NURSING PAPERS

The Canadian Journal of Nursing Research

Spring/Printemps 1987 Vol. 19 No. 1

PERSPECTIVES EN NURSING

Revue canadienne de recherche en sciences infirmières

NURSING PAPERS
PERSPECTIVES EN NURSING

Volume 19, No. 1
Spring/Printemps, 1987

CONTENTS - TABLE DES MATIERES

NURSING PAPERS
PERSPECTIVES EN NURSING

Volume 19, No. 1
Spring/Printemps, 1987

NURSING PAPERS/PERSPECTIVES EN NURSING is published quarterly by the School of Nursing, McGill University, 3506 University Street, Montreal, Quebec, H3A 2A7. Letters regarding subscriptions, changes of address and other business matters should be sent to the Managing Editor.

SUBSCRIPTION RATES: Institutions (including hospitals, schools, libraries and agencies): $26/one year; $50/two years. Individual subscriptions: $20/one year; $36/two years; Students: $16/one year. Please add $5 per year for overseas airmail service.

ADVERTISEMENTS: Full page display ad $300; half page display ad $175.

BACK ISSUES: are available at $6 per copy or $24/year. Xerox copies of articles are available at 25¢ per page or a minimum of $3.00 per article.

To ensure prompt service when you write to us about your subscription, please include the address label from your *Nursing Papers* mailing envelope.

NURSING PAPERS/PERSPECTIVES EN NURSING est une publication trimestrielle de l'École des sciences infirmières de l'université McGill, 3506, rue University, Montréal, Québec, H3A 2A7. Toute correspondance relative aux abonnements, à un changement d'adresse ou á d'autres questions doit être adressée à l'adjointe administrative.

ABONNEMENTS: Institutions (ce qui comprend les hôpitaux, les écoles, les bibliothèques et les agences): 26$ pour une année; 50$ pour deux ans. Abonnements individuels: 20$ pour une année; 36$ pour deux ans; Étudiants: 16$ pour une année. Veuillez compter 5$ de plus par année pour les envois par avion outremer.

ANNONCES: 300$ la page; 175$ la demi-page.

ANCIENS NUMÉROS: 6$ le numéro ou 24$ par année. On peut se procurer des photocopies d'articles pour 25¢ la page ou 3,00$ minimum par article.

Pour accélérer le service dans toute correspondance relative à votre abonnement, veuillez inclure l'étiquette de l'enveloppe dans laquelle vous sont envoyées les *Perspectives en nursing*.

ISSN 0318-1006
Dépot légal - 1er trimestre 1974.
Bibliothèque Nationale du Québec.

EDITORIAL

Canada's Computerized Clearinghouse for Nursing Research

There are two computerized clearinghouses for nursing research in Canada. Provided the user has access to a terminal, modem and a telephone, both may be accessed from anywhere in Canada, without charge to the user.

The first file is the *Canadian Clearinghouse for Ongoing Research in Nursing* (CORN). This file consists of all research in nursing that is in process. Research is entered into the file when the proposal has been approved and is removed from the file when the final report is released. Entries in the file list the researcher(s) name, title of the research, advisor (if the researcher is a student) and the institution or contact address of the investigator. Thus an entry may look like this.

> BURKE, SHARON, CAROL ROBERTS AND RITA MALONEY
> DEVELOPMENTAL NORMS FOR CREE INDIAN INFANTS AND CHILDREN.
> QUEENS UNIV

The second file is the *Canadian Directory of Completed Master's Theses in Nursing* (CAMN). This is a computerized bibliographic listing of all master's theses in nursing, completed in Canada. Again, the file consists of the investigator's name, title of thesis, institution, year graduated and advisor's name. Note that only completed theses are entered on this file.

The CORN file was established, in 1980, by Dr. Amy Zelmer to facilitate networking among researchers. Since the inception, researchers have been able to identify and subsequently contact other researchers working in the same area by searching the CORN file, using topics as search terms. Others may wish to search the file by institution to see, for example, what research is going on at McGill or the University of Manitoba, or to search by an investigator's last name to check on the latest projects or research directions of an investigator.

The CAMN file was developed in 1984, with a grant from the Alberta Foundation for Nursing Research, when it was realized that the bulk of nursing research in Canada was being conducted by master's students and that this research could not be accessed through the *Cumulative Index to Nursing and Allied Health*, nor through *Dissertation Abstracts*. The file many serve as a record of completed theses of a particular institution, and another investigator may choose to request a completed theses, either from the institution or from the CNA library.

To use the system

1. Set the terminal to 300 or 1200 baud, half duplex, even parity and power on.
2. Dial DATAPAC phone number for your city. A high pitched tone can be heard when the call is connected.
3. Put the phone handset on the acousitc coupler, or press the data button on the dataset.

4. Press the period key and press **RETURN** (Note: you may have to do this twice).

5. The terminal will respond with:

	DATAPAC: XXXX XXXX
User should type:	**60100010** (press RETURN)
Terminal:	**DATAPAC: CALL CONNECTED** **UNIVERSITY OF ALBERTA COMPUTING** **SERVICES MTS (05217-AF03/OF/00)**
	%ENTER TERMINAL ID_____
User:	(Press RETURN – an ID # is **not** required)
Terminal:	**MTS AVAILABLE** #
User:	**SIG CORN** (Press RETURN)
Terminal:	**PASSWORD?**
User:	**ALBERTA** (This word will not show on the screen) (Press RETURN)

From this point, the system is self-explanatory. Follow the directions that the terminal provides. It is not possible to "harm" the system or to run up exorbitant costs. When finished searching, turn off the terminal, and replace the handset on the phone.

To access the *Canadian Directory of Completed Master's Theses in Nursing* (CAMN), follow the same steps, but type:

SIG CAMN to sign on. The passsword for this file is also **ALBERTA.**

The systems work by actual recognition of a word (or part of a word), rather than by a search term. Therefore, when searching, enter the shortest root of the search term that will identify the term required. For example, if searching for *breast-feeding*, as this may be spelled as one, two or as a hyphenated word, search for breast only, or conduct three searches using a different spelling of breast-feeding with each search. The first method (i.e., by using *breast* alone) will give irrelevant entries (such as breast cancer), but as the file is not lengthy, this should not be problematic. At any time, to terminate a search, press the **BREAK** (or **INTERRUPT**) key.

Registering research with CORN or CAMN

First, search CORN and CAMN to ensure that project or thesis is not already on file. Some ongoing projects are registered by the granting agencies, university or institution, or by CNA, and completed theses from the University or CNA. If your project is not listed, please send the project (or thesis) title (plus a translation of the title into French or English), the name(s) of the investigator(s) and institution to Dr. J. Morse, Faculty of Nursing, Clinical Sciences Building, 3rd Floor, University of Alberta, Edmonton, Alberta T6G 2G3. If submitting notice of a completed thesis also include the degree awarded, advisor and year of graduation.

Janice M. Morse

The files are supported by the Faculty of nursing, University of Alberta. A directory of DATAPAC phone numbers is available from the address above.

ÉDITORIAL

Le répertoire informatisé de la recherche infirmière du Canada

Il existe deux répertoires informatisés de recherche infirmière au Canada. Pour y avoir accès sans frais et de partout au Canada, il suffit d'avoir un terminal, un modem et un téléphone à sa disposition.

Le premier fichier est *le Répertoire canadien de la recherche infirmière en cours* (CORN). Ce fichier contient une liste de toute la recherche infirmière qui se poursuit actuellement. Le projet de recherche est entré en mémoire lorsqu'il a été approuvé et est enlevé lorsque le rapport final a été déposé. Chaque entrée comprend le nom du/des chercheur(s), le titre du projet, l'institut, le conseiller (si le chercheur est un étudiant) et l'adresse de l'institut ou du chercheur. Voici un exemple d'entrée:

LAROUCHE, MARTINE ET MICHELINE PASQUIER
LES FACTEURS QUI INFLUENCENT LE CHOIX D'UNE THÉRAPIE
UNIVERSITÉ DE MONTRÉAL

Le deuxième fichier est le *Répertoire canadien des mémoires de maîtrise complétés en sciences infirmières* (CAMN). Ceci est une liste bibliographique informatisée de tous les mémoires de maîtrise en sciences infirmières terminées au Canada. Encore une fois, cette liste comprend le nom du chercheur, le titre du mémoire, l'institut, l'année d'obtention du diplôme et le nom du conseiller. Remarquez que seuls les mémoires complétés sont inscrits sur cette liste – un projet en cours figure dans l'inventaire CORN.

Historique et objectif

Le fichier CORN fut établi en 1980 par Dr. A. Zelmer pour faciliter la communication entre chercheurs. Depuis sa mise en place, une recherche des sujets inscrits au fichier CORN a permis aux chercheurs d'identifier et de communiquer par la suite avec les chercheurs oeuvrant dans le même domaine qu'eux; d'autres utilisateurs ont pu se renseigner sur ce qui se faisait à l'université McGill ou à l'université du Manitoba par exemple, ou se mettre au courant des derniers projets de recherche ou de l'orientation que prenait tel chercheur.

Lorsqu'on s'est aperçu que la plus grande partie de la recherche infirmière au Canada se faisait par des étudiants à la maîtrise et qu'on n'y avait pas accès par le *"Cumulative Index to Nursing and Allied Health"*, ni par le *"Dissertation Abstracts"*, le fichier CAMN fut développé en 1984 grâce à une subvention du 'Alberta Foundation for Nursing Research'. Ce fichier CAMN sert à inventorier les mémoires complétés dans differents instituts; si un chercheur veut lire le mémoire, il peut demander une copie à l'institut ou à la bibliothèque de l'Association des infirmières et infirmiers du Canada (A.I.I.C.).

Procédure d'entrée en communication

1. Réglez le terminal à 300 ou 1200 bauds, semi-duplex, parité paire et mettre sous tension.
2. Composez le numéro de téléphone de DATAPAC pour votre ville. (Vous pouvez obtenir de l'auteure une liste des villes reliées à DATAPAC et les

numéros de téléphone y donnant accès.) Vous entendrez une tonalité aiguë lorsque la communication est établie.

3. Placez le combiné du téléphone sur le coupleur acoustique et appuyez sur la touche de données sur le modem.

4. Appuyez sur la touche du point (.) et sur la touche de retour du chariot. (Note: il faut parfois répéter cette opération).

5.

Terminal:	**DATAPAC: XXXX XXXX**
Utilisateur:	Dactylographiez:60100010 (appuyez sur le retour de chariot)
Terminal:	**DATAPAC: CALL CONNECTED** **UNIVERSITY OF ALBERTA COMPUTING SERVICES MTS (05217-AF03/OF/00)** **%ENTER TERMINAL ID_____**
Utilisateur:	(Appuyez sur le retour du chariot – un numéro d'identité n'est pas requis)
Terminal:	**MTS AVAILABLE** **#**
Utilisateur:	**SIG CORN** (Appuyez sur le retour du chariot)
Terminal:	**PASSWORD?**
Utilisateur:	**ALBERTA** (Ce mot n'apparaîtra pas à l'écran) (Appuyez sur le retour du chariot)

Ensuite, il ne faut que suivre les instructions sur l'écran. Vous ne pouvez pas endommager le système, ni vous occasionner des frais exorbitants. Lorsque la recherche est terminée, fermez le terminal, et replacez le combiné sur le téléphone.

Pour avoir accès au *Répertoire canadien des mémoires de maîtrise complétées en sciences infirmières* (CAMN), suivez les mêmes instructions que ci-dessus, sauf que vous tapez SIG CAMN au lieu de SIG CORN. Le mot de passe pour ce fichier demeure ALBERTA

La recherche

Les systèmes fonctionnent par la reconnaissance d'un mot (ou partie d'un mot) plutôt que par un terme de recherche. Donc, lorsque vous faites une recherche, entrez la plus petite racine du terme qui identifie le terme requis. Par exemple, si vous cherchez le terme 'breast-feeding', étant donné que ce mot peut s'écrire en un mot, en deux mots, ou en un mot avec un trait d'union, vous pouvez demander le mot 'breast' seulement, ou faire trois recherches pour les trois épellations du terme. Avec la première meethode (le mot 'breast' seulement) vous obtiendrez des entrées qui ne vous intéressent pas (tel 'breast cancer') mais comme le fichier n'est pas volumineux, ceci ne devrait pas vous causer de problèmes. Pour terminer une recherche à n'importe quel moment, appuyer sur la touche BREAK ou INTERRUPT.

Inscription de recherches au CORN ou CAMN

D'abord, vérifiez si le projet de recherche ou le mémoire se trouve dans le fichier CORN ou CAMN. Parfois, les organismes subventionnaires, l'institut, l'université ou l'A.I.I.C. inscrivent les projets en cours ou les mémoires complétés. Si votre projet n'est pas inscrit, veuillez faire parvenir (1) le titre du projet de recherche ou du mémoire avec une traduction anglaise ou française du titre; (2) le(s) nom(s) des chercheur(s) et (3) le nom de l'institut au Dr. J. Morse, Faculté des sciences infirmières, Université d'Alberta, Clinical Sciences Building, 3rd Floor, Edmonton, Alberta T6G 2G3. S'il s'agit d'un mémoire complété, veuillez ajouter le diplôme et l'année d'obtention ainsi que le nom du conseiller.

Janice M. Morse

Ces fichiers opèrent grâce à l'appui donné par la Faculté des sciences infirmières de l'université d'Alberta.

NURSING THEORY: WHAT IT IS AND WHAT IT IS NOT

Evelyn Adam

Interest in nursing theory, its definition and development, has increased considerably in recent years and such interest, attested by the number of publications on the subject, is more than justified. Three reasons come to mind: nursing's legitimate desire to be recognized as a full-fledged member of the scientific community, nursing's responsibility to contribute to knowledge in the health field and, perhaps most important but less often recognized, nursing's great need to acquire the knowledge essential for practice. As a service discipline, nursing must develop the knowledge that is required for its particular function in society.

The intent of this article is to examine the significance of the term "nursing theory" and to suggest certain conditions that should exist before a theory may be labelled "nursing". To do this, some very basic considerations will be reviewed.

Theory

Before studying "nursing theory", theory alone, be it social, physical or biological theory, must be examined. The definitions of theory offered by various authors (Brodbeck, 1957; Cohen & Nagel, 1934; Dickoff & James, 1968; Kaplan, 1964; Kerlinger, 1964) are well known and have been quoted widely by nurses (Bush, 1979; Chinn & Jacobs, 1983; Fawcett, 1978a; Hardy, 1978; Johnson, 1978; Stevens, 1979). Meleis (1985) classifies theory definitions into seven types, depending on the focus of the definition: structure, research, multiple uses and others.

In most of the definitions are found the words "interrelated propositions" and "describe, explain or predict phenomena". Some definitions contain one or the other of those word combinations; some contain both. Roy and Roberts (1981) have combined the elements of several authors in their definition: "A theory is a system of interrelated propositions used to describe, predict, explain, understand, and control a part of the empirical world" (p. 5). Parse (1987) specifies further that a theory "explains, describes, or makes predictions about the phenomena of a discipline" (p. 2).

Evelyn Adam M.N. is Professor and Faculty Secretary at the Faculté des sciences infirmières of the Université de Montréal.

Nursing Papers/Perspectives en nursing 1987, 19(1), 5-14

The foregoing definitions cannot be taken lightly. A proposition presupposes at least two variables, and "interrelated propositions" implies at least two propositions. It follows that at least two propositions (validated in several settings) would constitute a theory; the propositions would serve to describe, predict, explain, understand and control .... The sentence must be completed. This is done by filling in the names of those phenomena that make up the empirical world of the researcher.

As an example, General Systems Theory, developed by the biologist von Bertalanffy, explains and describes systems, because systems were part of the empirical world that interested biologists. That theory now explains open systems as well as closed systems; as such, it is useful to engineers, nurses, physicians and others. Hans Selye's theory of stress describes and predicts stress because the human responses known as the General Adaptation Syndrome were part of the empirical world that interested physicians. Selye's theory is today useful to a variety of disciplines.

Nursing theories may one day be useful to related disciplines in the same way that existing theories, developed in other fields, are today useful to nurses (Adam, 1983). In that regard, it is important to remember that theory in any discipline is developed by the asking of questions that differ substantially from those asked in other disciplines (Johnson, 1978).

Nursing theory

Nursing theory must first of all be a theory – that is, a set of interrelated propositions that serve to predict, describe, etc. a part of the empirical world. But what phenomena of the empirical world will be studied? What part of the empirical world is of particular interest to nursing? In other words, what is nursing's focus of scientific inquiry? The question is important because, for theory to be recognized as nursing theory, it must be a set of propositions of and about those phenomena that make up nursing's focus of enquiry.

That focus of enquiry must be one that is compatible with nursing's practice and education activities. "The focus of any profession's scientific concern is interdependent with the profession's service, its social function" (Johnson, 1974, p. 373). It follows that the conceptual base of the nurse researcher must be one that constitutes the conceptual base of at least some nurse educators and practitioners. If that base is specific to nursing, it is called a conceptual model for nursing and is made up of assumptions, values and six major units (Johnson in Riehl & Roy, 1980).

To the question, "What is nursing's focus of enquiry?", the answer is found in the way nurses conceptualize their discipline; that is, in the chosen conceptual model for nursing. Two brief examples of models will be presented in this article.

Rather than adopt one of the existing conceptual models for nursing, the nurse researcher may of course work from a borrowed perspective – a medical or sociological perspective, to name only two possibilities. She will then study phenomena which are part of medicine's or sociology's focus of inquiry; she will advance medicine or sociology but she will not advance nursing – except perhaps indirectly. Rather than a borrowed perspective, the nurse researcher may have, as her conceptual departure point, her own private and personal conception of nursing. As already stated, that private conception must also be clear and explicit enough to be useful as the conceptual departure point for practice and education.

Nursing's focus of enquiry, specified in the chosen conceptual model, indicates the kind of knowledge that nurses need for their practice. It is important to remember that the knowledge made available in developing and testing nursing theory will not *belong* to nursing. Knowledge does not ever belong to a discipline; discovery does not confer the right of ownership (Johnson, 1968). To return to the two previous examples, knowledge from von Bertalanffy's General Systems Theory does not belong to biology nor does knowledge from Selye's theory of stress belong to medicine; the knowledge generated by the development of those two theories is available to, and used by, a variety of disciplines.

It seems reasonable to expect that, in developing the kind of knowledge essential for nursing practice, nurse researchers will make available knowledge that will be useful to other health disciplines.

Knowledge from anatomy, physiology, psychology, etc., while extremely useful, is no more sufficient for nursing than is knowledge from physiology and biochemistry sufficient for medicine (Johnson, 1968). Medicine's focus of enquiry has long included illness – its prevention, diagnosis, treatment and cure. Medical research has therefore sought knowledge about illness, and physicians are still striving to understand and conquer disease. Their contribution to society's health is well documented.

Most nurses agree that disease is *not* nursing's focus of enquiry. What, then, *is* nursing's particular concern? The question must be asked, because in the answer lies the kind of knowledge that nursing should develop through its research. In the answer will be indicated the phenomena to be studied in order to develop nursing theory.

To that very fundamental question, "What is nursing's focus of enquiry?" several answers have been published in the form of conceptual models for nursing. Two examples follow.

Dorothy E. Johnson's distinct and explicit way of looking at nursing is known as the behavioural system model for nursing (Johnson in Riehl & Roy, 1980, pp. 207-216). The goal of the profession, according to Johnson, is to maintain and restore behavioural system balance and stability. The client is a behavioural system with seven subsystems, each of which is bio-physiological and psycho-sociocultural. Stresses in the structure or function of the subsystems constitute the source of client problems that are considered to be nursing problems.

