

6-2-2004

Perceived Benefits of and Barriers to Continuing Education Among Hospital Employed Registered Nurses

Jacqueline A. Dean
Grand Valley State University

Follow this and additional works at: <https://scholarworks.gvsu.edu/theses>



Part of the [Nursing Commons](#)

ScholarWorks Citation

Dean, Jacqueline A., "Perceived Benefits of and Barriers to Continuing Education Among Hospital Employed Registered Nurses" (2004). *Masters Theses*. 545.
<https://scholarworks.gvsu.edu/theses/545>

This Thesis is brought to you for free and open access by the Graduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Masters Theses by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

PERCEIVED BENEFITS OF AND BARRIERS TO CONTINUING EDUCATION
AMONG HOSPITAL EMPLOYED REGISTERED NURSES

By

Jacqueline A. Dean

A THESIS

Submitted to
Grand Valley State University
In partial fulfillment of the requirements for the
Degree of

MASTER OF SCIENCE IN NURSING

Kirkhof School of Nursing

June 2, 2004

Thesis Committee Members:

Patricia Underwood, PhD., R.N.

Catherine Earl, DPA, R.N.

Sandra Miller, PhD.

PERCEIVED BENEFITS OF AND BARRIERS TO
CONTINUING EDUCATION AMONG HOSPITAL
EMPLOYED REGISTERED NURSES

JACQUELINE A. DEAN

JUNE, 2004

ABSTRACT

PERCEIVED BENEFITS OF AND BARRIERS TO CONTINUING EDUCATION AMONG HOSPITAL EMPLOYED REGISTERED NURSES

By

Jacqueline A. Dean

The purpose of this study was to expand on the body of knowledge related to the reasons for participation and non-participation in continuing education (CE). The study examined the relationship between Registered Nurses (RNs) perceived benefits of and perceived barriers to CE and their reported participation in CE programs. The Health Belief Model is the theoretical framework utilized for this study, with the variables of perceived benefits and perceived barriers in particular. This was a secondary analysis of data collected in a descriptive correlational study where RNs employed in two acute care hospitals in the Midwest were surveyed. Descriptive statistics were used to identify the perceived benefits of and barriers to CE and to describe the sample. A weak but significant relationship was found between perceived benefits and number of continuing education units (CEUs). A weak negative relationship was found between barriers and number of CEUs. No significant relationship was found between benefits, barriers and academic credits. Benefits and barriers that were identified in this study to be more influential supported the existing literature.

Dedication

This thesis is dedicated to Patricia Underwood, Ph.D., R.N.,
in honor of her outstanding contribution to the
Kirkhof School of Nursing at Grand Valley State University.
She is a true scholar, who mentors with compassion and grace.

Acknowledgments

I wish to acknowledge my parents, Lillian and Bruce Hubbel, and my children, Jessica, Julia and Jenna for their unconditional love, prayers and encouragement. I also acknowledge my thesis chairperson, Patricia Underwood, PhD., R.N., for the years of dedication, encouragement and wisdom; and my committee members Catherine Earl, DPA, R.N., and Sandra Miller, Ph.D., for their expert advice and support.

Table of Contents

List of Tables.....	vi
List of Figures.....	vii
CHAPTER	
1 INTRODUCTION.....	1
2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK.....	4
Literature Review.....	4
Conceptual Framework.....	9
Research Questions.....	13
Theoretical Definitions.....	14
3 METHODOLOGY.....	15
Research Design and Procedure.....	15
Sample and Setting.....	15
Instruments.....	16
4 RESULTS/DATA ANALYSIS.....	18
Statistical Techniques.....	18
Characteristics of Subjects.....	18
Research Questions.....	20
Other Findings.....	23
5 DISCUSSION AND IMPLICATIONS.....	27
Discussion.....	27
Application.....	32
Limitations.....	34
Suggestions for Further Research.....	35
REFERENCES.....	37

List of Tables

Table 1	<i>Reported Initial and Highest Education.....</i>	<i>19</i>
Table 2	<i>CEU Participation.....</i>	<i>20</i>
Table 3	<i>Logistic Regression Statistics for Predictors of Participation in CE.....</i>	<i>21</i>
Table 4	<i>Multiple Regression Statistics for Predictors of Barriers.....</i>	<i>23</i>
Table 5	<i>Perceived Benefits Ranked Most Important.....</i>	<i>24</i>
Table 6	<i>Perceived Barriers Ranked Most Influential.....</i>	<i>25</i>

List of Figures

<i>Figure 1</i>	The Health Belief Model.....	12
<i>Figure 2</i>	Relationships Among Study Variables within the Context of the Health Belief Model.....	26

CHAPTER 1

INTRODUCTION

In today's society, rapid technological improvements and increasing medical knowledge have made it necessary for nurses to frequently update their knowledge and skills. Nurses working in acute health care need to understand ever-changing technology, advancements in medical knowledge, range of potential outcomes, limitations and risks. In addition, nurses must contend with an explosion in nursing knowledge, changes in delivery systems, and the need to document practice outcomes and maintain standards of care. All of these factors contribute to the greater demands placed on the professional role of nurses.

Continuing education (CE) is a means for nurses to develop and maintain technical expertise and expand professional knowledge. CE has been defined as a "planned, organized learning experience designed to augment the knowledge, skill, and attitudes of registered nurses for the enhancement of nursing practice, education, administration, and research to the end of improving health care to the public" (American Nurses Association, 1975). Nurses have long held the assumption that CE is valuable and associated with competent practice.

According to the Annual CE Survey (2003), CE for re-licensure is mandatory in 28 states. The issue of mandatory CE for nurses has fueled a professional debate over the last two decades. There are two differing schools of thought concerning this issue. Yuen (1991) states that the those in favor of mandatory CE believe the one way to ensure nurses do keep up with changes in nursing practice is to make it mandatory, and this would ensure that nurses who re-enter practice after an absence from employment could

become competent practitioners. In contrast, those who advocate voluntary CE point out that learning does not occur under force, and that if courses are accessible and relevant nurses will take advantage of CE opportunities. The attitudes and motivational factors of nurses in mandatory and non-mandatory states have been extensively researched since the 1970's (Bernhardt, 1980; Clark & Dickinson, 1976; Curran, 1977; Dolphin, 1983; Duquette, et al., 1988; Gillies, 1993; O'Connor 1979; Thomas, 1986; Urbano, et al., 1988, Waddell, 1993). The research varies in describing the effectiveness of mandatory CE as a motivational factor to upgrade skills and expand knowledge. Also, there are differing opinions on the ability of CE to actually change clinical practice if the stimulus to attend CE is not intrinsically initiated by the nurse. The fact that cannot be overlooked is that nurses must continually expand their knowledge of medical and technological advances in order to cope with today's changing health care system. Thus, nurses must participate in CE throughout their professional careers to remain competent. It is of utmost importance to find ways to motivate nurses to seek CE and to effectively incorporate the new knowledge and skills into their clinical practice to benefit not only themselves and the health institution, but ultimately the recipient of the care--the patient.

