earlier. For example, the majority of the subjects (65%) did not, with any regularity, do breast self-examination, or have regular pap smears (28%). In addition, 34% of the subjects did not have annual rectal examinations completed. These health practices are frequently addressed by nurses from a health education focus with the general population in the health care setting. Despite the knowledge base nurses possess regarding health care maintenance practices necessary, this sample provided little evidence that they had developed these behaviors for themselves.

One possible explanation for this lack of health care monitoring might be that while nurses have a great deal of knowledge about health care, they may feel that this knowledge in some way creates an immunity for them to the problems that can arise as a result of not routinely having a pap smear or rectal examination. As nurses, they are seen by the public as health models, teaching clients to care for their health needs. If this belief becomes internalized in some way by the nurse, it can be supportive of nurses' beliefs that they are different from the general public in their health care maintenance requirements.

A second explanation that might be offered is that nurses are indeed very similar to the rest of the general population. Regardless of the knowledge they possess, they also need to address the application of this knowledge to their health care behaviors.

A significant percentage of this sample were considered by the HRA to be overweight. In debriefing the data collection meetings with several of the nurse managers, they were not alarmed nor surprised by this finding, but made explanatory statements that suggested that this was considered the norm. They stated that the change in position from care giving to management was a considerable alteration in activity level, and that a weight gain of twenty pounds was expected. In fact, some individuals indicated that they were warned by peers that this would happen, that is they would gain weight.

Considering the reduced activity level and the poor exercise habits of the group, weight gain could be an expected outcome. It would seem that the lack of regular exercise plays a great part in the health habits of this group. Increasing the number of hours at work, changing the type of work performed by the managers, and decreasing the amount of time available for routine exercise are all factors intrinsic to the position of management.

Another possible explanation of these findings could be suggested by looking at the nurturing role the nurse is expected to provide, that is, caring for others is a critical part of both their employment position and their home environment. Caring for self may become a secondary priority to this group (Reverby, 1987).

According to a recent national survey conducted in 1986 (Van Gelder, 1987), 70% of women questioned stated that they overate when bored, and over 50% overate when depressed. Food and eating behavior are methods that women employ to cope with boredom and depression. The lack of

regular exercise and overeating as a method of managing anxiety or tension may have legitimate implications for the nurse managers in this study. Since nurses are not expected by the public or their professional peers to drink or use drugs to manage their stress or depression, eating and food may become the acceptable palliative substitutes that are both self-nurturing and help to temporarily allay anxiety or depression (Leviton, 1987).

The sample of nurse managers used for this study were quite homogeneous in terms of their health practices. Little variance of health scores was generated with the use of the HRA in this population. One explanation that could be speculated by the researcher might be the nature of this particular groups' educational background. Education in nursing would provide a baseline of knowledge about health care and health care practices. While nurses have more knowledge about health behaviors, and this may have influenced their health practice scores, it did not seem to transfer to their own behavior.

The knowledge about what are healthy behaviors to practice in ones' life provides additional food for thought with this population in particular. Social desirability could have created significant error in the outcome of the health practice scores based on the assumption that this information is what was actually measured, rather than the health practices of the group. With the high scores, nurse managers fell into a relatively healthy category. This may have been an actual indicator of a naturally healthier group than the general population, or a reflection of the groups' education, occupation, or social desirability.

One example that may be in the social desirability category can be illustrated by one of the manager's response. She indicated that she was a non-drinker, yet also stated that she drank in excess of fourteen drinks per week. This information is very helpful in examining the reasons why this sample scored as highly as they did on the instrument. This magical thinking may pervade to an unknown degree the group's responses regarding their health practices, since several participant responses demonstrated inconsistencies between self-reported practices and overall health scores.

Another manager who received a score of 96 points on the HRA, was also 37% overweight, for which the instrument deducted only four points. The rest of her health practice inventory was exemplary as scored and rated by the HRA. This is one indicator which suggests a possible weighting problem with the HRA. Perhaps because of the generic nature of the instrument, it does not address specific risk factors such as overweight in a population of females.

General Well Being Schedule (GWBS)

The GWBS was completed by all of the subjects in the sample. The range of scores for the instrument is 0 to 110 points. For this instrument, higher scores indicate lower levels of stress symptoms perceived and reported by the sample. In this study, scores ranged from a low of 32 to a high of 103, a range of 71 points. A comparison of these scores to the national norms is presented in Table 6.

Table 6.

Nurse Manager GWBS Scores Compared to National Norms

Score Intervals	Implications	Percentages	
		National Norms	Sample
81-110	Positive well-being	55	34
76-80	Low positive	10	16
71-75	Marginal	9	9
56-70	Indicates stress zone	16	33
41-55	Indicates distress zone	7	7
26-40	Significant distress	2	1
25-0	Severe distress	1	0
Total		100%	100%

Note. no missing cases for the instrument.

The GWBS contains six subscales which further identify the nature of the stress symptoms perceived and reported on the measure by the sample of nurse managers. Mean scores on each subscale are illustrated in Table 7. The subscales include 1) freedom from health worry and concern, 2) energy level, 3) satisfying and interesting life, 4) cheerful versus depressed mood, 5) relaxed versus tense or anxious, and 6) emotional control and stability.

Table 7.

Participants' Mean Subscale Scores on the GWBS According to Percent

Subscale	Possible Subscale Score	Achieved Mean Score	By Percent
5. Relaxed vs. Tense or Anxious	25	14	56
2. Energy Level	20	12	60
3. Satisfying & Interesting Life	10	7	70
4. Cheerful vs. Depressed Mood	25	18	72
1. Freedom from Health Worry/Concern	15	11	73
6. Emotional Control & Stability	15	12	80
Total	110	74	

Nurse managers reported the greatest stress symptoms in the energy level and feeling tense or anxious subscales. As a group, they reported the fewest problems with symptoms in the emotional control and stability subscale. Generally speaking, respondents reported fewer worries and concerns about their health, they found their lives interesting and satisfying, and they reported themselves to have more cheerful than depressed moods.

The apparent lack of stress symptomatology in the emotional control and stability subscale could be attributed to a pre-existing characteristic of the participants. That is, these nurses were chosen for their current positions in management because of their ability to maintain emotional control and stability in the work setting. This characteristic may have been viewed as a necessary ability for a nurse manager to command.

One inconsistency in comparison to respondents' health practices and their worry and concern about health related issues was noted. Although more than half the respondents were overweight, they did not consider themselves worried, concerned or preoccupied with this health problem. They did not report health as a concern or worry even though large percentages of the sample did not do breast exams on a monthly basis, or have routine pap smears performed. Considering the age group of the sample, both of these health factors are major concerns and risks for a sample of almost all women.