Nurses who adopt Johnson's perspective will have as their focus of inquiry behavioural system stability and equilibrium. They will, for example, ask questions about dependency behaviours and about affiliative behaviours. They will study the stimulation and the protection requirements of the subsystems; they will seek ways to facilitate efficient and effective behaviours and means to inhibit inefficient and ineffective behaviours. When propositions have been validated and hypotheses tested in a variety of clinical settings, with different age groups, with healthy clients and with those suffering from various illnesses, theories of achievement behaviour or of behavioural system control and regulation might be developed. The knowledge generated would not only be useful to communtiy nurses, hospital nurses and children's nurses but also to gerontologists, pediatricians and psychologists.

Another example of a distinct nursing perspective is Virginia Henderson's complementary-supplementary model for nursing. According to this conceptual departure point, the goal of nursing is to maintain and restore client independence in the satisfaction of fundamental needs (Henderson, 1966). The client is a complex whole with fourteen basic requirements, each of which is bio-physiological and psycho-sociocultural. Nursing problems are dependency problems in need satisfaction; their origin is an insufficiency of strength, will or knowledge.

Nurses who adopt Henderson's model will have as their focus of enquiry such phenomena as need satisfaction, independence in need satisfaction and complementing – supplementing strategies. They will ask questions about client independence, about the need to communicate or about the need to learn. They will study the psycho-social dimension of the need to eliminate body wastes or the bio-physiological dimension of the need to play; they will seek ways to complement client strength and means to supplement client motivation. When propositions have been validated and hypotheses tested in a variety of clinical settings, with different age groups, with

healthy clients and with those suffering from various illnesses, theories of need satisfaction or of complementing and supplementing might be developed. The knowledge generated would not only be useful to nurses working with the newborn, with the elderly or with families in the community but also to cardiologists, oncologists and psychologists.

Research based on Johnson's model might lead to one nursing theory: a system of interrelated propositions which serve to explain, describe, control, etc. behavioural system balance and stability, because the purpose of nursing practice is behavioural system balance and stability.

Research based on Henderson's model might lead to a different nursing theory: a system of interrelated propositions which serve to describe, predict, and make understood client independence in need satisfaction, because the purpose of nursing practice is client independence in need satisfaction.

In this way, *nursing* knowledge would be developed. It would spring from the "behavioural equilibrium" school of thought or from the "independence in need satisfaction" school of thought or, indeed, from another school of thought. Oriented by another conceptual model, another *kind* of knowledge would be developed. Not everyone has to have the same conceptual departure point, but each nurse researcher must start from one of the distinct nursing perspectives that offer direction for practice and education as well as for research. The different kinds of knowledge would constitute a body of nursing knowledge. If knowledge developed by the equilibrium school should prove to be in conflict with that developed by the independence school, more research would be stimulated and the *science* of nursing would develop further.

Nurse theorists will of course look at phenomena that interest other disciplines as well. They must, however, study them from a nursing perspective if they want to develop nursing theory. "Since several sciences may, and often do, study the same phenomenon, it is the distinctive perspective of each science which most clearly discriminates it from others" (Johnson, 1974, p. 373).

If pain, for example, were studied from Johnson's perspective, it would be examined as a phenomenon that interferes with behavioural system stability and equilibrium. Indeed pain would be of interest to nursing inasmuch as it prevents efficient and effective behaviours in any or all of the seven subsystems.

If pain were studied from Henderson's perspective, it would be examined as a phenomenon that interferes with client independence in need satisfaction.

When pain is studied from a psychological perspective, or from a medical or anthropological perspective, interesting knowledge is generated. Pain studied from a nursing perspective might produce equally interesting knowledge.

Theory may be descriptive and developed by exploratory research. It may be explanatory theory, developed by correlational research, or predictive theory, developed by experimental research (Fawcett, 1985). Chinn and Jacobs (1983) point out that such classifications as "macro", "midrange", or "micro" are relative because what is "micro" to one discipline may be considered midrange in another. However theory is classified, it will be *nursing* theory when it is of and about a phenomenon that is part of nursing's focus of enquiry; that is, when it is developed by asking questions that are not asked by other disciplines. A body of nursing knowledge must be one that contributes to the improvement of nursing practice.

This view of nursing theory is more restrictive than the one proposed by Meleis (1985), for whom "all theories used in nursing to understand, explain, predict, or change nursing phenomena are nursing theories, whether or not they evolved out of other theories, other paradigms . . . and whether or not they were developed by nurses" (p. 104).

What nursing theory is not

Various terms are sometimes used as synonyms for theory or nursing theory. While some may be quite correct in certain contexts, in others they are not acceptable and are likely to attract, at worst, the scorn of other professionals, and, at best, their bemused condescension.

Nursing theory is not a philosophy of nursing; nor is it a theory, developed by a nurse, from a borrowed perspective. Nursing theory is not nursing research, it is developed *by* nursing research.

The confusion seems most apparent between a "nursing theory" and a "conceptual model for nursing". The latter is considered a precursor of theory (Adam, 1985; Bush, 1979; Fawcett, 1978 a & b; Newman, 1979; Peterson, 1977). The two examples of conceptual models presented in this paper point out their utility as precursors of theory development.

This position differs from that of Silva (1986) who discusses three ways in which investigators have used models for theory testing: minimal,

insufficient (used as an organizing framework) and adequate. Silva summarizes three studies which exemplify the adequate use of models for theory testing; she entitles the section "Research Testing Nursing Models: Explicit exemplars" (p. 4).

Such a stance seems to contradict those authors cited previously who see models as precursors of theory. The problem may lie in the interpretation of "precursor of theory". To this writer, that expression does not mean a beginning set of concepts which, by means of research, may ultimately be transformed enough to meet the requirements of a theory. A precursor of theory is, rather, the conceptual departure point of theory development. A conceptual model for nursing, indicating the phenomena about which knowledge is required, constitutes the harbinger or forerunner of nursing theory.

The existing conceptual models for nursing, presented initially by their authors, have been the subject of writings by others. It is this writer's conviction that those models have now been sufficiently analyzed, described, critiqued, interpreted and classified. The time has come to build upon those conceptual starting points. Nurse researchers would make encouraging progress in the development of nursing theory, and in the contribution of knowledge in the health field, if they took advantage of the conceptual bases that spell out their discipline's focus of scientific enquiry. It is important that the conceptual base chosen also provide direction for practice and education.

Some other differences between a conceptual model and a theory can be argued. A conceptual model for any discipline is useful only to that discipline – orienting its practice, research and education (Adam, 1985). A theory, on the contrary, is useful to various disciplines.

A conceptual model is not made up of propositions to be validated, nor is it composed of hypotheses to be tested. The criterion of truth is not used in judging a model; the extrinsic criteria of social congruence, social significance and social utility are, however, essential to the evaluation of a model (Johnson, 1974). Intrinsic criteria such as clarity, precision and coherency must of course be used to evaluate the assumptions, values and major units which make up the model.

The distinctions between model and theory are not considered important by everyone. Stevens (1979) sees such arguments as "quibbling [that] leads one to worry over labels rather than to look at the substance of the given thesis" (p. XI). Meleis (1985), while admitting that "there are some differences between models, conceptual frameworks and theory" (p. 95), points out that she wishes to minimize the distinctions in order to "cast

some doubt on the significance of the differences between theories and conceptual models" (p. 96).

Nursing theory is not theory *of* nursing, another distinction which some might consider a particular form of hair-splitting. However, more than one author (Gudmundsen, 1979; Johnson, 1978; Moore, 1968) insist on the impossibility of a theory of nursing. They point out that there is no theory of medicine, no theory of law, no theory of physics. Nursing is no more an object of scientific enquiry than any other profession. No system of interrelated propositions is required to explain and predict nursing. As with other service professions, nursing exists in response to a need in society. Nursing is what we decide it should be; "It is not something which, in and of itself, can be empirically verified" (Moore, 1968, p. 343).

To return to the two examples of theory, General Systems Theory, developed by a biologist, is not a theory of biology and the theory of stress, developed by a physician, is not a theory of medicine.

Conclusion

Nursing theory, or theory in nursing, is theory of and about one of the phenomena that make up nursing's focus of enquiry. Each health discipline contributes to knowledge about health by studying those phenomena that are necessary for its own practice. Nursing alone has not been given a mandate to promote and conserve health (Johnson, 1978).

If nursing theory is about those phenomena that are of concern to nursing, the argument about one or several nursing theories becomes pointless. Discussions about a unique nursing theory, as opposed to pluralism in nursing theory, are worthless. Each one of the conceptual models for nursing indicates several phenomena, each one of which has potential for theory development. The development of a multiplicity of nursing theories is therefore a most desirable goal; each one will add to nursing's contribution to the knowledge about the preservation and promotion of health.

Nursing's interest in theory development underlines its great potential for improving nursing practice and for advancing nursing science. The key word, however, is "nursing". In order to maintain credibility in the scientific community, in order to make a significant contribution to health promotion and in order to acquire the knowledge needed for practice, a nurse researcher must have a conceptual base that is unique to nursing.

REFERENCES

Adam, E. (1983). *Etre infirmière*, (2nd ed.). Montréal: H.R.W. Ltée.

Adam, E. (1985). Toward more clarity in terminology: Frameworks, theories and models. *Journal of Nursing Education, 24*, 151-155.

Brodbeck, M. (1957). The philosophy of science and educational research. *Review of Educational Research, 28*, 427-440.

Bush, H.A. (1979). Models for nursing. *Advances in Nursing Science, 1*(2), 13-21.

Chinn, P.L., & Jacobs, M.K. (1983). *Theory and nursing: A systematic approach.* St-Louis: Mosby.

Cohen, M.R., & Nagel, E. (1934). *An introduction to logic and scientific method.* New York: Harcourt, Brace & World.

Dickoff, J., & James, P. (1968). A theory of theories: A position paper. *Nursing Research, 17*, 197-203.

Fawcett, J. (1978a). The relationship between theory and research. A double helix. *Advances in Nursing Science, 1*(1), 49-62.

Fawcett, J. (1978b). The "what" of theory development. In *Theory development: What, why, how?* (pp. 17-33). New York: National League for nursing, No. 15, 1708.

Fawcett, J. (1985). Theory: Basis for the study and practice of nursing education. *Journal of Nursing Education, 24*, 226-229.

Gudmundsen, A.M. (1979). The conduct of inquiry into nursing. *Nursing Forum, 18*, 53-59.

Hardy, M.E. (1978). Evaluating nursing theory. In *Theory development in nursing: What, why, how?* (pp. 75-86). New York: National League for Nursing, No. 15-1708.

Henderson, V. (1966). *The nature of nursing.* New York: Macmillan.

Johnson, D.E. (1968). Theory in nursing: Borrowed and unique. *Nursing Research, 17*, 206-209.

Johnson, D.E. (1974). Development of theory: A requisite for nursing as a primary health profession. *Nursing Research, 23*, 372-377).

Johnson, D.E. (1978). State of the art of theory development in nursing. In *Theory developemnt in nursing: What, why, how? (pp. 1-10). New York: National League for Nursing, No. 15-1708.*

Kaplan, *A.* (1964). *The conduct of inquiry: Methodology of behavioral science.* San Francisco: Chandler.

Kerlinger, F.N. (1964). *Foundations of behavioral research.* New York: Holt, Rinehart & Winston.

Meleis, A.I. (1985). *Theoretical nursing. Development and progress.* Philadelphia: Lippincott.

Moore, M.A. (1968). Nursing: A scientific discipline? *Nursing Forum, 7*, 340-348.

Newman, M.A. (1979). *Theory development in nursing.* Philadelphia: Davis.

Parse, R.R. (1987). *Nursing science. Major paradigms, theories and critiques.* Philadelphia: Saunders.

Peterson, C.J. (1977). Questions frequently asked about the developemnt of a conceptual framework. *Journal of Nursing Education, 16*(4), 22-32.

Riehl, J. & Roy, C. (1980). *Conceptual models for nursing practice* (2nd ed.). New York: Appleton-Century-Crofts.

Roy, C., & Roberts, S.L. (1981). *Theory construction in nursing*. Englewood Cliffs, NJ: Prentice-Hall.

Silva, M.C. (1986). Research testing nursing theory: State of the art. *Advances in Nursing Science, 9*(1), 1-11.

Stevens, B.J. (1979). *Nursing theory. Analysis, application, evaluation.* Boston: Little, Brown.

RÉSUMÉ

La théorie infirmière: ce qu'elle est et ce qu'elle n'est pas

L'intérêt des infirmières pour le développement de la théorie fait partie de leur désir légitime de voir leur profession reconnue par le monde scientifique. Afin que les autres disciplines perçoivent la nôtre comme une science, nous nous devons de contribuer aux connaissances dans le domaine de la santé. Il est également important, dans le but d'acquérir la crédibilité que nous désirons, que nous jouions le jeu du monde scientifique; une des règles de ce jeu est d'accorder au mot "théorie" à peu près la même signification que lui confèrent les autres disciplines.

Qu'une théorie soit descriptive, explicative ou prédictive, elle sera reconnue comme une théorie infirmière en autant qu'elle traite d'un phénomène faisant partie du centre d'intérêt scientifique de la profession d'infirmière. Le même phénomène peut être étudié par d'autres disciplines; étudié par la nôtre, la théorie qui en résulte sera une théorie infirmière dans la mesure où l'étude a été menée à partir d'une perspective infirmière. Cette perspective, si elle est précise et explicite, s'appelle alors modèle conceptuel. Elle n'est pas en elle-même une théorie car un modèle conceptuel n'est que le point de départ dans le développement d'une théorie.

Deux modèles conceptuels sont abordés afin d'offrir des exemples de phénomènes présentant un potentiel pour le développement d'une théorie. Le mot théorie est défini et la distinction est faite entre une théorie *de* la discipline et une théorie *pour* la discipline. Appeler théorie ce qui ne l'est pas risque d'entraver notre évolution vers un pluralisme théorique et ainsi de retarder la reconnaissance de notre discipline comme une science parmi les sciences.

SOURCES OF JOB SATISFACTION AND DISSATISFACTION AMONG BACCALAUREATE STAFF NURSES IN HOSPITALS

Beth J. Sleightholm Cairns . Catherine E. Cragg

What are the sources of job satisfaction and dissatisfaction among baccalaureate nurses who are working as general duty staff in hospitals?

As nursing moves toward its goal of baccalaureate preparation for entry to practice, increasing numbers of nurses with degrees will be hired by hospitals, the largest source of nursing jobs. At present, nurses with degrees are proportionately under-represented in the ranks of general duty nurses. With greater numbers of baccalaureate nurses in the workforce, the nursing job options away from the bedside will be more limited. Job satisfactions and dissatisfactions among general duty baccalaureate nurses must be identified in order to promote a work environment that encourages them to stay. Otherwise, hospitals run the risk of wasting human resources through discontented employees and flight from the profession.

Review of the Literature

A great deal has been written recently about job satisfaction and dissatisfaction among nurses, focusing mainly on staff nurse turnover (Brief, 1976; Castiglia, McCausland, & Hunter, 1983; Fogarty, 1980; Hinshaw & Atwood, 1983; Kramer, 1974; Ruffing, Smith, & Rogers, 1984; Wandelt, Pierce, & Widdowson, 1981; Weisman, 1982; Wolf, 1981). Hall, VonEndt, and Parker (1981) have conceptualized job satisfaction as, "a fluctuating attitudinal state of an individual that is derived from subjective perceptions of situational factors. The perception is subjective because people have varying expectations of what they will receive from a work situation. Satisfaction thus becomes the balance between what one expects and what one receives" (p. 30). Herzberg (1966) observed that satisfaction and dissatisfaction were not mirror images. Hygiene factors were identified as dissatisfiers and intrinsic factors were more often satisfiers.

The expectations that the nurse brings to her job are important determinants of satisfaction and turnover. Price and Mueller (1980) found

Beth J. Sleightholm Cairns, R.N., B.Sc.N., M.A., and Catherine E. Cragg, R.N., B.Sc.(N), M.Ed. are assistant professors in the Faculty of Nursing at the University of Western Ontario, London.

Nursing Papers/Perspectives en nursing 1987, 19(1), 15-29

that the intention to stay had the largest impact on turnover. Kramer (1974), in her study of nurses suffering what she called "reality shock", found that the discrepancy between the values and expectations that student nurses learned in school and the realities of the job produced an intense emotional reaction and flight from the profession.

Brief (1976) points out that nursing schools raise expectations among nurses that their education will be used on the job. Since many nurses feel they cannot use the skills they gained in school, they become frustrated and dissatisfied. Wandelt et al. (1981) found that when nurses' expectations about conditions like adequate staffing, recognition for professional contribution, and autonomous control over professional practice were not met, they tended to drop out of the profession. Friss (1981, 1982) states that the hiring organization and the worker must establish a contractual "fit" so that the expectations of both are compatible.

In most of the literature on nurses' job satisfaction, little differentiation is made on the basis of educational background. Many investigators found that the responses of baccalaureate nurses were similar to those of nurses with diplomas or associate degrees (Burton & Burton, 1982; Carlsen & Malley, 1981). DiMarco and Hilliard (1978) concluded that, for staff nursing and team leading, baccalaureate nurses had no "edge" over technically prepared nurses. Weisman, Alexander, and Chase (1980) found no difference in the job satisfaction of baccalaureate nurses, but concluded tentatively that larger numbers of them in a job setting may promote job satisfaction. However, Alexander, Weisman, and Chase (1982) found that baccalaureate nurses perceived themselves as having less autonomy in their jobs. Castiglia et al. (1983) found them to be the most dissatisfied group in their sample and Fogarty (1980) found that baccalaureates were disproportionately likely to be inactive. No studies have focused on whether baccalaureate nurses show unique patterns of job satisfaction and dissatisfaction.

The review of the literature indicated further questions to explore. Is there a fit between the expectations engendered in university and the realities of the job? If, as Fogarty (1980) discovered, baccalaureates perform similarly to diploma nurses in staff/team leader roles, do the nurses with degrees question why they have been more highly educated? Do hospitals allow baccalaureate nurses to practise as they have been taught, or are they still suffering the "reality shock" Kramer (1974) identified more than ten years ago? How are those baccalaureate nurses who choose to work in hospitals finding satisfaction and what are their greatest sources of dissatisfaction?

Conceptual Framework

The conceptual framework for the study, based on conclusions derived from the literature, is predicated on the beliefs that there must be an

appropriate fit of nurse expectations and hospital work realities for nurses to feel satisfied (see Figure 1). Nurses' expectations are influenced by educational preparation, psychomotor and interpersonal skills and the individual attitudes and circumstances they bring to the job. The hospital realities include organizational structure, definition of the job, interpersonal climate and working conditions and benefits. The intrinsic rewards of the general duty position depend on the nurses' ability to apply their education and skills, and the recognition they receive within that institution. The extent to which the nurses' expectations match the job realities will influence their sense of satisfaction or dissatisfaction with the general duty position.