An integration of the research on the effects of CE on clinical practice has demonstrated that participation in CE is a valuable contributor to quality practice (Waddell, 1991). Nurses need constant access to appropriate forms of further education as an important mechanism for coping with change. The curricula in CE programs are usually determined by the needs of the employer and health institution and their perceptions and expectations of skills needed by nurses. Those responsible for planning and teaching in the area of CE must always be aware that they are dealing with adult learners who have specific needs, both professional and personal, that should be taken into account when planning CE curricula. Thus, for CE to contribute to the clinical practice of professional nurses, the learner must deem the information or skill important.

If CE contributes to quality practice, then reasons that influence participation take on greater significance.

The reasons or perceived benefits that influence a nurse to participate in CE are extremely important. Desilets's (1995) research on reasons nurses participate in CE suggests that motivational orientation, along with personal and professional attributes play a major role. The results of this study also indicated that nurses are primarily interested in maintaining professional competence and keeping abreast of developments in the healthcare field.

Deterrents or perceived barriers to participating in CE may exist to make it difficult for nurses to incorporate CE into their professional practice. Research on reasons for non participation in health professional CE courses identified barriers such as cost, lack of time, inconvenient scheduling, lack of information about educational opportunities, job responsibilities, home responsibilities, lack of interest, and lack of confidence (Kristjanson & Scanlan, 1992).

Thus, the nurses' perceived benefits of and barriers to CE are deemed to be important in the decision to participate in CE. Also, when reasons for attending or not attending CE are considered, program planning, and teaching strategies can be more closely related to specific learner needs. Employers can also pay closer attention to those nurses who are less inclined to participate and stimulate their desire to engage in CE.

The purpose of this study was to expand on the body of knowledge related to the reasons for participation and non-participation in CE. The study attempted to identify specific benefits of and barriers to CE perceived by hospital employed registered nurses.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Literature Review

Research related to CE for nurses is abundant in the literature. Although, there are limited articles focusing on Registered Nurses (RNs) perceived benefits of and barriers to CE while working in the clinical arena of a hospital. In this review of the literature on CE, emphasis was placed on studies which included variables that influence participation and non-participation in CE programs. Articles were also included that explore the attitudes of hospital employed RNs toward CE.

An understanding of the reasons nurses decide to participate in CE programs is key to developing CE programs that will attract nurses to participate. A study conducted by Desilets (1995) examined the reasons for participation in CE of RNs attending a national conference. These RNs were surveyed to find out what motivated their participation in CE. The Participation Reason Scale (PRS) and the Respondent Information Form (RIF) were completed by 866 RNs. Five factors emerged from a factor analysis as motivators for participation in CE: maintenance of professional competence, keeping abreast of developments in the health care field, professional service aspects of nursing practice, enhancing personal benefits and job security, and reflecting on membership in a profession. Additional findings in this study suggest that basic nursing education, area of practice, age, number of years in present assignment, and number of contact hours of CE credit earned during the previous year affect the importance RNs attach to incentives for CE participation (DeSilets, 1995). A limitation to this study was that the RNs completing the survey were participating in CE at the convention they were

attending, thus they were surveying RNs somewhat motivated toward CE. This study did not examine reasons why RNs do not participate nor perceived barriers to CE programs.

An exploration of the attitudes of RNs participating in CE is another variable represented in the literature which influences participation in CE programs (Gillies & Pettengill, 1993; Kersaitis, 1993; Kristjanson & Scanlan, 1992; Lickman, Simms, & Greene, 1993). One empirical study by Kersaitis (1993) explored the attitudes and participation of RNs involved in CE. In this study a random sample of 500 RNs were selected to receive by mail a 26 item questionnaire, and 347 (69%) responded. The purposes of the study were to determine the extent of participation of RNs in CE, to identify the factors that influence CE participation, and to determine how RNs view CE. The study found that 304 (88%) of the RNs who responded reported participation in some form of continued learning. A five-point scale was used to assess the extent of enjoyment of learning (1=not at all; 5=a lot). The enjoyment of learning was rated as 4 or 5 by 245 respondents (71%). The attitude towards CE was reflected in the rating given for the extent to which RNs are prepared to at least partially meet the cost of CE, using a five-point scale (1=not at all; 5=wholly). Two hundred and forty-one respondents (69%) indicated they were prepared to at least partially meet this cost. Finally, three major factors with a negative influence on participation in CE were identified as cost, family commitments and job-related restrictions. This study did attempt to explain some of the perceived benefits RNs have towards participation in CE, although many variables related to perceived benefits were not included in the study. In addition, the attitude towards CE was measured by comparing it to the extent to which RNs were prepared to meet the cost of CE, and this may not adequately measure attitude.

Gillies and Pettengill (1993) studied determinants for participation and retention of RNs in a long-term CE program. A multidirectional approach was used to recruit long-term care nurses to a three-year, federally funded CE program in geriatric nursing. The results of this study suggested that the nurses' participation in CE was determined more

by personal curiosity, desire for advancement, and job pressures than by mandatory requirement (Gilles & Pettengill, 1993). In addition, the RNs dropping out of the program reported lack of financial support from their employer and excessive workload as principal reasons for withdrawal from the program. This study employed various strategies to retain the participants which included a logo to foster group identification, a signed contract, questionnaire upon withdrawal from project, publication of a participants name in a newsletter and certificate upon completion of the program.

A literature review was conducted by Kirstjanson and Scanlan (1992) on the topic of needs assessment of CE for nurses. One hundred and thirty-two articles and books were reviewed from the needs assessment literature. Four variables were identified from Kirstjanson and Scanlan's (1992) literature review as predictors of participation in CE programs: clientele analysis of demographic characteristics, impact on participation of perceived relevance of the educational topic and format by the learner target group, motivational factors and deterrents. The aim of clientele analysis research is to identify possible demographic variables that are predictive of CE participation. The deterrents identified in the literature are cost, lack of time, inconvenient scheduling, lack of information about educational opportunities, job responsibilities, home responsibilities, lack of interest and lack of confidence (Kirstjanson & Scanlan, 1992).

Lickkman, Simms, and Greene (1993) conducted a study investigating the relationship between learning environment and work excitement. A convenience sample of 268 nurses from three teaching hospitals and three naval medical treatment facilities participated. A self-administered questionnaire was the instrument utilized to measure work excitement and technologies nurses considered important. Content validity was established using the grounded theory approach for instrument development and a panel of experts. Cronbach's alpha co-efficiency ranged from .85 to .95 for internal consistency of the instrument. The variables emerging from the study as being related were availability of learning experiences, stimulating and motivating environment, and

working with other professionals (Lickman, Simms, & Greene, 1983). The nurses in the study who were excited about their work also rated as moderate to very important being respected for added knowledge (93.1%) and rated learning something new each day as moderate to very important (94.8%). No difference was noted between the number of years employed and the availability of learning experiences, although the five-to-nine year group in the study rated availability of learning, challenging environment, and working with other professionals as very important. This study suggested that learning activities for hospital RNs who are excited about their work is very important, and opportunities for continuing education should be provided in a variety of ways.