Results of the GWBS indicated that this sample was considerably more stressed than the national norms against which they were compared, that is

they had double the stress of the general population. This finding supports other results reported in the literature which address the stress that is inherent in both nursing and management positions.

The nurse managers' subscale scores on the instrument are illustrative of both their stress levels and the health problems arising from occupationally related stress. They complained of low energy levels, tension, and anxiety more than any other symptoms. Coupled with their general health problems of obesity and lack of exercise, this symptom cluster is not surprising.

The findings show that managers who were not stressed had very little effect from their health practices. That subsample of managers who were stressed showed marginally strong correlations to their health practices, but in the cases of both high and low health practices these were negative relationships. The strongest correlations were found in the group which perceived themselves to be distressed. That group which had the lowest health practice scores and were distressed showed an inverse relationship. The more distressed the manager became, the more likely she was to have improved health practices.

The second trend apparent in the clustered data was that managers who had high and low health practice scores were more likely to have an inverse relationship to their stress symptom scores. One illustration of this finding was noted with the subsample of managers who were stressed. Managers who had low HRA scores had a Pearsons r of $-.38$, managers who had average HRA scores had a Pearsons r of $.39$, and managers who had the highest HRA scores reported a Pearsons r of $-.47$.

Of those nurse managers who maintained relatively less healthy behaviors (HRA interval scores 69-80), the relationship to stress scores was negative at all intervals statistically completed. Those managers who had mid-range health scores (81-90), correlated positively within all intervals with the stress symptoms measure. The sample reporting the highest scores on health practices (91-100) correlated positively with GWBS scores for "not stressed", and negatively with the scores of participants who were "stressed" (see Figure 3).

Theoretical Implications

While perceived stress symptoms varied a great deal in this sample on the GWBS, the reported health practices of the managers did not. The Pearson's correlation done on the subsample of managers grouped by their health scores [Appendix G displays the relative levels of significance for each cluster] showed negative correlations in that group which had the lowest health scores, weakly positive relationships in the mid-range group, and mixed positive and negative correlations in the highest health scoring group.

Data presented in Figure 3 illustrates what can be interpreted as a stable set of health practices that do not vary with the degree to which the subject perceives her stress, suggesting that an individual's health practices vary little in light of what the individual perceives as stressful. The trend indicated by these data was that the further one moved away from average health scores toward a poor health practice score, the stronger the nature of the relationship with the perceived stress symptoms. Those managers who maintained average health practice scores and were distressed, had stronger relationships to their stress symptoms than did those managers who were not stressed.

That subsample of managers who had the highest HRA scores and were stressed showed an inverse relationship between the two, illustrating that even though they maintained healthy behaviors at a certain level, they were likely to report higher levels of stress symptoms. For that group who were the most healthy and the least stressed, the relationship between health practices and stress symptoms was negligible.

This group did not show any consistent response or variance to GWBS scores between groups. This is supportive of the belief that health habits maintain stability in practice and are difficult to change, even in the face of knowledge about how health practices can improve well being and decrease stress symptom severity.

Figure 3.

Stress Symptom and Health Status Correlations

Stress	Not Stressed	r= -.15	r= .17	r= .10
	Marginal	r= *	r= .40	r= *
	Stressed	r= -.38	r= .39	r= -.47
	Distressed	r= -.58	r= .69	r= *
		Low	Average	High
			Health	

Note. * indicates too few subjects to calculate a correlation.

Results of the One Way Analysis of Variance

A one way analysis of variance was completed on several demographic and organizational variables [Appendix C]. Results for the following variables were considered negligible when correlated with the GWBS scores: age, marital status, salary, years of nursing experience, number of years of nursing management experience, number of years in current position, prior management experience not in nursing, nursing education, advancement in education, number of employees supervised directly and indirectly, peer support, and number of hours spent in direct patient contact.

All relationships for the given variables were neither strongly positive nor negative, and were not conclusive indicators of their relationship to the stress symptom scores reported by the nurse managers.

Results of Multiple Regression

A multiple regression was performed to determine the amount of variance of GWBS scores accounted for by selected variables. Included in the regression were all those items which were supported by previous research and discussed in the review of the literature (Table 8). The status of the hospital in which the nurse manager worked seemed to have the greatest effect on the GWBS scores, again to a very limited degree. The number of hours per week that managers spent in direct patient contact accounted for the least amount of variance in the stress scores. The health practice scores were ranked in the regression as the ninth most meaningful variable in accounting for the variance of the GWBS stress scores reported by the nurse managers.

Table 8.

Cummulative Regression of Demographic/Organizational Variables and GWBS

Variable	Multiple r
Profit/Non-Profit Status	.2349
Marital Status	.3257
Non-Nursing Management Experience	.3782
Hospital Size	.4175
Level of Position in Management	.4475
Age	.4861
Nursing Management Experience	.5298
Salary	.5759
Health Risk Appraisal Scores	.5899
Number of Employees Directly Supervised	.6043
Private/Public Hospital Status	.6249
No. of Employees Indirectly Supervised	.6405
Peers	.6527
Years in Nursing	.6621
Sex of Supervisor	.6714
Currently Working on Advanced Education	.6758
Number of Outpatient Visits/Day	.6777
Beginning Nursing Education	.6790
Possession of Advanced Degree	.6799
Hours/Week in Direct Patient Care	.6803

Chapter IV

Summary, Conclusions, and Recommendations

The present study examined the nature of the relationship of health practices to psychological stress symptoms in a sample of nurse managers. The data collected provide much interesting material for practice and clinical implication. The methodology, instrumentation, and the sample proved problematic in the analysis and interpretation of the data. The discussion of the study focused on the clinical implications of the findings, the use of the HRA for a study of this nature, and the homogeneity of the sample.

The findings were supportive of the hypothesis that nurse managers who engaged in positive health practices would report fewer psychological stress symptoms related to their occupation. Although the relationship was not found to be statistically significant, methodological problems with the instrumentation and the homogeneity of the sample were implicated as causative. Additional organizational and personal variables were found to have been more strongly related to the stress symptoms reported in this group. Those variables included; profit/non-profit status, marital status, non-nursing management experience, size of hospital, management position within the facility, age, amount of nursing management experience, and salary.

Decidedly, the most interesting finding was that overweight and lack of exercise were the two health problems clearly identified with the group. These problems raise issues for further clinical intervention

for health education and health management practices.

Although the results in this study were not statistically significant, some health risks associated with an occupational environment could be identified. For example, hospitals, noted for their responsiveness and commitment to unhealthy clients, apparently are not responsive to staff and employee health. Over time, industry has done much to enable the employee to maintain their health and decrease stress within the work environment, but hospitals do not offer their staff comparable access to work-out gyms, aerobic exercise classes, or relaxation training as part of their benefits package. Industry has done much in these areas to encourage employees to stay healthy, under the assumption that the healthy, non-stressed employee will be more productive in the work environment.