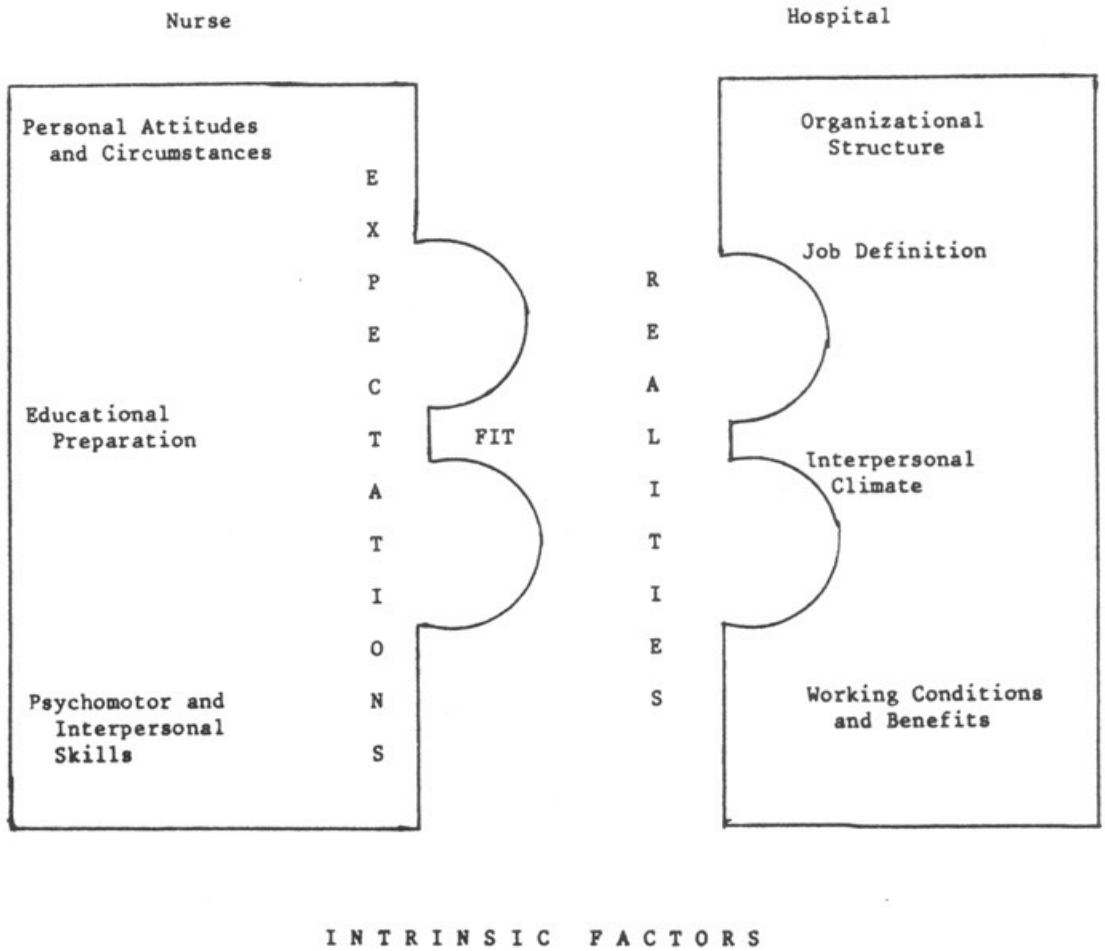

Figure 1: Conceptual Model

Many factors contribute to satisfaction or dissatisfaction among nurses. Five factors were identified from the literature as being likely to contribute to the sense of fit between expectations and the job.

1. *Job condition factors.* These include things like pay, benefits, working hours and conditions, vacations and pensions (Bechtold, Szilagyi,

& Sims, 1980; Benton & White, 1972; Brief, 1976; Burton & Burton, 1982; Decker, 1985; Friss, 1981; Hall et al., 1981; Ruffing et al., 1984; Slavitt, Stamps, Piedmont, & Haase, 1978).

2. *Intrinsic factors.* These are inherent characteristics of the job such as variety, autonomy, interest, creativity, importance, ability to use skills, recognition, and ability to perform professional functions (Bechtold et al., 1980; Brief, 1976; Burton & Burton, 1982; Castiglia et al., 1983; Decker, 1985; Fogarty, 1980; Friss, 1981; Hall et al., 1981; Slavitt et al., 1978).

3. *Organizational factors.* These include how delivery of nursing care is organized, decentralization of decision making, policies and procedures, support services available, and the definition of the role of the nurse (Alexander et al., 1982; Bechtold et al., 1980; Brief, 1976; Burton & Burton, 1982; Carlsen & Malley, 1981; Hall et al., 1981; Ruffing et al., 1984; Slavitt et al., 1978; Shoemaker & El-Ahraf, 1983).

4. *Interpersonal relationships.* These include relationships with peers, supervisors, doctors and other departments, and the sense of functioning in an effective nursing or multidisciplinary team (Bechtold et al., 1980; Benton & White, 1972; Burton & Burton, 1982; Castiglia et al., 1983; Decker, 1985; Hall et al., 1981; Ruffing et al. 1984; Slavitt et al., 1978).

5. *Personal factors.* The nurse's personal life and characteristics have also been identified as contributing to satisfaction. Age, length of time on the job, educational level, intention to stay at the job and family responsibilities are all involved (Alexander et al., 1982; Brief, 1976; Burton & Burton, 1982; Decker, 1985; Fogarty, 1980; Ruffing et al., 1984).

Method

Since no researchers specifically focused on the sources of job satisfaction among baccalaureate nurses, the investigators decided to explore this particular group's attitudes towards the job. The factors constituting job satisfaction and dissatisfaction were identified by collecting qualitative data in a pilot study to determine how degree nurses within one institution perceive hospital staff nursing. After the themes important to this group have been identified, the researchers can select appropriate instruments, or, develop tools for assessing the attitudes of larger samples.

Semi-structured interviews were conducted with nurses with baccalaureate degrees, who had at least one year of general duty experience. Following collection of demographic data, non-directive questions allowed the subjects to contribute their impressions. They were then asked specific questions about the five categories of factors identified in the framework and about the fit between their education and the job realities.

There were three groups of subjects. The first was a convenience sample of ten baccalaureate nurses, working as general duty staff in a hospital. They represented the majority of nurses in the institution who met the sample selection criteria. Another ten baccalaureate nurses in the same hospital who had left staff positions were interviewed in order to determine whether they viewed the job differently. Because the data collected from all the hospital-based subjects showed similar patterns, a third group of five baccalaureate nurses who had left the hospital were interviewed to see if they gave different responses.

All subjects had generic or post-RN degrees in nursing and had worked as staff nurses in a general hospital for more than one year. They were identified through the records of their employers, who made the initial contact. The employers did not know which nurses had participated in the study. All nurses consented to a taped interview. The 20 hospital-based subjects worked for a 600 bed teaching hospital located in an Ontario city of 270,000. Of those who had left the hospital, four worked for a community health agency in the same city and one had left nursing.

The two researchers conducted all interviews away from the work setting, at times and places convenient to the subjects. Interviews lasted 45 minutes to one hour.

The investigators independently analyzed transcripts of the taped interviews to identify common themes. Data were first sorted into broad general categories of satisfactions and positive statements, and dissatisfactions or negative comments about the job. Categories were further refined and the conclusions of the researchers compared. After categories were identified, the data were sorted a second time to ensure reliability of classification. After categorization of the raw data, the degree of congruence with the conceptual framework was assessed.

Characteristics of the sample

The sample consisted of 25 female Registered Nurses, graduates of seven Canadian university schools of nursing (see Table 1). All of the general duty staff worked in specialty areas such as intensive care units, delivery room, dialysis and the operating room. Fourteen of the 15 nurses who had left general duty nursing had worked in specialty areas. Thirteen nurses in the sample had previously worked in general medical/surgical areas.

The responses from all three groups of subjects were very similar. Data from generic and post RN subjects were not reported separately, because there were so few differences between them. The responses of the subjects as

Table 1

Characteristics of the Sample

Sample(n)=25

	General Duty n=10	Non-General Duty n=10	Out-of-Hospital n=5
Year of Graduation:			
Range:	1974-84	1973-84	1971-76
Age:			
Mean	27 years	32.5 years	34 years
Marital Status:			
Married	4	3	5
Single	6	6	
Divorced		1	
Number of Children	None	2	7
Generic or Post-RN	Generic – 9 Post-RN – 1	Generic – 7 Post-RN – 3	Generic – 2 Post-RN – 3
Number of Jobs Since Graduation:			
Mean	3	2	3
Number of Years in Nursing:			
Range	1-1/2 – 12	4 – 12	5 – 15
Mean	4	8	11
Full or Part-Time	Full-time	Full-time	1 Full-time 3 Part-time
Number of Years Spent Working General Duty:			
Range	---	3 – 11	2 – 5
Mean	---	6.8	3.7
Number of Years Elapsed Since Worked General Duty:			
Range	---	.5 – 4	5 – 12
Mean	---	1	8

Table 2

Categories of Sources of Job Satisfaction

Sample(n)=25

	General Duty n-10	Non-General Duty n=10	Out-of-Hospital n=5	TOTAL	Framework Factor
1. Patient Care	7	8	3	18	Intrinsic
-Families	3	2	1	6	
2. Mental Stimulation					
-"staying on top of things"					
-challenge					
-time management	4	9	3	16	Intrinsic
3. Team Work	4	7	3	14	Interpersonal
4. Primary Nursing	4	3	3	10	Organizational
5. Psychomotor Skills					
-techniques	1	2	3	6	Intrinsic
6. Autonomy/Decision Making Power	4	1	---	5	Intrinsic
7. Application of Knowledge	2	1	---	3	Intrinsic
8. Positive Reinforcement	---	2	---	2	Intrinsic
9. Supervisor who listens/supports	1	---	1	2	Interpersonal
10. Seeing the job through to the end	1	---	1	2	Intrinsic/ Organizational
11. Pay/Benefits	1	1	---	2	Job Conditions

Table 3

Categories of Sources of Job Dissatisfaction

Sample(n)=25

	General Duty n-10	Non-General Duty n=10	Out-of-Hospital n=5	TOTAL	Framework Factor
1. Shift Work/ Schedule	10	10	5	25	Job Condition
2. Pay	8	8	1	17	Job Condition
3. Lack of Positive Reinforcement	8	5	2	15	Intrinsic
4. Administration	7	6	1	14	Organizational
5. Staffing – too little	7	5	2	14	Organizational Job Condition
6. Lack of Autonomy/ Decision Making Power -lack of "say so" -lack of power & influence	9	3	1	13	Intrinsic
7. Lack of Team Work (Interdisciplinary Team)	5	5	2	12	Interpersonal
8. Boredom	2	7	2	11	Intrinsic
9. Responsibility -too little	2	---	---	2	Intrinsic
-too much	3	7	1	11	
10. Resistance of System to change	3	3	4	10	Organizational
11. No credit for education	6	2	1	9	Intrinsic
12. Stress	4	1	2	7	Intrinsic
13. Conflict – Diploma vs Degree Nurses	3	2	2	7	Interpersonal
14. Excessive Supervision	2	---	---	2	Organizational Interpersonal

they talked about their jobs provided a richness of impressions that is best conveyed in their own words. Direct quotations from the interviews have been used to illustrate the subjects' points of view.

Job Satisfactions and Dissatisfactions

The findings on job satisfaction were categorized as shown in Table 2. Nurses in all three groups identified patients as the greatest source of satisfaction. They made statements like: "Working with them, being with them, being able to care for them and help them is really important for me." Families were also frequently mentioned. The nurses felt they could assist family members to cope and to develop their own skills. When they discussed patients and families, they expressed intense caring. "A lot of cancer patients were there, and the feeling I developed and they developed because they stayed a long time – just the caring."

Mental stimulation was also an important source of satisfaction. "I like to be thinking all the time." "You have to use the knowledge taught you, handling all the situations that come your way, even the unexpected." Another aspect of mental stimulation was "the staying on top of things" that some of the nurses expressed in statements such as "getting through the chaos" and "being organized, going through the mental checklist." Those no longer at the bedside frequently mentioned team work, both nursing and interdisciplinary, as satisfying.

The job satisfactions were many and were enough to keep most of those at the bedside in the job. However, the dissatisfiers were even more numerous (see Table 3). All the nurses in all three groups said that shift work was a major dissatisfier. Some of them identified it as a major reason for leaving staff nursing. Those who remained at the bedside said that although they disliked shift work, it was not bad enough to make them quit.

The subject of pay was not spontaneously mentioned, but when asked about it, the subjects stated they were not paid enough compared to other careers which demanded less education and responsibility. Auto workers, teachers, and plumbers were mentioned in comparison.

Many of the nurses mentioned lack of autonomy and decision-making responsibility or feelings of powerlessness as sources of frustration. "We all feel somewhat helpless. Budget, staffing [sic] is all out of our control." "I was not as involved in decision making as I thought I would be." "You don't get listened to very often. . . . The Head Nurse didn't want to hear about it, or didn't have the time to deal with it, or just didn't care."

Other factors also contributed to dissatisfaction. The many statements

about lack of recognition indicated a need for positive reinforcement. Nursing administrators were seen as remote, dictatorial, and uninterested in staff nurses. Lack of staff was a constant problem. "More staff would allow us to give the care we should; it really stretches you out and pulls you too tight." Although mental stimulation was mentioned as a satisfier, boredom became a problem as the challenge wore off and as routines became evident. "It was very exciting initially, and there was a lot to learn. After a while, once you get the skills under your belt, the challenge goes away."

Several nurses reported that the amount of responsibility they were given as new graduates was overwhelming. However, many said that, as they gained experience, the responsibility was less than they were prepared to assume. Nurses who had left staff nursing stated that no one particular dissatisfier had led to their decision, although shift work was a major problem.

Expectations and Realities

The nurses interviewed had varying reports on the match between their expectations and the realities of the job. Even those who claimed to be prepared for the real world acknowledged that there were discrepancies between what they had learned in university and actual hospital employment. "What you learn in the university is the ideal. When you work general duty, you adapt those skills to the workplace, to the amount of time you have and the patient load." Working on medical-surgical units led several to seek transfers to intensive care units and other specialties because they felt they were more likely to use their education, continue their learning, and have a chance to make more autonomous decisions in these settings. "Working on medical-surgical units didn't give me the sense of intellectual fulfilment that I needed."

Several nurses described a naive belief, which they subsequently saw as unrealistic, that they could change things drastically as new graduates. "In my first nursing job I was going to move mountains. I thought the world was open to you and very receptive to you and your ideas. Really you are the low man on the totem pole and you stay that way." Even the post RNs who had returned to school to gain more autonomy reported they could not accomplish much at the general duty level.

Several generic graduates reported that they had never appreciated some of the unpleasant realities of working as a nurse. Shift work came as a shock to several. "I was so mad (at my university) for the first six months after I graduated. They never prepared me for this." The lack of time to provide care in the way they had been taught was also a problem. "I just couldn't get it all together and use what I had been taught because of the time element."

Many expressed disappointment at their inability to use some of the skills they had learned. "I found that as a staff nurse I wasn't changing much, or there seemed to be a lot of roadblocks," was one nurse's explanation for leaving the bedside. As one graduate put it, "In university, I was taught to think a lot for myself. When I came out I was expected to follow orders and policies, and there was no way you could bring new ideas if they didn't fit under policy."

The perceptions of the match between university preparation and the demands of the general duty position varied. The physical and biological sciences were cited as being very useful, although some said that they understood more than was expected of them by doctors, peers or supervisors. The social sciences were seen as being helpful in understanding the people with whom a nurse must work. Of the nursing curriculum, decision making and problem solving were identified as the skills most useful for staff nursing. Psychomotor skills were recognized as important, but many of the generic graduates felt their programs had not emphasized these enough.

Although university programs are supposed to be producing nursing leaders who will create changes at whatever level they function (ORCAUSN, 1981), change theory was least often seen as useful to staff nurses. Many of the respondents said that leadership skills were not useful because leadership was not part of the staff nurses' job. "A big danger to a university graduate is to try and assume that role when it is not yours. I didn't say a lot of things I wanted to because it wasn't my place and would be misinterpreted."

Fourteen of the nurses said they applied nursing theories in their practices. However, because examples they gave included group theory, asepsis, and transactional analysis, it is doubtful whether more than eight of them had any real sense of theory-based nursing practice. Only two reported using nursing theory in their practices. The most common attitude was, "You can understand the theorists and how they present their models but when you are faced with this many patients on this particular day, what you do is move from one patient to the next doing what needs to be done."

Uniqueness of baccalaureate nurses

Many of the satisfactions and frustrations expressed by the baccalaureate nurses reflect those of diploma graduates. The post RNs' descriptions of their first work experiences and difficulties were echoed by the generic graduates. However, some of the job dissatisfactions were unique to the baccalaureate graduate. There was a sense of frustration at not being able to apply what they had learned in university. "We are taught to think in a baccalaureate program and I am not sure, in all nursing jobs, you are

allowed to do that." "I think there is a lot a degree nurse can do at the bedside, contrary to public opinion: teaching, long-term planning, dealing with different services, dealing with the family, evaluating and adjusting care."

With the sense of frustration and annoyance came disillusionment. "I really like bedside nursing but I don't think the payoffs are worth it for me right now." "University prepared me for a career and I've realized that what I have now is a job." Perhaps the feelings expressed are not restricted to baccalaureate nurses but, because of their education, they have more career options which allow them to choose to remove themselves from the bedside.

There was a sense among the nurses that working general duty is an essential first experience and that staff nursing provides certain skills and background that are needed for other positions. It is a necessary *rite of passage*. "I was willing to make that sacrifice because I knew that there had to be that process of work experience for me to get to where I wanted to be." "I really think it's how you should start off, to gain some experience and then go on to teaching or administration. I've enjoyed being at the bedside and it really has prepared me to go on."

Even among those who chose to remain at the bedside, there was a question about whether their degree led to a different quality of care. Much of the discussion centred on whether degree prepared nurses should receive a pay differential. "I shouldn't be paid for my degree because anybody with an RN could be doing the same thing." "I am not sure I can expect different rewards because I have chosen this job that doesn't expect more."

However, some of the baccalaureate nurses felt cheated because they did see themselves as offering more in their patient care. "I feel I use my education whether I am at the bedside or teaching." "I try to include all the psycho-social and emotional aspects in the care of the patient. It can make you feel completely overloaded because you are trying to do more than the diploma graduate."

Relationship to the Conceptual Framework

The fact that many of the nurses felt that the education they brought to the job was not used and recognized indicates that the fit between their expectations and realities was lacking. The realities of organization and job conditions in hospital also did not fit their expectations. The compromises that had to be made because of time constraints, a rigid system that discouraged initiative and change, and demands for psychomotor skills that were not taught in university contributed to their disillusionment.

The classification by factors in the conceptual framework for each of the sources of satisfaction and dissatisfaction is included in Tables 2 and 3. Eight of the 12 job satisfiers were intrinsic factors. Among the 14 dissatisfiers, job conditions and intrinsic factors figured prominently. Personal factors were not cited by the subjects. Some of the concerns about shift work may have reflected personal factors, but were not expressed as such.

The satisfiers and dissatifiers were generally unrelated. As Herzberg (1966) indicated, maintenance factors tend to produce dissatisfaction, while intrinsic factors satisfy. The exception was autonomy and decision making, the only factors identified as both satisfiers and dissatisfiers. Those who felt they could not exercise autonomy in decision making were dissatisfied, while those who could make decisions were more satisfied.

Conclusions

Caution must be exercised in drawing conclusions from these data because a small convenience sample of volunteers, mainly from one hospital, was used. However, the subjects had worked as staff nurses in more than 15 general hospitals in four provinces. Further research, involving larger numbers of baccalaureate staff nurses in a variety of settings, is required before generalized conclusions can be drawn.

Implications for university schools of nursing include making sure that graduates have realistic expectations of staff nursing. Students should have more exposure to shift work, strategies for dealing with bureaucratic organizations, and help in applying nursing theories in busy situations.

Implications for hospitals which are interested in attracting and keeping baccalaureate nurses include improving the intrinsic factors. It can be anticipated that, with larger numbers of nurses with degrees, there will be some frustration at having to stay at the bedside, if conditions there remain as they are. The policies that limit the decision-making and care-planning roles of the bedside nurse must be examined in the light of the preparation of baccalaureate practitioners. "Degree nurses have to be recognized for their strengths and involved more in decision-making processes." However, they still need support through the transition from student to professional. Job condition factors must also be examined. More flexibility in scheduling of work should be considered.

None of the nurses felt that the dissatisfiers could be entirely eliminated, but many of them felt that the job could be improved. "To be involved in projects to let us grow. You're not just left at the bedside and not able to get involved. Sitting on different committees, not just going in 7 to 3 and

doing patient care." The feelings of many of the nurses were summed up by one who said: "Ultimately if hospitals want their nurses to be brighter, they'd better give them some more credit."