Dealy and Bass (1995) conducted a study to explore what motivates staff members and what restrains them from participating in professional activities. This study was conducted at Massachusetts General Hospital. The population studied was the RNs in the Pediatric and Intensive Nursing Services. The tool utilized was a Modification of the Revised Education Participation Scale. Of the 400 questionnaires sent out, 156 were returned and 136 used. Test/retest reliability was established by administering the test to five staff nurses in Medicine and Neurology twice, two weeks apart. The revised tool included 32 statement focused on motivating factors and 20 statements on restraining factors. Content validity was established by giving the tool to a panel of five experts in the education field. The factors that emerged as significant motivators in this study where: to increase competence in the job, to learn something new and to keep up-to-date professionally. More full time nurses ranked “to obtain some immediate practical benefit” and “to secure professional advancement” higher than the part-time nurses. The most frequently identified restraining factor by full and part-time nurses was “unable to leave the unit due to patient responsibility.” Nurses who have practiced more than 10 years ranked the motivating factors “to interact with professional colleagues” and “to meet some formal requirements” more often than nurses with 1-5 years and 5-10 years of experience. The authors (Dealy & Bass, 1995) noted that a limitation of this study was

that the respondents could choose to participate in the study, thus the respondents were motivated to participate and may represent a group of motivated staff. The possibility exists for selection bias, which may be a threat to internal validity.

In a study by Turner (1993) the concept of barriers was explored in relation to RNs' participating in CE, and subsequently using what they learned. The subjects of this study consisted of 1000 RNs randomly selected from the Board of Nurse Examiners database in Texas. The instrument used in this descriptive study was a barriers questionnaire containing demographic data, an open ended question related to barriers to participating in CE, and a list of six barriers to using what has been learned in CE. An expert nurse researcher and CE expert established face content validity. Of the 1000 surveys mailed, only 177 (17.7%) acceptable surveys were returned. Turner (1993) identified cost as the barrier listed most frequently followed by work schedule, inability to travel the distance to CE, and family and child care responsibilities. The nurses rated lack of support from physicians as the major reason for not using what they learned followed by lack of support from their supervisors and then their peers. A limitation of this study was the relatively small sample size for survey research.

Cullen (1998) examined the reasons for nonparticipation in CE for RNs in the state of Delaware. In 1991 the state of Delaware Board of Nursing mandated CE. By December 1993, 1,971 RNs did not renew their Delaware RN license. Only those nurses who did not renew their RN license in 1993, and who resided in Delaware, were included in the study sample. The Deterrents to Participation Scale (DPS) was the tool used in this study. This is a self-report instrument to measure possible reasons for not participating in adult education courses developed by Scanlon (1982). The reliability factor of the tool is .91. The adjusted mailed sample was 528. Ninety-four of the 228 surveys (41.2%) were returned with the DPS and demographic portion of the survey completed. Those respondents who were retired or disabled were not included in the data analysis. The data were subjected to factor analysis and the most influential deterrent factor for predicting

nonparticipation in CE for this sample was disengagement (13.7%), followed by cost (11.4%), lack of quality (10.4%), family constraints (8.1%), lack of benefit (7.7%) and work constraints (7.2%). Overall, the six factors in this study explained only 58.4% of the variance for nonparticipation in CE. The study was not comprehensive enough to explain other reasons for nonparticipation. Cullen (1998) noted that the study was also limited because no other study had been conducted on the same sample population for comparison, thus inference cannot be made to the general population of RNs in Delaware.

It is clearly evident from the literature that there are many variables that exist that may either encourage or deter a RN from participating in CE. The most frequently cited promoters documented in the literature are maintenance of competence, keeping abreast of new developments in technology and scientific knowledge, enhancing job security, desire for advancement, interaction with professional colleagues and to meet formal requirements (Dealy & Bass, 1995; Desilet, 1995; Gillies & Pettengill; Kristjanson & Scanlan, 1992). The most frequently cited inhibitors documented in the literature are cost, lack of time, family commitments, job related restrictions, lack of quality programs and lack of benefit (Cullen, 1998; Dealy & Bass, 1995; Kersaitis, 1993; Kristjanson & Scanlan, 1992; Turner, 1993). Knowles (1985) describes CE as a lifelong learning process that builds on skills, knowledge and attitudes. CE is necessary for nursing professionals to maintain their skills and knowledge base in this age of knowledge explosion and technological advancement. An examination of the relationship of RNs perceived benefits of and barriers to participation in CE and actual participation in CE programs is significant and necessary.

Conceptual Framework

It is evident upon review of the literature that it is extremely important to understand motivational factors relating to nurses seeking CE. The Health Belief Model (HBM) provided the framework for this study. In particular, the variables of perceived

benefits and perceived barriers were utilized to examine their relationship to hospital employed RNs' participation in CE programs.

The HBM is a model of health behavior developed to explain health-related behavior at the level of the individual decision maker, focusing on individual cognition of perceptions of the present environment (Rosenstock, 1974). The HBM proposes that the likelihood that an individual will take recommended preventative health action depends on the simultaneous occurrence of three factors: the belief that one is susceptible to a health threat or the medical and social ramifications of the health threat; the existence of sufficient health concern to make health issues relevant; and the belief that a particular health recommendation would be beneficial in reducing the perceived threat at an acceptable cost.

The HBM (Rosenstock, 1974) postulates that for an individual to take action to avoid a disease they would be influenced by four variables. First of all, they would need to believe that they were personally susceptible to the disease. This perceived susceptibility might vary widely with each individual. In application to this study, all nurses are susceptible to the same state requirement and expectation for CE. Secondly, the individual would have to believe that the occurrence of the disease would have at least moderate severity on some component of their lives. The perceived severity may be judged by the degree of emotional arousal created by the thought of the disease as well as by the kinds of difficulties that the individuals believe a given condition will create for them. The impact or severity in the case of this study would be a fine and delay in re-licensure. Thirdly, the individual would need to believe that taking a particular action would be beneficial by reducing their susceptibility to the condition, or if the disease occurred, by reducing its severity. Engaging in CE would benefit the individual by decreasing the threat of fines and non re-licensure, as well as providing increased competence, knowledge of new developments, job security and professional interaction. The perception of the benefit to a particular action stimulates the motivation to engage in

a behavior, which will lessen the threat of disease. Finally, the individual would need to believe that taking action would not involve overcoming important barriers such as cost, convenience, pain or embarrassment. The individual engaging in CE would perceive they would not have to overcome barriers such as cost, family commitments, lack of time and inconvenience.

Modifying factors such as demographic, socio-psychological, and structural variables influence the individuals' beliefs about perceived susceptibility and perceived threat. In addition, internal or external cues must be present for the individual to take action (Rosenstock, 1974).

The perceived efficacy of the recommended preventive action depends on the assessment of the benefits of the proposed action, as well as the presence of real or perceived barriers to initiation or continuation of a given behavior. Rosenstock, Stretcher and Becker (1988) initially proposed incorporating self-efficacy (Bandura, 1977) into the HBM. Efficacy expectations reflect the individual's confidence in his or her ability to perform a recommended action (Bandura, 1986). This study focused on perceived benefits and barriers associated with the chosen action.

