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## RESEARCH DOLLARS: WHO'S PASSING THE BUCK?

In the last issue of this Journal, in this issue and in the one that is now in preparation, we see perspectives on the development of scholarly activity and research in Nursing in Canada. We also note a growing concern with the bottom-line question, "Who is funding this development and who should be funding nursing research?" In this issue, Hardy claims that, while the number of projects funded for nursing research has increased dramatically in a 10-year period, the amount of funding for projects has actually decreased. She makes some comparisons with American data, and this is somewhat confusing as the context of those figures is not clear. However, what is particularly meaningful is the fact that the budget of the National Center for Nursing Research, in the USA, is actually somewhat higher than the entire budget for Canada's NHRDP. Given the number of other federal sources of funding in the USA, we might conclude that, overall, funding for health and health care research is sorely inadequate in Canada. Furthermore, Hardy goes on to state that nurses receive less than one percent of the available health care research funding in Canada. This estimate is based on the federal funding agencies' data. It must be noted that provincial funding of health and health care research varies considerably from one province to another and, in some provinces, Nursing fares more successfully than in others.

Scholarly productivity is reflected in publication rates. In the last issue of this publication, Acorn reported that doctorally-prepared nurses publish an average of 4.1 research-based articles in refereed journals, based on a sample of five university schools of nursing, over a three-year period. Projecting, from Acorn's data, to a minimum of 220 doctorally-prepared nurses in Canada, an estimated 300 papers a year should be published in refereed journals by doctorally-prepared nurses. While Acorn's data are not comparative in a developmental sense, and while this publication rate would not be considered high by many disciplines, this is probably a reasonable estimate.

Approximately 150 manuscripts are submitted each year to the *Canadian Journal of Nursing Research*. Of this number we are only able to publish between 30 and 35. Evidently, there is a need for more peer-reviewed journals in Canada. In the past few months, we have, in fact, witnessed the development of several new journals.

How many of the published manuscripts are based on funded research? Acorn reported that, in her sample, there was an average of 1.63 funded grants per faculty member. Barbara LaPerrière\* and I decided to take a look at the number of manuscripts that have been based on funded research, in our own journal. In the five-year period from 1980 through 1984, only 20% of

the manuscripts appearing in this publication acknowledged external research support. However, of that 20%, 50% were funded by national research agencies, such as NHRDP and SSHRC. In the five-year period from 1985 through 1989, the percentage of manuscripts acknowledging external support increased to 40%. Of this 40%, however, only 32% were funded by the national agencies: again, NHRDP and SSHRC were most commonly referred to. These data suggest that, while the actual number of funded projects and manuscripts based on funding has increased, there has been a proportionate decline in those supported by the national funding agencies.

Assumptions about these data can be questioned: Do all authors actually acknowledge external support? Are the manuscripts published in this journal, in some way, representative of a national trend. Naturally, we cannot come to any particularly valid conclusions. However, our observations may be another indicator that supports some of Hardy's observations on the national funding of nursing research.

The question that continues to challenge me is this. Why is it that when Ministers of Health, such as Begin and, more recently, Jake Epp (The Epp Report, 1989) clearly place priorities for health research on areas that are the very substance of nursing research, these recommendations do not translate into the actual funding of health research? Who is passing the buck, or not passing the bucks, as the case seems to be? Is Hardy correct that it is the entrenchment of a system by a dominant group that prevents changes in patterns of research funding? There is, undoubtedly, some truth in that conclusion. But are there other factors that we have not considered? If we were to understand fully all of the forces and variables that determine the policies of such agencies as MRC, NHRDP and SSHRC, would that understanding lead us to a variety of activities that might produce change?

Degner, in the Editorial of Volume 22, Number 1, states that Canada will not achieve an established level of research in Nursing until there is a stable national funding source to support research in the discipline. She suggests that the Medical Research Council of Canada should establish a separate review committee for nursing research by the year 1992. Given that the MRC budget is six times that of the NHRDP budget, this seems a reasonable suggestion. Both Hardy and Degner recommend a national lobby of nurses, as an important means of effecting change. What do you, the readers, think? Should we, and can we, mount a powerful lobby that would result in a firm commitment by the Government of Canada to support research in the discipline of Nursing?

**Mary Ellen Jeans**

\*Barbara LaPerrière is a graduate student in Nursing at McGill University. She works with the Journal as part of her research training.

## LES CRÉDITS DE RECHERCHE: QUI RENVOIT LA BALLE A QUI?

Dans le dernier numéro de cette revue, dans celui-ci et dans celui qui est en cours de préparation, nous analysons plusieurs points de vue sur le développement des activités savantes et des recherches infirmières au Canada. Nous constatons également un souci croissant pour la question de fonds, à savoir «qui finance ce développement et qui doit financer la recherche infirmière?» Dans ce numéro, Hardy soutient que tandis que le nombre de projets de recherches infirmières subventionnés a connu une hausse spectaculaire en l'espace de 10 ans, le financement des projets a en fait baissé. Elle compare les données canadiennes aux données américaines, ce qui sème quelque peu la confusion, ces chiffres n'étant pas très clairs. Ce qui est intéressant toutefois, c'est le fait que le budget du National Center for Nursing Research, aux États-Unis, est en réalité plus élevé que le budget total du PNRDS au Canada. Compte tenu du nombre d'autres organismes subventionnaires fédéraux aux États-Unis, nous pourrions conclure que dans l'ensemble, le financement de la recherche médico-sanitaire est réellement insuffisant au Canada. Hardy déclare en outre que les infirmiers et infirmières reçoivent moins de un pour cent des crédits de recherche affectés aux soins de la santé au Canada. Cette estimation est fondée sur les données des organismes subventionnaires fédéraux. Il faut noter que le financement de la recherche médicale par les gouvernements provinciaux varie considérablement d'une province à l'autre et que dans certaines provinces, la recherche infirmière obtient davantage que dans d'autres.

La productivité des chercheurs se reflète dans les taux de publication. Dans le dernier numéro de notre revue, Acorn signalait que les infirmiers et infirmières titulaires d'un doctorat publiaient en moyenne 4,1 articles de recherche dans des revues avec comité de lecture d'après un échantillonnage de 5 écoles de sciences infirmières universitaires réalisé au cours d'une période de 3 ans. Si l'on projette les données d'Acorn sur au moins 220 infirmiers et infirmières titulaires d'un doctorat au Canada, environ 300 articles devraient être publiés chaque année dans des revues avec comité de lecture par des infirmiers et infirmières de ce niveau.

Alors que les données d'Acorn ne sont pas comparatives sur le plan évolutif et que ce taux de publication ne serait pas jugé très élevé dans de nombreuses disciplines, il s'agit sans doute d'une estimation raisonnable.

Environ 150 manuscrits sont soumis chaque année au *Revue canadienne de recherche en sciences infirmières*. Sur ce nombre, nous ne pouvons en publier que 30 à 35. De toute évidence, les revues canadiennes avec comité

de lecture font cruellement défaut. Ces derniers mois, nous avons de fait assisté à la création de plusieurs nouvelles revues.

Sur le nombre de manuscrits publiés, combien sont basés sur des recherches subventionnées? Acorn signale que dans son échantillon, elle a recensé en moyenne 1,63 subventions par membre du corps enseignant. Barbara LaPerrière\* et moi-même avons décidé d'analyser le nombre de manuscrits basés sur des recherches subventionnées dans notre propre revue. Entre 1980 et 1984, 20 % seulement des manuscrits publiés dans cette revue faisaient état d'une subvention de recherche extérieure. Toutefois, sur ces 20 %, 50 % étaient financés par des organismes de recherche nationaux, comme le PNRDS et le CRSHC. Entre 1985 et 1989, le pourcentage de manuscrits faisant état d'un financement extérieur est passé à 40 %. Sur ces 40 % toutefois, 32 % seulement étaient financés par des organismes nationaux, à nouveau le PNRDS et le CRSHC. Il ressort de ces chiffres que si le nombre effectif de projets et de manuscrits subventionnés a augmenté, on a assisté à un recul proportionnel du nombre financé par les organismes subventionnaires nationaux.

On peut douter de la valeur des hypothèses relatives à ces données: les auteurs font-ils tous état d'un financement extérieur? Les manuscrits publiés dans cette revue sont-ils représentatifs d'une dynamique nationale? Naturellement, nous ne pouvons en tirer de conclusions particulièrement valables. Toutefois, nos constatations corroborent certaines observations de Hardy sur le financement national de la recherche infirmière.

La question qui ne cesse de me préoccuper est celle-ci. Comment se fait-il que lorsque les ministres de la Santé comme Mme Bégin et plus récemment M. Jack Epp (Le Rapport Epp de 1989) inscrivent manifestement en tête de liste des priorités de la recherche médicale les secteurs qui constituent l'essence même de la recherche infirmière, ces recommandations ne se traduisent pas par le financement effectif de la recherche médicale? Qui renvoie la balle à qui ou ne la renvoie pas comme cela semble être le cas? Hardy a-t-elle raison de prétendre que c'est le retranchement d'un système par un groupe dominant qui empêche tout changement dans la façon dont est financée la recherche? Il est incontestable qu'il y a une certaine part de vérité dans cette conclusion. Y a-t-il d'autres facteurs dont il faille tenir compte? Si nous voulons comprendre toutes les forces et les variables qui dictent les politiques d'organismes comme le CRM, le PNRDS et le CRSHC, en arriverons-nous à une pléthore d'activités de nature à provoquer des changements?

Dans l'éditorial du volume 22, numéro 1, Degner déclare que le Canada ne parviendra pas à un niveau de recherche infirmière établi tant qu'il n'y aura pas une source de financement stable pour subventionner les recherches dans

cette discipline. Elle propose que le Conseil de recherches médicales du Canada établisse un comité d'examen distinct pour les recherches infirmières d'ici 1992. Compte tenu du fait que le budget du CRM est six fois plus élevé que celui du PNRDS, cette suggestion ne semble pas déraisonnable. Tant Hardy que Degner recommandent un groupe de pression nationale des infirmiers et infirmières comme véhicule de changement efficace. Qu'en pensent les lecteurs? Devons-nous et pouvons-nous établir un groupe de pression assez puissant qui obligera le gouvernement canadien à s'engager à financer la recherche dans le domaine des sciences infirmières?

**Mary Ellen Jeans**

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# THE EXPRESSED EMPATHY OF PSYCHIATRIC NURSING STAFF

Ruth Gallop, W.J. Lancee and Paul Garfinkel

The acquisition of effective interpersonal skills is assumed to be inherent in the practice of professional nursing. All curricula provide courses in communication theory. Nursing theorists such as King (1981) stress the need for determining goals for care with the client. Benner (1984), describes one of the steps in the healing relationship as "finding an acceptable interpretation or understanding of the illness, pain, fear, anxiety, or other stressful emotion" (p.49). Pioneers in psychiatric nursing have all written of the necessity of paying attention to the spoken and unspoken messages of the patient (Orlando, 1961; Peplau, 1952; Tudor, 1952). In addition, nurses have emphasized the role of empathy, "the ability to know or understand the experience of another" (Bachrach, 1976) as a critical and necessary clinical tool (Brunt, 1985; Forsyth, 1979; Gagan, 1983; La Monica, Caren, Winder, Hasse & Blanchard, 1976). Thus, it follows that the empathic process is dependent upon the nurse paying attention to the meanings and interpretations patients place upon events in their lives. The subjective meaning or experience of an event may vary widely. The experience of empathy between a nurse and his or her patient is a dynamic process. This process is articulated by the authors in a previous paper (Gallop, Lancee & Garfinkel, 1990). That this process is hard to measure is evident from the enormous body of literature on the definitional, operational and measurement problems associated with the study of empathy. One way of measuring a part of the empathic process is to consider the verbally-expressed empathy of the nurse. Of course, this measures only one aspect of the empathic process and does not consider other aspects such as non-verbal expressions of empathy and the experience of empathy as perceived by the patient.

A review of the empirical literature on nurse-patient communication reveals that nurses tend to offer advice and provide information and pay little atten-

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tion to the subjective experience of the patient. One explanation for these behaviours, suggests that interpersonal skills are associated by nurses with working in psychiatric settings and not generalized to other nursing situations (Hills and Knowles, 1983). If this is the case then one would predict that studies of response behaviours of psychiatric nurses would demonstrate satisfactory interpersonal and empathic skills. In the study described in this paper, the responses of 113 psychiatric nurses to hypothetical patient statements are examined for attention to the subjective experience of the hypothetical patient and evidence of expressed empathy. In particular, we have investigated whether the nurses inquire into the meaning of the statement to further their understanding of the patient's experience?

### **Communication Research**

Empirical studies of nurses' communication skills reveal generally low levels of inquiry with regard to the feelings and perceptions of patients. For example, in a study by Mathews (1962), nurses responded to nine patient stimuli. Data were analyzed using a binary decision tree grounded in person centred concepts (Rogers, 1957). Only eight out of 122 nurses gave one or more responses that encouraged the patient to disclose what he or she was experiencing. Graffam (1970) observed 75 nurses responding to 157 incidents of patient complaints of distress. Forty-two percent of the nurses performed no further inquiry in response to the complaints; one-third made a verbal inquiry; and, in only 10% of incidents nurses explored the patient's subjective experience. Another 23% either demonstrated blocking behaviours (e.g. the patient was ignored) or belittled the patient (e.g. scolded, contradicted). Clark (1981) analyzed audio and video tapes of nurse - patient interactions on general medical and surgical wards. The dominant technique used by the nurses "discouraged" or "blocked" communication. Other studies have found a similar paucity of inquiry about feelings or perceptions. In a content analysis of 30 nurses' verbal communications after a course in communication, Forrest (1982) found that only 3% either verbalized implied thoughts or acknowledged feelings. While the majority of the nurses' behaviours could be considered facilitative, 45% of these responses were general leads (e.g. "Go on" or "uh-huh"). Twenty two per cent of the responses were blocking responses.