REFERENCES

Alexander, C.S., Weisman, C.S., & Chase, G.A. (1982). Determinants of staff nurses' perceptions of autonomy within different clinical contexts. *Nursing Research, 31*, 48-52.

Bechtold, S.E., Szilagyi, A.D., & Sims, H.P. (1980). Antecedents of employee satisfaction in a hospital environment. *Health Care Management Review, 5*(1), 77-78.

Benton, D.A., & White, H.C. (1972). Satisfaction of job factors for registered nurses. *Journal of Nursing Administration, 2*(6), 55-63.

Brief, A.P. (1976). Turnover among hospital nurses: A suggested model. *Journal of Nursing Administration, 6*(8), 55-58.

Burton, C.E., & Burton, D.T. (1982). Job expectations of senior nursing students. *Journal of Nursing Administration, 12*(3), 11-17.

Carlsen, R.H., & Malley, J.D. (1981). Job satisfaction of staff registered nurses in primary and team nursing delivery systems. *Research in Nursing and Health, 4*, 251-260.

Castiglia, P.T., McCausland, L., & Hunter, J. (1983). Blowout: An alternative conceptual approach to nursing turnover. In B. Bullough, V. Bullough, & M.C. Soukup, (Eds.), *Nursing issues and nursing strategies for the eighties* (p. 55-70). New York: Springer.

Decker, F.H. (1985). Socialization and interpersonal environment in nurses' affective reactions to work. *Social Sciences & Medicine, 20*, 499-509.

DiMarco, N., & Hilliard, M. (1978). Comparisons of associate, diploma and baccalaureate degree nurses' state board, quality of patient care, competency rating, supervisor rating, subordinates' satisfaction with supervision and self report of job satisfaction scores. *International Journal of Nursing Studies, 15*, 162-170.

Fogarty, B.E. (1980). Employment activity of baccalaureate and diploma nurses. *Research in Nursing and Health, 3*, 95-100.

Friss, L. (1981). An expanded conceptualization of job satisfaction and career style. *Nursing Leadership, 4*(4), 13-22.

Friss, L. (1982). Hospital nurse staffing: An urgent need for management reappraisal. *HCM Review, 7*(1), 21-27.

Hall, B.A., VonEndt, L., & Parker, G. (1981). A framework for measuring satisfaction of nursing staff. *Nursing Leadership, 4*(4), 29-33.

Herzberg, F. (1966). *Work and the nature of man.* New York: World Publishing.

Hinshaw, A.S., & Atwood, J.R. (1983). Nursing staff turnover, stress, and satisfaction: Models, measures, and management. *Annual Review of nursing Research, 1*, 133-153.

Kramer, M. (1974). *Reality shock: Why nurses leave nursing.* St. Louis: Mosby.

Ontario Regional Canadian Association of University Schools of Nursing (ORCAUSN). (1981, June). Position statement on baccalaureate education in nursing.

Price, J.L., Mueller, C.W. (1980). *A causal model of turnover estimated for nurses*. Iowa City: University of Iowa, Department of Sociology.

Ruffing, K.L., Smith, H.L., & Rogers, R. (1984). Factors that encourage nurses to remain in nursing. *Nursing Forum, 21*(2), 78-85.

Shoemaker, H., & El-Ahraf, A. (1983). Decentralization of nursing service management and its impact on job satisfaction. *Nursing Administration Quarterly, 7*(2), 69-76.

Slavitt, D.B., Stamps, P.L., Piedmont, E.B., & Haase, A.M. (1978). Nurses' satisfaction with their work situation. *Nursing Research, 27*, 114-120.

Wandelt, M.A., Pierce, P.M., & Widdowson, R.R. (1981). Why nurses leave nursing and what can be done about it. *American Journal of Nursing, 81*(1), 72-77.

Weisman, C.S. (1982). Recruit from within: Hospital nurse retention in the 1980s. *Journal of Nursing Administration, 12*(5), 24-31.

Weisman, C.S., Alexander, C.S., & Chase, G. (1980). Job satisfaction among hospital nurses: A longitudinal study. *Health Services Research, 15*, 341-364.

Wolf, G.A. (1981). Nursing turnover: Some causes and solutions. *Nursing Outlook, 29*, 233-236.

RÉSUMÉ

Sources de satisfaction et de mécontentement chez les infirmières titulaires d'un baccalauréat qui travaillent dans les hôpitaux

Cette étude descriptive pilote a pour but d'analyser, chez les infirmières qui ont une formation universitaire, leur niveau de satisfaction et de mécontentement au travail. Des entrevues semi-structurées ont été menées auprès de 25 infirmières titulaires d'un baccalauréat qui travaillaient depuis au moins un an dans un service de médecine d'un hôpital général. Dix faisaient actuellement partie du personnel infirmier, dix avaient quitté le chevet des malades mais demeuraient à l'hôpital et cinq avaient quitté l'hôpital. Les réponses quant aux niveaux de satisfaction et de mécontentement sont analogues pour les trois groupes. Les critères de satisfaction les plus importants sont des facteurs intrinsèques comme les soins dispensés aux malades et la stimulation mentale. Les conditions de travail comme le travail par quart et des facteurs intrinsèques comme l'absence d'autonomie sont les principaux critères de mécontentement. On note une certaine divergence entre ce qui a été enseigné à l'université et ce que les infirmières jugent utile dans le cadre de leurs fonctions générales. Les sciences physiques et sociales sont perçues comme très utiles. Les théories du nursing ne sont généralement pas appliquées dans la pratique. Les titulaires d'un baccalauréat déplorent particulièrement le peu d'autonomie et de pouvoir décisionnel qu'on leur accorde et le manque d'opportunité de pratique les connaissances et compétences qu'elles ont acquises à l'université. Malgré les limites dues à la taille et au milieu de l'échantillon, il est possible de dégager certaines retombées que cette étude pourrait avoir sur l'enseignement universitaire et sur les hôpitaux qui emploient des infirmières titulaires d'un baccalauréat.

CALL FOR ABSTRACTS

The North American Nursing Diagnosis Association (N.A.N.D.A.) announces a Call for Abstracts of research in the area of nursing diagnosis, for presentation at the Eighth Conference on Classification of Nursing Diagnoses, "Nursing Diagnosis: Forging the Link Between Theory and Practice", to be held in St. Louis, Missouri from March 12-16, 1988.

The deadline for submission is September 5, 1987. To receive a form and guidelines, write to Debi Folkerts, Executive Secretary, N.A.N.D.A., St. Louis University School of Nursing, 3525 Caroline Street, St. Louis, MO 63104. Telephone: (314) 577-8954.

EIGHT- AND TWELVE-HOUR SHIFTS AND WELL-BEING AMONG HOSPITAL NURSES

Eileen McPhail Jennings . Alfred W. Rademaker

Nursing is one of the professional occupations that involves work over the 24-hour period. As length of shift changes we should be aware of the effect on the persons involved. It is important that schedules allow the nurse to balance her personal and professional responsibilities, in order to be able to manage the inherent stresses of her job (McGillick, 1983). A work schedule can enhance non-work time by providing blocks of time that permit a greater variety of activities and provide support and encouragement through increased contact with family and friends (Cunningham, 1982). In recent years, many hospitals across Canada have experimented with various types of shift (S.C. Wynn, personal communication, October 28, 1980). One of the most common shifts implemented on nursing units is the 12-hour shift.

The main objective of this study is a comparison of 8- and 12-hour shifts.

Literature Review

Studies of the 12-hour shift, for the most part, have fallen victim to what is termed "missionary zeal" (Hellreigel, 1972). The articles are filled with opinion, hope and short-term results, rather than with sound research and long-term results. It may take as long as a year before adjustment to a new schedule has stabilized into a predictable pattern (Nord & Costigan, 1973; Swimmer, 1974).

An area equally lacking in information is that concerning women shift workers (Colligan, 1980; Harrington, 1978). They almost exclusively fill some occupations, nursing being one of the most notable. Åkerstedt, Fröberg, Levi, Torsvall, and Zamore (1977), in reporting the results of a series of Scandinavian studies of shift work, noted differences between men and women. Women experienced less fatigue and had a more favourable attitude toward shift work, but had a higher absence from work. Charles and

Eileen McPhail Jennings, RN, M.Sc., is a research assistant in the Faculty of Nursing, at the University of Calgary. Alfred W. Rademaker, Ph.D., is Adjunct Associate Professor in the Department of Community Health Sciences, Faculty of Medicine, at the University of Calgary.

Nursing Papers/Perspectives en nursing 1987, 19(1), 31-44

Brown (1981) noted that women work nights without any fundamental transformation in the sexual division of labour, so those with families meet the (daytime) needs of their children at the expense of their own well-being.

Studies of the various patterns of shift work have shown it to have a negative effect on family and social life (Finn, 1981; Maurice, 1975; Staines & Pleck, 1984), and there is growing evidence that psychosocial factors supersede physical factors in the choice of hours of work (Colligan, 1980; Harrington, 1978; Maurice, 1975; Tasto, Colligan, Skjei, & Polly, 1978; Wojtczak-Jarowzowa, 1978). While the physical aspects of shift work should not be overlooked, more attention should be paid to psychosocial factors.

Another finding is that approximately 20% of all shift workers never adapt to shift work and must, therefore, leave it (Harrington, 1978; Tasto et al., 1978; Thiis-Evensen, 1958).

These findings highlight the necessity for greater understanding of whether certain shift schedules provide a better balance between a nurse's job demands and psychosocial needs.

In three Canadian studies (Eaton & Gottsleig, 1980; Hibberd, 1973; Stinson & Hazlett, 1975), pretest/posttest comparisons were made of nursing staff switching from the 8- to the 12-hour shift. In the two earlier studies the 12-hour shift was implemented on a trial basis. Hibberd's (1973) findings showed that patient care and cost of staffing were not affected by the 12-hour shift, but job satisfaction, as measured by a self-developed Job Satisfaction Questionnaire, was lower in the 12-hour groups and that the staff did not like the new schedule. In Stinson and Hazlett's (1975) study, work satisfaction and physician opinion were not adversely affected by the 12-hour shift and the majority of nursing staff were in favour of the new schedule. Work satisfaction, health, fatigue and alertness levels, and quality of care were not adversely affected by the 12-hour shift in the third study (Eaton & Gottsleig, 1980). In fact, several significantly positive items were associated with the 12-hour shift and nursing staff wished to continue with their new schedule.

This study differs from the previous studies in that it did not ask staff to compare the 8- and 12-hour shifts. It was presented as a survey of the work environment. Twelve of the 16 units involved had been on their respective schedules for longer than a year and had not requested a change in their shift length. The remaining four units had requested a change from the 8- to the 12-hour shift. At the time the study was initiated, the outcome of these requests and the timing of that decision were unknown to both the units involved and the writers.

Purpose

The purpose of this project was to determine the effect of 8- and 12-hour shifts on the well-being of staff nurses, and whether schedule dissatisfaction and the outcome of the changeover requests differentiated that group of units from the other two groups.

Definitions

Well-being: the physical, mental, and social health of the subjects as measured by the instruments used in this survey.

Established shift: those units where a shift has been in effect for longer than a year and where there has been no request for a shift change.

Unestablished shift: those units where there has been a request for a shift change.

Quality of Work Life (QWL): the quantitative score of the difference between the (perceived) existing work environment and the desired work environment. The smaller the difference (i.e., the closer the fit), the higher the assumed quality of work life. QWL is viewed as the antithesis of stress; stress being the perceived disparity between the existing and desired situations.

Quality of Social Life (QSL): similar to QWL, except that it measures the social environment.

Research questions

Research Question 1: Are there any differences between the groups with established 8- and 12-hour shifts for the following clusters of variables: job satisfaction; aspects of the work and off-work environments; sickness absence; use of drugs; sleeping and eating patterns; fatigue or mental well-being?

Research Question 2: Do the groups with an established shift exhibit greater well-being than the groups with an unestablished shift? Specifically, do they have greater job satisfaction and mental well-being or healthier eating and sleeping patterns? Are they happier with aspects of their work and off-work environments? Do the established shifts groups manifest less sickness absence, use of drugs, and fatigue?

Research Question 3: Do the groups with an established shift change over time in any of the following clusters of variables: job satisfaction; QWL

total; sickness absence; use of drugs; desired minus actual hours of sleep; or mental well-being.

Research Question 4: Does denial of the request for changeover result in decreased well-being in Group 3 (those with an unestablished shift) as measured by the clusters of variables cited in the latter research question?

Method

Subjects

The subjects, a convenience sample of all permanent part-time and full-time staff nurses employed on 16 nursing units of a large, metropolitan teaching hospital, participated voluntarily in the project. Anonymity and confidentiality were assured.

These subjects formed three groups. Group 1 was composed of nurses from five medical and surgical units on the 12-hour shift. Typically, their 12-hour schedule consisted of two to three days on duty, alternating with two to three days off duty, and every second weekend off. Units in Group 1 had adopted the 12-hour shift more than a year prior to the study period; none of the staff had requested a return to the 8-hour shift. Group 2 included nurses from seven medical and surgical units on the 8-hour shift. Their schedule routinely provided for staff to have every third weekend off, but they might work as long as seven days consecutively. The nursing units in Group 2 had been on this 8-hour shift for some time and staff had not requested a change to the 12-hour shift. These two groups are defined as having an established shift.

Group 3 consisted of nursing staff from four units on the 8-hour shift who had requested a change to the 12-hour shift. This group is defined as having an unestablished shift. Two of these units were medical, one was medical-surgical, and the fourth, an obstetrics and gynecology unit, was included because a larger sample size was favoured over possible differences attributable to work settings or technology. The 8-hour schedules for Group 3 are similar to those of Group 2.

The rationale for the division of staff working 8-hour shifts into Groups 2 and 3 was as follows. First, it did not seem that an equitable comparison of 8- and 12-hour shifts could be made when one group consisted only of units apparently satisfied with their shift and the other group consisted of units holding a conflicting view about their hours of work. Secondly, a recognition of two groups with different satisfactions permitted measurement of the effect of the decision regarding the changeover request

on the well-being of the units. This changeover decision determined the timing of the data collection.

Measures

Well-being was measured by the Work Environment Survey (WES). This survey consisted of two complete questionnaires: the *Worker Opinion Survey* (Cross, 1973), referred to as the Employee Opinion Survey, or EOS, in this study; and the *General Health Questionnaire* (Goldberg, 1972). Questions taken from studies by the Quality of Life Study Group (1978) and by Tasto et al. (1978) were also used. Four questions, designed by the author, were added. These items were not pretested and were not included in the total scores.

The WES consists of five sections, the first of which encompasses job satisfaction (the EOS). Measures for this section provided for a total score as well as subsection scores on: EOS 1 – the organization as a whole, EOS 2 – pay, EOS 3 – opportunities for promotion, EOS 4 – the job itself, EOS 5 – the immediate superior, and EOS 6 – the people with whom the respondent works. This section has seven variables.

In the second section the respondent was asked to rate various aspects of her work and off-work environments, using a 0 – 10 scale. These same questions were repeated in the fourth section, but were phrased to elicit the desired rather than the actual situations. The absolute difference between the two scores for each item provides measures for the Quality of Work Life (QWL) or the Quality of Social Life (QSL). This section has 35 variables.

The third section focuses on the subject's rating of: her general health; her use of drugs (including her use of pain killers, caffeinated beverages, cigarettes, and alcohol); her eating patterns; her sleeping patterns; and her mental well-being (MWB). This section has 41 variables.

Questions in the fifth and final section of this survey gather socio-demographic data on the subject's age, living arrangement, child care responsibilities, hours of work, and choice of clinical area.

Internal reliability coefficients on the *Worker Opinion Survey* subscales range from .69 to .84 on the female population tested. While no test-retest reliability coefficients are given in the literature, Cross (1973) indicates that test-retest reliability is likely to reach acceptable levels, "in view of the high degree of internal consistency" (p. 200). There is some evidence of construct validity. When the total and subscores were correlated with a Hoppock-type global measure of job satisfaction, the total score had a correlation coefficient of .58. The highest correlation was for "the job itself" (.63).

Evidence about the concurrent validity of the subsamples was obtained from a subsample of women who were also interviewed (Cross, 1973, pp. 201-202). The *General Health Questionnaire* was shown to have a test-retest reliability of .77 on outpatients and .53 on doctors. The split-half reliability was .92. Concurrent validity was obtained in the United States (.80 in greater Philadelphia) and in Great Britain (.72 at St. Thomas Hospital, London). No reliability or validity data were available for the other portions of the survey.

Procedure

The initial data collection for baseline data on Groups 1, 2, and 3 occurred after all of the units had been on their respective schedules for over a year (see Figure 1). It was also after the four units in Group 3 had requested a changeover to the 12-hour shift. A second and final data collection for all groups was initiated four and a half months later, two weeks after the changeover request was denied. The same questionnaire was used at both times. Participant recall was not considered to be a problem because of the questionnaire format and time span. To control for biased response set, staff were not told that the data would be used to compare 8- and 12-hour shifts.

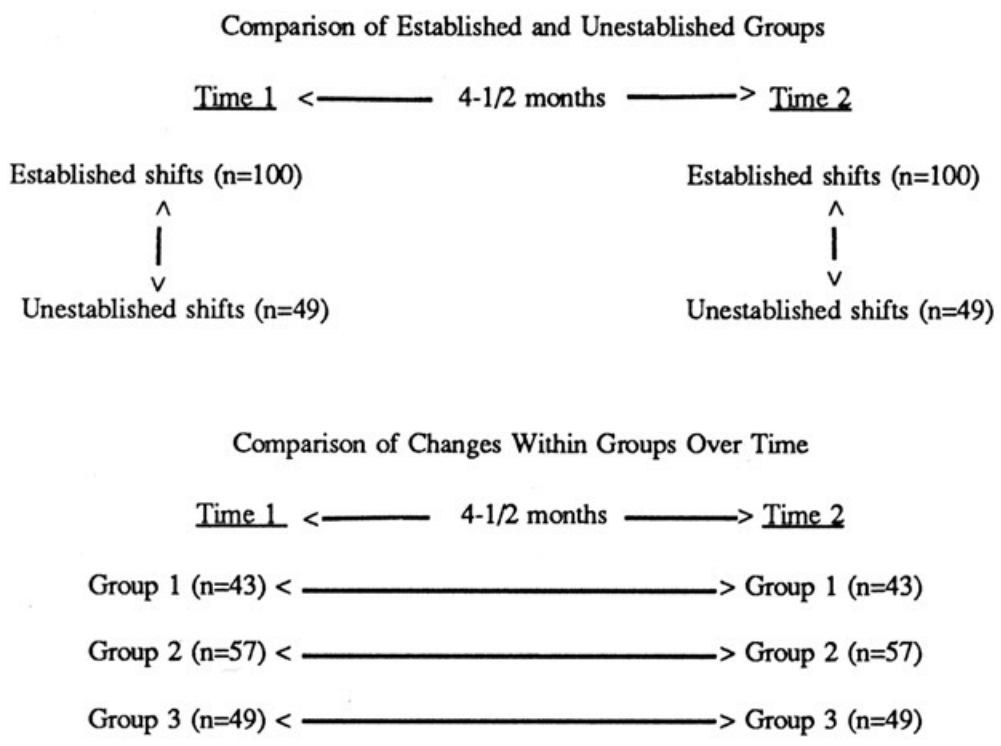

Figure 1: Study Design

Table 1

Means and Standard Errors for the Job Satisfaction (EOS) Variables, the Quality of Work Life (QWL) Total and the Mental Well-being (MWB) Score for Groups 1, 2, and 3 at Times 1 and 2*

TIME 1

	Group 1			Group 2			Group 3	
Variables	n	Mean	SE	n	Mean	SE	n	Mean	SE
EOS 1	42	11.33	.98	55	10.53	.87	49	9.80	.83
EOS 2	42	6.81	.94	56	4.55	.68	49	3.61	.76
EOS 3	42	10.52	.82	56	9.71	.79	49	8.86	.84
EOS 4	42	20.19	.47	56	17.71	.67	49	19.16	.65
EOS 5	42	19.95	.79	56	19.77	.65	49	20.14	.65
EOS 6	42	21.05	.56	56	20.57	.55	49	22.80	.30
EOS total	41	89.37	2.64	55	82.89	2.57	49	84.37	2.45
QWL total	42	25.45	1.24	55	28.53	1.26	47	29.15	1.53
MWB score	43	49.63	1.40	56	53.14	1.43	47	52.28	1.28

TIME 2

	Group 1			Group 2			Group 3	
Variables	n	Mean	SE	n	Mean	SE	n	Mean	SE
EOS 1	42	8.64	.88	53	10.57	.83	49	8.63	.69
EOS 2	40	3.60	.65	53	4.36	.66	47	4.28	.81
EOS 3	43	8.98	.79	51	8.73	.83	48	7.50	.84
EOS 4	42	18.55	.73	54	18.65	.81	49	18.37	.62
EOS 5	43	17.19	1.13	53	19.00	.83	49	19.96	.66
EOS 6	43	22.19	.44	55	20.04	.62	48	22.13	.49
EOS total	39	79.15	2.78	48	82.06	3.03	45	80.20	2.35
QWL total	43	27.61	1.47	55	26.66	1.21	46	26.09	1.33
MWB score	42	52.14	1.39	54	53.15	1.53	49	54.33	1.59

*The possible ranges of the scores are: EOS variables, 0 to 24; EOS total, 0 to 144; QWL total, 0 to 130; MWB score, 30 to 120.