Results of this study reaffirm the belief that nurse management is indeed a stressful position within the hospital environment. Nurse managers also possess some unique health problems which can be attributed to less than adequate health management on the part of those surveyed. The practical implication is that considerable impact could be made on both of these issues from an organizational perspective, provided the hospital is willing to recognize some responsibility for creating the environmental problems which impact on the health and stress of the manager.

Limitations

Several problems in the study limit the generalizability of the findings. The homogeneity of the group, the methodology, and the instrument all proved problematic in the interpretation of the data collected.

Health Risk Appraisal. The Health Risk Appraisal instrument proved problematic in that it did not provide a mechanism for handling several health problems that this sample had, but were not able to report based on the limitations of the measure. Of particular concern were issues related to surgeries and illnesses this group reported verbally to the researcher. One subject had had bilateral breast mastectomies due to cancer. Another had had several surgeries for cancer that could not be entered into the data collection instrument. Additional problems arose for those subjects who were pregnant, for those who were on birth control pills, or were diethyl-stilbesterol (D.E.S.) children, and who were on regular medication to manage diagnosed medical problems including depression. The HRA did not differentiate prescription drug use from recreational drug use.

One is led to suspect the measure as inadequate because of the reported outcomes of the health practices of the group and the seemingly high scores they received (mean = 86.2). How is it possible for the majority of the group to be overweight and be given a relatively high rating for their health practices on the same instrument? The groups' weight may not be considered by the measure to be an important risk

factor, but certainly is a critical health problem in this sample. This is suggestive that pre-existing conditions are not handled or weighted appropriately by the instrument.

The validity of the instrument must come under critical review when used as a measure of health status because of its' limitations in figuring risk for an individual who has already had an illness such as cancer or heart attack. It can be safely assumed that these individuals have greater risks to their health once chronic disease has occurred. While the HRA may be a useful tool for educational use with a relatively healthy population, the instrument proved inadequate for this sample, particularly in light of their knowledge base and experience with health care problems. Another instrument that would easily address these problems should be considered for use with a sample of primarily women of this age group.

Methodology. While self-reports are an excellent method of collecting data in most situations, they proved problematic with this particular sample. It has been suggested that social desirability may have been causal in the lack of statistically significant findings in the study. Other methods which would address this factor need to be attempted to more clearly assess the relationship of health practices to stress symptoms.

An additional method of gaining access to health practices that has been used in the literature is the interview. Belloc and Breslow (1976) developed an interview schedule for health practices which was useful in a general population. In one of their follow up studies, they added the

medical record search as verification of data given by the respondents. These methods could have been utilized as well as an interview with another member of the subjects' family. Again social desirability may have proven a factor, but those issues around illness management may not have been problematic for interpretation.

Sample Homogeneity. While it is true that nurse managers are a unique occupational group for study, this limits any generalizability to other occupational groups. The nature of their education and knowledge was difficult to discern from their actual health practice behaviors. It is likely that their training and experience, as well as their basic nursing education, was a factor in the measurement of their health practices and habits. The combination of the lack of adequacy of the HRA instrument and the education and occupation of the group under study provides some understanding of the limited correlational findings of the study.

Recommendations

This study raises several questions which are appropriate for further study. Very little of the variance of this samples' stress scores was explained by their reported health practices. More of the variance was explained by organizational factors such as structure of the hospital, and personal factors such as marital status. Ostensibly, the hypothetical question was not answered. Further work needs to be done on the instrumentation useful in a study of this nature.

Additional inquiry needs to be directed at the sources of stress in the hospital setting. With the advent of prospective payment systems, health care cost containment, and the focus of the nurse manager's job description moving more towards the business and financial responsibilities in the health care organization, stress becomes a critical factor for nurses in the hospital organizational environment, primarily for those with little preparation in non-clinical areas of expertise such as management and finance. Much research is devoted to examining the occupational stressors in industry in the hope of decreasing stress induced illnesses and increasing productivity.

While both health maintenance behavior and stress are strongly aligned with morbidity, a significant relationship between health practices and stress symptoms was not supported in this study. This lack of significance may indicate that the environment of hospitals is an excellent source for further study on organizational stress.

In summary, while we may know a great deal about both stress and how to maintain health, we have not yet been able to target certain health

maintenance behaviors that will enhance our immunity to stress induced illnesses, both physical and psychological.

References

- Anderson, R.M. (1964) Activity preferences and leadership behavior of head nurses: part 1 & 2. Nursing Research, 13, 239-243 and 333-337.
- Belloc, N. (1973) Relationship of Health Practices and Mortality. Preventive Medicine, 2, 67-81.
- Belloc, N. & Breslow, L. (1972) Relationship of Physical Health Status and Health Practices. Preventive Medicine, 1, 409-421.
- Black, G. & Ashton, A. (1985) Health Risk Appraisal in Primary Care. Primary Care, 12 (3), 557-571.
- Blum, H. (1974) Planning for Health: Development and Application of Social Change Theory. New York: Human Services Press.
- Brook, R., Ware, J. & Davis-Avery, A. (1979) Conceptualization and measurement of health for adults in the health insurance study: overview. Santa Monica, California: Rand McNally & Co.
- Darling, L. & McGrath, L. (1983) The causes and costs of promotion trauma. The Journal of Nursing Administration, 4, 29-33.
- Davidson, M. & Cooper, C. (1983) Stress and the Woman Manager. New York: St. Martin's Press.
- Davidson, P. & Jackson, C. (1985) The nurse as a survivor: Delayed post-traumatic stress reaction and cumulative trauma in nursing. International Journal of Nursing Studies, 22 (1), 1-13.
- Dupuy, H. (1974) Assessment of self-representations of subjective well-being and distress. Paper presented at the National Conference on Evaluation in Alcohol, Drug Abuse, and Mental Health Programs. Washington, D.C.

- Dupuy, H. (1978) Self-representation of general psychological well-being of American adults. Paper presented at the meeting of the American Public Health Association. Los Angeles, California.
- Fazio, A. (1977) A concurrent validation study of the NCHS general well-being schedule. (DHEW Publication No. (HRA) 78-1347). Hyattsville, Maryland: National Center for Health Statistics.
- Freund, C. (1985) Director of Nursing Effectiveness, DON and CEO Perspectives and Implications for Education. The Journal of Nursing Administration, 6, 25-30.
- Giammateo, M. & Giammateo, D. (1980) Executive Well-Being: Stress and Administrators. Reston, Virginia: National Association of Secondary School Principals.
- Gleeson, S., Nestor, O. & Riddel, A. (1983) Helping nurses through the management threshold. Nursing Administration Quarterly, 7 (2), 11-16.
- Grantham, M., Mckay, R. & Allison, C. (1985) Job satisfaction and interruptions in the planned time of nursing managers. Journal of Nursing Administration, 15 (5), 7 & 10.
- Gray-Toft, P. & Anderson, J. (1985) Organizational Stress in the Hospital; Development of a Model for Diagnosis and Prediction. Health Services Research, 19 (6), 753-774.
- Hall, J. & Weaver, B. (1985) A research Approach to Nursing Practice. in Distributive Nursing Practice: a Systems Approach to Community Health. Philadelphia; J.B. Lippincott, Company.
- Harris, P.L. (1984) Burnout in nursing administration. Nursing Administration Quarterly, 8 (3), 61-70.