Macilwaine (1978) examined nurses' interactions with female neurotic patients and found the majority of interactions were defined as administrative. The second highest set of interactions offered emotional support. Interestingly, a second categorization revealed that over 50% of the administrative or emotional support interactions were considered either banal and stereotypical conversation or the transmission of basic practical information.

The studies examining the empathic skills of nurses have contradictory findings. Some studies, have found that nurses fail to score above the mini-



mally facilitative level (Hills and Knowles, 1983; La Monica et al., 1976). Such low scores may reflect characteristics of the nurse or may be a reflection of the inadequacy of scales such as the Carkhuff (1969) empathy scales in measuring the empathic responses of nurses. These scales define very broad categories which are poorly operationalized and may be inappropriate for the everyday spontaneous interactions of nursing (Gagan, 1983). In addition, serious questions concerning the reliability and validity of these scales have been raised (Lambert, DeJulio & Stein, 1978). On the other hand, Forsyth (1979) reported consistently high levels of empathy when patients rated their nurses. Similarly, La Monica, Wolf, Madea and Oberst (1987) reported high empathy scores for both client report and nurse self report pre and post empathy training programs. The lack of range in the results may be explained by a "ceiling" affect as La Monica et al. (1987) suggest, or it may suggest a serious limitation in method in the self-reporting of empathy. In addition, it may call into question the technique of asking clients to provide concurrent ratings of their caregivers, despite assurances of confidentiality.

Olson and Iwasiw (1989) examined the verbal empathy of nurses in response to videotapes of simulated patient situations. Subjects were most likely to identify feelings in situations combining pain and anger, while they were most likely to suppress feelings in situations combining anxiety and anger.

The study described below reports on the communication styles of 113 nurses employed in psychiatric nursing. The primary function of the study, reported elsewhere, was to examine the influence of diagnostic labelling on the expressed or verbalized empathy of the nurses (Gallop, Lancee & Garfinkel, 1989). Briefly, subjects were found to differ significantly on the use of belittling response and levels of expressed empathy, according to diagnostic label. In this paper we examine general styles of communication, regardless of diagnostic label of the hypothetical patient.

## Methods

Subjects for this study were registered nurses working in five short-stay, acute psychiatric settings. Settings included teaching and non-teaching units within general hospital and psychiatric hospital facilities. One hundred and thirty six nurses were approached to participate in the study. Informed consent was obtained and the study was conducted in an anonymous fashion. One hundred and twenty four nurses participated. Mean age of the subjects fell in the 31-35 category. Years of experience ranged from 0 to 30, with a mean of 8.4 years and a median of 5.5 years. The majority of nurses were diploma graduates (n=112); 12 held university degrees (n=12). Five subjects were eliminated because of missing data, six were eliminated because they indicated that their primary location of employment was the outpatient department leaving 113 subjects for data analysis.

## *Instrument*

Each subject completed the *Staff Patient Interaction Scale* (SPIR) for this study (Gallop et al., 1989). This four page scale facilitates the manoeuvring of experimental variables by allowing the systematic manipulation of contexts.

The SPIR scale was developed from a theoretical view of therapeutic empathy as a multiphasic time sequenced process (Gallop et al. 1990). Each of the three phases in this process: engagement, matching of experiences and participatory - helping have particular outcomes. For example, when presented with a patient stimulus, the nurse may become *engaged*. Engagement requires the maintenance of the communication either by inquiry into surface content, inquiry into non-surface content (i.e. affective content) or an expression of care and concern that indicates to the patient that the nurse is interested in hearing more. However, the nurse, under the influence of numerous mediating such variables as stereotypic views of patients with a particular diagnosis, fatigue, ward pressures or anxiety about the stimulus content, may avoid engagement by defensive behaviours such as belittlement or solution behaviours such as explaining rules. These latter behaviours are likely to close down the empathic process. The categories in the SPIR scale represent the operationalization of these outcomes. A detailed explanation of the theoretical model may be found in Gallop et al. 1990.

The SPIR scale is an analogue scale that uses the written responses to hypothetical patient stimuli to assess the expressed empathy of staff. The stimuli are referred to within contexts that incorporate the independent variables under consideration. An example of a context and stimulus set are shown in Figure 1. Each of the four pages of the scale reveals a context and five statements. The four pages are equivalent forms but the phrasing of the statements is not identical. The five patient statements on each page are presented in a random order. Subjects are given 30 minutes to complete the scale.

Two raters were trained by the investigators, according to a prepared manual. Raters were trained until an interrater reliability of 0.80 was obtained. Random interrater checks of 20% of the responses were conducted during the study to ensure maintenance of the reliability level. Responses were scored on the ten category response scale shown in Table 1. These ten categories, represent an ascending hierarchy of expressed empathy. Each response can be scored in multiple categories thus eliminating the rater subjectivity required in forced choice responses. Context was not revealed to the raters.

"A" is a patient in her mid-twenties.  
She has history of *multiple* psychiatric admissions.  
She was admitted to hospital 8 days ago.  
"A" has a diagnosis of *borderline personality disorder*

1.I just want to stay in bed - please.

*You respond:*

2.Having to sit in a circle with a group of people again is stupid. I don't want to go.

*You respond:*

3.Life's not worth living. There is nothing anyone can do.

*You respond:*

4.Its really nice having a nurse who understands me, not like the others.

*You respond:*

5.Go away - get off my case - don't you ever give up?

*You respond:*

**Figure 1**  
**Example of Context and Stimulus Set From SPIR Scale**

***Data analysis***

The ten scoring categories represent three levels of empathic care as conceptualized by the investigators. These three levels are:

1. No care - categories 1 and 2
2. Solution - categories 3, 4, 5 and 6
3. Affective involvement - categories 7, 8, 9, and 10.

Data were analyzed according to overall usage of each of the ten categories and these three levels of empathy. In addition, a total empathy score was calculated for each subject. In order to do this, only the highest category response was used for calculation of the total empathy score when raters indicated multiple categories for a response. There was one exception: when category 1. "belittles, contradicts or requires defense" was indicated within a response, this category overrode all other categories because it was assumed that the negative content of this response cancelled any concomitant positive content. A total empathy score was then calculated using weights of -1, 0, 1 and 2. A subject received a score of -1 for each category 1 response (i.e. belittles, contradicts) and 0 for a category 2 response. Responses in level 2 were given a score of 1, and responses in level 3 a score of 2 points. A maxi-

mum empathy score of 40 was therefore possible (20 statements x 2 for each). Total empathy scores of the subjects ranged from -1 to 34 with a median and mean of 22. Table 1 illustrates the frequencies of the highest level response according to the ten categories and the three levels of empathy.

Chi-square analysis for independent proportions was used to examine the association of age, experience and education with total empathy scores. Non-parametric analysis of variance was used to examined setting effects.

**Table 1**

*Frequency of Category Endorsement According to Highest Response Level*

	Number of Responses	
	N	%
<i>Level 1 categories: "No care"</i>	456	20
1. belittles, contradicts	146	6.4
2. platitudes, cliches	310	13.7
<i>Level 2 categories: "Solution"</i>	1158	51
3. explains rules or process	559	24.7
4. tells patient to do something	59	2.6
5. offers a solution	147	6.5
6. invites explanation	393	17.3
<i>Level 3 categories: "Affect, involve"</i>	646	29
7. expresses care or concern	229	10
8. addresses any feeling	286	13
9. addresses precipitant of feelings	121	5
10. addresses self-esteem	10	<1

### Results

*Response patterns of the subjects according to category endorsement*

The 113 subjects provided a total of 2260 responses. Fifty-one per cent of all responses are in level 2 (solution). Level 3 (affective involvement) contains 29% of the total responses. Of these level 3 responses, 35% are in the category “expresses care and concern”. Of the remaining 65% of the level 3 responses: 417 (or 18% of the total responses), address the feelings expressed in the stimuli.

The use of category 1 - "belittles, contradicts, requires defence" was largely determined by diagnostic label. One hundred and seventeen out of 146 category 1 endorsements (80%) were attached to borderline personality disorder labelled stimuli. The results and meaning of this distribution are discussed in an earlier paper (Gallop et al., 1989).

Chi-square analysis revealed no significant differences with regard to total empathy scores according to any of the demographic variables. Analysis of variance revealed no effects that were specific to setting.

## Discussion

Before considering the meaning of these results certain caveats must be presented. Caution must be taken when drawing conclusions about the responses of the subjects when an analogue scale is used. Self-report scales indicate only what subjects state they would say in a situation and do not inform about actual behaviour. However, it is important to note that the distributions found in this study are similar to the findings of studies that have examined interactions in actual clinical situations (Clark, 1981; Forrest, 1982). The scale does not address all facets of the empathic process. To do this multiple measures and perspectives are required.

The distributions reported raise interesting questions: why are the use of communications in level 2 (solution) so high? and, how can the distribution of responses in level 3 (affective involvement) be understood?

The high endorsement of level 2 or solution responses does not contradict the wish of subjects to be therapeutic. These subjects appear to want to help the patient; they are not ignoring the surface content of the patient stimuli and 33% of the level 2 responses maintain the communication by "inviting explanation" (category 6). Most responses in this category ask the question "why" (e.g. "Why don't you want to get up....go to group....do you want to kill yourself?"). These responses, used in categories 6, refer to the surface content of the stimuli but do not encourage the conversation to proceed to the affective domain or the subjective experience. For one of the stimuli, it may be argued that the response "Why do you want to kill yourself?" will eventually lead to understanding; however, the response reflects none of the affect of a stimulus such as "Life's not worth living. There's nothing anyone can do?" The response fails to convey the basic requirement of therapeutic empathy "the wish to know and understand the experience of the other" (e.g. "What is happening to you now that is making you feel so hopeless?").

The responses used in category 3 "explain rules and process" pay attention to the surface content and try to supply information useful to the patient (e.g. "group is an important part of your treatment..." "going on a walk will help



you meet others".... "There are lots of reasons for living" ..... "I am your assigned nurse"). Responses in the "explain rules and process" provide an answer and terminate the conversation. Similarly, responses in categories 4 and 5 (offer solution and give advice) such as "talk to your doctor", or "get some rest" terminate conversation.

Of the level 3 responses, the use of "care and concern" responses, (e.g. *stimulus*: "Don't waste your time with me, I'm better off dead"; response: "I don't feel I'm wasting my time when I'm with you)," create an ambience of engagement for further disclosure. However, it cannot be determined whether the nurse will then proceed beyond surface content. Thirteen per cent of the total responses or 44% of level 3 responses, are in the category "addresses any feelings". Two categories specifically require curiosity about the subjective state of the patient. These are "precipitant of feelings" and "directly addresses the self-esteem of the subject". Endorsement of the former category was low (5% of total and 19% of level 3) and endorsement of the latter category was virtually nonexistent. This latter result may be an artifact of the instrument and further testing on nursing and other professional groups is necessary. However, because proceeding in the empathic process is dependent upon understanding by matching the subjective experience of the patient or demonstrating a wish to know or understand the subjective experience of the patient; as such, many of the subjects in this study are, *de facto*, unempathic. It may be postulated that nurses are not inherently unempathic but rather they do not understand or value the internal meaning or the subjective experience of the patient as useful explanatory models for their therapeutic work. As suggested earlier, the majority of the nurses in this study want to help the hypothetical patient. The nurses offer advice, solutions, explore surface content and explain - although often the advice and explanations serve to end communication.

Explanations for this posture and hence the extensive use of level 2 solution responses may range from beliefs about the therapeutic usefulness of empathy to the educational experience of nurses and the philosophy of the work environment.

Within the clinical setting, there will be times when a nurse may decide that the pursuit of subjective experience or further exploration may not be in the best interest of the patient. For example, a nurse may decide that a patient showing evidence of thought disorder would not be therapeutically served by further inquiry into statements about internal states. The decision is based on the belief that the patient will benefit from structure and clearly defined boundaries. Interestingly, in this study, patients identified as schizophrenic were recipients of more affective exploration than the borderline personality disorder group (Gallop et al., 1989). Other authors have suggested that empathic inquiry can be non-therapeutic or inappropriate with the hospitalized borderline patient (Sederer & Thorbeck, 1986).

The findings may suggest deficits in nursing education that are indigenous to many nursing programs. That they are similar to those in studies over the last two decades suggests that educators may not be addressing the interpersonal process adequately. Nursing programs have relied heavily on models of communication that are variations of sender-receiver feedback loop models (Watzlawick, Beavin & Jackson, 1976) or skills training models (Carkhuff, 1969; Egan, 1975). These models, including the person-centred theory of Carl Rogers (1951), fail to provide a theoretical model for understanding the meaning of the interpersonal process. This understanding requires a theoretical base, grounded in a theory of the person. Theories deriving from the psychoanalytic tradition, such as object relations theory (Buckley, 1986), and theories of intersubjectivity help in understanding the consequences of early experience on later relationships and behaviours, and how individuals evolve in relationship to others. This knowledge enables the nurse not to "psychoanalyze" but to appreciate that behaviour does not exist in a vacuum but has particular meaning to all participants. These meanings should be explicit if the nurse is to help his or her patient. The therapeutic relationship is a critical intervention strategy in the psychiatric setting, and a key component of any structured intervention protocol. Knowledge about the patient's subjective experience of treatment and intervention regimes will enable the nurse to understand resistances and difficulties encountered in the implementation of treatment and intervention strategies.