In order to obtain a more accurate measure of change, the respondents' questionnaires for the two data collections were paired. Each head nurse kept a list which matched the respondent's name to a questionnaire number. For the second data collection she was sent questionnaires with the same

numbers to distribute according to her list. This list was then destroyed. Completed questionnaires were sent directly to the researcher in a sealed envelope, thus assuring anonymity.

Initially, a total of 273 questionnaires was given to staff nurses; 228 were returned, a response rate of 84%.

At the time of the second data collection only 202 of the original respondents were available: 155 replied, a response rate of 77%. As six of these questionnaires could not be used, the total number of questionnnaires in the final analysis was 149 (Group 1 = 43, Group 2 = 57, and Group 3 = 49). Of these respondents, 61% were aged 29 or less, 68% were living with a partner, and 74% did not have children.

Table 2

Results of Paired t Test Comparing Times 1 and 2 on Selected Variables from the Work Environment Survey for Groups 1, 2 and 3

Variables	Group 1			Group 2			Group 3		
	n	T	p*	n	T	p*	n	T	p**
EOS 1	42	2.72	.01	52	.20	.84	49	1.56	.07
EOS 2	39	2.45	.02	52	.63	.53	47	-.93	.18
EOS 3	42	1.69	.10	50	.66	.52	48	2.10	.02
EOS 4	40	2.32	.03	53	-.92	.36	49	1.14	.13
EOS 5	42	2.91	.01	52	1.07	.29	49	.27	.40
EOS 6	42	-2.03	.05	54	1.01	.32	48	1.70	.05
EOS total	38	3.31	.00	47	.67	.51	45	2.03	.03
QWL total	41	-1.44	.16	53	1.10	.28	45	2.41	.01
MWB score	42	-1.94	.06	54	-.11	.91	47	-1.28	.11

p* values given are for two-tailed probability.
p** values given are for one-tailed probability.

The data obtained from the WES were analyzed to compare differences in well-being among Groups 1, 2, and 3 at the two points in time. Tables 1 and 2 show the results of selected items. These analyses were to detect differences between the established 8- and 12-hour shifts as well as to determine whether the effects of schedule dissatisfaction and subsequent request denial differentiated Group 3 from the other two groups. Analysis of

variance was carried out on responses to questions having continuous variables: the EOS, QWL, and QSL items, as well as 23 of the items in the general health section. Discrete variables, the remaining 18 items in the general health section, were analyzed by cross-tabulation, using a chi-square test of significance. A two-tailed, paired t test was used to compare Groups 1 and 2 between the two data collection periods, for selected measures. It was assumed that these two groups would not change over time.

In the same manner, Group 3 was examined. However, a one-tailed, paired t test was used, as a decrease in well-being was expected to occur due to the denial of this group's request.

For all tests of significance, alpha was set at 0.05.

Results

Research Question 1: Are there any differences between the groups with established 8- and 12- hour shifts?

A total of 83 variables were each compared at two points in time (i.e., 166 statistical tests). The significant variables were not abundant in any cluster and there were only four at Time 1 and four at Time 2; that is, about the number expected by chance. It is indirectly inferred, therefore, that no significant difference exists between the groups with established 8- and 12-hour shifts.

Research Question 2: Do the groups with an established shift exhibit greater well-being than the groups with an unestablished shift?

To answer this question, Groups 1 and 2 were combined and compared with Group 3, the staff who had requested the changeover. The difference in size between the two comparison groups was taken into consideration in the statistical analysis. Of the 83 variables compared at the two times, only four were significant at Time 1 and two were significant at Time 2. These results indicated that, overall, there does not appear to be any difference between the established and unestablished shift groups in any of the clusters of variables.

Research Question 3: Do the groups with an established shift change over time?

Group 1, the 12-hour shift, showed a significant difference over time in total job satisfaction. Group 2 showed no significant difference in any of the job satisfaction variables. The only significant difference found in this group was from the general health section – the number of days that staff took off work because they were "just not feeling well."

Research Question 4: Does denial of the request for changeover result in decreased well-being in Group 3?

Like Group 2, the number of staff in Group 3 who took a day off work because they were "just not feeling well" increased significantly. Group 3 members also indicated that they had less opportunity for promotion, were less satisfied with their co-workers and their job, but that their Quality of Work Life had improved over time. This apparent contradiction between QWL and job satisfaction appears to be attributable to a lowering of work expectations (the "desired" score).

The results for these four research questions indicated whether the WES scores differed between groups or changed over time. The overall ratings, based on the total sample response, indicated that the nurses who completed the WES showed much dissatisfaction with their job, especially with regard to the organization, opportunities for promotion and pay.

In the QWL subsections, the items that showed the greatest disparity were: participation in job decisions, amount of salary, opportunities for promotion, credit for work and the organization's reputation in the community.

The similarity between the job satisfaction and QWL results emphasizes that staff rate some of their working conditions as poor; moreover, the intensity of their feelings about these same conditions is high.

Discussion

Shift differences

The results of Research Question 1 showed no significant difference between 8- and 12-hour shifts and well-being. It appears that there is only a difference in worker preference. As the many differing variables between studies precluded detailed comparison, some general comments are offered.

This study is in agreement with the three previous Canadian studies in that it concludes, from the results, that there appear to be no contra-indications for the use of 12-hour shifts. The overall absence of negative effects associated with the 12-hour shift supports the implementation of such a schedule where staff demand for it is great. However, the effect of the 12-hour shift on certain groups (e.g., working mothers) should be more fully explored.

The finding that there was no overall significant difference in job satisfaction is broadly consistent with that of Eaton and Gottsleig (1980)

and Stinson and Hazlett (1975), but contradicts Hibberd's (1973) finding that there was lower satisfaction in the 12-hour shift groups. As the finding that there was a significant difference between groups occurred in the pretest phase as well as the experimental phase of her study, the interpretation that these results related to shift differences is questionable.

Although the other two studies found no differences in work satisfaction, nursing staff in both studies wished to continue with the 12-hour shift. Mills, Arnold and Wood (1983) and Niemer and Healy (Price, Niemer & Healy, 1984) emphasize the value of the method of implementation (i.e., preplanning, staff involvement, and continual evaluation and modification) in gaining acceptance of a change in shift schedules. Price's (Price et al., 1984) example of the lack of success of a 12-hour shift that was imposed upon staff underscores this point.

The writer's study did not ask for shift preference, but used job satisfaction as an important measure of shift satisfaction. Wedderburn (1967) distinguishes between these variables by relating shift satisfaction to family and social life, and job satisfaction to working conditions. Therefore, an alternative approach would be to evaluate shift work by its effect on family and social life.

Change over time

For Group 1, job satisfaction decreased significantly over time, while in Group 2, sickness absence increased significantly. Either of these findings might be a result of growing annoyance with the lack of settlement in the nurses' contract under negotiation at the time.

In Group 3, the significant change that occurred in job satisfaction, QWL, and sickness absence might have been attributable either to nonsettlement of the nurses' contract or to the denial of the changeover request. If the former was the case, the variables affected should be the same for all three groups. It should be noted, however, that the 12-hour group was the only one that did not show a significant increase in sickness absence. If illness, which could not be controlled, had actually increased at Time 2, the 12-hour group would be less likely to be ill on a work day as they have a higher ratio of days off to days worked than the 8-hour groups. If the latter was true, the reaction was rather weak unless Group 3 members over the ensuing months, had come to expect that their request would be denied, or their feelings about the nonsettlement of their contract overshadowed their feelings about the request denial.

Quality of Work Life

The QWL scale, which measures the disparity between the existing and desired work situation, indicated that opportunities for promotion, participation in job decisions and credit for work were three of the areas of greatest concern. The disparity regarding opportunities for promotion is serious in light of the concern being expressed over nursing recruitment and the emphasis on nurses obtaining a baccalaureate degree (Alberta Hospital Association, 1980). The importance of allowing staff to participate in decisions concerning their work and of acknowledging work well done cannot be overemphasized.

Limitations

The data were collected using a convenience sample, thus limiting the generalization of results. As the WES lacks test-retest reliability, one is unable to determine whether any change in scores is attributable to unstable traits or to an attitudinal change on the part of the respondents. This is a fairly serious problem as it undermines the confidence that can be placed in the findings. Data from this study were not stratified to compare the respondents on the basis of their age, living arrangement or child care responsibilities. Such stratification, based on a larger sample size, may have shown different outcomes for different socio-demographic groups. The same reservation applies to the effect of these shifts on different types of nursing units, as the pace, type and technology of work areas are variable.

In summary, this study suggests no significant difference between the 8- and 12-hour shifts in terms of well-being of the staff nurse. Shift work, however, is only one aspect of the work environment, not a substitute for good working conditions. The results of this survey indicate that there are other equally important aspects needing attention. Providing nurses with increased participation in job decisions, more credit for their work and greater opportunity to utilize their capabilities also may do much to improve the quality of their work life.

This study was carried out while the first author was a Master's student in the Department of Community Health Sciences, The University of Calgary. It was supported by the National Health Research and Development Program of Canada (Award Number 6609-114-47). The authors thank Margaret Munro and Marlene Reimer for their helpful suggestions during the preparation of this article. Copies of the Work Environment Survey are available, upon request,with a self-addressed, stamped envelope, from: E. Jennings, 819 15th Street N.W., Calgary, Alberta, T2N 2B3.

REFERENCES

Åkerstedt, T., Fröberg, J., Levi, L., Torsvall, L., & Zamore, C. (1977, September). *Shift work and well-being* (No. 63b). Stockholm: Karolinska Institute, The Laboratory for Clinical Stress Research.

Alberta Hospital Association. (1980, November). *Nursing manpower: A study of factors in nursing supply and demand in Alberta hospitals and nursing homes*. Edmonton, Alberta: Author.

Charles, N., & Brown, D. (1981). Women, shiftwork and the sexual division of labour. *Sociological Review, 29*, 685-704.

Colligan, M. (1980). Methodological and practical issues related to shiftwork research. *Journal of Occupational Medicine, 22*(3), 163-166.

Cross, D. (1973). The Worker Opinion Survey: A measure of shop-floor satisfaction. *Journal of Occupational Psychology, 47*, 193-208.

Cunningham, J.B. (1982). Compressed shift schedules: Altering the relationship between work and non-work. *Public Administration Review, 42*, 438-447.

Eaton, P., & Gottsleig, S. (1980). Effects of longer hours, shorter week for intensive care nurses. *Nursing Outlook, 32*(4), 193-6.

Finn, P. (1981, October). The effects of shift work on the lives of employees. *Monthly Labour Review, 104*, 31-35.

Goldberg, D.P. (1972). *The detection of psychiatric illness by questionnaire: A technique for the identification and assessment of non-psychotic psychiatric illness*. London: Oxford University Press.

Harrington, J.M. (1978). *Shift work and health: A critical review of the literature*. London: Her Majesty's Stationery Office.

Hellreigel, D. (1972). The four-day work week: A review and assessment. *Michigan State University Business Topics, 20*, 39-48.

Hibberd, J. (1973, January). 12-hour shifts for staff: A field experiment. *Hospital Administration in Canada*, 26-30.

Maurice, M. (1975). *Shiftwork: Economic advantages and social costs*. Geneva: International Labour Office.

McGillick, K. (1983). Modifying schedules makes jobs more satisfying. *Nursing Management, 14*(12), 53-55.

Mills, M.E., Arnold, B., & Wood, C.M. (1983). Core-12: A controlled study of the impact of 12-hour scheduling. *Nursing Research, 32*, 356-361.

Nord, W., & Costigan, R. (1973). Worker adjustment to the four-day work week: A longitudinal study. *Journal of Applied Psychology, 58, 60-66*.

Quality of Life Study Group. (1978). *Quality of life in Saskatchewan*. Saskatoon: The University of Saskatchewan: Author.

Price, C.A., Niemeier, D.F., & Healy, S.A. (1984). The 12-hour shift: Is it viable? *Nursing Outlook, 32*, 193-196.

Staines, G.L., & Pleck, J.H. (1984). Nonstandard work schedules and family life. *Journal of Applied Psychology, 69*, 515-523.

Stinson, S., & Hazlett, C. (1975). Nurse and physician opinion of a modified work week trial. *Journal of Nursing Administration, 5* (7), 26-30.

Swimmer, D. (1974). Recent experience with the three or four day work week. In S.M.A. Hameed & G.S. Paul (Eds.), *Three or four day work week* (pp. 113-126). Edmonton: The University of Alberta, Faculty of Business Administration.

Tasto, D.L., Colligan, M.J., Skjei, E.W., & Polly, S.J. (1978). *Health consequences of shift work* (DHEW [NIOSH] Publication No. 78-154). Washington, DC: US Government Printing Office.

Thiis-Evensen, E. (1958). Shiftwork and health. *Industrial Medicine, 27*, 493-497

Wedderburn, A.A. (1967). Social factors in satisfaction with swiftly rotating shifts. *Occupational Psychology, 41*(2-3), 85-107.

Wojtczack-Jarowzowa, J. (1978). *Physiological and psychological aspects of night and shift work* (DHEW [NIOSH] Publication No. 78-113). Washington, DC: US Government Printing Office.

RÉSUMÉ

Quarts de 8 et de 12 heures en service hospitalier: effets sur le bien-être des infirmières

Une étude sur les effets des quarts de 8 et de 12 heures a fait l'objet principal de la présente recherche. On a mesuré le bien-être au moyen d'un questionnaire qui portait sur la satisfaction au travail, les habitudes d'alimentation et de sommeil, la fatigue et le bien-être mental. On a aussi demandé aux sujets d'évaluer les aspects de leur travail et les milieux hors du travail selon leur perception et leurs désirs. Les sujets, des infirmières permanentes à temps partiel et à temps plein de 16 unités d'un grand hôpital d'enseignement métropolitain, ont été divisés en trois groupes: (a) des infirmières travaillant par quarts de 12 heures; (b) des infirmières travaillant par quarts de 8 heures; et (c) des infirmières qui avaient demandé que le quart de 8 heures passe à 12 dans leur unité. Le questionnaire a été donné deux fois. La seconde collecte de données a été effectuée environ deux semaines après le refus de la demande de changement du troisième groupe. Les deux questionnaires remplis par chaque répondant ont été appariés et les réponses de 149 infirmières ont servi à des analyses comparatives. La comparaison des trois groupes n'a indiqué aucune différence du bien-être entre les postes de 8 et de 12 heures ni entre ces deux groupes et le groupe ayant subi un refus de changement. Les résultats, cependant, ont indiqué un besoin d'amélioration du milieu de travail dans les domaines tels que la participation aux prises de décisions au travail, les occasions d'avancement et le mérite.

THEORETICAL NURSING: TODAY'S CHALLENGES, TOMORROW'S BRIDGES

Afaf I. Meleis

This article is based on an address delivered at celebrations commemorating the twenty-fifth anniversary of la Faculté des sciences infirmières at the Université de Montréal, Québec. A different version was originally prepared as a keynote address for the First Annual Theory Conference, the Catholic University of America, Washington, DC, in 1986.

In 1978, in Alma Ata, Russia, The World Health Organization (WHO) declared its commitment to health for all by the year 2000. It also recommended that the way to achieve this objective is through a strategy of primary health care. Nursing is a most significant force in bringing health to people of the world. Several strategies are necessary to realize the meaning of this declaration. One is the subject of today, the development of theoretical nursing through discovery, description or interpretation.

It is very apparent that there has been a renewed interest in describing nursing theoretically, and in systematically pursuing a developmental trajectory in nursing knowledge development. One has only to review the phenomenal increase in programs that are being developed nationally and internationally to appreciate knowledge development. Interest spans the gamut of practitioners, researchers, academicians and administrators. Examples are the university-based theory and theory development workshops; the focus of the Academy's annual meeting, in 1985, on knowledge development; and discussions on the relationship between theory and practice during the annual meetings of clinical specialists. When we review the content of these meetings as well as of some of the pertinent and leading practice and research journals, no doubt is left in the minds of nurse scientists and scholars that this is a time when there is a great deal of focus on theory and a genuine interest in the development of theoretical nursing. One may even surmise that, with the increase in research productivity and the increase in programs that prepare nurse scientists, the discipline of nursing may have reached a new milestone, somewhere between the stage of theory and the stage of scholarliness.

Afaf I. Meleis, Ph.D., F.A.A.N., is Professor and International Kellogg Fellow at the University of California School of Nursing, San Francisco, CA.

Nursing Papers/Perspectives en nursing 1987, 19(1), 45-57

A quick review of stages of knowledge development reveals different foci at different times. The early focus was on practice, then it shifted to education and then to administration. The next shift was to research. Although research represented a definite attempt to develop nursing knowledge, completed research lacked a framework in which ideas and concepts could be connected; it was haphazard and scattered. It also lacked policy implications. Therefore, the most recent focus was on questions such as: what theories guide the development of nursing knowledge, and what types of theories are nurses attempting to develop?

Although these questions are still valid, new ones must be asked. The process of answering these may influence the process of knowledge development, as we begin moving toward a new decade.

The State of the Discipline

A defined domain

The core of a discipline is its domain, or the territory for practice and investigation. The domain comprises central concepts, central concerns, focal areas of investigation, and the persons who engage in dealing with these concepts and questions (Toulmin, 1972). The domain of nursing has been explored by a number of theorists, beginning with Florence Nightingale. Different researchers have explored questions that they considered central to their practice or to their teaching. Clinicians have contributed different perspectives by providing necessary care to help patients recover, to keep them comfortable during uncomfortable procedures, to help decrease their suffering and, in some instances to help maintain their health. It is from all these areas and efforts, and from the wisdom of all involved, that the nursing domain began evolving.

The literature identifies central concepts and their interrelationships that are beginning to influence on-going research and theory development (Moccia, 1986). The concepts of health, environment and interactions have received more recent attention in the literature than they have had in the past. Self care and responses to health and illness situations are part of our repertoire (Donaldson & Crowley, 1978). We have claimed a territory for knowledge development.

There are some central theoretical propositions that have generated such related research questions. Some questions concern the client's patterns of responses to certain health/illness situations, and the nursing therapeutics that are most congruent with patients' needs and backgrounds. Some researchers have examined the environmental conditions that act as modifiers tothe responses and the therapeutics (Chopoorian, 1986; Fawcett, 1983;

Flaskerud & Halloran, 1980; Meleis, 1986). Other questions examine the outcomes of nursing care and the factors that profoundly influence the decisions of clients and health care workers in promoting positive health care (Oberst, 1986).