- Hoyman, H. (1975) Rethinking an ecological system model of man's health, disease, aging, death. Journal of School Health. 45 (9), 409-519.
- Ivancevich, J. & Donnelly, J. (1975) Relation of Organizational Structure to Job Satisfaction, Anxiety-Stress, and Performance. Administrative Science Quarterly. 20 (2), 272-280.
- Ivancevich, J. & Matteson, M. (1980) Nurses & Stress: Time to Examine the Potential Problem. The Journal for Nursing Leadership and Management. 11 (6), 17-22.
- Kasl, S. (1984) Stress and Health. Annual Review of Public Health. 5, 319-341.
- Lazarus, R. (1966) Psychological Stress and the Coping Process. New York: McGraw-Hill.
- Leatt, P. & Scheck, R. (1980) Differences in stress perceived by head nurses across nursing specialties in hospitals. Journal of Advanced Nursing. 5, 31-46.
- Leviton, R. (1987) The Hungry Self; Kim Chernin on Women, Eating, and Identity. East West, 1, 36-43.
- Marshall, J. & Cooper, C. (1979) Executives Under Pressure. A Psychological Study. New York: Praeger Publishers, Praeger Special Studies.
- Milam, J. & Ketcham, K. (1981) Under the Influence A Guide to the Myths and Realities of Alcoholism. Seattle: Madronna Publishers, Inc.
- Nyberg, J. (1982) The role of the nurse administrator in practice. Nursing Administration Quarterly. 6 (4), 67-73.
- Oregon State Board of Nursing, Annual Statistical Report, June (1987).

- Polit, D. & Hungler, B. (1983) Nursing Research: Principles and Methods. Philadelphia: Lippincott.
- Poulin, M. (1984) The Nurse Executive Role A Structural and Functional Analysis. The Journal of Nursing Administration, 2, 9-14.
- Reverby, S. (1987) A Caring Dilemma: Womanhood and Nursing in Historical Perspective. Nursing Research, 36 (1), 5-11.
- Schounborn, C. & Danchick, K. (1981) Educational Differentials in Health Practices. Health United States. Department of Health and Human Services.
- Salary Update (1986) Nursing86, 16, (9), pg.17.
- Schofield, V. (1986) Orientation of Nurse Executives. Journal of Nursing Administration, 16 (11), 13-17.
- Sheridan, J. & Vredenburg, D. (1978) Usefulness of Leadership Behavior and Social Power Variables in Predicting Job Tension, Performance, and Turnover of Nursing Employees. Journal of Applied Psychology, 63 (1), 89-95.
- Smoking and Health, A National Health Status Report (1980). U.S. Department of Health and Human Services.
- Van Gelder, L. (1987) Dependencies of Independent Women. Ms, 2, 36-78.
- Williams, C. (1985) Population-Focused Community Health Nursing and Nursing Administration: A New Synthesis. in McClerk, J. & Green, H. Current Issues in Nursing, 2nd edition, Boston: Blackwell Publications.

APPENDIX A



STRESS PROFILE

INSTRUCTIONS

The following questions ask how you feel and how things have been going for you during the past month. For each question, mark an "x" for the answer that most nearly applies to you. Since there are no right or wrong answers, it's best to answer each question quickly without pausing too long on any one of them.

BIOGRAPHICAL DATA

Name(Print)

Mail Address

City State Zip

Date today _____ - _____ - _____

_____ Group ID No. (Skip if unknown)

_____ Age

_____ Sex (Male = 1, Female = 2)

1. How have you been feeling in general?

- 1[] In excellent spirits
- 2[] In very good spirits
- 3[] In good spirits mostly
- 4[] I've been up and down in spirits a lot
- 5[] In low spirits mostly
- 6[] In very low spirits

2. Have you been bothered by nervousness or your "nerves?"

- 1[] Extremely so--to the point where I could not work or take care of things
- 2[] Very much so
- 3[] Quite a bit
- 4[] Some--enough to bother me
- 5[] A little
- 6[] Not at all

3. Have you been in firm control of your behavior, thoughts, emotions or feelings?

- 1[] Yes, definitely so
- 2[] Yes, for the most part
- 3[] Generally so
- 4[] Not too well
- 5[] No, and I am somewhat disturbed
- 6[] No, and I am very disturbed

4. Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile?

- 1[] Extremely so--to the point I have just about given up
- 2[] Very much so
- 3[] Quite a bit
- 4[] Some--enough to bother me
- 5[] A little bit
- 6[] Not at all

5. Have you been under or felt you were under any strain, stress or pressure?

- 1[] Yes--almost more than I could bear
- 2[] Yes--quite a bit of pressure
- 3[] Yes--some, more than usual
- 4[] Yes--some, but about usual
- 5[] Yes--a little
- 6[] Not at all

6. How happy, satisfied, or pleased have you been with your personal life?

- 1[] Extremely happy--couldn't have been more satisfied or pleased
- 2[] Very happy
- 3[] Fairly happy
- 4[] Satisfied--pleased
- 5[] Somewhat dissatisfied
- 6[] Very dissatisfied

Please turn page and continue ->

7. Have you had reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel, or of your memory?

- 1[] Not at all
- 2[] Only a little
- 3[] Some, but not enough to be concerned
- 4[] Some, and I've been a little concerned
- 5[] Some, and I am quite concerned
- 6[] Much, and I'm very concerned

8. Have you been anxious, worried, or upset?

- 1[] Extremely so--to the point of being sick, or almost sick
- 2[] Very much so
- 3[] Quite a bit
- 4[] Some--enough to bother me
- 5[] A little bit
- 6[] Not at all

9. Have you been waking up fresh and rested?

- 1[] Every day
- 2[] Most every day
- 3[] Fairly often
- 4[] Less than half the time
- 5[] Rarely
- 6[] None of the time

10. Have you been bothered by any illness, bodily disorder, pain, or fears about your health?

- 1[] All the time
- 2[] Most of the time
- 3[] A good bit of the time
- 4[] Some of the time
- 5[] A little of the time
- 6[] None of the time