Pothier (1988) recently expressed concern that the value of the interpersonal process was becoming lost in Nursing's pursuit of science. The nursing process, taught to all nurses, focuses on the collection of information from the patient as a base for care plans, and is pre-emptive, "in that it views the interaction or relationship from the point of view of the nurse" (Davis, 1984, p.78). The questionable efficacy and application of nursing care plans suggest that this viewpoint is inadequate (Manthey, 1980). Davis (1984) suggests more emphasis on interpersonal processes that reveal the dynamics of the interaction.

Within psychiatry, shifts to a closer affinity with medicine, emphasis on symptom control and crisis intervention may also lead to a devaluation of interpersonal skills in the therapeutic milieu (Gutheil, 1985). Hall has suggested that "when psychiatric practice became an inpatient medically ruled profession, nursing was forced to modify its psychosocial practice" (Pothier, 1988, p.193). A number of authors have suggested or demonstrated that attitude may be a more significant determinant of patient care than nursing process or expert knowledge (Gallop, 1988; Moss, 1988; Wood & Cullen, 1983). As beliefs and attitudes about inpatient psychiatry are modified, response behaviours may change to reflect these shifts. The findings of this study, and of previous research, indicate that nurses provide quick solutions to immediate problems such as providing advice or making a supportive

comment, but fail to plan care based on an understanding of the patient's subjective experience (Clark, 1981; Gelfand, Gelfand & Dobson, 1967). Given the current climate in psychiatric practice, these activities may be considered good nursing practice.

### **Conclusion**

This study, like previous studies, continues to raise questions about the nature of nursing communication. Even in the psychiatric setting, little investigation of feelings occurs. Is the subjective experience of patients worthy of investigation, or has the investigation of feelings been abandoned with remedicalization and deinstitutionalization?

If nursing continues to espouse the value of empathy and therapeutic communication, then nurses must understand their roles in the interpersonal process so that they can understand how their behaviour contributes to outcome in the nurse-patient dyad. Unfortunately this cannot be done by the traditional approach of theory courses on communication. Process phenomena can only be learned when nurses are provided both theoretical understanding and opportunities to explore their behaviours and their responses to patients. The latter can be done by clinical supervision that values the meaning of behaviour and the interpersonal process and help nurses integrate this new understanding into their practices. Nursing has been clearly recognized as an art and a science. Being able to hear the pain of another requires both parts of the equation.



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## RÉSUMÉ

### Expression de l'empathie par le personnel infirmier de services psychiatriques

Cette étude rend compte de l'empathie exprimée par le personnel infirmier travaillant dans des unités de soins psychiatriques intensifs. Les sujets ont répondu au questionnaire intitulé *Staff Patient Interaction Response Scale* (SPIR). Ils ont ainsi indiqué comment ils réagiraient vis-à-vis des patients dans certaines situations hypothétiques. L'analyse des réponses par des évaluateurs chevronnés a permis de constater que dans la majorité des cas (soit 51%), la réaction du personnel infirmier consiste à expliquer les règles et les attentes du service, à prodiguer des conseils ou à s'enquérir du contenu superficiel. Vingt pour cent des réponses ont été jugées dépréciatives ou banales. A peine 29% des répondants ont manifesté de l'intérêt pour les sentiments des patients hypothétiques ou exprimé à leur égard de la sympathie ou de la compassion. Une telle répartition des réponses peut s'expliquer par les méthodes d'enseignement du processus interpersonnel ou par la modification des valeurs dans les unités de soins psychiatriques intensifs.

# **NURSES AND EMPATHY: PSYCHIATRIC NURSING TODAY**

**A Response to the Study by Gallop, Lancee and Garfinkel**

**Beverlee A. Cox**

In psychiatric settings today, nurses are expected to perform a therapeutic role in a collaborative manner with a team of mental health professionals. Just how this role is defined is open to question. Although the nursing discipline remains unique by virtue of its presence with patients 24 hours a day, every day, there is an inherent ambiguity in the definition of the nursing role. Are psychiatric nurses psychotherapists, as the social workers, psychologists, psychiatrists and occupational therapists define themselves; or are they primarily guardians of the patients, there to assist the other disciplines in the delivery of therapeutic patient care?

This question is philosophical in nature, and underlies much of the debate on psychiatric nursing practice at the present time (Janosik & Davies, 1989). In the traditional medical model approach to patient care, nurses are primarily expected to assist physicians in the delivery of health care services. In psychiatric settings, this has inevitably led to a dichotomy between the designated therapist's role and all other non-therapist patient care activities. By definition, to be "doing therapy" in psychiatric settings means taking on the therapist's role in the context of individual, group or family psychotherapy. All other activities, such as providing physical care for the patients, organizing activity programs, dispensing medications and interacting with other members of the interdisciplinary team, may be considered essential but are definitely regarded as having less substance than the role and related activities of the therapist (Manning, 1983).

While the medical model approach to care is changing, and being supplanted by the interdisciplinary team approach, at the moment most psychiatric settings represent a composite of the two; hence, the ambiguity in the nursing role. Within educational programs in nursing, there is a definite alignment with the interdisciplinary team approach, and nursing students are encouraged to define themselves as therapists (at least in a nursing context), but this is not a view generally agreed upon or shared by other members of the interdisciplinary team. Consequently, students are often the recipients of

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conflicting messages about the level of skills and patient involvement that are expected of them.

Nursing educators have attempted to resolve this conflict by teaching models of communication to students, in the hope of establishing an ability on the part of the students to interact "in an empathetic manner" with their patients or clients (Perko & Kreigh, 1988). This attempt to inculcate one of the primary attributes of the defined therapist's role, that of being empathetic, into the realm of nursing activities, can be seen as a logical extension of an historical tradition in nursing; however, in psychiatric settings providing empathy is not a substitute for providing therapy and this lends some clues to understanding the research undertaken by Gallop, Lancee and Garfinkel, as reported on in this issue.

Their central finding is that nurses are considerably less empathetic than expected; this coincides with findings from similar studies in the literature they have reviewed. If one were to generalize from this finding, the obvious questions must be asked: what does this mean to the nursing profession, and what are the implications for psychiatric care and treatment if nurses are so lacking in empathy? At one level, this is a clear indictment of the relative ineffectiveness of the communication component in nursing education programs today, and Gallop and her colleagues suggest such a possible explanation. But there is no standardized approach to teaching communication in schools of nursing, nor has there ever been, and therefore students are exposed to a wide variety of approaches and level of material; and some may be exposed to no content in this area whatsoever. One assumes that the subjects in the study, while primarily diploma nursing graduates, were exposed to just such a diversity of educational experiences regarding communication. These subjects may or may not have been taught about empathy, but their results indicate that, at least in this study, there was little demonstrated application of the construct.

Are we to conclude that these nurses were poorly taught, or not taught at all, and therefore the results of the study demonstrate a marked deficit in nursing education? That is one possible explanation, but not an entirely logical one because it assumes that students come into a nursing program totally lacking in knowledge about empathy, or lacking in any ability to display it, and clearly, at an intuitive level, we know that this is not the case.

The authors offer another explanation: that psychiatry's closer alignment with medicine (and medical interventions) has led to the devaluing of interpersonal skills in the therapeutic milieu. This supposedly causes nurses to place greater value on immediate, practical problem-solving, rather than on entering into intensive discussion with their patients about their subjective experiences. This explanation is also less than convincing because it seems



to suggest that providing physical care (or medically delegated approaches) is mutually exclusive from providing empathy. But it is evident that empathy can be displayed regardless of the nature of the interventions being undertaken (e.g., nurses performing physical procedures can do so while they are conveying an empathetic approach or attitude toward the patient). So even if psychiatry has moved closer to general medicine in its search for new (and biologically-based) interventions, that cannot be offered as an explanation for nurses displaying less empathy in their interactions with psychiatric patients.

Empathy, according to Taylor (1990), is "the ability to recognize and to some extent share the emotions and states of mind of another and to understand the meaning and significance of that person's behavior." Empathy obviously is a central construct underlying nursing practice, and it is difficult to comprehend a nurse maintaining an acceptable standard of patient care without displaying empathy. But can it be taught, or is it an innate capacity that the individual develops early in life and therefore brings into his or her professional endeavors? Gallop, Lancee and Garfinkel have documented the relative lack of empathy among their subjects. It would be interesting to know if the subjects themselves would agree with this finding, and how their peers regard them on the dimension of empathy. This would provide additional perspectives on how the results from their study, which utilized a one-dimensional analogue scale, should be interpreted.

Alternative explanations are offered here in the light of these researchers' findings. It is possible that nurses display empathy only if they have developed their innate capacity to do so; but a more likely explanation is that in psychiatric settings today the greatest reward, and the greatest value is placed on being the patient's designated psychotherapist. Nurses rarely are formally given this responsibility; as such, it is possible that they continue to approach their work in a more procedurally-oriented fashion, and they are not rewarded for displaying empathy. The message conveyed by other members of the interdisciplinary team is that the valuable work with patients is only accomplished within the context of psychotherapeutic sessions. In fact, patients often decline to reveal "important information" unless they are talking directly to their therapist. This serves to reinforce the lower value of nurse-patient interaction, and could well account for the lack of empathetic approaches displayed by the subjects in this study. Given the equivocal context in which psychiatric nurses work, it is understandable that they might hesitate to attempt to develop depth in their patient interactions.

To return to the questions raised at the outset: what is the meaning of this study's results for the nursing profession and what are the implications for psychiatric care and treatment? It should be recognized that psychiatric patients are admitted to hospital, by and large, for one primary reason: they

require nursing care. Nurses do serve a central purpose and indeed may be regarded as being at the crux of patient activity in a psychiatric setting. But an active attempt should be made to redefine their role in terms of therapeutic interaction. University nursing programs, particularly at the graduate level, should be preparing practitioners who will be formally recognized as capable of performing as psychotherapists. Until psychotherapy becomes a central nursing function in psychiatric settings, it is unlikely that nurses will feel rewarded for dealing with patients in an empathetic manner. Meanwhile, this study provides us with a disturbing picture of the failure of the nursing profession to provide the foundation for a therapeutic environment in psychiatric settings today- nurses with empathy.

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# SCREENING AND COUNSELLING CLINIC EVALUATION PROJECT

Valerie Gilbey

If health care costs are to be contained, it is essential to focus on the promotion of health. Preventive health services receive a disproportionately small part of the health care budget. For every dollar spent on illness, less than five cents goes toward health promotion and disease prevention (Rachlis & Kushner, 1989). In *A New Perspective on The Health of Canadians* (Lalonde, 1974), health promotion was one of the priority strategies outlined, yet health promotion has met with more talk than action. Overwhelmingly, the so-called health care budget has been devoted to illness care. At a recent conference on "Healthy Public Policy", it was stressed that health promotion and disease prevention measures may contribute more to the improvement in health status than does medical care and therapeutics and that prevention programs need to be evaluated for program effectiveness (Carlson, 1985). Since 1979 senior nursing students have been acquiring clinical experience in a screening clinic for adults, which is conducted under the auspices of the Faculty of Nursing at the University of New Brunswick. It seemed appropriate to evaluate the effectiveness of the clinic in terms of its impact on the health behaviour of participants.

## Literature Review

The community health nurse traditionally has functioned in primary health care. This health care, which is described as essential health care made universally accessible to individuals and families in the community, by means acceptable to them, through their full participation and at a cost the community and country can afford, reflects the nurse's role (WHO, 1978). It is the first level of contact of individuals, the family and the community with the health system. The expanded role of the nurse as the agent of primary care in helping people reach the goal of "Health for All" has been advocated (Mahler, 1978).

Self-care is one mechanism for achieving "Health for All" (Epp, 1986). Self-care refers to decisions and actions initiated and controlled by individuals. Thus, people should be equipped with health information and manage-

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ment skills so that they can make informed decisions; self-care has been viewed as an empowerment strategy (Health and Welfare Canada, 1989).

Rachlis and Kushner (1989) state that "most people would make sensible decisions if they were given accurate and understandable information and were supported" (p.298). House (1981) defines four broad classes of supportive behaviours: emotional support (concern and caring), appraisal support (feedback and affirmation), informational support (suggestions and information) and instrumental support (practical help). Community health nurses provide all aspects of these supportive behaviours. They state that the well-informed consumer needs accurate information presented in understandable language. Nursing requires time spent with patients and since nurses are well prepared in counselling and teaching roles; as such, they should be the primary agent in preventive care (Rachlis & Kushner, 1989). Furthermore, the results of The Active Health Report (1985) indicated that four million Canadians felt they needed more information on one or more health topics. Nurses are seen as valuable sources of health information (Heller, 1986).

A Canadian task force recommended "health protection packages" for each stage of life that included a combination of screening tests, vaccinations and counselling to prevent disease or catch it early (Health and Welfare, 1980). Policy makers believe that "lifestyle" is the most promising areas for preventive efforts (Lalonde, 1974; Russell, 1986). The identification of risk factors, as occurs in the Health Hazard Appraisal (HHA), may heighten the awareness of vulnerability and sensitizes individuals to the need for change. It may create a "teachable moment" when the nurse and client work together to plan realistic lifestyle changes. The literature indicates that risk reduction programs have been shown to be effective in stimulating lifestyle changes (Alexy, 1985). Furthermore, research does show that setting goals for risk reduction can be effective in changing behaviour (Alexy, 1985) and that encouragement and support help maintain the change (Gazda, Childers & Walters, 1982).

Thus, as nurses work with clients they should be cognizant of teaching opportunities that promote health. Health promotion is the process of enabling people to increase control over and improve their own health (Epp, 1986). The empowering and enabling aspects of improving health lend themselves well to a service in which professional nurses are responsible, accountable and autonomous providers (Maglacas, 1988). However, Maglacas emphasizes that "nursing will need to develop new skills and specializations in enabling and empowering people for self-care, self-help, and environmental improvement and in promoting positive health behavior and appropriate coping abilities of people to maintain health" (p.71).