An action is likely to be seen as beneficial if it reduces susceptibility to or seriousness of an illness. Individuals' beliefs about the availability and the effectiveness of action, not the objective facts, determine what action they will take (Rosenstock, 1974). Thus the perceived benefits of CE will be a factor in determining whether the RN will engage in CE.

Barriers are obstacles or factors that arouse negative feelings toward a given action. Even though an action may be seen as reducing the threat of disease, if it is also seen as inconvenient, the individual may not deem it important enough to take action. Perceived barriers are a cost which must be overcome in order to take action (Damrosch, 1991).

Individuals are seen as engaging in a kind of cost-benefit analysis such that perceived benefits must outweigh perceived cost if the change or action is to take place. Thus, the perception of benefits minus barriers is one determinant of whether or not change or action occurs. In a review of studies using the Health Belief Model, Janz and Becker (1984) identified barriers as the most powerful predictor of preventative health behavior, followed in order by susceptibility, benefits, and seriousness. The perceived benefits to engaging in CE must be greater than the barriers for a RN to take action. The concepts of the Health Belief Model are illustrated in Figure 1.

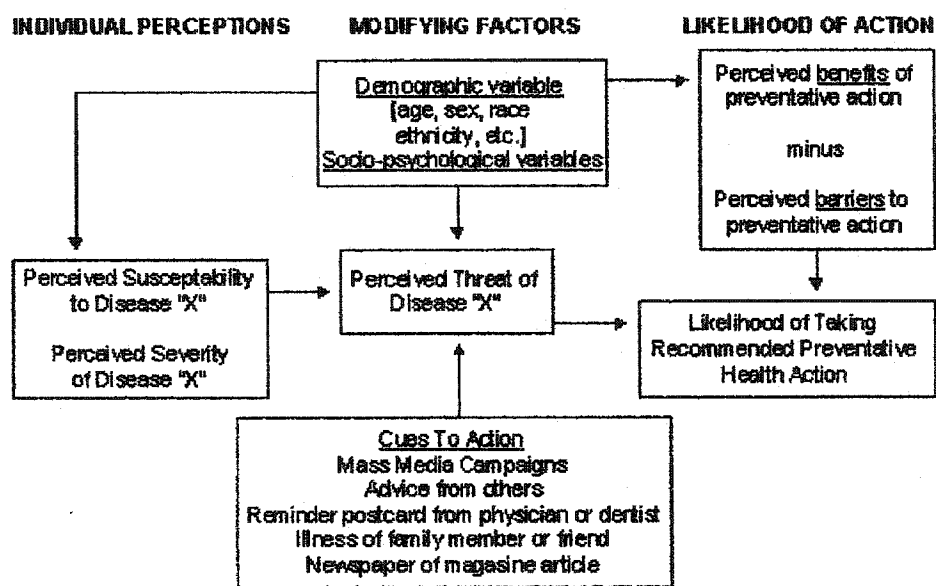


Figure 1. The Health Belief Model (adapted from Rosenstock, 1974).

This study focused on the variables of perceived benefits and barriers and examined their relationship to reported participation in CE. In addition, the relationship between specific demographic data and a RN's reported participation and perception of benefits and barriers to CE was examined. The demographic variables explored were number of years in practice, professional membership and/or certification, number of children living at home, caregiver responsibilities for elderly or infirmed, other household income, marital status, initial type of entry level program, highest level of education

completed, type of position, current level of employment and shift. If variables were identified as potential benefits to CE, nurse educators at hospitals could utilize this information to develop programs that RN employees will more likely attend, benefiting everyone. This will be more cost-effective for the hospital organization and valuable to RNs and patients. Likewise, by examining perceived barriers to attending CE, nurse educators in the hospital can anticipate possible deterrents and provide solutions. This could greatly enhance CE participation by increasing the accessibility and the value of the programs to hospital RNs.

Perceived susceptibility and seriousness are not being included in this study. Data were collected just prior to implementation of mandatory CE. With mandatory CE everyone is the same on susceptibility (random CE audits) and seriousness (fine and delay of license renewal) of inadequate CE.

Research Questions

A modification of Scanlan and Darkenwald's scale (1984) which includes various reasons individuals have given for not attending CE, Grotelueschen's scale (1985) which includes various reasons individuals have given for attending CE, a series of questions asking about the subjects' voluntary participation in CE, and questions related to selected demographic variables described the relationship between perceived benefits and perceived barriers and hospital employed RNs participation in CE programs. Demographic variables that were noted in the literature for their potential relationship to CE behavior were measured. The demographic variables included in the survey were number of years in practice, professional memberships and certifications, family responsibilities, financial responsibilities, marital status, initial and current educational

status, current type of position, level of employment and shift worked. The primary question explored in this study was:

What is the relationship between RNs' perceived benefits of and perceived barriers to CE and their reported participation in CE programs?

The answer to three sub-questions was explored:

- 1.) What is the relationship between selected demographic variables and RNs' perception of the benefits of CE?
- 2.) What is the relationship between selected demographic variables and RNs' perception of the barriers to CE?
- 3.) What is the relationship between selected demographic variables and RNs' reported participation in CE programs?

Theoretical Definitions

Continuing Education:

A planned, organized learning experience designed to augment the knowledge, skill, and attitudes of registered nurses for the enhancement of nursing practice, education, administration, and research to the end of improving health care to the public (American Nurses Association, 1975).

Perceived Benefits:

An individual's belief about the availability and the effectiveness of an action in reducing the seriousness or threat of an illness (Rosenstock, 1974). For the purpose of this study, perceived benefits will reflect the individual's belief about the effectiveness and potential gain of participating in CE.

Perceived Barriers:

An individual's belief about factors that arouse negative feelings toward a given action (Rosenstock, 1974). For the purpose of this study, perceived barriers are factors or obstacles to participation in CE.

CHAPTER 3

METHODOLOGY

Research Design and Procedure

The focus of this study was a secondary analysis of data collected in a descriptive correlational study using survey methods to examine the relationship between perceived benefits of and barriers to professional continuing education and reported participation in such programs. A questionnaire with a cover letter explaining the study was distributed to all registered nurses employed at two acute care hospitals serving a Midwestern county with a population of 225,000. Interested nurses returned completed questionnaires sealed in the self-addressed envelopes provided. Two weeks following the initial distribution of questionnaires, a second mailing was sent. The letters thanked those who had returned questionnaires and encouraged those who had not yet returned a questionnaire to participate.

Participants were eligible for a drawing for a free registration to the annual research conference sponsored by the Kalamazoo Nursing Research Collective and a luncheon with nationally recognized nurse researcher Dr. Nola Pender, PhD, FAAN, RN. The total value of each prize was \$50. One nurse was selected from each hospital in a random drawing using the tickets attached to completed questionnaires.