11. Has your daily life been full of things that are interesting to you?

- 1[] All the time
- 2[] Most of the time
- 3[] A good bit of the time
- 4[] Some of the time
- 5[] A little of the time
- 6[] None of the time

12. Have you felt down-hearted and blue?

- 1[] All of the time
- 2[] Most of the time
- 3[] A good bit of the time
- 4[] Some of the time
- 5[] A little of the time
- 6[] None of the time

13. Have you been feeling emotionally stable and sure of yourself?

- 1[] All of the time
- 2[] Most of the time
- 3[] A good bit of the time
- 4[] Some of the time
- 5[] A little of the time
- 6[] None of the time

14. Have you felt tired, worn out, used-up, or exhausted?

- 1[] All of the time
- 2[] Most of the time
- 3[] A good bit of the time
- 4[] Some of the time
- 5[] A little of the time
- 6[] None of the time

NOTE: For each of the four scales below, the words at each end describe opposite feelings. Circle any number along the bar that seems closest to how you have felt generally during the past month.

15. How concerned or worried about your health have you been?

Not concerned at all										Very concerned
	0	2	4	6	8	10				

16. How relaxed or tense have you been?

Very relaxed										Very tense
	0	2	4	6	8	10				

17. How much energy, pep, vitality have you felt?

No energy at all, listless										Very energetic, dynamic
	0	2	4	6	8	10				

18. How depressed or cheerful have you been?

Very depressed										Very cheerful
	0	2	4	6	8	10				

APPENDIX B



HEALTH RISK APPRAISAL

99-1446

Health Risk Appraisal is a promising health education tool that is still in the early stages of development. It is designed to show how your individual lifestyle affects your chances of avoiding the most common causes of death for a person of your age, race and sex. It also shows how much you can improve your chances by changing your harmful habits. (This particular version is not very useful for persons under 25 or over 60 years old and for persons who have had a heart attack or other serious medical problem.)

IMPORTANT: To assure protection of your privacy, do NOT put your name on this form. Make sure that you put your Health Risk Appraisal "claim check" in your wallet or other safe place and insure that the number matches the number on this form. You must present your claim check to get your computer results.

PARTICIPANT NUMBER _____ 1-6

PLEASE ENTER YOUR ANSWERS IN THE EMPTY BOXES (use numbers only)

1. SEX	<input type="checkbox"/> 1 Male	<input type="checkbox"/> 2 Female	<input type="checkbox"/>	7
2. RACE/ORIGIN	<input type="checkbox"/> 1 White (non-Hispanic origin)	<input type="checkbox"/> 2 Black (non-Hispanic origin)	<input type="checkbox"/> 3 Hispanic	<input type="checkbox"/>
	<input type="checkbox"/> 4 Asian or Pacific Islander	<input type="checkbox"/> 5 American Indian or Alaskan Native	<input type="checkbox"/> 6 Not sure	8
3. AGE (At Last Birthday)	Years Old		<input type="checkbox"/>	9-10
4. HEIGHT (Without Shoes)	Example: 5 foot, 7½ inches = <input type="checkbox"/> ' <input type="checkbox"/> "	(No Fractions)	<input type="checkbox"/>	11-13
5. WEIGHT (Without Shoes)	Pounds		<input type="checkbox"/>	14-16
6. TOBACCO	<input type="checkbox"/> 1 Smoker	<input type="checkbox"/> 2 Ex-Smoker	<input type="checkbox"/> 3 Never Smoked	<input type="checkbox"/>
(Smokers and Ex-smokers)	Enter average number smoked per day in the last five years (ex-smokers should use the last five years before quitting.)		<input type="checkbox"/>	17
(Ex-smokers only)	Enter Number of Years Stopped Smoking (Note: Enter 1 for less than one year)		<input type="checkbox"/>	18-19
7. ALCOHOL	<input type="checkbox"/> 1 Drinker	<input type="checkbox"/> 2 Ex-Drinker (Stopped)	<input type="checkbox"/> 3 Non-Drinker (or drinks less than one drink per week)	<input type="checkbox"/>
	If you drink alcohol, enter the average number of drinks per week:		<input type="checkbox"/>	26
	Cigarettes Per Day		<input type="checkbox"/>	27-28
	Pipes/Cigars Per Day (Smoke Inhaled)		<input type="checkbox"/>	29-30
	Pipes/Cigars Per Day (Smoke Not Inhaled)		<input type="checkbox"/>	31-32
8. DRUGS/MEDICATION	How often do you use drugs or medication which affect your mood or help you to relax?		<input type="checkbox"/>	33
	<input type="checkbox"/> 1 Almost every day	<input type="checkbox"/> 2 Sometimes	<input type="checkbox"/> 3 Rarely or Never	<input type="checkbox"/>
9. MILES Per Year as a driver of a motor vehicle and/or passenger of an automobile (10,000 = average)	Thousands of miles		<input type="checkbox"/>	34-38
10. SEAT BELT USE (percent of time used)	Example: about half the time = <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>	39-41
11. PHYSICAL ACTIVITY LEVEL	<input type="checkbox"/> 1 Level 1 - little or no physical activity	<input type="checkbox"/> 2 Level 2 - occasional physical activity	<input type="checkbox"/>	42
	<input type="checkbox"/> 3 Level 3 - regular physical activity at least 3 times per week		<input type="checkbox"/>	
NOTE: Physical activity includes work and leisure activities that require sustained physical exertion such as walking briskly, running, lifting and carrying.				
12. Did either of your parents die of a heart attack before age 60?	<input type="checkbox"/> 1 Yes, One of them	<input type="checkbox"/> 2 Yes, Both of them	<input type="checkbox"/> 3 No	<input type="checkbox"/> 4 Not sure
13. Did your mother, father, sister or brother have diabetes?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure	
14. Do YOU have diabetes?	<input type="checkbox"/> 1 Yes, not controlled	<input type="checkbox"/> 2 Yes, controlled	<input type="checkbox"/> 3 No	<input type="checkbox"/> 4 Not sure
15. Rectal problems (other than piles or hemorrhoids).	Have you had:		<input type="checkbox"/>	46
	Rectal Growth?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure
	Rectal Bleeding?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure
	Annual Rectal Exam?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure

16. Has your physician ever said you have Chronic Bronchitis or Emphysema?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure	<input type="checkbox"/> 49				
17. Blood Pressure (If known - otherwise leave blank)	Systolic (High Number)		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 50-52					
	Diastolic (Low Number)		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 53-55					
18. Fasting Cholesterol Level (if known - otherwise leave blank)	MG/DL		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 56-58					
19. Considering your age, how would you describe your overall physical health?	<input type="checkbox"/> 1 Excellent	<input type="checkbox"/> 2 Good	<input type="checkbox"/> 3 Fair	<input type="checkbox"/> 4 Poor	<input type="checkbox"/> 59			
20. In general how satisfied are you with your life?	<input type="checkbox"/> 1 Mostly Satisfied	<input type="checkbox"/> 2 Partly Satisfied	<input type="checkbox"/> 3 Mostly Disappointed	<input type="checkbox"/> 4 Not Sure	<input type="checkbox"/> 60			
21. In general how strong are your social ties with your family and friends?	<input type="checkbox"/> 1 Very strong	<input type="checkbox"/> 2 About Average	<input type="checkbox"/> 3 Weaker than average	<input type="checkbox"/> 4 Not sure	<input type="checkbox"/> 61			
22. How many hours of sleep do you usually get at night?	<input type="checkbox"/> 1 6 hours or less	<input type="checkbox"/> 2 7 hours	<input type="checkbox"/> 3 8 hours	<input type="checkbox"/> 4 9 hours or more	<input type="checkbox"/> 62			
23. Have you suffered a serious personal loss or misfortune in the Past Year? (For example, a job loss, disability, divorce, separation, jail term, or the death of a close person)	<input type="checkbox"/> 1 Yes, one serious loss	<input type="checkbox"/> 2 Yes, Two or More serious losses	<input type="checkbox"/> 3 No		<input type="checkbox"/> 63			
24. How often in the Past Year did you witness or become involved in a violent or potentially violent argument?	<input type="checkbox"/> 1 4 or more times	<input type="checkbox"/> 2 2 or 3 times	<input type="checkbox"/> 3 Once or never	<input type="checkbox"/> 4 Not sure	<input type="checkbox"/> 64			
25. How many of the following things do you usually do?	<ul style="list-style-type: none"> • Hitch-hike or pick up hitch-hikers • Carry a gun or knife for protection • Keep a gun at home for protection • Criticize or argue with strangers • Live or work at night in a high-crime area • Seek entertainment at night in high-crime areas or bars 			<input type="checkbox"/> 1 3 or more	<input type="checkbox"/> 2 1 or 2	<input type="checkbox"/> 3 None	<input type="checkbox"/> 4 Not sure	<input type="checkbox"/> 65
26. Have you had a hysterectomy? (Women only)	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure		<input type="checkbox"/> 66			
27. How often do you have Pap Smear? (Women only)	<input type="checkbox"/> 1 At least once per year	<input type="checkbox"/> 2 At least once every 3 years	<input type="checkbox"/> 3 More than 3 years apart	<input type="checkbox"/> 4 Have never had one	<input type="checkbox"/> 5 Not sure	<input type="checkbox"/> 6 Not applicable	<input type="checkbox"/> 67	
28. Was your last Pap Smear Normal? (Women only)	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure	<input type="checkbox"/> 4 Not applicable		<input type="checkbox"/> 68		
29. Did your mother, sister or daughter have breast cancer? (Women only)	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure		<input type="checkbox"/> 69			
30. How often do you examine your breasts for lumps? (Women only)	<input type="checkbox"/> 1 Monthly	<input type="checkbox"/> 2 Once every few months	<input type="checkbox"/> 3 Rarely or never		<input type="checkbox"/> 70			
31. Have you ever completed a computerized Health Risk Appraisal Questionnaire like this one?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	<input type="checkbox"/> 3 Not sure		<input type="checkbox"/> 71			
32. Current Marital Status	<input type="checkbox"/> 1 Single (Never married)	<input type="checkbox"/> 2 Married	<input type="checkbox"/> 3 Separated	<input type="checkbox"/> 4 Widowed	<input type="checkbox"/> 5 Divorced	<input type="checkbox"/> 6 Other	<input type="checkbox"/> 72	
33. Schooling completed (One choice only)	<input type="checkbox"/> 1 Did Not graduate from high school	<input type="checkbox"/> 2 High School	<input type="checkbox"/> 3 Some College	<input type="checkbox"/> 4 College or Professional Degree		<input type="checkbox"/> 73		
34. Employment Status	<input type="checkbox"/> 1 Employed	<input type="checkbox"/> 2 Unemployed	<input type="checkbox"/> 3 Homemaker, Volunteer, or Student	<input type="checkbox"/> 4 Retired, Other		<input type="checkbox"/> 74		
35. Type of occupation (SKIP IF NOT APPLICABLE)	<input type="checkbox"/> 1 Professional, Technical, Manager, Official or Proprietor	<input type="checkbox"/> 2 Clerical or Sales	<input type="checkbox"/> 3 Craftsman, Foreman or Operative	<input type="checkbox"/> 4 Service or Laborer		<input type="checkbox"/> 75		
36. County of Current Residence (SKIP IF NOT KNOWN)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 76-78			
37. State of Current Residence				<input type="checkbox"/> <input type="checkbox"/> Other	<input type="checkbox"/> <input type="checkbox"/> 79-80			

APPENDIX C

Demographic Information Form

Code Number _____

Please complete the following information form as fully as you are able. For questions that require a number, for example, NUMBER OF YEARS IN NURSING, please enter the number that would have occurred on your LAST anniversary.

AGE IN YEARS _____ SEX _____

NUMBER OF LEVELS OF NURSING MANAGEMENT IN THE ORGANIZATION
(Head nurses and above only) _____

POSITION TITLE AND LEVEL FROM TOP _____ (circle one) 1 2 3 4

MARITAL STATUS _____

NUMBER OF CHILDREN TOTAL _____ LIVING AT HOME _____

ANNUAL SALARY (rounded to the nearest thousand) EXAMPLE; 32,865 - 33K

NUMBER OF YEARS IN NURSING _____

NUMBER OF YEARS IN NURSING MANAGEMENT (HEAD NURSE & ABOVE) _____

NUMBER OF YEARS IN CURRENT POSITION _____

NUMBER OF YEARS OF MANAGEMENT EXPERIENCE NOT IN NURSING _____

BASIC NURSING DEGREE _____

LIST OTHER DEGREES _____

CURRENTLY WORKING ON A DEGREE [YES] [NO] LIST _____

TYPE OF ORGANIZATION (circle one) PROFIT NON-PROFIT

(circle one) PUBLIC PRIVATE

SIZE OF ORGANIZATION 1) NUMBER OF IN-PATIENT BEDS _____
OR 2) NUMBER OF OUT-PATIENT CLIENTS/DAY _____

NUMBER OF EMPLOYEES YOU MANAGE DIRECTLY _____ INDIRECTLY _____

NUMBER OF PEER MANAGERS AT YOUR LEVEL _____

SEX OF IMMEDIATE SUPERVISOR (circle one) MALE FEMALE

NUMBER OF HOURS PER WEEK SPENT IN DIRECT PATIENT CARE _____

APPENDIX D

* * * * *
*
* STRESS PROFILE *
* Personal Report for *
* * * *
* * * *
* * * * *

01-01-1980

This report is provided as a service by
Oregon Health Sciences University - School of Nursing