Although we still have some distance to go in defining concepts, we must not continue to debate definitions, nor strive for global acceptance or consensus. We must engage in creating dynamic and working definitions that are based on clinical and empirical examples. It is then, perhaps, that consensus may emerge. We must begin to answer the discipline's central questions by being engaged in caring for clients or collaborating with clinicians who care for clients. That is, *if* we agree that engaging in care for clients is the essence of nursing!

Theoretical pluralism

The complexities of human behaviours and interactions, and the dynamic nature of development and change make it imperative that we accept a pluralistic approach to theory development and utilization. There was a time, perhaps, when the goal for nurse theoreticians was to work toward the development and the acceptance of one nursing theory to guide our practice, education and research. Such a theory was expected to help by posing all the pertinent questions and would have provided a framework for all the pertinent answers. This belief is not as strong as it once was, and it has been replaced with questions on how to utilize different theories simultaneously to answer different questions; for example, clinicians are utilizing immune theories in conjunction with self-care and interaction theories.

One example of pluralism is a project that Juliene Lipson and I are currently working on. It involves the Middle Eastern immigrants to San Francisco that will serve as an example. The Mid East Siha project is designed to test theory, and to generate new theories that may help in answering some pressing questions related to the care of immigrants in the United States. We have used a symbolic interactionist approach to transition theory to articulate the research questions. These focus on the relationship between the immigrants' transition experiences and their health, and illness status. In selecting indicators of health, we were guided by the nursing domain's ontological orientation. This and the definition of health helped us in defining study variables and in focusing on questions of interest, such as consideration of the multidimensionality of health. Therefore, we have included the subjects' perceptions of health as a means of examining the individual meanings attributed to perceptions and experiences. We have also used Johnson's (1980) theory to develop a clinical assessment tool which is being used in the primary health care clinic attached to the project. We plan

to test the utility of the tool for identifying nursing care problems and for providing some direction for planning the necessary support for their care. We would not be able to carry on the clinical, and the research work for this project meaningfully, if we only used one theory.

Pluralistic philosophical approaches

A third trend is toward greater exercise of pluralistic philosophic approaches. Liberal philosophy, which has helped in establishing the democratic tenets of North America, has been criticized as being gender, class and ethnically biased (Lather, 1986). Similarly, the empirical-analytical-logical paradigm for theory and research, which stressed measurable and testable hypotheses, objectivity in data gathering and data analyses, universality of findings, decontextuality of explanations and formalization through scientific principles, has been questioned and criticized (Munhall, 1982; Silva & Rothbart, 1984; Thompson, 1985; Watson, 1981). Historicists such as Silva and Rothbart (1984) emphasize the viewing of phenomena as being imbedded within a sociocultural context. Historicists also view the process of theory development in terms of a historical and value context (Chinn, 1985; Tinkle & Beaton, 1983). All truths, to historicists, are relative: there are always multiple truths, and application must be taken into account when considering research or theory.

Phenomenology examines the significance of meaning in understanding human behaviour; meanings for both the individual and the environment that result from transactions between the two. The aim of the phenomenologists and the historicists, in developing theories, is the development of examples that depict different patterns and trends that incorporate all the variables related to the phenomena. Another, more recent, perspective is that of feminist methodology, an approach which incorporates many of the ontological concerns of phenomenology and hermeneutics.

Nursing literature has debated the use of one paradigm or another. However, recent writing and sentiment among scholars is favorable to philosophical pluralism as the guide for theory development and research (Allen, Benner, & Diekelmann, 1986).

It is important for us to remember though, that, while our research tradition may have emerged from a fascination with the empirical-analytical-logical, neither theory development nor practice have adhered to this philosophical approach. Nursing practice literature is laden with examples that are based on experiential and contextual data. Indeed, without stating so, its authors have used phenomenological and hermeneutic approaches. These examples describe nurses as a group of clinicians in health care systems who are sensitive to gender and ethnic diversity. These examples could be the

bases for the development of descriptive theories of responses and prescriptive theories of care.

Perhaps it was in the attempt to develop our discipline scientifically that we may have opted for a philosophy that was derived more from the positivist paradigm; espousing objectivism, one truth and a reductionist approach to human beings and their environments. In other words, the focus on one paradigm may have been an artifact of the attitudes of a few who dominated the early scholarly development of the discipline. However, clinicians and theoreticians have had a hard time accepting one empirical positivist approach. Perhaps the use of different sets of philosophical principles by clinicians, by theorists and by researchers created the intellectual schism among them that has resulted in some isolation, and therefore the need for bridges to be constructed.

The Future

Future trends in knowledge development will include shedding paternalism, viewing theory as a process, developing domain-focused theoretical formulations, using international nursing for the development of theory, and the development of an integrated approach to theory development.

Shedding paternalism

Nursing has tended to be overshadowed and influenced by members of one or more disciplines. The tenets, the questions and the struggles of that parent discipline became the principles, the questions and the struggles of our own. Early on, medicine was the parent discipline. As we began to work toward intellectual independence we found replacements for medicine as that parent. Because I am a nurse sociologist, I have used, as an example, the influence of the discipline of sociology on nursing as an example.

Sociological theory had a number of profound and lasting influences on nursing knowledge. First, the conceptualization of an individual as a social being – as a member of a reference group, the behaviour of which influences and is being influenced by the social environment – evolved from this perspective. Therefore, properties, structure and function of the external factors are analyzed to help in understanding behaviours and actions. Sociological theories represent three major paradigms: conflict, interaction, and structure and functions. Nursing research and nursing theories that have evolved from sociological perspectives were based on one or more of these paradigms.

The sociological perspective has exerted a second major impact on nursing research. Modes of inquiry used in the development of sociological knowledge have been used extensively. For example, field methodology that was developed by Schatzman and Strauss (1973) grew out of a symbolic interactionist theory. Social processes inherent in death and dying or pain, in use of machinery in health care, in chronicity and drastic surgical procedures such as mastectomies have been elucidated by qualitative methods that have emerged from this approach to research. More recent writings in nursing theory and research challenge nurse researachers to use phenomenological and hermeneutic modes of inquiry in nursing research (Allen, et al., 1986).

Sociological theory has also influenced the writings of nurse metatheorists. These writers describe strategies for developing theories, discuss ways by which theories can be evaluated, and debate issues of validity in theory development. Nurse metatheorists have derived many of their ideas from metatheorists in sociology (Dubin, 1978; Hage, 1972; Merton, 1973).

In some ways this relationship may have created some unwarranted detours. These occurred because of a formalistic definition of theory as axiomatic, as only a product of empirical research and as a set of confirmed hypotheses. Research has come to be viewed by some as quantitative only, and as a neceessary and sufficient prerequisite for the development of theory. More contemporary views of nursing theory include received and perceived views of nursing theory.

There are advantages and disadvantages in rebelling against one set of parents and quickly adopting another. As we look at the 1985-1986 debates in the literature, and observe the healthy philosophy of science discussions that are also occurring in other disciplines, are we co-opting and adopting a new set of parents with a new set of values? What if we put our energies and resources into dealing with the pressing questions related to the health and well-being of our clients, into developing some understanding of the diverse responses to healing and health promotion, and into much needed nursing therapeutics? What if we look within, to answer our own pressing questions? What kinds of nursing theories might we be developing? Would we then combine the intellectual maturity that is manifested in healthy criticism (Thompson, 1985) with a steady development of knowledge for nursing?

Theory as a process

In a human science, where behaviour is dynamically shaped by social and physical environment, and where the environment is continuously being

influenced by humans, theory must also be equally dynamic and changing. Otherwise, we may find that its descriptive and explanatory powers diminish or become outdated, before it is even developed.

Natural and physical sciences have always managed to operate with completed theories; theories as outcomes – as end products. When new theories emerged that refuted older ones, older theories were then replaced. Kuhn (1970) described this as a revolution, the process of creation of new paradigms that replace the old ones. Human science will always have such theories-in-process. These are theories that denote a theoretical perspective; they are based on the discipline's ontological concerns and they evolve from accepted epistemological processes. They are based on assumptions that respect the totality of humans, the integration of human beings with their environment and the rights of human beings to participate in decisions related to their own life. Theories-in-process are an end-product, and not the means to an end; they are the process of conceptualizing a phenomenon, the process of understanding a clinical situation and the process of going beyond the data in a research project. They are defined as the analytical and interpretive phase, the phase that goes beyond data analysis, the phase that connects findings with the theoretical perspective. They identify underlying assumptions and relationships to domain concepts.

If we accept this view, theories-in-process would not be defined as incomplete. Instead, nursing as a human science will always be developing theories-in-process or dynamic theories that will not be relegated to a secondary status nor be regarded as a sign of a pre-paradigmatic discipline. They are, then, an indication that their parent discipline is a human science.

Domain-focused theoretical formulations

A third trend is the shift from the philosophical and theoretical debates to considerations of practical developments in nursing (Meleis, 1987). Therefore, ontological and epistemological discussions would be grounded in nursing's central concepts and questions. Discussions of health, from a critical and phenomenological theory perspective (Allen, 1985), have created useful intellectual discourse. There is agreement within nursing on domain concepts, ontological beliefs, and epistemological approaches to knowledge development. There is also healthy diversity that will continue to exist. The ontological and epistemological areas should provide a framework for further theory development. It is therefore proposed, that theory development should focus on questions related to environments and individuals' responses to health and illness situations, and on ways by which we can render an effective nursing care that is gender, class and ethnically sensitive. Three conditions have been proposed to ensure the congruency and appropriateness of these theories with the holistic focus of nursing:

Context: The individual should be treated as a part of an environment and as being capable of having perceptions, meanings and interpretations of his or her own situation. Analysis of context allows a synthesis of the varied perspectives in the situation.

Patterning: Pattern is defined as "the configuration of relationships among elements of a particular phenomenon" (Crawford, 1982, p.3). Patterning takes us away from unidimensionality and single incident studies; away from developing theories based on manifested behaviours that are temporarily constrained. It is congruent with the human-clinical sciences because it considers repetitive responses within different conditions and situations. Considering patterns of responses allows the theorist to consider increasing complexity and diversity (Bramwell, 1984; Johnson, 1980; Rogers, 1970; Stevenson & Woods, 1986).

Triangulation: Trianuglation is the use of multiple approaches to studying the same phenomenon (Denzin, 1978; Mitchell, 1986; Stevenson & Woods, 1986). These may be in the same study or in different studies. It is a method that relies on clinical observations, the experiences of clinicians, reviewing pertinent literature, reviewing previous theoretical formulations, selecting the phenomenon, labelling, defining concepts, and dealing with meaning and measurement issues.

International Nursing

Concern about the welfare of clients, as a prerequisite to the development of theory in a human science field, mandates a concern for the health of clients from different ethnic and socio-economic backgrounds. Therefore, theory development must accommodate such diversity. One way to ensure this is through a global approach to the development of theories. Researchers should collaborate with nurse theorists in different cultures to gain different prospectives of phenomena in our own countries and to discover worldwide concerns. There is a potential nursing power in the act of reciprocating in knowledge development; power that could influence nursing care world wide.

Integrated approach to theory development

The phases of knowledge development in nursing are graphically represented in nursing's educational institutions. There are research courses, theory courses, clinical courses, educational and administrative courses. What if we identify areas of specialization that are congruent with our ontological focus and that are based on the current levels of our epistemological growth, and what if we develop graduate seminars to represent these areas of specialization? The seminars would also be representative of nursing's mission and concerns. What if these substantive

areas are considered from clinical, research and theoretical perspectives? Furthermore, what if strategies of theory development are then considered within the context of the substantive issues that are being studied? Such an approach would decrease the divisions that exist among theory, research and practice. Integration would remove barriers in the very different processes inherent in theory and research that are essential for the development of knowledge in nursing (Lather, 1986).

Challenges

There are many challenges that face us as we engage in the continuous process of knowledge development through the articulation of theories-in-process.

. Stevenson and Woods (1986) presented the many ways nurses have specialized through the use of a number of conflicting models: a medical model, a life stage model, a time model, a health-illness model, and a mixed model. Which model represents nursing knowledge and what are the pressing questions in each area of specialization for which theories-in-process should be developed?

. What are some of the strategies that could be used to encourage the development of theories-in-process, and how can researchers, clinicians, and theoreticians become engaged in such processes? Who should be charged with their development?

. In what ways do theories-in-process respond to clients' health needs globally? In what ways do they help in explaining nursing care needs of our minority and immigrant clients?

. How much of our energy, time and other resources should we devote to the elite and majority populations and how much should be allocated to the underserved populations?

. What types and levels of dynamic theories should be developed? Should we promote the development of descriptive theories and prescriptive theories equally? Why, and what are the consequences of focusing on one or both types?

. What are some of the strategies that could be used to combine analytical, empirical and reflective techniques in theory development?

. What types of resources are needed for developing theories that are based on context, patterning and triangulation?

. In what ways and by what means can the myths that have separated theory, practice and research be dispelled?

. We have conceptualized self care as an outcome. What other outcomes are appropriate and congruent with the mission of nursing?

. How could we demystify theoretical nursing and stimulate the development of theory-in-process by clinicians and researchers, as well as by theoreticians? How can consumers be involved?

. What differences, if any, do theories-in-process make in health policies?

. What strategies in research and theory development could be used to ensure understanding of human responses and potential, without stifling growth and situational propensity for change?

Conclusion

Our theoretical journey has been long. It started way back during the Islamic wars in Mecca and within the walls of Crimean cities in Turkey. Nurses have been ingenious in detouring obstacles, and in coming back on course. We have constructed many bridges on this journey. Some of these bridges have connected some areas of practice with research and theory. Some have been original and solid, like the Golden Gate Bridge, in San Francisco. Some have been replicas, such as the Golden Gate Bridge look-alike in Florianapolis, in Brazil; seemingly solid at the time of construction, it quickly became obsolete and ceased to meet the new demands of population increase on the island. A new bridge was constructed with more appropriate material and a more appropriate architectural approach. The bridges stand side by side, demonstrating the meanings of replication, obsoleteness, and renewal. The Gotteberg Bridge, in Sweden, is a modified replica. The city's very needs, style, tradition, weather, and population directed the modifications.

We have built bridges, replicated some, and repaired others. We must continue on an international theoretical journey that will help our clients have more options and better access to health care, to cope with old and modern illnesses and to achieve the highest sense of well-being. The question is not: can we meet the challenges ahead of us? Nor is it: should we cross the bridges ahead of us? Rather, the questions are: which bridges should we build? And, which ones should we cross to continue the journey ahead of us, to continue a journey into the future of nursing knowledge?

REFERENCES

Allen, D. (1985). Nursing research and social contract alternatives models of science that emphasize understanding and emancipation. *Image, 17*(2), 58-64.

Allen, D., Benner, P., & Diekelmann, N.L. (1986). Three paradigms for nursing research: Methodological implications. In P.L. Chinn (Ed.), *Nursing methodology: Issues and implications.* Maryland: Aspen Co.

Bramwell, L. (1984). Use of the life history in pattern identification and health promotion. *Advances in Nursing Science, 7*(1), 37-44.

Chinn, P.L. (1985). Debunking myths in nursing theory and research. *Images, 17*(2), 45-49.

Chopoorian, T.J. (1986). Reconceptualizing the environment. In P. Moccia (Ed.), *New approaches to theory development* (pp. 39-54). New York: National League for Nursing.

Crawford, G. (1982). The concept of pattern in nursing: Conceptual development and measurement. *Advances in nursing science, 5*(1), 1-6.

Denzin, N. (1978). Strategies of multiple triangulation. *The Research Act: Theoretical introduction to sociological methods.* (2nd ed.) (PP. 291-307). New York: McGraw Hill.

Donaldson, S.K., & Crowley, D. (1978). The discipline of nursing. *Nursing Outlook, 26*, 113-120.

Dubin, R. (1978). *Theory building*. New York: Free Press.

Ellis. (1982). Conceptual issues in nursing. *Nursing Outlook*, 406-410.

Fawcett, J. (1983). Hallmarks of success in theory development. In P.L. Chinn (Ed.), *Advances in nursing theory development* (pp. 3-17). Rockville, MD: Aspen Brooks.

Flaskerud, F.H., & Halloran, F.J. (1980). Areas of agreement in nursing theory development. *Advances in Nursing Science, 3*(1), 1-7.

Hage, J. (1972). *Techniques and problem of theory construction in sociology.* New York: Wiley.

Johnson, D.E. (1980). The behavioral system model for nursing. In J.P. Riehl and C.Ray (Eds.), *Conceptual models for nursing practice* (pp. 207-216). New York: Appleton-Century-Crofts.

Kuhn, T.S. (1970). The structure of scientific revolutions. In O. Neurath (Ed.), *International encyclopedia of unified science,* 2nd ed. (Vol. 2). Chicago: University of Chicago Press.

Lather, P. (1986). Research as praxis. *Harvard Educational Review, 56*(3), 257-277.

Meleis, A.I. (1985). *Theoretical nursing: Development and progress.* Philadelphia: Lippincott.

Meleis, A.I. (1986). Theory development and domain concepts. In P. Moccia (Ed.), *New approaches to theory development* (pp. 3-22). New York: National League for Nursing.

Meleis, A.I. (1987). Revisions in knowledge development: A passion for substance. *Scholarly Inquiry for Nursing Practice: An International Journal, 1, 5-19.*

Merton, R.K. (1973). *The sociology of science: Theoretical and empirical investigations* (edited with an introduction by N.W. Storer). Chicago: University of Chicago Press.

Mitchell, E.S. (1986). Multiple triangulation: A methodology for nursing science. *Advances in Nursing Science, 8*(3), 18-26.

Moccia, P. (1986). Theory development and nursing practice: A synopsis of study of the theory practice dialectic. In P. Moccia (Ed.), *New approaches to theory development*. New York: National League for Nursing.

Munhall, P.L. (1982). Nursing philosophy and nursing research: In apposition or opposition? *Nursing Research, 31*, 176-177, 181.

Oberst, M.T. (1986). Nursing in the year 2000: Setting the agenda for knowledge generation and utilization. In *Setting the agenda for the year 2000: Knowledge development in nursing* (pp. 29-37). New York: National League for Nursing.

Rogers, M.E. (1970). *An introductin to the theoretical basis of nursing*. Philadelphia: Davis.

Silva, M.C., & Rothbart, D. (1984). An analysis of changaing trends in philosophies of science in nursing theory development and testing. *Advances in Nursing Science, 6*(2), 1-23.

Stevenson, J.S., & Woods, N.F. (1986). Nursing science and contemporary science: Emerging paradigms. In *Setting the agenda for the year 2000: Knowledge development in nursing*. Kansas City, MO: American Academy of Nursing.

Schatzman, L. & Strauss, A.L. (1973). *Field research strategies for a natural sociology*. Englewood Cliffs, NJ: Prentice Hall.

Thompson, J.L. (1985). Practical discourse in nursing: Going beyond empiricism and historicism. *Advances in Nursing Science, 7*(4), 59-71.

Tinkle, M.B., & Beaton, J.L. (1983). Toward a new view of science: Implications for nursing research. *Advances in Nursing Science, 5*(2), 27-36.

Toulmin, S. (1972). *Human understanding: The collective use and evaluation of concepts*. Princeton, NJ: Princeton University Press.

Ward, C.R. (1986). The meaning of role strain. *Advances in Nursing Science, 8*(2), 39-49.

Watson, J. (1981). Nursing's scientific quest. *Nursing Outlook, 29*, 413-416.

RÉSUMÉ

Le nursing théorique: les défis d'aujourd'hui, les ponts de demain

Lors de la première conférence dans le cadre du vingt-cinquième anniversaire de fondation de la Faculté des sciences infirmières, le professeur Meleis a prononcé une conférence intitulée: La théorie infirmière: les défis d'aujourd'hui et les ponts de demain.