Sample and Setting

The target population was all registered nurses at two acute care hospitals. The total number of surveys returned was 591. This study met the criteria for research on human subjects which is exempted by 46.101 of the Federal Register 4616:8336, (January 26, 1981) because it involved research activities in which the only involvement of human subjects was through survey procedures. Responses were anonymous and did

not involve data that could reasonably place subjects at legal or financial risk.

Participation was strictly voluntary and the return of completed questionnaires constituted informed consent. Permission to conduct the study was granted by the Human Subject Review Boards of each of the hospitals involved. Several questionnaires were not included in the initial analysis of data due to the date they were returned. They were included in this second analysis run in collaboration with the primary investigator on the study, Patricia Underwood.

Instruments

The data collection instrument involved four sections. Section I asked questions about subjects' **voluntary** participation in CE. The first question asked how many academic credits the subject completed in the past year to advance his or her professional education. The second question asked for the number of CEU's or contact hours the subject participated in over the last year. The third question asked if during the past two years did the subject participate in more than one CE activity. The last question of this section asked if during the last year did the subject intend to participate in a CE activity but did not.

Section II is a modification of Scanlan and Darkenwaald's scale (1984) which includes many reasons various people have given for not attending CE. Subjects were asked to indicate on a seven-point scale **how influential** they consider each reason to be in making a decision not to attend a CE program with 0 being not influential and 7 being extremely influential. The total number of questions in this section is 37. The scale includes six subscales: cost, disengagement, lack of quality, family constraints, lack of benefit, and work constraints. Coefficient alpha reliability rating for this scale was .91. This component was used to measure perceived barriers.

Section III includes many reasons people have given for participating in CE. Subjects were asked to rate each reason on a seven point scale according to how **important** they consider each factor to be in making a decision to attend a CE program

with 0 being not important and 7 being extremely important. Grotelueschen (1985) developed this scale which included 25 questions. Coefficient alpha reliability rating for this scale was .94. Factor analysis revealed five factors that influenced continuing education attendance: professional development and improvement, professional service, collegial learning and interaction, professional commitment and reflection, and personal benefits job security. This factor analysis contributes to the construct validity of the instrument. This component was used to measure perceived benefits to participation in CE.

Section IV includes 12 demographic questions. These questions explore number of years and entry level as an RN, current level of education and membership in organizations, special certifications, number of dependants, marital status, type of position, current level of employment and shift worked.

CHAPTER FOUR

RESULTS/DATA ANALYSIS

Statistical Techniques

Descriptive statistics were used to identify the perceived benefits of and barriers to continuing education and to describe the sample. The main research question asking what is the relationship between RNs perceived benefits of and perceived barriers to CE and their reported participation in CE programs was answered by computing a total barriers score and a total benefits score and then exploring the relationship between these two variables and the number of academic credits (Pearson's r correlation) and the number of CEU's obtained in the previous year (Spearman ρ). There was no significant relationship noted between benefit and barriers and academic credits. A significant but weak relationship was noted for the number of CEU's. A logistic regression was run with the benefit and barriers entered in as variables for predictors of participation in CE.

A Pearson's r correlation or Spearman's ρ correlations were utilized to explore the relationship between selected demographic variables and RNs' perception of benefits, barriers and reported participation in CE programs.

Characteristics of Subjects

The target population included all registered nurses employed at two acute care hospitals in an urban Midwest area. The 591 respondents' mean years of practicing as an RN were 15.6 (SD =8.9). Forty-five percent of the sample reported practicing as an RN

greater than 15 years. As shown in Table 1, 45 % of the sample possessed a bachelor degree or higher.

Table 1

Reported Initial and Highest Education

Education	ADN	DIPLOMA	BSN	RN+	MSN-MA-MS	PhD.
Initial	42.0%	41.0%	17.0%	—	—	—
Highest	23.1%	23.1%	25.1%	19.2%	9.2%	.3%

Of the 451 RNs responding to the question of professional organization membership, 56% reported belonging to at least one organization and 18.6% reported not belonging to any professional organization. Sixty-eight percent ($N = 589$) of the RNs indicated that they are not currently certified by a specialty organization.

Seventy-three percent of the respondents indicated they are married and 14.5% indicated they are single. The mean number of children under 18 living at home was reported to be 1.1 ($SD = 1.2$) with 45% of the respondents indicating they have no children. Seventy percent of the RNs have another person contributing to the household income.

Eighty percent of the RNs classified themselves at a staff nurse position with 63% indicating a full-time position and 30% a regular part-time position. Sixty-one percent of the RNs responding worked the day shift, 14% worked the evening shift and 19% worked the night shift.

Sixty-five percent of the respondents reported receiving no academic credit in the past year. By contrast, 89.8% of the subjects reported obtaining CEUs in the preceding year. The median number of CEUs was 11.5 credits and the modal category was over 20 credits (see Table 2). Eighty-two percent of the RN's (N = 588) reported that in the last two years they had participated in more than one CE activity. Fifty-one percent (N = 583) responded yes and 48.9% responded no to the question asking if during the last year did the subject intend to participate in a CE activity but did not.

Table 2

CEUs Obtained in the Past Year (N=560)

Number of CEUs	0	1-3	4-7	8-11	12-15	16-19	> 20
Percent	10.2	5.8	14.0	16.9	13.5	8.5	25.9
(n)	(60)	(34)	(83)	(100)	(80)	(50)	(153)

The majority of this sample of nurses were full-time staff nurses and over half held a day shift position. Most of the respondents were married, and approximately half had children (M = 1.1). A little over half reported belonging to at least one organization. The majority reported they received no academic credit in the past year, but the mean number of CEU's reported by the respondents was between 8 and 15.

Research Questions

The main research question explored the relationship between RNs' perceived benefits of and perceived barriers to CE and their reported participation in CE programs. Total benefit and barrier scores were computed. The benefit score range could be from 0 to 150, and the computed mean score was 105 (actual range was 0-150). The barrier score range could be from 0 to 222, and the computed mean score was 94 (actual range was 0-

177). Only 35% of the sample reported having taken courses for academic credit in the past year. A Pearson's r correlation was used to examine the relationship between number of academic credits and perceived benefits ($r = -.04$; $p = .58$) and perceived barriers ($r = .13$; $p = .06$). No significant relationships were found. A Spearman's rho correlation was conducted to examine the relationship between number of CEU's and benefits ($\rho = .24$; $p < .001$) and barriers ($\rho = -.20$; $p < .001$). A significant but weak positive relationship exists between perceived benefits and the number of CEU's taken. A significant but weak negative relationship exists between perceived barriers and the number of CEU's. To examine the estimates of the probability of perceived benefits and perceived barriers influencing participation or non-participation in CE in the last year, logistic regression was applied (see Table 3). The Wald statistics for both benefit and barrier score are significant. Exp (B) is the odds ratio, which is the ratio of participation or not participating in CE. The logistic coefficient (b) is the change in the log odds associated with one-unit change in the independent variable. If the barrier score went up one point, the log odds would go up .9851. If the benefit score went up one point, the log odds would go up 1.0209.