## ***Background***

Health is a curriculum strand in the baccalaureate program of the Faculty of Nursing, at the University of New Brunswick. Over the four years there is increasing emphasis on health promotion in order to enable the graduates to function as community health nurses, as well as acute care nurses. As one part of their clinical experience, senior nursing students conduct screening clinics wherein interested adults from the community come for health assessment and counselling.

Initial attendance at a screening clinic comprises three visits, over a six-week period. The assessment measures undertaken are a health history, HHA, height and weight, blood pressure, Fit Kit, haemoglobin, urinalysis, and vision and hearing tests. Client problems are categorized using the *Omaha Problem Classification System* (Martin, 1988). In this system, client problems (actual or potential) fall into one or more of four domains - namely environmental, psychosocial, physiological or behavioral. The student works with the client in determining how the identified problems can best be changed and what type of realistic goals can be set in order to measure that change. Incidental teaching is carried out on all visits, with more formalized teaching on the final visit. The student discusses with the client the HHA results and the implications of the identified health risks and suggests strategies for change.

Modifying health related behaviours is a complex and difficult problem. Senior nursing students are able to promote self-responsibility by providing current health information, by counselling regarding health problems or risks and by encouraging lifestyle changes that will promote health. Students and clients work in partnership in decision making. Thus, clients are encouraged to become informed consumers and to develop personal control through increased participation in all aspects of their health.

## ***Statement of the problem***

The question posed was "Have those persons who have attended screening clinic changed any health behaviours or resolved any problems that were reported by the client and/or detected by the nurse at the initial series of visits?".

## **Method**

All those who had attended an initial series of visits, as described above, received a letter describing the Screening and Counselling Clinic Evaluation Project. It was indicated that names would be chosen randomly and those whose names were selected would be contacted by telephone to determine

their willingness to return to clinic. For those who were interested two 75-minute appointments were scheduled during which assessment measures undertaken earlier were repeated.

At the beginning of the first visit, the student obtained a written consent indicating willingness to participate in the evaluation project (witnessed by instructor). The student then completed a HHA form and a questionnaire based on information provided by the client. The client's height, weight, blood pressure, haemoglobin, urinalysis and fitness level were assessed. The student inquired about the current situation with regard to each of the problems identified on the initial series of visits and any new problems which may have arisen.

The Body Mass Index (BMI) was used to calculate the quetelet index, which is the most popular and precise measure for evaluating weight status as it measures central fat which is believed more important for risk of chronic disease than peripheral fat (Millar, 1987). A limitation of the BMI is that it varies slightly with an individual's stature, body proportions and the lean and fat compartments of the body.

At the second visit, vision and hearing assessments were completed and the results of the repeated HHA were discussed with the client. This computerized assessment tool (HHA), which is furnished by Health and Welfare Canada, estimates the individual's probability of injury, disease or death during the ensuing ten years, for each of the major causes of death, compared to others in the same age-gender group. The results, which include the client's own relative risks plus a prescription for change, were used to help the client comprehend the magnitude of the risks. It has been suggested that the HHA may be a motivational tool in initiating change (Gupta, McMahon & Sandhu, 1985) and that the HHA would probably be most effective where there is presentation and discussion of feedback by a health professional using cognitive and behavioural interventions in a motivating setting (Becker & Janz, 1987). Also, health information was provided on any topic about which the client was concerned.

After the two visits had been completed, the test results were transferred to a summary sheet which contained only the client's number. Thus, confidentiality was maintained.

Statistical analyses included: a paired t-test to determine significant differences in client health status between initial and return visits; and, a chi-square test ( $X^2$ ) to determine whether any significant relationship existed between the type of problems resolved by women and men.

## *Limitations*

There were unavoidable and unmeasurable elements of inconsistency in the data because of individual differences amongst the care givers. Each client was seen by two students, one for the initial visits and one for the return visits. Moreover, because the range of competencies varies amongst students, some clients may have been assessed and counselled more skillfully than others. There are, however, two compensating mechanisms for this limitation. First, the standardized health problem classification system ensured considerable consistency in the categorization of health problems. Secondly, all students were under the direct supervision of a clinical instructor who monitored student activities to the extent necessary to assure an acceptable standard of care. Because the intention was to assess the effect of visiting the clinic rather than to evaluate student performance, and because differing abilities of personnel are an inevitable part of any clinic setting, this limitation was not regarded as sufficient to invalidate observations made.

## *Evaluation time frame*

The evaluation project was carried out during the Fall term, 1986 and the Winter term, 1987. The time frame between the initial and follow-up visits ranged between one and three years.

## *Population*

The subjects were drawn from a pool of 117 clients who had been to the clinic for the initial visits but not for return visits. In total, 65 randomly selected clients were contacted until a total of 56 clients were scheduled for return visits. The sample size was determined by the number of students requiring clinical experiences. Of the 65 persons contacted, 6 were unable to attend because of conflicting commitments and 3 did not wish to attend at that time. Of the 56 clients in the study, 25 were female and 31 were male. The majority of clients were middle-aged (66%); 18% were 24-34 years; 39%, 35-45 years; 27%, 46-56 years; and, 16%, 57-73 years.

## **Results**

*Research Question 1:* Have those persons who have attended screening clinic changed any health behaviours?

An overview of clients' health status at the times of the initial and return visits is given in Table 1. On the whole, the client population was fairly healthy. At the initial visit, 91% of clients had a normal blood pressure; 82% had a pulse rate below 80; 96% of the females and 90% of the males had a

normal haemoglobin level (female 120-159, males 140-175); 88% were non-smokers; 82% used their seatbelts all of the time; 62% did not use alcohol regularly; 61% completed the Fit Kit test at the recommended level; however, 55% were overweight and 64% of females did not perform BSE regularly.

Assessment of clients' health on the return visit indicated that there were only a few changes in the assessment measures. Of the 5 clients who had a high-normal blood pressure level, 2 had lowered their blood pressure to normal; 7 clients had reduced their consumption of alcohol from 7-12 drinks/week to drinking only occasionally, however, 2 clients increased their drinking; and, 1 of the 7 smokers had quit smoking. The one change that was statistically significant was clients' increase in haemoglobin ( $t=1.92$ ,  $df=55$ ,  $p=.03$ ).

Another indication in clients' health at the time of the visits is seen in Table 2. Specific recommendations for actions (lifestyle changes) that individuals could undertake in the hopes of lowering their risk factors were as follows: 66% were advised to reduce weight (1-33 kilograms) with the majority (73%) having to lose 1-15 kilograms; 38% were advised to reduce their daily consumption of alcohol from 7-21 drinks/week to 3-6 drinks /week; 23% were advised to increase their fitness level; 13% were advised to quit smoking; 17% were advised to use seatbelts all of the time; and, 29% of the females were advised to perform BSE monthly. However, on the return visits there were relatively few changes in the HHA recommendations. (The HHA recommendations are based on stricter weight guidelines that accounts for the discrepancy between numbers identified by BMI in Table 1). More clients were advised to lose weight on the second HHA recommendations. There was no significant correlation between weight change and haemoglobin change (Pearson Correlation Coefficient/ $r=-0.10025$ ,  $p=.46$ ).

*Research Question 2:* Have those persons who have attended screening clinic resolved any problems that were reported by the client or detected by the nurse at the initial series of visits?

To put this into a different context, rather than looking at clients' health status, an overall view of the management of problem resolution is examined. A total of 340 actual or potential problems (Table 3) were identified during the initial series of visits. The average number of problems per client was six, the range was two to nine problems. For each domain, the number of problems were: Environmental, 2; Psychosocial, 41; Physiological, 100; and, Behavioural, 197.

**Table 1**

***Assessment of Clients' Health***

	Initial Visit		Return Visit	
	#	%	#	%
Body Mass Index				
acceptable weight	25	(44.7)	26	(46.4)+
overweight	23	(41.1)	23	(41.1)+
obese	8	(14.3)	7	(12.5)+
Blood Pressure				
high (140-160/90-102)	5	( 8.9)	3	( 5.4)
normal (79-139/50-89)	51	(91.1)	53	(94.6)
Pulse Rate				
44 - 65	15	(26.8)	20	(35.7)
66 - 79	31	(55.4)	23	(41.1)
80 - 108	10	(17.9)	13	(23.2)
*Haemoglobin Level				
105 - 119	1	( 1.8)	3	( 5.4)
120 - 139	18	(32.1)	11	(19.6)
140 - 159	33	(58.9)	34	(60.7)
160 - 175	4	( 7.1)	8	(14.3)
Alcohol/drinks/week				
none	35	(62.5)	40	(71.4)
7-12	17	(30.4)	11	(19.6)
13-21	4	( 7.1)	3	( 5.4)
22-35	0	( 0.0)	2	( 3.6)
Fit Kit				
recommended	34	(60.7)	33	(58.9)
minimal	13	(23.2)	12	(21.4)
undesirable	3	( 5.4)	2	( 3.6)
not done	6	(10.7)	9	(16.1)
Smoking Status				
never smoked	30	(53.6)	30	(53.6)
ex-smoker	19	(33.9)	20	(35.7)
smoker	7	(12.5)	6	(10.7)
Seatbelt Use				
wears 100% time	46	(82.1)	48	(85.7)
51-99%	4	( 7.1)	1	( 1.8)
0-50%	6	(10.7)	7	(12.5)
Practising B.S.E.				
regularly	8	(32.0)	9	(36.0)
occasionally	1	( 4.0)	2	( 8.0)
no exam	16	(64.0)	14	(56.0)

\*  $t=1.92$ ,  $df=55$ ,  $p=.03$

+ there was weight increase within the categories

Table 2

*Health Hazard Appraisal Recommendations*

	Initial Visits		Return Visits	
	#	%	#	%
Wt. Loss				
none	19	(33.9)	14	(25.0)
1- 6 kg.	10	(17.9)	12	(21.4)
7-15 kg.	17	(30.4)	20	(35.7)
16-24 kg.	9	(16.1)	8	(14.3)
25-33 kg.	1	( 1.8)	2	( 3.6)
Reduction of Drinks/week				
none	35	(62.5)	40	(71.4)
from 7-12	17	(30.4)	11	(19.6)
from 13-21	4	( 7.1)	3	( 5.4)
from 22-35	0	( 0.0)	2	( 3.6)
Increase Fitness Level				
no recommendation	43	(76.8)	38	(67.9)
from undesirable	2	( 3.6)	2	( 3.6)
from minimal	7	(12.5)	11	(19.6)
from occasional	4	( 7.1)	5	( 8.9)
Quit Smoking				
none	49	(87.5)	50	(89.3)
cigarettes	7	(12.5)	6	(10.7)
Seatbelt Use				
none	46	(82.1)	48	(85.7)
from 0-50% of time	4	( 7.1)	1	( 1.8)
from 51-99% of time	6	(10.7)	7	(12.5)
Perform BSE				
none	10	(40.0)	9	(36.0)
from no exam	14	(56.0)	14	(56.0)
from occasional	1	( 4.0)	2	( 8.0)

Changes were proposed for 92% of the problems (312 problems). At the time of the return visit, 32% of these problems had been resolved or corrected, 38% as somewhat relieved or corrected and 30% as the same (Table 4). Thus, clients experienced some relief or better for 70% of the problems for which they could take action.



There was no significant difference in the number of problems resolved or relieved between women and men ( $\chi^2=1.19694$ ,  $df=1$ ). However, there were differences in the types of problems experienced by women and men. More women had psycho-social problems (women 61%, men 39%) although men had more physiological problems (41%/59%) and more behavioural problems (46%/54%).

For 38% of the problems where changes were proposed, no action was taken (Table 3). It was in the behavioural domain that the greatest action was taken yet the clients had the least success with the resolution of health behaviour problems (Table 4).

A brief reference will be made to the first three domains with greater emphasis being given to the behavioural problems because the majority of the identified problems were in this domain (58%).

### ***Environmental domain***

Two clients had environmental problems (allergens) but only one was advised to take action (Table 3). This person, who was advised to take action, did so and had experienced some relief at the time of the return visit (Table 4).

### ***Psycho-social domain***

Forty one psychosocial problems had been identified on the initial visit (Table 3). The types of problems were: seeking knowledge of human physiology or disease process (22); encountering stress or anxiety(12); and, experiencing role change or social isolation (7). More females sought health information than males (17/5). Changes were proposed for 33 of the problems and at the time of the return visit, 45% of these 33 problems had been resolved, 31.5% somewhat relieved and 23.5% reported no relief (Table 4).

### ***Physiological domain***

One hundred physiological problems had been identified on the initial visit (Table 3). One-third of the clients' physiological problems were related to hearing (16) and vision (17). Twice as many men (11/5) had hearing impairment (abnormal results of hearing screening tests or tinnitus). Other physiological problems were circulatory (16), urinary (12), digestive and bowel (8), pain (8), respiratory (6), reproductive (6), neuromuscular (4), integument (4), and dental (3). Changes were proposed for 88 of the problems and at the time of the return visit, 37% of these problems were resolved, 24.5% were somewhat relieved or corrected and 38.5% reported no relief (Table 4).

## ***Behavioural domain***

One hundred and ninety-seven health behaviour problems were identified on the initial visit (Table 3); changes were proposed for 190 of the problems (96%). At the time of the return visit, 30% of these problems were resolved or corrected, 26% were somewhat relieved or corrected and 44% reported no relief.