Ce texte présente un résumé de cette conférence qui avait trois buts: analyser l'évolution de la théorie en sciences infirmières et les conditions qui ont influencé cette évolution; présenter les tendances futures; soulever des questions face aux défis devant nous.

La première partie trace les étapes du développement de la théorie en sciences infirmières et analyse brièvement deux approches: le pluralisme théorique et le pluralisme philosophique.

Dans la deuxième partie, l'auteur identifie cinq tendances futures: le rejet du paternalisme théorique de diverses disciplines, la théorie vue comme un processus dynamique plutôt que comme un résultat, l'élaboration de théories autour de concepts propres aux sciences infirmières, l'utilisation de connaissances multi-culturelles et internationales, l'approche intégrée dans le développement de la théorie.

En dernier lieu, le professeur Meleis soulève un ensemble de questions: Parmi les modèles choisis (modèle médical, modèle santé-maladie, etc) pour la spécialisation en sciences infirmières, lesquels représentent des connaissances propres à la discipline infirmière? Quelles stratégies facilitent le développement de la théorie vue comme un processus? Comment cette théorie répond-elle aux besoins des clientèles? Devons-nous promouvoir à la fois le développement de théories descriptives et de théories prescriptives? Quelles stratégies peuvent combiner les techniques analytiques, empiriques et réflectives dans le développement de la théorie?

Quels types de ressources sont nécessaires pour développer des théories basées sur le "patterning", la "contextuality" et la triangulation? Quels résultats chez la clientèle, autres que "la prise en charge", sont pertinents pour la discipline?

Comment détruire les mythes qui séparent la théorie, la pratique et la recherche infirmières?

En guise de conclusion, Meleis précise que la question fondamentale n'est pas de savoir si nous pouvons relever les défis, ni de savoir si nous devons traverser les ponts devant nous, les questions sont plutôt: quels ponts faut-il ériger et lesquels devons-nous traverser?

CALL FOR PAPERS

Summaries of research on key aspects of comfort are solicited for a national conference and monograph funded by the National Center for Nursing Research, NIH. The conference, to be held in Chapel Hill, NC, March 24-26, 1988, will bring together researchers and clinicians to discuss the provision of comfort to patients who are acutely, chronically or terminally ill. The conference is co-sponsored by the University of North Carolina at Chapel Hill School of Nursing, ANA Council of Nurse Researchers, SCCEN, and Sigma Theta Tau, Alpha Alpha Chapter. Summary submission deadline is **October 1, 1987**. Contact: Ruth Wiese, Project Manager, School of Nursing, Carrington Hall 214H, University of North Carolina, Chapel Hill, NC 17514, (919)966-2263.

UNCERTAINTY AND ANXIETY OF HYSTERECTOMY PATIENTS DURING HOSPITALIZATION

Katherine Warrington . Laurie Gottlieb

Uncertainty and anxiety are common responses among patients undergoing surgery (Auerbach & Kilmann, 1977; Drellich & Bieber, 1958; Spielberger, 1972; Webb & Wilson-Barnett, 1983). Each response is associated with the type of procedure being faced as well as with the meaning that the removed organ has for that individual. For example, hysterectomy patients experience uncertainty and anxiety about what the operation entails and the effect of the removal of the uterus on sexual functioning (Drellich & Bieber, 1958). Even though uncertainty and anxiety are common, it is unclear how these responses change over the course of hospitalization or how these responses are related. Therefore, the purpose of this study was twofold: first, to investigate the course of uncertainty and anxiety over the hospital stay and secondly, to examine the relationship between uncertainty and anxiety at different points during hospitalization. We elected to answer these questions with the responses from hysterectomy patients.

Uncertainty

The study of uncertainty has been closely linked to ambiguity. For example, uncertainty has been equated to or used to operationalize situational ambiguity (Norton, 1975). Folkman, Schaefer and Lazarus (1979) differentiate between ambiguity and uncertainty and then describe the relationship between them. Ambiguity refers to lack of clarity of meaning in the environmental display. Uncertainty is confusion about what the environmental display means. Folkman et al. (1979) conceptualized uncertainty as arising from ambiguous factors within the situation and from factors within the individual, such as a person's own distinctive agenda, beliefs, and abilities. They further delineate four types of uncertainty: event, temporal, outcome, and control uncertainty. Event uncertainty occurs when the time of the event is known but the possibility of its occurrence varies, whereas temporal uncertainty occurs when the time of the event is

Katherine Warrington, N., M.Sc.(A), is a staff nurse at the Montreal General Hospital, Montreal, Quebec, and Laurie Gottlieb, N., Ph.D. is an assistant professor in the School of Nursing, at McGill University, in Montreal.

Nursing Papers/Perspectives en nursing 1987, 19(1), 59-73

unknown. Outcome uncertainty occurs when the individual does not know what will happen and control uncertainty occurs when the individual is not certain if the event can be controlled. Three of these four types of uncertainty have been experimentally studied in the laboratory setting: control (Pervin, 1963), event (Monat, Averill & Lazarus, 1972), and temporal (Monat, 1976) uncertainty.

To date, the only investigator to examine uncertainty in hospitalized patients is Mishel (1981, 1984). Mishel's (1981) conceptualization of uncertainty is based on perceptual, judgmental, and cognitive factors. Mishel contends that perceived uncertainty is a judgment about an event or a situation that cannot be adequately structured or categorized. Three possible situations result in uncertainty: the event is not recognized; the event is recognized but not categorized; and the event is recognized, but categorized incorrectly (Mishel, 1981). The Uncertainty in Illness Scale, based on this conceptualization, was used to study whether there was an association between uncertainty and stress in patients hospitalized for a medical condition (Mishel, 1984). As expected, respondents with higher levels of uncertainty reported higher levels of stress. A second purpose of the study was to test the strength of relationships in an a priori model, developed by Mishel, in which uncertainty acts as a mediator between the variables, age, recency of prior hospitalization, seriousness of illness, education, and stress. Uncertainty was found to act as a mediator between seriousness of illness and stress, and not for the remaining three variables.

The study of uncertainty in hysterectomy patients has been limited to the Mishel, Hostetter, King and Graham (1984) descriptive-correlational study. The sample included 54 patients newly diagnosed with gynaecological cancer. Women with high uncertainty levels reported more problems adjusting psychosocially to the diagnosis.

Uncertainty has not been examined in patients undergoing hysterectomy for benign disease. There is reason to believe that it may change over the course of hospitalization, however. Mishel's studies have examined uncertainty only at one point in time. Although uncertainty and anxiety have been linked theoretically, their relationship has not been studied systematically.

Anxiety

As one of the most frequently written about phenomena in the psychological literature, the definitions of anxiety, both theoretical and operational, are many. As a result, there is lack of agreement regarding the nature of anxiety, and the conditions and current or past experiences that initiate it. Freud (1936) saw anxiety as a signal indicating that the individual

was in the presence of a dangerous situation. He differentiated between objective anxiety and neurotic anxiety on the basis of the source of the danger; that is, whether or not it originated in the external world or in internal impulses. Existential theory views anxiety as an apprehension, initiated by a threat to a value that is held as essential to the individual's existence (May, 1950). Interpersonal theory characterizes anxiety as tension that arises from experiencing disapproval in interpersonal relations (Sullivan, 1953). Francis and Mungas (1968) described anxiety as an inobservable energy, its presence being inferred through the effect it has on attention, behaviour, learning and perception.

More recently anxiety has been divided into two aspects. Spielberger, Gorsuch and Lushene (1970) define two types of anxiety: state anxiety and trait anxiety. State anxiety is a transitory emotional state that is characterized by consciously perceived feelings of tension and apprehension, and is accompanied by heightened autonomic nervous system activity. It may vary in intensity and fluctuate over time. In contrast, trait anxiety refers to differences in the tendency to respond to threatening situations. It represents a proneness to elevations in state anxiety intensity.

Spielberger (1972) predicts that transitory or state anxiety levels would be higher in circumstances that are perceived as threatening, and lower in situations in which there is little or no perceived danger. Besides the threat of surgical intervention, there are other factors which may affect anxiety levels in hysterectomy patients. These include the loss of child-bearing ability (Drellich & Bieber, 1958), the fear of being altered sexually (Dennerstein, Wood & Burrows, 1977), and the fear that the operation will make them unattractive, fat and old (Webb & Wilson-Barnett, 1983).

At least two studies have investigated anxiety over the normal course of a surgical experience (Auerbach, 1973; Johnston, 1980). State anxiety was significantly higher on Day 1 preoperation than on Day 6 postoperation and the difference between anxiety levels on Day 1 pre-op and Day 2 post-op approached statistical significance in surgical patients (Auerbach, 1973). Johnston (1980) undertook a series of studies, two of which involved gynaecological patients. The highest level of anxiety was reported two days before surgery and, following admission, there was no significant change from Day 1 pre-op to Day 2 post-op or Day 4 post-op. However, respondents experienced significantly lower levels of anxiety on Day 6 post-op compared to Day 1 pre-op.

Purpose of the Study

Lazarus and Averill (1972) identify a possible theoretical link between uncertainty and anxiety. Uncertainty is viewed as giving rise to anxiety.

Anxiety is an emotion based on the appraisal of threat. Of the three elements embodied in this appraisal (symbolic, anticipatory and uncertain elements), the uncertain element is the one seen to be the hallmark of anxiety. Uncertainty arises because the initial threat is symbolic, not concrete, and thus its nature cannot be easily identified. As a result, no rational action can be taken to dispel it. Consequently, anxiety results from uncertainty about what will happen, whether it will happen, when it will happen and what can be done about it.

To date, there are no studies that relate uncertainty and anxiety over the period of hospitalization. This study addresses the following two research questions.

1. Do levels of uncertainty and anxiety change over a short-term hospital stay?
2. What is the relationship between uncertainty and anxiety during the hospital stay?

The following hypotheses were tested:

1. Patients will have higher levels of uncertainty before surgery than after surgery.
2. Patients will have higher levels of anxiety before surgery than after surgery.
3. Patients with higher levels of uncertainty will have higher levels of anxiety.

Method

The sample

Twenty women, admitted to two university teaching hospitals for total abdominal hysterectomies for benign reasons, constituted the study population. Because the groups did not differ statistically on any background characteristics, the data were pooled for all subsequent analyses. Table 1 summarizes the major background characteristics.

The majority of the women were middle-class Caucasians whose ages ranged from 28 to 59 (M: 43.1). Although four women (20%) had not completed high school, over half the women had some high school education; the remaining women had some college or university education. Almost all of the women reported being satisfied with their support network and with the number of children they had.

Table 1

Distribution of Background Characteristics of Subjects

Variable	Mean	S.D.	Median	Range
Age	43.1	8.0	43.0	28 - 59
# Previous Hospitalizations	2.6	1.3	2.5	0 - 5
			n	%
Level of Education				
Less than High School			4	20
High School			6	30
High School plus			5	25
University Graduate			0	0
Post-graduate studies			5	25
Diagnosis				
Leiomyoma (fibroid)			8	40
Adenomyosis			4	20
Endometriosis			1	5
Hyperplasia with or without atypia			3	15
Pelvic inflammatory disease			2	10
Fibroid and endometriosis			2	10
Type of Operation				
Total Abdominal Hysterectomy (TAH) and TAH with Right or Left Salpingo-oophorectomy			11	55
TAH, Bilateral Salpingo-oophorectomy			9	45
Support				
Very supportive			5	25
Supportive			14	70
Not supportive			1	5
Satisfaction with Number of Children				
Satisfied			18	90
Not satisfied			1	5
Not interested in having children			1	5

Instruments

Mishel Uncertainty in Illness Scale (MUIS). The MUIS consists of 34 items, divided among the following four factors derived through factor analysis (Mishel, 1984): (a) Ambiguity (17 items) – refers to the patient's perception of the state of illness as being vague or unclear; e.g. "I have a lot of questions without answers." (b) Complexity (7 items) – refers to the many cues the patient perceives about the treatment and system of care; e.g. "The explanations they give about my condition seem hazy to me." (c) Deficient Information (4 items) – refers to the lack of information about the diagnosis; e.g. "I don't know what is wrong with me." (d) Unpredictability (6 items) – refers to perceived unpredictability about the course and outcome of the illness; e.g. "When I have pain, I know what this means about my condition." Subjects were asked to rate themselves on each of these 34 items along with a five-point Likert scale ranging from "strongly agree" (e) to "strongly disagree" (0).

The scale is reported to have high internal consistency for the total scale (Cronbach alpha = .91) and for each factor (range of alpha .70 – .91) (Mishel, 1983). Furthermore, construct validation of the MUIS has been established through a constant group design. As predicted, patients in the prediagnostic phase had higher uncertainty scores than diagnosed patients (Mishel, 1981).

Spielberger State-Trait Inventory (STAI) (Y-Form). The STAI is a self-administered 40-item questionnaire evenly divided into two forms, one measuring state anxiety and the other, trait anxiety. State anxiety (A-state; Form Y-1) measures anxiety in response to a specific situation: e.g. (at the moment) "I feel calm", whereas Trait Anxiety (A-trait: Form Y-2) measures anxiety as a personality trait; e.g. (in general) "I wish I could be as happy as others seem to be." Subjects were asked to rate their degree of agreement or disagreement with each statement on a four-point Likert scale ranging from "not at all" (1) to "very much so" (4). The STAI is a widely used scale and is reported to have good test-retest reliability and good concurrent validity (Spielberger, 1983).

Procedure

Potential respondents were approached the day prior to surgery and given a verbal explanation about the study. If the woman agreed to participate, she signed a consent form. Of the 28 women approached, 20 women agreed to participate.

Respondents were asked to complete both the A-state and the A-trait forms of the STAI as well as the MUIS on Day 1 pre-op (day of admission). Except for the A-trait forms, these forms were again administered on Day 3 post-op and Day 6 post-op. These periods were selected in light of Johnston's (1980)

findings that anxiety was highest on the day before surgery, decreasing marginally immediately postoperatively. By Day 6, anxiety levels had significantly decreased from their preoperative levels. To minimize a carry-over effect the STAI questionnaires were administered first, followed by the MUIS.

Results

The hypotheses were tested using the Repeated Measures Analysis of Variance (ANOVA). Significant main and interactional effects were tested using the Newman-Keuls post-hoc test.

Hypothesis 1: Patients will have higher levels of uncertainty before surgery than after surgery.

Uncertainty was composed of four elements: ambiguity, complexity, deficient information and unpredictability. To determine whether or not the four types of uncertainty were related, cross-correlations were computed for each type at each testing time. Cross-correlations for ambiguity, complexity, and deficient information were high at the three testing times: Day 1 pre-op, $r(18)$s = .83 - .56, ps < .001 - .01; Day 3 post-op, $r(18)$s = .86 - .74, ps < .001; and Day 6 post-op, $r(18)$s = .89 - .87, ps < .001. However, the coefficients among unpredictability and ambiguity, complexity, and deficient information were low and not significant at Day 1 pre-op ($r(18)$s = .31 - .04; ps > .05) and were moderate for Day 3 post-op ($r(18)$s = .41 - .38, ps < .05) and Day 6 post-op ($r(18)$s = .68 - .60, ps < .001 - .01).

Because of the significant positive correlations among ambiguity, complexity and deficient information, these factors were summed (range 28 to 140) to yield a type of uncertainty called multi-attributed ambiguity. Unpredictability (range 6 to 30) did not correlate highly with the other uncertainty types on Day 1 pre-op, and was treated as a separate variable. Because unpredictability (6 items) and multi-attributed ambiguity (28 items), as separate parts of the uncertainty scale, were composed of different numbers of items, the two types were weighted to generate comparable scores. The score for unpredictability was divided by 6 (range 1 to 5) and the score for multi-attributed ambiguity was divided by 28 (range 1 to 5), the number of items composing each of the two types. Subsequent analyses were performed on the equalized data.

The data were subjected to a 3 x 2 repeated measures ANOVA with Time (Day 1 pre-op, Day 3 post-op, Day 6 post-op) and Uncertainty Type (unpredictability and multi-attributed ambiguity) as within-subjects factors. The analysis yielded significant main effects of Time, $F(2,38) = 5.89$, $p < .01$, and Uncertainty Type $F(1,19) = 25.0$, $p < .001$, as well as a significant

Time x Uncertainty Type interaction, $F(2,38) = 5.38$, $p < .01$. The women experienced more uncertainty on Day 1 pre-op than on Day 3 post-op (M: 2.4 and 2.1, Newman-Keuls (NK): $p < .05$), and more unpredictability than multi-attributed ambiguity (M: 2.5 vs 1.9). However, the main effects of Time and Uncertainty Type were qualified by a significant Time x Uncertainty Type interaction. Post-hoc tests revealed that for unpredictability, scores decreased significantly from Day 1 pre-op to Day 3 post-op (NK: $p < .01$) and from Day 1 pre-op to Day 6 post-op (NK: $p < .01$ (Table 2). Women experienced less unpredictability on Day 3 post-op and Day 6 post-op than they experienced on Day 1 pre-op. For multi-attributed ambiguity, however, scores showed no significant change from Day 1 pre-op to Day 3 post-op or from Day 1 pre-op to Day 6 post-op.

Table 2

Mean Unpredictability and Multi-attributed Ambiguity Scores at Time 1, Time 2, and Time 3

Variable	Range	Pre-op Day 1	Post-op Day 3	Post-op Day 6
Unpredictability	1 - 5	2.83	2.32	2.32
Multi-attributed Ambiguity	1 - 5	2.03	1.87	1.84

Unpredictability: Day 1 vs Day 3 **; Day 3 vs Day 6 N.S.; Day 1 vs Day 6 **.
Multi-attributed Ambiguity: Day 1 vs Day 3 N.S.; Day 3 vs Day 6 N.S.; Day 1 vs Day 6 N.S.
Day 1 vs Day 3 *; Day 1 vs Day 6 *; Day 3 vs Day 6 *.

Newman-Keuls: **$p < .01$, two-tailed.
N.S. = Nonsignificant.

To determine whether or not the relationship between unpredictability and multi-attributed ambiguity was affected by the stage of hospitalization, comparisons were made between levels of unpredictability and multi-attributed ambiguity at each time using the same Newman-Keuls test (Table 2).

Mean scores for unpredictability were significantly higher than those for multi-attributed ambiguity at Day 1 pre-op (NK: $p < .01$), at Day 3 post-op (NK: $p < .01$) and Day 6 post-op NK: $p < .01$). Women experienced more unpredictability than multi-attributed ambiguity at each of the three time periods.

Hypothesis 2: Patients will have higher levels of anxiety before surgery than after surgery.

The state anxiety data were subjected to a repeated measures ANOVA with Time (Day 1 pre-op, Day 3 post-op, Day 6 post-op) as within-subjects factor. The analysis yielded a significant main effect for Time, $F(2,38) = 6.28$, $p < .01$. The women exhibited higher levels of state anxiety on Day 1 pre-op than either on Day 3 (M: 39.9 vs 32.0, NK: $p < .01$) or on Day 6 (M: 39.9 vs 30.6, NK: $p < .01$) post-op.

Thus, hypotheses 1 and 2 were supported. The women experienced more uncertainty (unpredictability and multi-attributed ambiguity combined) on Day 1 pre-op than on Day 3 post-op, but experienced no change in uncertainty levels from Day 3 post-op to Day 6 post-op. However, the decrease in uncertainty was mainly due to a change in levels of unpredictability rather than in levels of multi-attributed ambiguity. The women also experienced significantly higher unpredictability than multi-attributed ambiguity at each stage of their hospitalization. State anxiety levels were similar to those for unpredictability.

Hypothesis 3: Patients who have higher levels of uncertainty will have higher levels of anxiety.