Table 3

Logistic Regression Statistics for Predictors of Participation in CE

Variables	Wald	Sig	Exp (B)
Barrier	14.1866	.0002	.9851
Benefits	17.3702	.0000	1.0209

To answer the three sub-questions posed in this study, selected demographic variables were examined for their relationship with perceived benefits, perceived barriers and reported participation in CE programs. A series of Pearson's r correlations were conducted to examine the relationship between number of years in practice, number of professional organization memberships, and number of children at home and the perception of benefits and barriers. No significant relationships were found between years in practice and perception of benefits or barriers. A significant but weak relationship existed between number of professional organizational memberships and barriers ($r = -.18$; $p < .001$). A significant but weak relationship was also found between organizational memberships and benefits ($r = .13$; $p = .003$). The nurses who had more professional memberships perceived fewer barriers to and more benefits of CE.

A weak significant relationship existed between the number of children at home and total barriers score ($r = .16$; $p < .001$). Nurses with more children at home perceived more barriers to CE. There was no correlation between number of children and benefits.

Spearman's rho correlations were conducted to examine the relationship between initial education and higher education and the barrier and benefit scores. A significant weak negative relationship was found between highest level of education and score on barriers ($r = -.16$; $p < .001$). Nurses with more education perceived fewer barriers. Neither initial nor highest level of education was correlated with perceived benefits.

The factors that showed potential for explaining the perception of barriers were entered into a multiple regression with the barriers score as the dependent variable (see Table 4). Together, the number of organizational memberships, number of children at

home, and the highest level of education achieved only explained 7.8% of the variance in perception of barriers to CE.

Table 4

Multiple Regression Statistics for Predictors of Barriers

Variables	R2	Beta	P
Organizations	.078	-.145	.001
Children	.078	.176	.000
Higher Education	.078	-.122	.007

Other Findings

The benefits and barriers were ranked according to mean utilizing descriptive statistics. The mean range from lowest to highest for perceived benefits was 2.72 to 5.18. A score of 0 indicated not important, a score of 3-4 indicated moderately important, and a score of 6 indicated extremely important. Table 5 identifies the top ranking mean scores for benefits being the acquisition of new knowledge and skill, professional competence, productivity and service. The top three benefits all related to new knowledge and maintaining competency.

Table 5

Perceived Benefits Ranked Most Important

Mean Score	Perceived Benefit
5.2	Keeping abreast of new developments
5.1	To develop new knowledge and skills
5.0	To increase competency
4.9	To match knowledge with skill
4.9	Increase the likelihood the patient is better served
4.8	To be more productive in role

The top ranking mean scores for barriers (see Table 6) addressed the issues of cost, time, convenience and the priority placed on continuing education within the organization. The mean range from lowest to highest for perceived barriers was .93 to 4.08. A score of 0 indicated not influential, a score of 3-4 indicated moderately influential, and a score of 6 indicated extremely influential.

Table 6

Perceived Barriers Ranked Most Influential

Mean Score	Perceived Barrier
4.1	Work does not pay for travel
3.9	Programs do not fit schedule
3.8	Program locations are inconvenient
3.6	Programs are scheduled at inconvenient times
3.6	Other things have higher priority
3.6	Employer does not pay for CEUs

Over half (65%) of the respondents reported receiving no academic credit in the past year. Eighty-two percent of the RNs reported that in the last two years they had participated in more than one CE activity.

In summary, the data analysis results supported past findings from the literature and the propositions of the Health Belief Model as related to CE (see Figure 2). The relationships between the independent and dependant variables were all in the expected direction but weak.

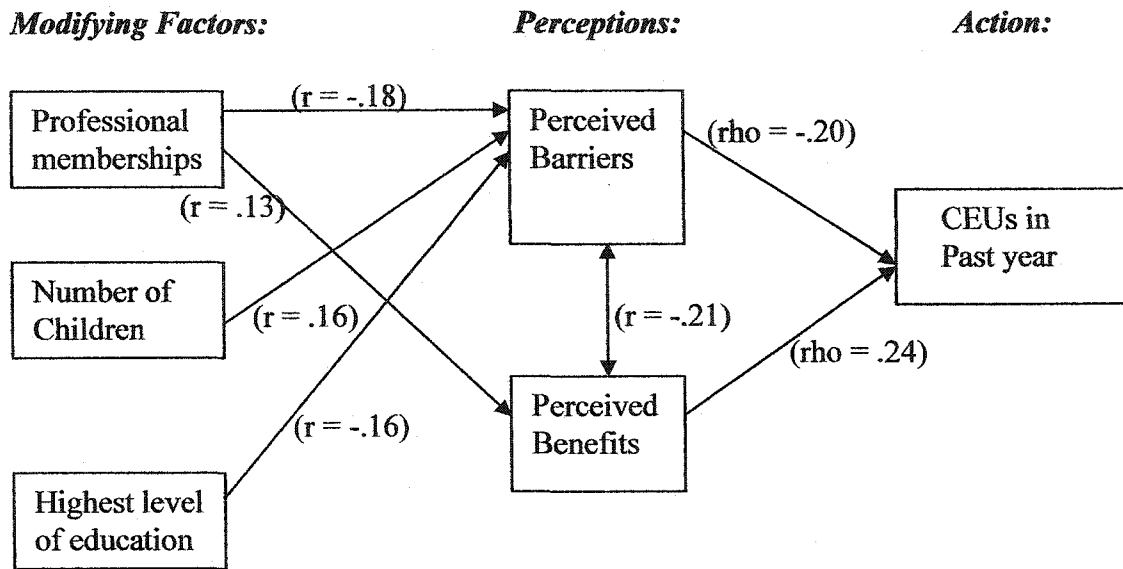


Figure 2. Relationships among study variables within the context of the Health Belief Model.

(All relationships are significant at the level of $p < .01$)

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

Discussion

This study was a secondary analysis of data comprised of registered nurses' perceptions about the benefits of and barriers to continuing education and their behavior in obtaining CEUs and academic credits within the preceding year. The specific purpose of this study was to examine the relationship between perceived benefits of and perceived barriers to CE and reported participation in CE programs. The total benefits score demonstrated a significant but weak relationship to the number of CEUs obtained in the past year ($\rho = .24$; $p < .001$). The total barrier score was negatively related to the number of CEUs received in the past year. Although this relationship was significant, it was very weak ($\rho = -.20$ $p < .001$). No significant relationship between benefits and barriers and academic credits was noted. A logistic regression was run to determine any increase in the likelihood of attending a CE program based on the benefit or barrier score. The odds ratios for barrier and benefit scores is low, thus a unit of change in the barrier or benefit score will only slightly affect the odds of choosing to participate in CE. These findings statistically support the primary research hypothesis that the perception of benefits and barriers will effect a decision to participate in CE, but the clinical relevance is minimal due to the weakness of the relationship. One reason for the weakness of the relationships might be explained by the high number of CEUs that RNs were getting. It was noted in this study that few RNs actually did not participate in CE.

The direction of the propositions of the HBM is supported by the findings of this study. The significant positive correlation of the benefits score with past CEU's demonstrates that the greater the perceived benefits the more likely an RN will have chosen to participate in CE. The research findings also demonstrate a weak but significant negative relationship of the barrier score with past CEU's. This supports the HBM proposition that the lower the perceived barriers, the more likely a person is to take action, and in this case the action is participation in CE.