S T R E S S P R O F I L E (G W B S)

Report for: Rec.# 91 Group #2307

01-01-1980

STRESS SUB-SCALES	TEST RESULTS	<----- COPING SCALE ----->					STRESS SCORE	
		V.LOW	LOW	AVG.	GOOD	EXCEL.		
Freedom from Health Concern or Worry	5	0	3	6	9	12	15	5/15
Energy Level	13	0	4	8	12	16	20	13/20
Satisfying and Interesting Life	9	0	2	4	6	8	10	9/10
Cheerful versus Depressed Mood	18	0	5	10	15	20	25	18/25
Relaxed versus Tense or Anxious	17	0	5	10	15	20	25	17/25
Emotional Control and Stability	13	0	3	6	9	12	15	13/15
Total Stress Score Sum of sub-scales above	75	0	40	70	80	90	110	75/110

INTERPRETING TOTAL STRESS SCORE -- National Norms

Stress Score	Evaluative Description	Population spread
81 - 110	Positive Well-being	55 %
76 - 80	Low Positive	10 %
71 - 75	Marginal	9 %
56 - 70	Indicates Stress Zone	16 %
41 - 55	Indicates Distress Zone	7 %
26 - 40	Significant Distress	2 %
25 - 0	Severe Distress	<1 %

The Stress Score above is a reflection of how you feel you are currently coping with life. Very low scores may indicate a need to seek help from an understanding friend, counselor or doctor in dealing with your stress.

APPENDIX E

YOUR HEALTH RISK DATA HAVE BEEN ANALYZED AND THE RESULTS ARE SUMMARIZED BELOW AS THEY RELATE TO THE 12 MOST FREQUENT CAUSES OF DEATH FOR WHITE FEMALES AGED 39 .

RANK	CAUSE OF DEATH	CHANCES OF DYING PER 100,000 WITHIN THE NEXT 10 YEARS			
		COL.1 AVERAGE	COL.2 APPRAISAL	COL.3 ACHIEVABLE	COL.2-COL.3 DIFFERENCES
1	BREAST CANCER	286	286	143	143
2	HEART ATTACK	235	27	22	5
3	LUNG CANCER	134	80	80	0
4	STROKE	132	17	17	0
5	SUICIDE	128	32	32	0
6	CIRRHOSIS OF THE LIVER	127	13	13	0
7	MAJOR VEHICLE ACCIDENTS	90	3	3	0
8	CANCER OF THE OVARY	71	71	71	0
9	INTESTINAL CANCER	70	57	57	0
10	NON-MAJOR VEHICLE ACCIDENTS	63	63	63	0
11	CANCER OF THE CERVIX	52	26	21	5
12	DIABETES	37	20	20	0
	ALL OTHER CAUSES	885	885	885	0
	ALL CAUSES OF DEATH	2310	1580	1426	154

BASED ON YOUR PRESENT LIFESTYLE, YOUR WELLNESS SCORE IS 90 POINTS.

125 LBS. IS APPROXIMATELY WHAT IT SHOULD BE FOR HEIGHT 68 INCHES AND SMALL OR MEDIUM FRAME.

- * AVERAGE CHANCES OF DYING ARE BASED ON 1975-1977 U. S. MORTALITY DATA. (CDC VERSION 2.1A)
- * YOUR WELLNESS SCORE CAN BE RAISED TO THE MAXIMUM OF 100 POINTS BY MAKING THE RECOMMENDED CHANGES SHOWN BELOW:

POSITIVE AREAS OF YOUR LIFESTYLE

NON-SMOKER
HEALTHY BLOOD PRESSURE
GOOD STRESS CONTROL
LITTLE OR NO ALCOHOL
LITTLE OR NO DRUG USE
SEATBELT USED ALMOST ALWAYS

RECOMMENDED LIFESTYLE CHANGES

PLAN A WAY TO GET MORE REGULAR EXERCISE THAT YOU ENJOY DOING
OBTAIN A REGULAR PAP TEST FOR CERVICAL CANCER
DO A BREAST SELF-EXAM EACH MONTH

NOTE — SUICIDE RISK IS PARTLY BASED ON ANSWERS TO QUESTIONS ABOUT PHYSICAL HEALTH, LIFE SATISFACTION, SOCIAL TIES, HOURS OF SLEEP, RECENT LOSS OR MISFORTUNE AND MARITAL STATUS.

CAUSE OF DEATH	CONDITION	APPRAISAL			ACHIEVABLE		
		AS APPRAISED	PARTIAL RISK	TOTAL RISK	ACHIEVED	PARTIAL RISK	TOTAL RISK
BREAST CANCER	FAMILY HISTORY	NONE + NO SELF-EXAM	1.0	1.00	NONE + SELF-EXAM	0.5	0.50
HEART ATTACK	BLOOD PRESSURE	120/ 80	0.4/0.4		120/ 80	0.4/0.4	
	CHOLESTEROL	BELOW 220 MG/DL	0.5		BELOW 220 MG/DL	0.5	
	DIABETES	NOT DIABETIC	0.9		NOT DIABETIC	0.9	
	WEIGHT	125	0.8		125	0.8	
	ACTIVITY LEVEL	MINIMUM	1.0		EXERCISE PROGRAM	0.8	
	SMOKING	NON-SMOKER	0.8		NON-SMOKER	0.8	
	FAMILY HISTORY	NO	1.0	0.12	NO	1.0	0.09
LUNG CANCER	SMOKING	NON-SMOKER	0.6	0.60	NON-SMOKER	0.6	0.60
STROKE	BLOOD PRESSURE	120/ 80	0.4/0.4		120/ 80	0.4/0.4	
	CHOLESTEROL	BELOW 220 MG/DL	0.5		BELOW 220 MG/DL	0.5	
	DIABETES	NOT DIABETIC	0.9		NOT DIABETIC	0.9	
	SMOKING	NON-SMOKER	0.7	0.13	NON-SMOKER	0.7	0.13
SUICIDE	DISSTRESS	BELOW AVERAGE RISK	0.5		BELOW AVERAGE RISK	0.5	
	ALCOHOL	NON-DRINKER	0.5	0.25	NON-DRINKER	0.5	0.25
CIRRHOSIS OF THE LIVER	ALCOHOL	NON-DRINKER	0.1	0.10	NON-DRINKER	0.1	0.10
MOTOR VEHICLE ACCIDENTS	ALCOHOL	NON-DRINKER	0.5		NON-DRINKER	0.5	
	MILES PER YEAR	1000	0.1		1000	0.1	
	SEATBELT	75-100%	0.8		75-100%	0.8	
	DRUG USE	RARELY OR NEVER	0.9	0.04	RARELY OR NEVER	0.9	0.04
INTESTINAL CANCER	RECTAL GROWTH	HAS NOT HAD	0.9		HAS NOT HAD	0.9	
	RECTAL EXAM	NO ANNUAL EXAM	1.0		NO ANNUAL EXAM	1.0	
	RECTAL BLOOD	NO BLOOD IN STOOL	0.9	0.81	NO BLOOD IN STOOL	0.9	0.81
CANCER OF THE CERVIX	PAP SMEAR	ONCE IN 2-3 YEARS	0.5	0.50	AS RECOMMENDED	0.4	0.40
DIABETES	WEIGHT	125	0.6		125	0.6	
	FAMILY HISTORY	NO	0.9	0.54	NO	0.9	0.54