Uncertainty scores obtained at each of the three time periods were summed to yield a global uncertainty score (range 102 to 510). To test the hypothesis, the women were classified into high- and low-uncertainty groups. Women who scored above the median for uncertainty were designated as the high-uncertainty group, and those who scored below the median were said to be in the low-uncertainty group. (Women in both the high- and the low-uncertainty group came from both settings). The state anxiety data were then subjected to a repeated measures ANOVA with Uncertainty Group (high and low) as a between-subject factor and Time (Day 1 pre-op, Day 3 post-op, Day 6 post-op) as a within-subjects factor. The analysis yielded significant main effects for Time, $F(2,36) = 6.52$, $p < .01$, and Uncertainty Group, $F(1,18) = 5.55$, $p < .05$. Women experienced more state anxiety on Day 1 pre-op than either on Day 3 post-op (M: 39.9 vs 32.0, NK: $p < .01$) or on Day 6 post-op (M: 39.9 vs 30.6, NK: $p < .01$). Moreover, high-uncertainty subjects had higher overall state anxiety scores than low-uncertainty subjects (M: 38.2 vs 30.1).

Post-hoc tests on the state anxiety data revealed that, for the low-uncertainty group, anxiety scores decreased significantly from Day 1 pre-op to Day 3 post-op (NK: $p < .05$), and from Day 1 pre-op to Day 6 post-op (NK: $p < .01$) (Table 3). Low uncertainty women experienced less state anxiety on Day 3 post-op and Day 6 post-op than they experienced on Day 1 pre-op. In contrast, high-uncertainty women experienced no change in state anxiety over the period of hospitalization. Using the same Newman-Keuls test, comparisons were made between state anxiety scores for high- and low-uncertainty groups at each time (Table 3). High- and low-uncertainty groups did not differ significantly on state anxiety level on Day 1 pre-op or on Day 3 post-op. However, at Day 6 post-op, high-uncertainty women reported higher state anxiety scores than low-uncertainty women (NK:$p < .01$).

Table 3

Comparison of Mean State Anxiety Scores for High- and Low-uncertainty Groups at Time 1, Time 2, and Time 3

Groups	Pre-op Day 1	Post-op Day 3	Post-op Day 6
High-uncertainty	42.1	35.0	37.6
	N.S.	N.S.	
		N.S.	
	N.S.	N.S.	* *
Low-uncertainty	37.7	29.0	23.5
	*	N.S.	
		**	

Newman-Keuls: *$p < .05$, two-tailed.
**$p < .01$, two-tailed.
N.S. = Nonsignificant.

Uncertainty and trait anxiety. To investigate whether or not uncertainty levels were related to trait anxiety, as opposed to state anxiety, the uncertainty data were again classified into high- and low-uncertainty groups.

Because trait anxiety was measured only on Day 1 pre-op, a one-way ANOVA on trait anxiety was calculated with uncertainty (high and low) as the independent variable. No significant difference in trait anxiety levels was found between high- and low-uncertainty groups (M: 35.6 vs 30.3, p >.05). It should also be noted that the background characteristics of age, education, and number of previous hospitalizations were not related to levels of uncertainty or anxiety.

In summary, high- and low-uncertainty women did not differ on trait anxiety. When high- and low-uncertainty groups were compared at each time period, the groups did not differ in their level of state anxiety at Day 1 pre-op; anxiety levels were at their highest during this time period for both groups. At Day 3 post-op, however, the level of state anxiety for the high-uncertainty group was higher (marginally significant) than for the low-uncertainty group, and, by Day 6 post-op, high-uncertainty women's anxiety levels remained significantly higher than the anxiety levels of low-uncertainty women.

Discussion

Uncertainty is an important construct in nursing, yet, only recently have its properties and its variability been systematically described for patients hospitalized for different conditions (Mishel, 1981, 1983). This study further extends our knowledge about the construct by examining how uncertainty changes over the course of hospitalization that involves surgical intervention, and by exploring its relationship with the interrelated anxiety construct.

The trajectory of uncertainty

The higher levels of uncertainty found before surgery may be related to the larger number of uncertainty issues patients face preoperatively. This finding is consistent with those in Drellich and Bieber's (1958) descriptive study, which found that, preoperatively, hysterectomy patients showed a wide range of uncertainties related to imminent surgery as well as uncertainties associated with outcomes.

The significant decrease in levels of unpredictability over the period of hospitalization, accompanied by significantly lower but unchanging levels of multi-attributed ambiguity, may indicate that uncertainty of a multi-ambiguous nature is more easily resolved than uncertainty of an unpredictable nature. Mishel's (1983) definitions of unpredictability and multi-attributed ambiguity reveal that an important difference in the nature of the concerns that are reflected in the two types of uncertainty lies in the individual's ability or inability to do something about them. For example, in terms of multi-attributed ambiguity, if an individual gets what she perceives to be conflicting information about certain aspects of the treatment, she can clarify

the discrepancy by verbalizing her confusion. Levels of unpredictability, however, are dependent upon areas that are not easily verbalized – what *my* pain is going to be like, how long it will take *me* to recover, or how *I* will cope with unexpected bad days. In other words, the majority of questions are not really answerable until the events have been experienced. Thus, it is possible that the significant decrease in unpredictability may occur because the patient has already experienced the outcomes of some of the events that gave rise to the feelings of unpredictability. The unchanging and lower level of multi-attributed ambiguity, however, may be an indication that patients were able to resolve, on an on-going basis throughout hospitalization, the issues giving rise to this type of uncertainty. Future investigations should help clarify the reasons for this difference.

The trajectory of state anxiety

Patients experienced a higher level of anxiety before the operation than after the operation. The significant decrease in anxiety level between Day 1 pre-op and Day 3 post-op was unexpected, in light of other research (Auerbach, 1973; Johnston, 1980). In Johnston's (1980) series of studies, hysterectomy patients showed no significant change between anxiety levels at Day 1 pre-op and Day 2 post-op or Day 4 post-op, however, a significant decrease in anxiety level was found between Day 1 pre-op and Day 6 post-op. One possible explanation for the discrepancy between the findings of this study and those of Johnston's study may be the different forms used to measure anxiety. Although both studies used the Spielberger State-Trait Anxiety Inventory, Johnston used a form that measured both anxiety and depression, while this study used the Spielberger form that measured only anxiety. An alternative possibility may lie in differences in study population between studies. Johnston's respondents may have included patients undergoing either malignant or benign surgery, while, in this study, only women undergoing a hysterectomy for benign disease were included. If this were the case, it is conceivable that anxiety levels would be higher in oncology patients; this might account for Johnston's higher anxiety scores.

Because levels of anxiety were higher before surgery than afterwards, the reduction of preoperative anxiety may be an important goal for nurses. Intervening to reduce mild anxiety is usually unnecessary. However, moderate anxiety may take on characteristics of severe anxiety and necessitate some form of nursing intervention (Francis & Mungas, 1968). The choice of intervention would depend upon the initial nursing assessment of the patient's anxiety level, and on an assessment of the type of uncertainty with which it is associated. Differentiation among unpredictability issues and multi-attributed ambiguity issues associated with the anxiety may be necessary so that nursing interventions can be directed to the appropriate issue.

The relationship between uncertainty and state anxiety

The finding that high-uncertainty women also had higher levels of anxiety throughout the hospitalization course, as compared to low-uncertainty women's levels of anxiety, may have important implications for nursing practice. It may be that low-uncertainty women are able to deal more effectively with the situation than high-uncertainty women, thereby requiring less nursing intervention. If this is the case, nurses may want to direct their efforts toward identifying women who are experiencing high levels of uncertainty and toward planning appropriate interventions to enable them to cope with the situation.

Women who are low in uncertainty may provide invaluable cues as to how best to help women suffering from high levels of uncertainty. A first step toward this end may be to learn more about the factors, be they dispositional or situational, that affect uncertainty levels. This information may provide direction for intervening with high-uncertainty women.

REFERENCES

Auerbach, S.M. (1973). Trait-state anxiety and adjustment to surgery. *Journal of Consulting and Clinical Psychology, 40*, 264-271.

Auerbach, S.M., & Kilmann, P.R. (1977). Crisis intervention: A review of outcome research. *Psychological Bulletin, 84*, 1189-1217.

Dennerstein, L., Wood, C., & Burrows, C.D. (1977). Sexual response following hysterectomy and oophorectomy. *Obstetrics and Gynecology, 49*, 92-96.

Drellich, M.G., & Bieber, I. (1958). The psychologic importance of the uterus and its functions: Some psychoanalytic implications of hysterectomy. *Journal of Nervous and Mental Disease, 126*, 322-334.

Folkman, S., Schaefer, C., & Lazarus, R.S. (1979). Cognitive processes as mediators of stress and coping. In V. Hamilton & D.M. Warburton (Eds.), *Human stress and cognition* (pp. 265-298). New York: John Wiley.

Francis, G.M., & Mungas, B. (1968). *Promoting psychological comfort.* Dubuque, IA: Wm. C. Brown.

Freud, S. (1936). *The problem of anxiety*. New York: The Psychoanalytic Quarterly Press.

Johnston, M. (1980). Anxiety in sugical patients. *Psychological Medicine, 10*, 153-157.

Lazarus, R.S., & Averill, J.R. (1972). Emotion and cognition with special reference to anxiety. In C.D. Spielberger (Ed.), *Anxiety: Current trends in theory and research*, Vol. 2 (pp. 241-283). New York: Academic Press.

May, R. (1950). *The meaning of anxiety*. New York: Ronald Press.

Mishel, M.H. (1981). The measurement of uncertainty in illness. *Nursing Research, 30*, 258-263.

Mishel, M.H. (1983). Adjusting the fit: Development of uncertainty scales for specific clinical populations. *Western Journal of Nursing Research, 5,* 355-370.

Mishel, M.H. (1984). Perceived uncertainty and stress in illness. *Research in Nursing and Health, 1,* 163-171.

Mishel, M.H., Hostetter, T., King, B., & Graham, V. (1984). Predictors of psychological adjustment in patients newly diagnosed with gynecological cancer. *Cancer Nursing, 7,* 291-299.

Monat, A. (1976). Temporal uncertainty, anticipation time, and cognitive coping under threat. *Journal of Human Stress, 2*(2), 32-43.

Monat, A., Averill, J.R., & Lazarus, R.S. (1972). Anticipatory stress and coping reactions under various conditions of uncertainty. *Journal of Personality and Social Psychology, 24,* 237-253.

Norton, R.W. (1975). Measurement of ambiguity tolerance. *Journal of Personality Assessment, 39,* 607-619.

Pervin, L.A. (1963). The need to predict and control under conditions of threat. *Journal of Personality, 31,* 570-587.

Spielberger, C.D. (1972). Trends in theory and research on anxiety. In C.D. Spielberger (Ed.), *Anxiety: Current trends in theory and research,* Vol. 1 (pp. 3-19). New York: Academic Press.

Spielberger, C.D. (1983). *Manual for the state-trait anxiety inventory: STAI (Form Y).* Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C.D., Gorsuch, R.L., & Lushene, R.E. (1970). *STAI Manual.* Palo Alto, CA: Consulting Psychologists Press.

Sullivan, H.S. (1953). *Conceptions of modern psychiatry.* New York: W.W. Norton.

Webb, C., & Wilson-Barnett, J. (1983). Hysterectomy: A study in coping with recovery. *Journal of Advanced Nursing, 8,* 311-319.

The authors wish to thank Dr. Nancy Frasure-Smith for her valuable suggestions.

RÉSUMÉ

Incertitude et angoisse des femmes hospitalisées pour subir une hystérectomie

Cette étude visait un double but: (a) analyser le cheminement de l'incertitude et de l'angoisse des femmes au cours de l'hospitalisation et (b) examiner la corrélation entre l'incertitude et l'angoisse. L'échantillon se composait de 20 femmes devant subir une hystérectomie pour cause de tumeur non cancéreuse. On leur a administré la Mishel Uncertainty in Illness Scale (MUIS) et le Spielberger State-Trait Anxiety Inventory (STAI) à trois reprises: le premier jour avant l'opération, le troisième jour après l'opération et le sixième jour après l'opération. Les conclusions sont les suivantes: (a) l'incertitude se compose de deux éléments, à savoir son caractère imprévisible et son ambiguité à causes multiples; (b) le niveau d'incertitude a régressé entre le premier jour avant l'opération et le troisième jour après l'opération, pour se stabiliser ensuite; (c) la régression du niveau d'incertitude s'explique par le changement du caractère imprévisible plutôt que par l'ambiguité à causes multiples; (d) les patientes à niveau d'incertitude élevé et les patientes à bas niveau d'incertitude présentent des niveaux d'angoisse analogues le premier jour avant l'opération et le troisième jour après l'opération, mais il n'en demeure pas moins que les patientes à haut niveau d'incertitude ont un niveau d'angoisse plus élevé le sixième jour après l'opération par rapport à leurs homologues à faible niveau d'incertitude.

INFORMATION FOR AUTHORS

Nursing Papers/Perspectives en nursing welcomes research and scholarly manuscripts of relevance to nursing and health care. Please send manuscripts to *The Editor, Nursing Papers/Perspectives en nursing*. School of Nursing, McGill University, 3506 University Street, Montreal, QC, H3A 2A7, Canada.

Procedure

Please submit three double-spaced copies of the manuscript on 216mm x 279mm paper, using generous margins. Include a covering letter giving the name, address, present affiliation of the author(s). It is understood that articles submitted for consideration have not been simultaneously submitted to any other publication. Please include with your article a statement of ownership and assignment of copyright in the form as follows: "I hereby declare that I am the sole proprietor of all rights to my original article entitled ' ' and that I assign all rights to copyright to the School of Nursing, McGill University, for publication in *Nursing Papers/Perspectives en nursing*. Date ____, Signature_____."

Style and Format

Acceptable length of a manuscript is between 10 and 15 pages. The article may be written in English or French, and must be accompanied by a 100-200 word abstract (if possible, in the other language). Please submit original diagrams, drawn in India ink and camera-ready. Prospective authors are asked to place references to their own work on a separate sheet and to follow the style and content requirements detailed in the Publication Manual of the American Psychological Association (3rd. ed.), Washington, DC: APA, 1983.

Manuscript Review

Manuscripts submitted to *Nursing Papers/Perspectives en nursing* are assesssed anonymously by two members of a Review Board, using the following criteria:

Assessing content

Internal validity - relatedness: Is the problem the paper deals with identified? Is the design of the research or the structure of the essay appropriate to the question asked? Are the statistical, research and logical methods appropriate? Can the findings be justified by the data presented? Are the implications based on the findings?

External validity - relevance, accountability: Is the question worth asking? Is the problem of concern? Are there problems of confidentiality or ethics? Are the findings of the research or the conclusions of the essay significant? Can the findings or the conclusions be applied in other situations? Does the article contribute to knowledge in nursing? In what way?

Assessing presentation

Are the ideas developed logically? Are they expressed clearly? Is the length appropriate to the subject? Does the number of references or tables exceed what is needed?

Publication Information

On receipt of the original manuscript, the author is advised that the editorial board's response will be forwarded within six weeks. When a manuscript is returned to the author for revision, three copies of the revised manuscript (dated and marked 'revised') should be returned to the editor within four weeks. The complete procedure of review, revision, copy editing, typesetting, proofreading and printing may result in a six to eight month lapse between submission and publication.

RENSEIGNEMENTS Á L'INTENTION DES AUTEURS

La revue *Nursing Papers/Perspectives en nursing* accueille avec plaisir des articles de recherche ayant trait aux sciences infirmières et aux soins de la santé. Veuillez adresser vos manuscrits à la rédactrice en chef, *Nursing Papers/Perspectives en nursing*, Ecole des sciences infirmières, Université McGill, 3506 rue University, Montréal, QC, H3A 2A7.

Modalités

Veuillez envoyer trois exemplaires de votre article dactylographié à double interligne sur des feuilles de papier de 216mm x 279mm en respectant des marges généreuses, accompagné d'une lettre qui indiquera le nom, l'adresse et l'affiliation de l'auteur ou des auteurs. Il est entendu que les articles soumis n'ont pas été simultanément présentés à d'autres revues. Veuillez inclure avec votre article une déclaration de propriété et de cession de droit d'auteur conformément à la formule suivante: "Je déclare par la présente que je suis le seul propriétaire de tous droits relatifs à mon article intitulé ' ' et je cède mon droit d'auteur à l'École des sciences infirmières de l'Université McGill, pour fins de publication dans *Nursing Papers/Perspectives en nursing*. Date _____, Signature _____."

Style de présentation

La longueur acceptable d'un article doit osciller entre 10 et 15 pages. Les articles peuvent être rédigés soit en anglais, soit en français et ils doivent être accompagnés d'un résumé de 100 à 200 mots (si possible, dans l'autre langue). Veuillez remettre l'original des schémas, dessinés à l'encre de Chine et prêts à être photographiés. Les auteurs sont tenus de fournir les références à leurs propres oeuvres sur une feuille séparée et de suivre les consignes énoncées dans le Publication Manual of the American Psychological Association (3rd. ed.), Washington, D.C.: APA, 1983, en ce qui concerne le style et le contenu de leurs articles.

Examen des manuscrits

Les manuscrits présentés à la revue *Nursing Papers/Perspectives en nursing* sont évalués de façon anonyme par deux lectrices selon les critères suivants:

Evaluation du fond

Validité interne: Le problème dont traite l'article est-il clairement défini? La forme des recherches ou la structure de l'essai sont-elles appropriées à la question soulevée? Les méthodes statistiques, logiques et les modalités de recherche sont-elles appropriées? Les conclusions peuvent-elles être justifiées à l'aide des données présentées? Les implications de l'article sont-elles fondées sur les conclusions?

Validité externe: Le problème soulevé présente-t-il un intérêt véritable? Ce problème est-il d'actualité? Existe-t-il des problèmes de divulgation ou de déontologie? Les conclusions de la recherche ou de l'article sont-elles importantes? Ces conclusions ou résultats peuvent-ils s'appliquer à d'autres situations? Est-ce que l'article contribue à l'avancement du savoir dans le domaine des sciences infirmières? De quelle façon?

Evaluation de la présentation

L'auteur développe-t-il ses idées de manière logique? Les exprime-t-il clairement? La longueur de son article est-elle appropriée au sujet abordé? Est-ce que le nombre de références ou de tableaux dépasse le strict nécessaire?

Renseignements relatifs à la publication

A la réception du manuscrit original, l'auteur est avisé que le Comité de rédaction prendra une décision au sujet de la publication de son article dans les six semaines. Lorsqu'un manuscrit est renvoyé à son auteur pour qu'il le remanie, trois exemplaires dudit manuscrit remanié (daté et portant l'inscription "revu et corrigé") doivent être renvoyés à la rédactrice en chef dans les quatre semaines. Les modalités complètes de lecture, de remaniement, d'édition, de composition et d'imprimerie expliquent qu'il s'écoule souvent de six à huit mois avant qu'un article soumis soit publié.

The 16th Annual
Ontario Occupational Health Nurses Conference

Theme: "Capital Gains:
Location: Chateau Laurier Hotel, Ottawa
Dates: October 21, 22, 23, 1987

For further information contact:

Barbara Taylor
1116 Castle Hill Drive
Ottawa, Ontario K2C 2A8
Telephone: (613) 725-4161

McGILL UNIVERSITY
SCHOOL OF NURSING

GRADUATE PROGRAMS IN NURSING

MASTER OF SCIENCE (WITH THESIS)
MASTER OF SCIENCE (APPLIED)

These programs have been designed to prepare clinicians and researchers for the expanding function of nursing within the health care delivery system. Preparation for the teaching of nursing or the management of nursing service is also offered.

Admission requirements

Either a Baccalaureate degree in Nursing comparable to B.Sc.(N) or B.N. from McGill; or a Baccalaureate degree comparable to B.A. or B.Sc. offered at McGill (for those with no nursing preparation).

Length of program

Two years for those with nursing degrees;
Three years for non-nurses.

Language of study: English

Further information from:

Associate Director, School of Nursing
Graduate Programs
3506 University Street
Montreal, QC, H3A 2A7

Enquiries regarding **Ph.D. studies**
should also be made to the
Associate Director, Graduate Programs