The results of the study related to the main research question also support past studies previously described. Desilets (1995) study demonstrated that specific motivational factors that emerged from a factor analysis were significant as motivators for participation in CE. Gilles and Pettengills (1993) study of determinants for participation in CE suggested a positive correlation between perceived benefits of knowledge and advancement and the reported participation in CE. The literature review conducted by Kirstjanson and Scanlan's (1992) strongly suggested that motivational factors (compare to perceived benefits) and deterrents (compare to perceived barriers) are predictors of CE participation. The barriers identified in the literature review that also were identified in this study were cost, lack of time, inconvenient scheduling, job responsibilities and home responsibilities. Dealy and Bass's (1995) study of motivational factors and restraining factors to engaging in professional activities is also supported by the findings. The motivational factors were similar to the perceived benefits of this study and similarly reported significant relationship between motivating factors and participation in professional activities. The study by Turner (1993) suggested that specific barriers had a negative relationship with participation in CE, which was also

supported by the findings of the relationship of barriers to past CEU's. The results also support Cullen's (1998) study of reasons for nonparticipation in CE in which factors emerged for predicting nonparticipation.

The three sub-questions posed in this study related to selected demographic variables and their relationship to perceived benefits, perceived barriers and reported participation in CE. A significant but weak negative relationship existed between the number of professional organizational memberships and barriers ($r = -.18$; $p < .001$). The greater the number of memberships the less perceived barriers to CE was noted. A significant but weak relationship existed between number of professional organizational memberships and benefits ($r = .13$; $p = .003$). This suggests that the greater the number of professional organizational memberships the greater the perceived benefits of CE. A significant but weak relationship exists between the number of children and the perception of barriers ($r = .16$; $p < .001$). The greater the number of children at home the more barriers to engaging in CE were perceived. It seems logical that the competing demands of children under 18 years old would take precedence over CE, especially when CE is not mandatory.

Spearman's rho correlations were conducted to examine the relationship between the barrier and benefit scores with initial education and higher education. A significant but weak negative relationship was noted between highest level of education and the barrier score ($\rho = -.16$; $p < .001$). The higher the level of education the lower the barrier score was noted. This relationship appears reasonable because those with higher education have demonstrated a commitment to furthering their nursing knowledge in a formal way. The relationship is not as strong as one might anticipate, however. There

may be factors beyond simple commitment to knowledge acquisition that are influencing the behavior.

Multiple regression analyses were conducted to examine predictors of barriers. The variables that showed a significant relationship with the barrier score were entered into the analysis. The results of this demonstrated that 7.8% of the variance in the barrier score was explained by the number of professional organizations, number of children and highest level of education. Organizational membership and higher education decreased perceptions of barriers, while numbers of children increased it. This result suggests that there are many other variables not identified in this study to explain the barrier score. This also may contribute to the reason the correlation between the benefit and barrier scores with participation in CE was weak.

There was no significant relationship discovered between benefit and barrier scores and number of academic credits. The reason for this may be due to the fact that the initial education of 83% of the sample was at the ADN or Diploma level, and the current highest level of education of the sample was 46% ADN or Diploma degree and 45% BSN or MSN degree. A large portion of the sample had already pursued a higher academic degree.

The benefits and barriers ranking highest according to mean scores supported the findings in the literature. The benefit scale on the survey was scored 0 being not important, 3-4 being moderately important to 6 being extremely important. The results of this study showed that the benefits with the highest mean importance scores were keeping abreast of new developments ($M = 5.18$), developing new knowledge and skills ($M = 5.08$), increasing competency ($M = 5.03$), further matching knowledge with skill

(M = 4.91), serving patients better (M = 4.85) and being more productive in their role (M = 4.81). The perceived benefits most frequently documented in the literature are maintenance of competence, keeping abreast of new developments in technology and scientific knowledge, enhancing job security, desire for advancement, interaction with professional colleagues and to meet formal requirements (Dealy & Bass, 1995; Desilet, 1995; Gillies & Pettengill, 1993; Kristjanson & Scanlan, 1992). This study is similar to the literature on benefits of CE in the areas of increased knowledge and skill and competence. The benefit increasing the likelihood that patients are better served also emerged from this study. The benefit of serving patients better may have been ranked higher in this study due to the philosophy of the institutions from which the sample was taken. The philosophy was service oriented. Enhanced job security and meeting formal requirements were benefits documented in the literature as predictors of continuing education. At the time of this survey the State of Michigan did not have mandatory CEU's for relicensure in effect. The survey did not have a benefit related to job security in particular, although reference to this could be made when looking at competence.

The barrier scale on the survey was scored 0 being not influential, 3-4 moderately influential and 6 being extremely influential. The results of this study identified the top ranking barriers as work not paying for travel (M = 3.9), programs do not fit schedule (M = 3.9), program locations are inconvenient (M = 3.8), programs are scheduled at inconvenient times (M = 3.6), other things having higher priority (M = 3.6) and employer not paying for CEU's (M = 3.6). The barriers identified in the literature as most influential are cost, lack of time, family commitments, job related restrictions, lack of quality programs and lack of benefit (Cullen, 1998; Dealy & Bass, 1995; Kersaitis, 1993;

Kristjanson & Scanlan, 1992; Turner, 1993). This study is similar to the literature findings of barriers to CE in the identification of cost, lack of time, other priorities, and job related restrictions making programs inconvenient due to location and timing. The literature also identified lack of quality programs and benefits as barriers. Poor quality programs as a barrier to CE was less influential ($M = 2.0$) in this study.

Application

The findings of this research are important to the nursing practice for many reasons. As previously stated, RN's in today's society must keep abreast of the rapidly changing technology and medical advancements. This demands that nurses update their knowledge and skills continually. Thus, motivational factors that influence the likelihood of taking the action to participate in CE are extremely important. In addition, analyzing the specific perceived benefits and barriers to taking this action is important not only in evaluating present understanding of motivational drives, but in validating past significant studies in this area also. A cornerstone to the professionalism of nursing is continuing to build the body of knowledge that contributes to a competent practice. In addition, CE is mandatory for re-licensure. In this present day, with the shortage of hospital RNs, it is crucial that RNs are not suspended from their practice for a reason such as lack of CEUs. With this nursing shortage comes increased demand on individual nurses for amount of hours and shifts worked, which may make it even more difficult for nurses to overcome the barriers to engage in CE. A study such as this becomes extremely important for hospital administrators to pinpoint key areas and evaluate effective strategies for increasing the importance of the benefit and decreasing the barriers to CE for their staff.

Although the statistical data evidenced in this study demonstrated weak correlation in the analysis, the results are significant to support the past research in this area and the conceptual framework of the HBM. The significance of identifying potential benefits of and barriers to participation in CE and studying the relationship of these variables and significant demographic variables in predicting participation is extremely relevant to our present profession in every area of nursing.