Because the majority (58%) of the total problems were in the health behaviour domain, these problems are considered in more detail (Table 5):

*Nutrition impairment: poor diet or overweight.* Nutrition impairment was the major concern with 30 problems relating to "poor diet/requires knowledge" and 25 relating to "overweight". On the return visit, 70% of the "poor diet/knowledge" problems were either resolved or partially relieved. However, only 20% of the "overweight" problems were either resolved or partially relieved; almost an equal percentage of women and men had not lost weight (82%/77%).

*Preventive practice.* The second major group of behavioural problems was preventive practice (BSE or Pap smear; TSE or PAP test; seatbelts; immunization; and, flossing). Of the 48 problems, only 39% had been resolved or partially relieved (regularly or occasionally practising one or more of the above preventive measures) at the time of the return visit. More men than women experienced no relief (70%/52%).

*Physical activity.* More males than females experienced the problem of lack of physical activity (16/10). At the return visit, 71% of the problems had been resolved or partially relieved. More women than men had not improved their fitness (40%/18%).

*Substance misuse.* Of the 25 substance misuse problems (alcohol, nicotine, caffeine) identified, 52% of these problems were resolved or partially relieved at the time of the return visit and 48% experienced no relief. More men than women experienced no relief (70%/18%).

*Therapeutic regimen noncompliance.* Twice as many men as women (15/7) had a problem with therapeutic regimen noncompliance (fails to seek care, to perform treatment) with 76% of the clients improving their compliance for treatment. More men than women were still noncompliant at the time of return visit (33%/14%).

*Sleep and rest and personal hygiene.* Of the nine sleep and rest problems and the 9 personal hygiene problems, 75% were resolved or partially relieved. Overall, in the behavioural domain, 57% of the female clients and 52% of



the male clients had gained some relief or had resolved their problems. Female clients experienced less relief in the area of physical activity, whereas males experienced less relief in preventive practice, substance misuse and therapeutic regimen noncompliance. Females and males were equal in their failure to lose weight.

**Table 3**

*Client Problems Identified at Initial Visits*

Type of Problem	# of Problems	Changes Proposed		Action Taken		
		Yes	No	Yes	No	N/A
Environmental						
Female	1	0	1	0	0	1
Male	1	1	0	1	0	0
Psychosocial						
Female	25	21	4	13	8	4
Male	16	12	4	3	9	4
Physiological						
Female	41	38	3	22	16	3
Male	59	50	9	31	19	9
Behavioural						
Female	90	87	3	56	31	3
Male	<u>107</u>	<u>103</u>	<u>4</u>	<u>67</u>	<u>36</u>	<u>4</u>
Total	340	312	28	193	119	28

Rows are highly correlated because individuals appear in more than row.

**Table 4**

***Client Problem Status per Domain at Return Visit***

Type of Problem	# of Problems	Resolved	Some Relief	No Relief
Environmental				
Female	0	0%	0%	0%
Male	1	0%	100%	0%
Psychosocial				
Female	21	48%	38%	14%
Male	12	42%	25%	33%
Physiological				
Female	38	32%	29%	39%
Male	50	42%	20%	38%
Behavioural				
Female	87	33%	25%	41%
Male	<u>103</u>	<u>27%</u>	<u>27%</u>	<u>46%</u>
Total	312	32%	38%	30%

Rows are highly correlated because individuals appear in more than one row.

**Discussion**

The problem of self-selection is inherent in this type of study; by that virtue, the group of clients might be more health conscious and not necessarily representative of the general population. The literature indicates that self-report is not an accurate measure of compliance, thus, validity of client responses has to be considered. However, to some extent, clients' reports can be verified by whether or not there were changes in the measures tested: for example, their haemoglobin levels.

One significant difference in clients' health at the time of the return visit was an increase in haemoglobin. Incorrect reading could have been a factor because the nursing students were learning the procedure. However, this possibility was controlled for by the instructor who confirmed the reading prior to the results being given to the client.

**Table 5*****Behavioral Problem Status at Return Visit***

Type of Problem	# of Problems	Resolved	Some Relief	No Relief
Nutrition: Poor diet				
Female	13	23%	46%	31%
Male	15	53%	27%	20%
Nutrition: Overweight				
Female	11	9%	9%	82%
Male	13	0%	23%	77%
Preventive Practice				
Female	25	36%	12%	52%
Male	23	17%	13%	70%
Physical Activity				
Female	10	30%	30%	40%
Male	16	19%	63%	18%
Substance Misuse				
Female	11	36%	45%	18%
Male	13	15%	15%	70%
Therapeutic Regimen Noncomp.				
Female	7	57%	29%	14%
Male	15	53%	13%	33%
Sleep & Rest				
Female	4	25%	25%	50%
Male	5	40%	60%	0%
Personal Hygiene				
Female	6	67%	17%	17%
Male	<u>3</u>	33%	33%	33%
Total	190			

Rows are highly correlated because individuals appear in more than one row.

As part of the haemoglobin-taking procedure, students explained thoroughly the significance of the test, counselled clients about their nutritional habits and advised iron-rich foods as necessary. Clients' intake of iron-rich foods was not assessed however, apart from their total food intake. It appears that the impact of nursing students' teaching with regard to nutrition may have been a factor in the haemoglobin change and in the resolution or relief of a majority of the poor diet, requires knowledge problems.

The majority of the problems relating to overweight were not resolved. Furthermore, lack of fitness had not improved. More males had problems related to overweight and lack of fitness. Because the majority of the clients were middle aged and because metabolic rate declines with age, greater emphasis may need to be given to exercise and fitness.

More women sought health information than men. Previous research indicates that, as health guardians in the home, women need more general health information for all aspects of health and for all stages of the life cycle (Heller, 1986). Do female clients want more time to be allowed for counselling and teaching than male clients? If so, nurses will need to spend more time in determining female clients' learning needs and to allow extra time for both incidental and structured teaching.

The Omaha Problem Classification System allows nurses to look at the type of problems they work with in any health setting. Further study should examine the different types of health concerns that women and men generally have in a health clinic, and which change strategies are most effective in helping clients become more responsible for their health. Changing health behaviour is a process that requires a variety of teaching and learning opportunities to influence the knowledge, attitude and skills of the client. Long-term behaviour change is difficult. When clients returned to the clinic for reassessment, considerable time had lapsed (from one to three years). As the data indicate, many clients had not maintained the change. Most people do not suddenly alter health lifestyle; they should become increasingly aware of the need for change, the need to increase motivation, and then follow with a series of change attempts before ultimate success (Best, Cameron & Grant, 1986). A more systematic follow-up might provide success for clients by encouraging greater action. Furthermore, the Omaha Problem Classification System lends itself to consistent monitoring of clients' progress over time, which should expedite the follow-up process.

The percentage of problems for which clients did not take initial action was fairly high (38%). In the first two visits considerable time is spent on screening, assessment and incidental teaching, with greater emphasis on counselling and teaching on the third visit. Assessment serves as a vital function in the health promotion process, but there is a need to strike a healthy balance between assessment and behaviour change strategies (Terry, 1987). The six-week turn-around time for the HHA results from Ottawa had been a determining factor for more structured teaching being done in the final visit, thus no reinforcement. In the future, the student will be computing the Evalu Life program with the client, on the first visit, and the results will be available immediately. Thus, the HHA will not only serve as a health assessment tool but as a catalyst for change early in the series of visits where potential and actual problems can be identified, and where counselling and teaching can occur, with reinforcement, on the subsequent visits.

## Conclusions

Maglacas (1988) challenges nursing to develop new skills in enabling and empowering people for self-care, and in promoting positive health behaviour and appropriate coping abilities to maintain health. Olivieri and Ouellette (1986) stress that it is in the educational setting that the responsibility for development of the role of the nurse in primary prevention and health promotion must begin. This screening clinic experience for fourth-year nursing students attempts to meet these challenges. Furthermore, the clinic provides a service to the public. As the students become capable primary care practitioners, the clients become informed consumers; they develop personal control through increased participation in aspects of their health.

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## RÉSUMÉ

### Projet d'évaluation du service de dépistage

Dans le cadre de leur formation pratique en milieu clinique, des étudiants en sciences infirmières en fin de programme offrent aux adultes de la collectivité des services d'évaluation de leur état de santé et des services de counseling dans le cadre d'une consultation de dépistage. Cette consultation a pour double objectif d'offrir un service à la collectivité et de permettre aux étudiants en sciences infirmières de s'initier au travail dans le contexte des soins primaires. Ce programme étant offert depuis plusieurs années, une étude a été conçue pour évaluer l'efficacité de la consultation en fonction de l'effet que les interventions ont sur le mode de vie des participants, et pour déterminer si ceux-ci jugent cette expérience utile ou non. Cinquante-six clients sélectionnés de façon aléatoire ont donc fait l'objet d'une réévaluation lors d'une seconde visite. On a ensuite procédé à une comparaison entre les résultats de la première et de la seconde visite en mettant l'accent sur les risques identifiés et les modifications consécutives du comportement. La population étudiée étant en assez bonne santé, l'état de santé et les risques n'étaient guère différents d'une visite à l'autre. Toutefois, on a remarqué un accroissement statistiquement significatif de la teneur en hémoglobine lors de la seconde visite. De nombreux clients avaient gagné du poids, mais ce gain de poids n'était pas statistiquement significatif. Les problèmes des clients sont examinés sous trois rapports: types de problèmes, différences entre les problèmes propres aux femmes et aux hommes, et degré de résolution ou de soulagement dans chaque catégorie de problème.

# THE STATUS OF NURSING RESEARCH FUNDING - An issue for the 90'S

Leslie K. Hardy

Nursing research is essential to the development of knowledge and skills that ensure effective and safe nursing care. There is a reality accepted by practitioners who face a major obstacle when they plan to study various aspects of their practice - a lack of funding. The current funding infrastructure in Canada creates limitations with wide ranging implications (Beaton, 1990; Stinson, Lamb & Thibaudeau, 1990):

The paucity of research funding pertains not only to the design and conduct of investigations but as well to the support of such infrastructure as research training, university and health care agency based clinical researchers, seed money, research development programs in health care agencies, scientific travel, conferences and journals - and the development of research units. (Stinson, Lamb & Thibaudeau, 1990, p.118)

It appears that not only is the funding situation for Canadian nursing research at a low level but also, that it has been retrogressive for years. In this paper, evidence is presented to support these two assertions, implications of the reality are considered and suggestions are made about how to begin tackling the situation.

## What Has Been the Status of Funding for Nursing Research?

There is some research funding for nurses. For instance, in 1986-1987, 43 projects were funded for a total of \$1,235,811. However, Ritchie (1988) pointed out that, of these notations from the *Reference List of Health Service Research in Canada* (MRC, 1987), 67% of the funds had come from the Ontario Minister of Health and 14% were from the Alberta Foundation for Nursing Research, leaving only 19% from other sources. That is, the main federal government funding agencies, such as the National Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Medical Research Council (MRC), and the National Health Research Development Program (NHRDP),

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did not strongly support nursing research in that year. Therefore, while there is funding, a closer analysis indicates problems that are highlighted by consideration of a ten-year history of funding of nursing research in Canada; a look at the comparable American nursing scene; and, the funding, by our federal government, of other disciplines.

The Canadian Nurses Association has tabulated the total number of research projects and the funding over the past ten years (see Table 1). These figures were gathered from the annual *Reference List of Health Science Research in Canada*, which is published by the MRC and includes grants and awards made by federal, provincial and non-profit agencies. Thus, some data are missing but the lists are helpful in gauging the relative lack of progress. In 1980-81 the average funding per project was \$34,715; in 1989-90, \$15,615. A very recent report (Canadian Association of University Schools of Nursing, May, 1990) compiled by O'Connor, indicated that in 1988-89, in university schools of nursing, a total of 242 projects had been funded, for \$4,490,761 or \$18,556 per project. Of the 225 projects headed up by nurse principal investigators, the total funding added up to \$3,053,639 or \$13,571 per project. Nursing academics reported that 169 projects were proceeding without any funding. Sources of funding proved to be a variety of local, provincial and federal agencies and associations.

**Table 1**

*Funding for nursing health-related research by year, 1980-90.*

Year	# Projects	Total Funding	Average/Project
1980-81	19	\$ 659,597	\$ 34,715
1981-82	15	\$ 526,990	\$ 35,132
1982-83	22	\$1,016,247	\$ 46,193
1983-84	23	\$ 549,128	\$ 23,875
1984-85	30	\$ 640,846	\$ 21,361
1985-86	39	\$ 501,840	\$ 12,867
1986-87	43	\$1,235,811	\$ 28,739
1987-88	77	\$1,457,950	\$ 18,934
1988-89	69	\$1,338,733	\$ 19,401
1989-90	78	\$1,217,984	\$ 15,615

(CNA, April 1990)

Statistics from the American nursing scene illustrate gains not yet seen in Canada. In comparisons from 1968 to 1985, American nurse researchers moved from \$2,593,000 awarded for 60 projects (with an average of \$41,000 per project) in 1968, to \$9,296,000 awarded for 90 projects (with an average of \$103,000 per project) in 1985 (CNA, April 1990 documentation). The evidence here indicates that funding per project, regardless of how the funding is spent, has increased substantially.

Do nurses receive a fair share of federally subsidized research funding? The federal government of Canada has consistently recognized the need for research in other sectors. The Social Sciences and Humanities Research Council of Canada (SSHRC) has, since 1978, distributed close to one-half billion dollars in research monies. Table 2 outlines the monies allocated to SSHRC, NSERC, MRC and NHRDP in 1988-89. In terms of federal government spending, nursing research, from various sources, does not receive even as much as the administrative and operations budgets of any of SSHRC, MRC and NSERC. As well, both MRC and NSERC have received substantial increases in their budgets. The MRC Annual Report for 1988-89 indicated that the Government had decided to provide an extra \$61 million over 5 years (1988-1992). NSERC had a \$26.2 million raise, much of it from the private sector, but still finds the total budget is not enough to provide funding for all the science and engineering research potential in Canadian universities. Thus, other disciplines have been well supported. There is no separate federal funding for nursing research.