* RISK FACTORS ADAPTED FROM 'HOW TO PRACTICE PROSPECTIVE MEDICINE' DRs. ROBBINS AND HALL, METHODIST HOSPITAL OF INDIANA, 1970.

* COMPUTER PROGRAM DEVELOPED BY THE CENTERS FOR DISEASE CONTROL (CDC), DHHS, ATLANTA GEORGIA. THE PROGRAM WAS ADAPTED TO RUN ON A MICROCOMPUTER BY CDC AND ADVANCED MEDICAL SYSTEMS, INC., LEAVENWORTH KANSAS. (CDC Version 2.1A)

NOTE: HEALTH RISK APPRAISAL IS STILL IN ITS EARLY STAGES OF DEVELOPMENT. ITS MAIN VALUE IS ITS POTENTIAL FOR SHOWING THE HEALTH AND SAFETY RISKS ASSOCIATED WITH COMMON LIFESTYLE FACTORS. HOWEVER, IT DOES NOT INCLUDE ALL PERSONAL RISKS AND PROTECTIVE FACTORS, AND - IN PARTICULAR - DOES NOT INCLUDE MOST OCCUPATIONAL RISKS AND ENVIRONMENTAL FACTORS. SINCE IT IS A DEVELOPMENTAL PROGRAM, IT SHOULD BE INTERPRETED BY A QUALIFIED HEALTH PROFESSIONAL.

—PLEASE NOTE— THE ABOVE ANALYSIS IS INCOMPLETE DUE TO MISSING ANSWERS TO CERTAIN QUESTIONS. THESE QUESTIONS CONCERN THE FOLLOWING CONDITIONS:

EMPHYSEMA

APPENDIX F

December 10, 1986
Oregon Health Sciences University
Portland, OR. 97201

Dear Nursing Administrator;

I am conducting a research project as part of my study in the Graduate Nursing Program at Oregon Health Sciences University. The population I am most interested in is upper level Nursing Managers. As part of this project, I conducted a presentation and test of instrumentation at a monthly meeting of the Oregon Organization of Nurse Executives (O.O.N.E.), formerly the Portland Council of Nurse Executives, during the spring of 1986.

The project examines the relationship that individual health practices have on the psychological stress symptoms that are reported in a population of Nurse Managers as a result of job-related stressors. The research literature discusses much about the issues of stress and burn-out in Head- and Staff Nurse positions. Some work has also been done with upper level women managers in a business and industrial setting. To this point, there has been very limited study on the upper level Nurse Manager.

I need your help to access this group of Managers for the research project. I would like to ask you, as the Nursing Executive, for support in gaining access to the Nursing Managers in your facility. I propose to gather data from this group during a Nursing Management meeting, and would like to be listed on the agenda for one of these meetings. The process of the presentation has taken 30 to 45 minutes in trial sessions, and includes a description of the study, the methods used in data collection, subject screening and administering the questionnaires.

I anticipate data collection during the months of December, January and February. I would be more than willing to schedule a meeting with your group of Nurse Managers during those times. I will be contacting you personally by phone to discuss the details and logistics of my request.

Thank you for giving your time and consideration to this project in Nursing Research.

Sincerely,

Bonnie J. Kostelecky, RN. CNA.
Certified Nurse Administrator
Community Health Care Systems Dept.
School of Nursing, OHSU
225-7709

APPENDIX G

HRA and GWBS Correlations with Levels of Significance

HRA Intervals	GWBS Intervals				Total Row
	32-55	56-70	71-75	76-110	
	Distressed	Stressed	Marginal	Not Stressed ^a	
69-80 Less Healthy	r= -.588 p= .206 n= 4	r= -.386 p= .120 n= 11	* ** n= 1	r= -.150 p= .320 n= 12	N= 28
81-90 Average	r= .693 p= .256 n= 3	r= .392 p= .092 n= 13	r= .403 p= .214 n= 6	r= .171 p= .287 n= 13	N= 35
91-100 More Healthy	* ** n= 1	r= -.474 p= .098 n= 9	* ** n= 2	r= .100 p= .316 n= 25	N= 37
Total Column	N= 8	N= 33	N= 9	N= 50	N=100

Note. *unable to determine r and **p due to small n .

^a indicates groupings suggested by the GWBS software.

An Abstract of the Research Project
of Bonnie J. Kostelecky

For the degree of Master of Science

Date of Degree: June 12, 1987

Title: Self-Reported Health Practices and Psychological Stress Symptoms
in a Sample of Nurse Managers

Approved: _____

Marie Berger, R.N., Ph.D., Associate Professor, Master's Research
Project Advisor

A non-experimental study was conducted to determine the effects that health practices have on psychological stress symptoms in a sample of nurse managers (N=100). Ninety six percent of the convenience sample were female, had been in nursing an average of 17.9 years, and had a mean age of 40.9 years. Participants completed three data collection instruments; the Atlanta Center for Disease Control's Health Risk Appraisal (HRA) which determined a health practice score, the National Center for Health Statistics' General Well Being Schedule (GWBS) which rated psychological stress symptoms, and a demographic information form designed to address personal and organizational variables. The study found that while health practices do have some effect on psychological stress symptoms (Pearson's $r = 0.187$), organizational structure (profit/non-profit status) and marital status were the two most significant variables which accounted for .36 of the variance in the stress symptoms reported. Targeted as health problems

for the group were overweight, lack of regular exercise, and a lack of health care management in areas of breast self-examinations, and routine Pap smears. The sample reported their primary psychological stress symptoms as anxiety, tension, and reduced energy level. Probable causative factors for the lack of statistical significance were the homogeneity of the sample and the limitations of the HRA for this group. Findings suggest that while stress symptoms may vary in this occupational group, health practices do not. Recommendations for further study include the use of a health practice instrument designed for women of this age group and methods which would address the issue of social desirability.