Employers and administrators could utilize the factors that emerged in the literature and this study to plan CE and make it more valuable and achievable for their employees. One of the benefits that emerged through the research is that RNs already desire to stay current on new knowledge and trends and want to remain competent, which validates previous research. Administrators should continually assess their employees' specific areas of need as they develop and offer trainings as new knowledge and skills are required. This assessment can be achieved in a variety of ways such as survey, comment cards, or weekly staff meetings allowing the RN's to share new knowledge or skills revealed through patient care that week. It is extremely important that administrators maintain excellent communication with their staff so they are aware of the CE vital to support a competent staff.

Likewise, being aware of the barriers to CE that exist is crucial for administration to understand. This study has supported the literature in the identification of the leading barriers to CE being cost, inconvenient scheduling or lack of time, other priorities such as family commitments, lack of benefit and quality of CE. Hospitals administrators could explore creative ways to offer CE on the job, at no or low cost for the RN. Cost can be contained through the use of employee led CE, sponsorship by drug or equipment

companies, collaboration with local universities through student nurse presentations or faculty presentations to staff during clinical rotations, or part of an incentive package for employment. Administrators again need to have excellent communication with their staff so they are aware of their staffs' unique needs and are better able to assist them in scheduling in CE to fit their work and home life. Once possible barriers are identified, the administrator can look at practical and innovative ways to lower the barriers. For example, the provision of child care for employees participating in CE outside of work hours, offering CE in accessible areas such as before or after a shift in the hospital, offering a variety of times and days CE is offered and providing incentives for participation. Quality of programming can be assessed through assuring clear objectives are stated for each presentation, CEU's are approved by the appropriate agency, evaluations are completed for every CE presentation and the evaluation considered when planning for future CE.

Limitations

This data was initially collected just prior to full implementation of mandatory CEU for RN re-licensure. The importance of seeking CE for maintaining licensure has dramatically increased. The RNs who participated in this study may have answered differently if CEU's were mandatory. Thus, the ability to generalize the results of this study to the present population may be limited. The perceptions of actual barriers, however, might not change. RN's would just be forced to overcome them or risk suspension of their license. Likewise, perceptions of benefits may also remain the same with re-licensure coming to the forefront.

The independent variables studied showed significant but weak correlations with benefits and barriers. When multiple regression was run on significant variables to examine factors that influenced barriers, it only explained 7.8 % of the variance. There are many other factors not included in this study that can explain barriers.

The sample was taken from two hospitals in a Midwestern community. The sample may not be representative of RNs in other geographical locations due to differences in demographic variables and academic philosophy. This may have contributed to the low score when multiple regression was run due to the sample being homogeneous. Specific perceived benefits and barriers may be different for different cultural and socioeconomic groups. In addition, geographic location may also influence the variables tested.

Suggestions for Further Research

This study is ideal for replication due to the fact the mandatory CE is currently a requirement for re-licensure. The research could be replicated at the same institutions and in various additional geographical locations for comparison of results to see if the differing philosophies of the institutions would influence the outcome. It might be interesting to draw a sample from a magnet hospital.

Further research is necessary in the area of identifying perceived benefits and barriers to continuing education to increase the strength of predicting participation. This is key information for administrators to understand for greater effectiveness in planning successful educational programs for hospital RNs and in working to promote and maintain competency in practice.

Research on strategies to decrease the barriers of time, cost, and location and increase the relevance of CE topics would be exceedingly beneficial. Nursing administrators and educators could utilize the results of this research in planning future CE programs that will be more accessible to the RNs who rely on this route to maintain their licenses and enhance their competency in the rapidly changing technological environment in which they work.

Two additional areas of research might be helpful. First, research on strategic planning might assist administrators in designing, implementing and evaluating CE programs. Outcome evaluation is particularly important in view of the economic situation of hospitals today. This requires nurse administrators to be cognizant of cost containment. The second area of research focuses specifically on examining how research findings are translated into practice. Predictability of clinical outcomes and cost containment are two imperatives of practice quality. Validating the cost of CE through outcome measures designed to demonstrate that the new knowledge is being used by RNs is essential.

In summary, this study builds on the body of knowledge related to factors that may motivate or deter a RN from engaging in CE. Specific perceived benefits of and perceived barriers to CE were also identified in this study. In addition, specific demographic variables were identified that may affect a RNs perception of benefits and barriers. As a result, recommendations could be made to facilitate nurse administrators in CE planning, implementation and evaluation.

LIST OF REFERENCES

LIST OF REFERENCES

- American Nurses Association. (1975). *Accreditation of Continuing Education in Nursing*. Kansas City: ANA.
- Bandura, A. (1977). Self-Efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Cullen, P. D. (1998). Delaware RNs' reasons for nonparticipation in continuing education. *The Journal of Continuing Education in Nursing*, 29, 228-233.
- Damrosch, S. (1991). General strategies for motivating people to change their behavior. *Nursing Clinics of North America*, 26, 833-842.
- Dealy, M. F., & Bass, M. (1995). Professional Development: Factors that motivate staff. *Nursing Management*, 26, 32-36.
- Desilets, L. D. (1995). Assessing registered nurses' reasons for participating in continuing education. *The Journal of Continuing Education in Nursing*, 26, 202-208.
- Gillies, D. A. & Pettengill, M. (1993). Retention of continuing education participants. *The Journal of Continuing Education in Nursing*, 23, 17-21.
- Janz N., & Becker, M. (1984). The health belief model: A decade later. *Health Education Quarterly*, 11, 1-47.
- Kersaitis, C. (1997). Attitudes and participation of registered nurses in continuing professional education in New South Wales, Australia. *The Journal of Continuing Education in Nursing*, 28, 135-139.
- Knowles, M. (1985). *Andragogy in action*. San Francisco, CA: Jossey-Bass.
- Kristjanson, L. J., & Scocanlan, J. M. (1992). Assessment of continuing nursing education needs: A literature review. *The Journal of Continuing Education in Nursing*, 23, 164-168.
- Lickman, P., Simms, L., & Greene, C. (1993). Learning environment: The catalyst for work excitement. *The Journal of Continuing Education in Nursing*, 24, 211-216.

- Rosenstock, I. M. (1974). The health belief model and preventive health behavior. *Health Education Monographs*, 2, 354-387.
- Rosenstock, I. M., Sstretcher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, 15, 175-183.
- Scanlon, C. L. (1982). Factors deterring allied health professionals from participation in continuing education. *Dissertation Abstracts International*, 44(2), 359A. (University Microfilms No. 8313454).
- Scanlan C. S., & Darkenwald, G.G. (1984). Identifying deterrents to participation in continuing education. *Adult Education Quarterly*, 24, 114-122.
- Turner, P. (1993). Continuing nursing education: Why don't nurses go? Why don't they use what they learn? *Nursing Connections*, 6, 5-11.
- Wadell, D. L. (1992). The effects of continuing education on nursing practice: A meta-analysis. *The Journal of Continuing Education in Nursing*, 23, 164-168.
- Yoder-Wise, P.S. (2004). The Annual CE Survey 2003. *The Journal of Continuing Education in Nursing*, 35, 4-6.