**Table 2**

*A comparison of the budgets of four federal funding agencies, 1988-89, as reported in the annual reports.*

Funding Agency	Costs of: Grants & Scholarships	Administration	Operations	Total
SSHRC	\$ 69,260,000	\$ 1,951,000	\$5,146,000	\$75,801,200 <sup>2</sup>
MRC	\$183,860,000	\$ 1,318,000	\$3,877,000	\$188,842,000 <sup>2</sup>
NSERC	\$350,246,309	\$15,633,935	- <sup>1</sup>	\$365,059,191
NHRDP	-	-	-	\$ 31,000,000 <sup>3</sup>

Note 1: NSERC does not break administrative costs into 2 categories as do MRC, SSHRC.  
 Note 2: Totals for SSHRC and MRC include a small revenue base.  
 Note 3: NHRDP does not issue a detailed annual report. The total for 1988-89 was a personal communication from the Department.

Overall, the status of funding has remained relatively undeveloped over at least ten years, and, in comparison with the progress of American nurse researchers and other disciplines in Canada, the appearance is more one of retrogression.

### *The late 1980s - some progress*

In spite of the lack of research funding, nurses have made some progress which illustrates that research is valued in the profession. The CNA (March 1988) documented that in 1988, three nurses served on MRC Review Committees and seven nurses sat on NHRDP Review Committees; in the period 1983-88, 37 nurses have received NHRDP fellowships; in 1987, Faux reported that 17 teaching hospitals had employed nurse researchers; and, two provinces have established nursing research units. O'Connor (1989), reported that, over a nine-year period, "The number of funded projects in which nurses served as principal and co-investigators has increased four-fold" (p.1). In 1988 MRC and NHRDP announced a competition for development grants for nursing research. In 1989-90, \$65,833 was allocated to three individual nurse researchers. The competition will occur over 3 years, however confusion about the competition has resulted in decreased interest as is demonstrated by the number of letters of intent submitted: in 1988 - 17; in 1989 - 5. While it may seem that these are substantial gains, it is comparison data that are needed to paint a true picture. For instance, in five years, 37 nurses received NHRDP fellowships: how many fellowships from NHRDP and MRC were given to dentists, pharmacologists, dieticians and physicians in the same time period?

In summary, some progress has been made but it has not been substantial.

### *Conclusions about the lack of progress for research funding*

Nurses are the most numerous of all health professional groups in Canada. Table 3 indicates that there is one nurse for every 125 Canadians. This fact means that nurses have a unique opportunity to observe patients in all settings, to think about our health care system and its impact, and, therefore, to do research that will enable positive changes. Why has this not been acknowledged by our governments in an age when nurses are better educated, willing to do research and wanting to influence health care decision-making responsibly? The reality is that in 1990 there are more nurses doing more projects for less money than ever before. This in an environment where, without any funded doctoral programs, research training has been mostly at the master's degree level or self-directed.



**Table 3**

*The number of Canadians served by members of various health care disciplines.*

Health Care Discipline	Number/Population (Canada)
1. Audiologists, Speech Pathologists	1:9,120
2. Biomedical Engineers	1:95,509
3. Chiropractors	1:8,497
4. Dental Assistants	1:19,601
5. Dental Hygienists	1:4,205
6. Dentists	1:1,937
7. Dieticians	1:5,217
8. EEG Technologists	1:81,996
9. Health Record Administrators	1:9,199
10. Health Service Executives	1:11,687
11. Medical Lab. Technologists	1:1,481
12. Radiology Technologists	1:2,466
13. Nurses	1:125
14. Nursing Assistants	1:309
15. Occupational Therapists	1:9,953
16. Opticians	1:7,317
17. Optometrists	1:10,308
18. Orderlies	1:1,354
19. Osteopaths	1:593,042
20. Pharmacists	1:1,519
21. Physicians	1:479
22. Medical Physicists	1:194,663
23. Physiotherapists	1:4,223
24. Podiatrists	1:97,704
25. Psychologists	1:3,452
26. Public Health Inspectors	1:17,242
27. Respiratory Technologists	1:8,858
28. Social Workers	1:2,676
29. Veterinarians	1:4,892

(Health and Welfare, 1988)

It has been thought in the past that mere clarification of intent about nursing research funding would be sufficient. The following quotes illustrate this view:

The boundaries between the two Councils (SSHRC, MRC) and their interfaces with NHRDP should be defined clearly in the context of

nursing research so that nurse-investigators have clear guidelines on where to send their applications for research funds and so that gaps in funding can be identified." (MRC, 1985, p.13)

Which federal granting councils are the most appropriate for the funding of research in nursing? Can the guidelines of federal granting councils be changed to clarify that the council can appropriately fund nursing research? How can the peer review committee structure be influenced and infiltrated with qualified nurse researchers to assure knowledgeable and balanced peer review of nursing grant applications?" (Ritchie, 1988, p. 258)

Beaton (1990) was much more blunt when she said: "Often, the criteria for funding implicitly if not explicitly exclude phenomena of interest to nursing. Criteria may reject research methods found useful and important for nursing science." (p. 30)

The profession has been competing for funding in a game in which nurses do not know the rules nor have they the required "expertise" (doctoral and post-doctoral training, specific methods, certain types of research). Funding agencies have not hesitated to turn down nursing proposals because of a lack of "fit". Nurses have also been trying to access monies established for social science or medical research. The more nurses receive, the less there is for social scientists and physicians. It is not an error that \$188,842,000 is called funding for *medical*, not *health care*, research. It may be more difficult to access funding established for purposes other than nursing than to request separate funding. In an era when federal funding agencies are asking for more money, suggesting that they share what they have may not be psychologically advantageous for the profession.

The CNA (April 1989) has documented that nurses constitute over 50% of health care providers, and manage over half of the 29 billion dollars spent on health in Canada; yet less than 1% of the health care research funding is allocated to nursing research. Questions must be raised about these discrepancies.

There may be a more insidious underlying reason for this serious discrepancy - discrimination against a professional group that has a different mandate, a different education and in which practitioners may employ different, yet valid, research methods. This discrimination may be compounded by the continuing sexism in Western society. When such a value system is in place, arguments and evidence about the cost savings of nursing practice in primary health care, the impact of midwives' practice on the outcome of normal births and other cost-effective and cost-efficient practices are given no credence: to acknowledge them would be to threaten dearly held values and existing systems.

The approach of the federal government has been to disenfranchise nurse researchers. The evidence clearly indicates that the level of funding has decreased as the number of nurse researchers and projects have increased, against great odds.

### **Working Toward a Level of Funding for the 1990s**

A hard reality is facing the nursing profession. It is money that is needed for the further development of all aspects of nursing research - training of researchers, implementation of findings, conduct of studies. While some nurses advocate use of the current system, Stinson, Lamb and Thibaudeau (1990) were very clear about the need for monies to be safeguarded for nurses:

While the elite may argue that 'real' nurse researchers can compete successfully in the absence of funding programs specifically intended for nursing research, the facts to date indicate that the 'purists' are in error: research in any emerging professional discipline requires specific interventions, including the development of policies and priorities which promote rather than exclude emerging researchers. Also it must be emphasized here that the purists' point of view largely ignores the fact that one of the greatest impediments to the development of nursing research in Canada is not so much the lack of project funding for top flight researchers as the lack of support for a comprehensive infrastructure". (pp.118-119)

Two cases provide illumination: the Alberta Foundation for Nursing Research (AFNR) and the American National Centre for Nursing Research (NCNR). In both instances, governments (one provincial, one federal) allocated funds to nurses for research grants. The NCNR also provides funding for education and career development in nursing research. These bodies are for nurses and run by nurses. In both instances, there has been strong progress in the field of nursing research, with both AFNR and NCNR reporting that the quality and quantity of proposals has been dramatically increased. NCNR has also developed these research priorities, in ranked order: AIDS, low birth weight infants, long-term care, symptom management, information systems, health promotion and the effects of technology on care (NIH, 1989a). These reflect the concerns of nursing. AFNR had \$1,000,000 awarded over a five-year period and has been granted another \$1,000,000 for another five years starting in 1989. NCNR began in 1986 with \$16,193,000, and had \$23,366,000 in 1988. The Centre has projected that it will need \$72,487,000 for 1993 (NIH, 1989b). It is money targeted for nursing research that has fuelled this progress in AFNR and NCNR. Canadian nurse researchers are in a classic "catch-22" situation where they can't receive decent funding from federal agencies because they haven't "proved them-

selves", yet they can't prove themselves until they have enough money to conduct studies with appropriate sample sizes.

### *Some suggestions*

How can nurses approach the federal government on this issue? Most important, the profession needs a strong lobby in Ottawa, for paid lobbyists are a reality in our political system. Lobbyists are informed individuals who know when deals are being made, who understand that Members of Parliament (MPs) require education and who gain regular access to MPs. Their sole reason for existence would be to help the progress of Canadian nursing research. They could also coordinate major lobbying events across the nation, where nurses approach their MPs and members of provincial governments over a prescribed period of time to outline the discrimination against nurses. Media campaigns could be organized at the same time. A stable federal source of funding earmarked for nursing research is essential.

A study of foundations providing funding for health care research should be conducted: it would discover to whom the money is awarded and if monies are safeguarded for nursing research. As well, have nurses applied for funding? Hospital foundations are big business today. The publication *Hospital News* devotes one full section to fundraising. Reports indicate that millions of dollars are being raised for medical technology and research. Even the *Globe and Mail* publication *Report on Business Magazine* featured an article in March 1990 on fundraising by "society queenpins" called "Revel with a Cause" (Maynard, 1990). Do nurses, the largest employee group in any hospital, have access to such foundation money? In each hospital, nurses must educate their foundation board members as to their needs and their rights.

The various health care societies and associations are beginning to acknowledge that nurses do research. A survey of all such agencies should be carried out to find out if they have a nursing research program, and if the donation forms specify a nursing research category. The findings of the survey could be published in *The Canadian Nurse Journal* so as to enable nurses to make informed decisions about their charitable giving. If 240,000 Canadian nurses give annually, on average, five dollars to charity, the \$1,200,000 donated would boost the profile of nursing research considerably. If those 240,000 Canadian nurses persuaded their family members and friends to support nursing research through their donations, a potential extra 1,200,000 people might give five dollars a year: an extra six million dollars would be added to the nursing research pot. The point of such a campaign would be to assert rights, not disadvantage agencies. The response to the volunteer at the front door could be, "I'm sorry, I do believe in the work your agency accomplishes but I only support those agencies which

support nursing research and indicate so on their donation receipts." Such a message, given consistently, would elicit change.

The final suggestion reflects the role that nurses themselves must play. First, nurses have to become informed about the current opportunities for research funding and tap them. The CNA, many provincial nursing associations and university research offices are excellent sources of information on research funding. University research offices, in particular, have not only the usual lists but copies of directories to foundations. Nurses must also take an active role in raising funds for themselves. Many devote time and effort to fund raising for charities, for their children's schools and for their communities; but they balk at fund raising for their own profession. This lack of investment in themselves is unfortunate and may lead non-nurses to assume that the lack of financial investment mirrors a unreadiness to commit to the profession in other ways.

With regard to research funding, the profession is in a "catch-up" position at a time when the economy is slowing and established funding bodies are asking for more money. Thus, as well as pursuing the traditional routes for funding, nurses will have to be innovative and assertive in their efforts to establish a funding base and to protect their rights to research their own practice.

## Conclusion

Nurses cannot begin to work seriously on problems in health care unless they have the means to study them, to replicate research, to test theories and to prove that nursing makes a difference to the health care experience of Canadians. To deny nurse researchers adequate funding is effectively to neutralize their influence.

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## RÉSUMÉ

### **Le financement de la recherche en sciences infirmières: un problème pour les années 1990**

Le niveau de financement actuel des recherches infirmières au Canada est insuffisant pour soutenir les efforts visant à valider nos connaissances et à les faire progresser. Les données présentées dans cet article démontrent que le niveau de financement par projet a diminué depuis dix ans, et qu'au cours de la même période, ce même niveau a augmenté considérablement aux États-Unis; par ailleurs, le gouvernement fédéral subventionne officiellement la recherche dans d'autres disciplines, même si les effectifs sont plus importants en sciences infirmières que dans ces autres disciplines. L'auteur explique cette stagnation du financement par diverses raisons et conclut que les chercheurs en sciences infirmières devraient avoir accès à des sources de financement distinctes. L'auteur énumère en outre certains problèmes auxquels il y a lieu de s'attaquer.



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QUALIFICATIONS: an earned doctoral degree or substantive progress towards a doctoral degree in Nursing or a related discipline. Outstanding candidates with masters' degree in Nursing or closely-related disciplines may be considered. Provide evidence of advanced research training and the development of an ongoing research and publication program, experience in teaching nursing at a university, where relevant, clinical experience and demonstrated ability in establishing collegial relationships.

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# WORK TECHNOLOGY AND THE MOTIVE PROFILES OF NURSES

John W. Medcof and Ronald W. Wall

The shortage of registered nurses for hospital work is a serious concern to health care providers, managers and planners (Meltz, 1988; Rachlis & Kushner, 1989). This shortage is related to a variety of factors, including absenteeism and turnover among nurses and the productivity of nurses on the job. There are both tangible (Cascio, 1982; Jones, 1990a, 1990b; Spencer, 1986; Wolf, 1981) and intangible (Mowday, Porter & Steers, 1982; Wolf, 1981) costs associated with both absenteeism and turnover; the reduction of them is thus a key component of planning for nurse staffing in many hospitals. The improvement of job satisfaction among nurses can play a role in the reduction of absenteeism (Bechtold, Szilagyi & Sims, 1980; Price & Mueller, 1986; Redfern, 1978), the reduction of turnover (Bechtold et al., 1980; Cotton & Tuttle, 1986; Curry & Wakefield, 1985; Kosmoski & Calkin, 1986; Moore & Simendinger, 1989; Petty, McGee & Cavender, 1984; Prescott, 1986; Price & Mueller, 1986), and in the improvement of productivity (Bechtold et al., 1980; Petty et al., 1984). There are many factors that influence work satisfaction (MacPhail, 1988; Mottaz, 1988). This paper is a study of one of them, the compatibility of nurses with the work available on the units on which they work.

It is a widely accepted premise of those who study organizational behaviour (eg. Gibson, Ivancevich & Donnelly, 1988) that the outcomes of work (such as productivity, job satisfaction, turnover and absenteeism) depend upon the matching of the worker with the work. For example, if the worker and work are poorly matched with respect to skills, so that the worker does not have the skills necessary to do the job properly, productivity will be low and the worker will probably experience frustration and dissatisfaction with the job. Absenteeism and turnover can result. Workers and work can also be poorly matched with respect to need satisfaction. It can happen that the day to day execution of the work provides no intrinsic satisfaction to the worker, even though the worker is capable of doing the work. In this case also, produc-

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tivity will be low and the worker will be unsatisfied. If the worker and work are well matched in terms of skill and need fulfillment, both productivity and satisfaction will be high and absenteeism and turnover will be low. This principle applies to nursing work. Quality patient care and high nurse satisfaction will be achieved only if individual nurses are placed in work roles that are compatible with their skills and needs. If research is to help administrators make such compatible placements, then it must provide an understanding of the nature of the work that nurses do, the nature of nurses, and the relationship of these to the outcomes associated with nursing work.

One way to characterize the work of nurses is in terms of work technology. Work technology has been defined by Perrow (1967, 1970) as the transformations a worker performs in order to turn work inputs into work outputs. In the hospital unit context, the inputs are clients arriving on the unit for treatment, the outputs are clients leaving the unit after treatment, and the transformations are the treatments applied by the nursing and other staff. According to Perrow, work technology can be arranged along a continuum from routine to non-routine. Work on the non-routine end of the dimension is high on variability (new problems that the worker has to solve appear frequently) and low on analysability (the problems that do appear are not well analysed and require considerable expertise to solve). For example, Leatt and Schneck (1981, 1984) describe work on intensive care units as relatively non-routine. Compared to most other units, intensive care unit patient turnover is high (high variability). In addition, patients sent to intensive care units are usually in unstable condition, so the patients themselves are frequent sources of new problems to be solved, contributing further to high variability. Those patients that do come to intensive care units usually have complicated problems that demand high expertise, in the form of skill and knowledge of specialized equipment and procedures (low analysability). In contrast to non-routine work, routine work is low on variability (new problems that the worker has to solve appear relatively infrequently) and high on analysability (the problems that do appear are relatively well analysed and require less expertise to solve). Leatt and Schneck (1981, 1984) proposed that medical units have more routine work than do intensive care units. On medical units patient turnover is lower and the patients have more stable conditions than on intensive care units (lower variability). On medical units most of the patient problems require less expertise to deal with than they do on intensive care units (higher analysability).

It is important to distinguish the term, work technology, as Perrow uses the term, from technology, as the term is used in everyday language. In ordinary speech, when we use the word technology, we usually mean some piece of hardware, such as monitoring equipment or a personal computer. Perrow uses the term work technology to refer to what the worker does, with or without tools, to the subject of that work. It can happen that very sophisti-



cated technology (in the hardware sense) is used in very routine work (in the work technology sense). For example, data entry is very routine work which uses a very sophisticated piece of hardware, the computer system. A single piece of complex hardware might be part of either routine or non-routine work. For example, data entry clerks use the complex computer for routine work while systems professionals use it for their non-routine work.

It has already been demonstrated, both conceptually and empirically, that the work on different nursing units can be reliably classified along the dimension of work technology. Comstock and Scott (1977) and Leatt and Schneck (1981, 1984) have shown the following order from most non-routine to most routine: intensive care unit, surgical, medical, obstetrics. It can be deduced that emergency and operating room units (which will be the subject of the present study) fall at the non-routine end of this spectrum. Emergency units are probably the most non-routine units. Their designated role is to deal with unexpected clients (high variability) many of whom have complicated problems (low analysability). Emergency unit staff must make diagnoses, often without much information, and sometimes initiate treatment. Operating rooms are probably the next most non-routine. They are more routine than emergency units because most operations are pre-planned. But once operations begin there are many unknowns and often complex medical technology and procedures are in use. Next are intensive care units where clients are sent after immediate crises are over. Taking these speculations into account, and the past empirical studies of Comstock and Scott (1977) and Leatt and Schneck (1981, 1984), a hierarchy for six types of units, running from most non-routine to most routine, is: emergency, operating room, intensive care unit, surgical, medical, obstetrics.

Now that a method of characterizing nursing work has been introduced, a method for characterizing nurses on the basis of their needs or motives (the terms will be used interchangeably here) will be described. McClelland (1985) has proposed that the needs for achievement, power and affiliation are especially crucial in the workplace. Stahl (1986) has defined the need for achievement as the need to set and meet moderately challenging goals; the need for power as the need to influence the activities of a number of other people; and the need for affiliation as the need to establish and maintain friendly relationships with a number of other people. McClelland (1985) and Stahl (1986) have shown that a high need for power, in appropriate combination with certain other variables, is correlated with, or predictive of, managerial success (House & Singh, 1987). Chusmir's (1985), Medcof's (1985) and Mowday, Stone and Porter's (1979) models of these motives and occupational suitability have also received empirical support. These studies show that only certain motive profiles are compatible with certain occupations. Some work has been done on these motives among nurses. Chusmir (1985), on the basis of the job description of the general duty nurse given in

the *Dictionary of Occupational Titles* (1977), predicted that nurses would have a motive profile in which the need for affiliation is stronger than the needs for achievement and power, these latter two motives being of equal strength. The logic was that the need for affiliation is the need to establish and maintain friendly relationships with others and nursing work involves a great deal of human interaction. This prediction found empirical support in studies by Medcof and Stahl (1988) and Stahl (1986).

Systems for characterizing nursing work and nurses have been described: it is now appropriate to consider the matching of nurses and their work and some of its consequences. The studies referred to above began with the premise that any particular type of work is capable of satisfying some needs more than others. Given this, there are two kinds of consequences. First, people with a needs profile that is compatible with the kinds of needs fulfilled by the work will be more satisfied with it than those with non-compatible needs profiles. Second, people with a needs profile that is compatible with a particular kind of work will tend to accumulate in that kind of work more than will people with non-compatible profiles. People with non-compatible profiles will tend to move to other work, voluntarily or non-voluntarily, leaving behind those satisfied people with compatible profiles. For example, in nursing the premise was that the work would be more fulfilling of the need for affiliation than of the needs for achievement and power. Given this, nurses with a high need for affiliation would be most satisfied with the profession and would be most likely to stay in the profession. As a consequence, when the needs of a group of practicing nurses are measured, on average, the need for affiliation should be higher than the needs for achievement and power. In the empirical studies referenced above this has been generally been found, although the data have not always strongly supported this line of reasoning.

The accuracy of predictions about nurses' satisfactions and motive profiles might be improved if nursing work were divided into sub-fields based upon work technology. In all of the studies mentioned above, nursing work has been treated as a single occupation with no subfields. This grouping of all nurses together, as if they all did exactly the same kind of work, is artificial. As Comstock and Scott (1977) and Leatt and Schneck (1981, 1984) have shown, the nursing work on different hospital units varies considerably in work technology. It seems reasonable to assume that these differences in work technology between units will lead to different units being able to satisfy different needs. As a consequence, the different units will attract, satisfy and hold nurses with different needs profiles. This proposition is not without precedent. Harrell and Stahl (1984) found that accountants in different parts of the same accounting firm had different motive profiles.

Nursing units at the routine end of the work technology continuum will tend to attract and hold nurses with the needs profile predicted by Chusmir

(1985) and found by Stahl (1986). In that profile the need for affiliation is the strongest need and the needs for achievement and power are equal to each other and weaker than the need for affiliation. On units with relatively routine work technology (eg. medical) the work of nurses is like the traditional description of general duty nursing work given in the *Dictionary of Occupational Titles* (1977) used by Chusmir (1985) to make his predictions. Patients are conscious and not critically ill. Part of the nurse's work is to maintain a respectful, caring and supportive relationship with patients in order to gain their trust and ensure treatment compliance to provide a psychological climate conducive to recovery. This kind of work will probably be more fulfilling of the need for affiliation than of the need for achievement, as Chusmir (1985) and Stahl (1986) suggest.

Nursing units at the non-routine end of the work technology continuum (eg. intensive care units) will tend to attract and hold nurses with a needs profile in which the need for achievement is at least as strong as the need for affiliation and both of these are stronger than the need for power. This prediction of a need for achievement at least as strong as the need for affiliation is based upon three considerations. First, certification to work on non-routine units often involves academic work as well as hands on training and there is a positive correlation between need for achievement and academic achievement (Stahl, 1986). Second, work on non-routine units often involves the understanding and use of sophisticated technical equipment and ideas. Engineers, whose profession also involves a lot of work of this type, are high in the need for achievement (Stahl, 1986). Third, work on non-routine units involves high client turnover, a high rate of unpredicted crises, and relatively complex problems to be solved, all of which are compatible with the need to set and meet challenging goals, which is characteristic of persons with a high need for achievement.

Another effect of the differences in work technology across units will be seen in satisfaction of the need for achievement. The non-routine units exert work demands that those high in the need for achievement will find challenging, stimulating and therefore satisfying. Those low in the need for achievement will not find satisfaction in these kinds of working conditions. On the non-routine units then, there will be a positive correlation between the need for achievement and work satisfaction. On the routine work technology units, though, the correlation between the need for achievement and satisfaction will be negative. Those with low need for achievement will find the level of challenge appropriate and satisfying while those with a high need for achievement will be unsatisfied because of lack of sufficient challenge. In statistical terms, these relationships will be seen as an interaction of work technology and need for achievement upon work satisfaction.

Differences in work technology across units will also affect satisfaction of the need for affiliation. As described above, on units with routine work tech-

nology an important part of the nurse's work is to establish and maintain good social relationships with clients. Nurses with a high need for affiliation will find such work very satisfying while those with a low need for affiliation will find it less satisfying. As a consequence, on routine work technology units, there will be a positive correlation between need for affiliation and satisfaction of the need for affiliation. On non-routine work technology units there will be fewer opportunities to satisfy the need for affiliation. On those units many clients are unconscious or in mental states in which attempts to focus on social relationships are not appropriate. Very often the nurses on such units must be preoccupied with treatment procedures under time pressure and cannot devote attention to social relationships. As a consequence, on non-routine work technology units, nurses with a high need for affiliation will find the work less satisfying than nurses with a low need for affiliation. There will be a negative correlation between need for affiliation and satisfaction. In statistical terms, these relationships will be seen as an interaction of work technology and the need for affiliation upon work satisfaction.

The purpose of this study is to evaluate a number of the ideas presented above. Specifically, the following hypotheses will be tested.

*Hypothesis 1.* The nursing units to be studied will have the following rank order, running from most non-routine to most routine work technology: emergency, operating room, intensive care unit, surgical, medical, obstetrics.

*Hypothesis 2.* On units using the most non-routine work technology, the motive profile of the nurses will be:

need for affiliation = need for achievement > need for power.

*Hypothesis 3.* On the units using the most routine work technology, the motive profile of the nurses will be:

need for affiliation > need for achievement = need for power.

*Hypothesis 4.* Satisfaction of the need for achievement will be a function of both the routineness of work technology and the strength of the need for achievement. On units with non-routine work technology, there will be a positive correlation between strength of need for achievement and satisfaction of the need for achievement. On routine technology units, there will be a negative correlation between strength of the need for achievement and satisfaction of the need for achievement.

*Hypothesis 5.* Satisfaction of the need for affiliation will be a function of both the routineness of work technology and the strength of the need for affiliation. On units with non-routine work technology, there will be a negative correlation between strength of the need for affiliation and satisfaction of the need for affiliation. On routine technology units, there will be a posi-



tive correlation between strength of the need for affiliation and satisfaction of the need for affiliation.

## **Method**

### ***Sample and procedure***

The sample consisted of 90 registered nurses working on six different nursing units. The average age of the nurses was 35 years and their average years of work experience was 13.1.

The hospital used as the research site is an acute care facility with 354 beds and annual operating budget of \$30,175,000.00. It employs 700 people full time, admits 13,800 people per year and has an average patient stay of 6.9 days.

Hospital management sponsored the study, made the official announcement of it and encouraged the nursing staff to participate. The announcement gave prominence to the fact that participation was voluntary and that confidentiality would be preserved. Over a two-day period participants assembled at one-hour intervals, in groups of three to twelve, in a hospital conference room. The time for participation was provided during regular work hours. Any registered nurse working on any of the units for either of the day shifts of the two days of the study was eligible to participate in the study. As announced, during participation the nurses could help themselves to coffee, cookies and other refreshments. These arrangements were provided in order to encourage a high participation rate. When each group of participants had assembled at the stated time, the senior author briefed them on the general nature of the study and some of the benefits that could accrue from it. That participation was voluntary and that confidentiality would be maintained were also reiterated. When each participant had finished the questionnaire he or she would be asked to put it in a large box containing other completed questionnaires which was on a chair beside the senior author. This procedure was adopted to demonstrate concretely that all responses would be kept confidential.

### ***Instruments***

Routineness of work technology was measured using questions based upon the instrument used by Leatt and Schneck (1981) for that purpose. The items from the instrument were shown in the appendix to their paper. The time available for respondents to fill out the questionnaire was limited; as such, nine of the 21 questions in the Leatt and Schneck instrument were used. Items numbered 2, 4, 5, 6, 8, 10, 13, 19 and 21 were selected for inclusion by the senior author and the director of nursing of the hospital on the basis of



two criteria. The questions were to cover a variety of the aspects of work technology covered by the original questionnaire and they should "make sense" given the context of this particular hospital. On a seven-point scale running from "very strongly agree" to "very strongly disagree", respondents indicated their degree of agreement with statements describing their jobs on parameters relevant to the routineness of work technology. For example, the statement based upon Leatt and Schneck's Question 4 was, "The patients on the unit where I work have complex problems that are not well understood"; the statement for Question 8 was, "On this unit there is a lot of time pressure to get things done"; the statement for Question 21 was, "On this unit there are many emergencies". These questions were used to yield a single score of work routineness. In the sample used in this study the alpha for this scale was .68.

The nursing unit type on which each nurse worked was established with a single question on the questionnaire. It asked, "What kind of ward are you working on at present?" Below this were options to check off, intensive care unit, medicine, etc., with the last option reading, "Other (specify)". On the basis of the responses to this question the nurses were grouped by unit type in the data analysis.

The needs for affiliation, achievement, and power were measured using Stahl's (1986) Job Choice Exercise. This instrument is based upon behaviour decision theory modeling and has been validated by Stahl and his colleagues (Harrell & Stahl, 1981; Stahl, 1983, 1986; Stahl & Harrell, 1982). Responses are scored using software developed by Stahl and Gulati (1985).

Satisfaction of the needs for achievement and affiliation was measured using questions developed by the researchers. For satisfaction of the need for achievement, respondents indicated on a seven point scale, running from "very strongly agree" to "very strongly disagree", their degree of agreement with two statements; "I feel that in my job there are few goals being met so I seldom feel that I am accomplishing anything", and, "I feel that in my job there are clear challenging goals which I usually accomplish". The average of these two questions (with the first one reversed) was used as the measure of the degree of satisfaction with need for achievement. The alpha for this scale for the present study was 0.72. For satisfaction of the need for affiliation, respondents indicated on a seven point scale their degree of agreement with two statements; "I feel that on my job I do not have enough time to spend just being friendly with people", and, "I feel that in my job there is just the right amount of time to chat and be friendly with people". The average of the responses to these statements (with the first reversed) was used as the measure of satisfaction of need for affiliation. The alpha for this scale in the present study was 0.77).

Demographic data, including the units on which the nurses worked, were collected with a series of questions on the last page of the questionnaire.

## Results

Hypothesis 1 was partly confirmed. A one-way ANOVA, with routineness of technology as the dependent variable and nursing unit type as the independent variable, showed a significant effect of nursing unit type upon work technology ( $F = 19.8$ ;  $p < .001$ ). Nursing units were rank ordered from most non-routine to most routine as: emergency, operating room, intensive care unit, surgical, medical and obstetrics. This is the order predicted in hypothesis 1 and is consistent with past findings (Comstock & Scott, 1977; Leatt & Schneck, 1981, 1984). The ANOVA thus established that there were significant differences between units on work technology. However, ANOVA does not show which specific units are significantly different from each other. A test of this was performed using the Tukey HSD procedure as a *post hoc* test. This showed that not all of the units were significantly different from each other. They formed two clusters, one consisting of non-routine units, the other consisting of routine units. The non-routine cluster included emergency, the operating room and the intensive care unit. On the Tukey HSD test, none of these was significantly different from any of the others. The routine cluster consisted of obstetrics, surgical and medical. On the Tukey HSD test none of these was significantly different from any of the others. Although within the clusters the units were not significantly different from each other, all of the units in the non-routine cluster were significantly different from all of the units in the routine cluster. The only exception to this was that the intensive care unit was not significantly different from the surgical. In summary, the order of the units on the work technology variable was as predicted, but the differences were not all strong enough to be statistically significant. Those differences that were significant divided the units quite cleanly into two clusters. The non-routine cluster included emergency, the operating room and intensive care. The routine cluster included medical, surgical and obstetrics. Given the clustering in the present data, routineness of technology will be treated as a two-level variable in the remainder of this study.

Hypothesis 2, that the motive profile of nurses on non-routine technology units is (need for affiliation = need for achievement > need for power), was confirmed. The mean motive scores for the non-routine units are shown in Table 1. Also, t-tests showed that need for affiliation was not significantly different from need for achievement, that need for affiliation was significantly greater than the need for power ( $t=4.11$ ;  $p<.001$ ), and need for achievement was also significantly greater than the need for power ( $t=2.97$ ;  $p<.01$ ).

Table 1

*Technology and the Motive Profiles of Nurses*

Motives and Work Technology	Samples		
	Routine Technology Units (n=56)	Non-Routine Technology Units (n=34)	Stahl's (1986) Study (n=19)
Need for affiliation	61(24)a	58(26)a	63(23)
Need for achievement	48(27)b	53(27)a	49(26)
Need for power	37(25)c	33(28)b	52(26)
Non-routineness of work technology	3.9(0.6)	5.1(0.6)	--

The motive scores are the average scores of the nurses in the indicated groups. The motive scores are percentiles. For example, the score of 61 on the need for affiliation of nurses on the routine technology units means that 61% of the people in the general population have need for affiliation scores lower than the average score found for nurses on the routine technology unit. If a person gets a score of 50, it means that that person's score is at the population median, ie. 50% of the population has a score lower than that person. The numbers in brackets after each mean are standard deviations. In the columns for routine and non-routine technology units, motive scores with the same letter (a, b or c) are not significantly different from each other, scores with different letters are significantly different from each other. Stahl did not provide significance of difference information for his sample.

Hypothesis 3, that the motive profile of nurses on routine technology units would be (need for affiliation > need for achievement = need for power), was partially supported. The average motive scores of nurses on the routine technology units are shown in Table 1. The *t*-tests showed that need for affiliation was significantly greater than the need for achievement ( $t=2.12$ ;  $p<.05$ ) and that need for affiliation was significantly greater than the need for power ( $t=4.49$ ;  $p<.001$ ), as predicted. However, unexpectedly, need for achievement was significantly greater than the need for power ( $t=2.38$ ;  $p<.05$ ). Thus the profile found here was (need for affiliation > need for achievement > need for power).

Hypothesis 4, that satisfaction of need for achievement is a function of the interaction of work unit technology and need for achievement, was confirmed. A step-wise multiple regression was run with satisfaction of need for achievement as the dependent variable and work unit technology, need for achievement and their interaction as the independent variables. The interaction was entered in the last step to determine if it accounted for a significant increment in variance explained. As shown in Table 2, it did. To explore the

nature of the interaction, Pearson correlations between need for achievement and satisfaction of the need for achievement were calculated separately for the non-routine units and the routine units. As predicted, for the non-routine technology units the correlation was positive ( $r=.37$ ); for the routine technology units it was negative ( $r=-.17$ ).

Hypothesis 5, that satisfaction of need for affiliation would be a function of the interaction of work unit technology and need for affiliation, was not supported. A hierarchical multiple regression analysis was run with satisfaction of the need for affiliation as the dependent variable and work unit technology, need for affiliation and their interaction as independent variables. When the interaction was entered in the last step it was not found to add a significant increment in the amount of variance explained (Table 2).

**Table 2**

*The Effects of Technology and Motivation Upon Satisfaction*

Dependent variables	Standardized Regression Coefficients			R <sup>2</sup>
Satisfaction of need for achievement	TECH	NACH	TXN	
Step 1	0.74	0.06		.01
Step 2	0.61	1.01	-1.07	.09*
Satisfaction of need for affiliation	TECH	NAFF	TXN	
Step 1	-0.03	-0.12		.01
Step 2	-0.11	-0.23	0.15	.01

N=90.  
 TECH = work unit technology, high or low. NACH = need for achievement. NAFF = need for affiliation. TXN = interaction of TECH and the need.  
 R<sup>2</sup> values show the total variance explained after all variables in the step are entered.  
 \* -  $p<.05$

**Discussion**

This study supports the proposition that different work places (even within the same profession) accumulate and satisfy workers with different motive profiles and that the work technology of the workplace is one of the variables operating in this process. This study confirmed past studies that showed that different units in hospitals are characterized by different levels of routineness of technology. It further showed that nurses on non-routine technology units have a different motive profile than those on routine tech-



nology units. Need for achievement is relatively more important on non-routine technology units than it is on routine technology units. Finally, it showed that the degree of satisfaction with need for achievement is a function of the interaction of need for achievement of the nurse and the work technology of the unit on which the nurse works. When non-routine technology is in use, high need for achievement nurses tend to be more satisfied than low need for achievement nurses. When routine technology is in use, high need for achievement nurses tend to be less satisfied than low need for achievement nurses.

In this study it was found that the nursing units, when rank ordered on the basis of work technology, showed a pattern consistent with past empirical findings and with the hypotheses presented here. However, a significance test divided the units into only two groups, one with non-routine technology and the other with routine technology. This failure to find significant differences between all of the units is consistent with the findings of Leatt and Schneck (1981, 1984). Leatt and Schneck used larger samples and the complete routineness of technology questionnaire, but also found that the differences between individual units were not always statistically significant. As in the present study, the units had to be arranged in clusters. None of the measures of work unit technology so far used is sensitive enough to detect significant differences between all of the nursing units studied. That such differences are not trivial is suggested by the fact that significant differences in satisfaction are associated with the significant differences in work unit technology that have been found, as shown by the confirmation of hypothesis 4. Future research should attempt to refine the instrumentation so that smaller differences in work unit technology can be detected and associated differences in satisfaction, if they exist, can be explored.

Our study has helped to refine our understanding of the motive profiles of nurses. The evidence available suggests that need for affiliation is an important motive among nurses, regardless of work unit type. As shown in Table 1, both the present study and Stahl's (1986) found need for affiliation to be the strongest need of nurses and that the average need for affiliation of nurses (around the 60th percentile) is above the population norm of 50. This occurs even when nurses work on units with non-routine work technology. The failure, under hypothesis 5, to find a significant interaction effect of work technology and need for affiliation upon satisfaction further confirms the proposition that need for affiliation pervades nursing. The evidence of this study clearly supports Chusmir's (1985) and Stahl's (1986) statements that need for affiliation is functional in nursing because it is a helping profession that requires considerable social interaction. In contrast, need for achievement seems to be a secondary motive. As shown in Table 1, the average achievement scores cluster around the 50th percentile with some elevation for non-routine technology units. Only in non-routine technology



units does the need for achievement become as important as the need for affiliation, as shown in the needs profiles. The place of the need for power in the profile of nurses is much less clear. Stahl (1986) found the need for power of his sample to average 51.0, quite a bit higher than the values in the 30's found in the present study. There is no ready explanation for this discrepancy. Perhaps it is attributable to the nationality (American vs. Canadian), nature of the hospital, nature of the community in which the hospital was based, or any of a number of factors. The role of need for power in nursing is an issue needing further exploration.

The tie between work technology, nurses' motive profiles and satisfactions found here is a promising result. It shows that our ability to predict profiles can be refined by going beyond the technique used in the past, which was to use occupational category as the sole independent variable. This refinement suggests that even more supportive data will come in the future. Other studies of work technology should be undertaken using more refined instrumentation. In particular, the measures of satisfaction with motives used in the present study had only two questions each, because of time limitations for the administration of the questionnaire. Future studies should develop longer scales and test their validity in a more systematic way than was done here.

Administrators in hospitals may find these results to be quite suggestive. If further work confirms that motive profiles influence worker satisfaction, and this can be extended to include work performance, absenteeism and turnover, motive profiles could be used as one basis for selecting nurses and assigning them to units. Seybolt, Pavett and Walker (1978) and McCloskey (1974) have found that frustration of growth needs (such as the need for achievement) is a predictor of nursing turnover. Such systematic use of motive profiles must await further confirmatory research but in the meantime nursing administrators may take the present results into account in dealing with the nurses on their units. They can attempt to be sensitive to the achievement needs of nurses, particularly on non-routine units, so that informal ways can be found to help nurses get the most from their work.

Absenteeism and turnover are costly, natural processes through which individuals adjust to inappropriate work settings and gravitate to more appropriate ones. Methods derived from this and other research can aid managers to circumvent these processes and the tangible and intangible costs associated with them.

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## RÉSUMÉ

### La technologie et les profils de motivation du personnel infirmier

L'importance relative du besoin d'affiliation et du besoin de réussite des infirmiers et infirmières est fonction de la technologie utilisée dans leurs services. Chez le personnel infirmier d'unités où l'on utilise couramment les technologies modernes (médecine, chirurgie, obstétrique), le besoin de réussite n'est pas aussi fort que le besoin d'affiliation. Chez le personnel infirmier d'unités où l'on n'utilise pas couramment les technologies (urgence, chirurgie, soins intensifs), le besoin de réussite est aussi fort que le besoin d'affiliation. Le degré de satisfaction au travail des infirmiers et infirmières est fonction de leurs besoins et de l'unité où ils travaillent. Dans les unités où l'on fait un usage courant de la technologie, le degré de satisfaction est moins élevé chez ceux qui éprouvent un grand besoin de réussite que chez ceux où ce besoin est moins marqué. Dans les unités où l'on fait un usage peu courant de la technologie, le degré de satisfaction du personnel infirmier est plus élevé lorsque le besoin de réussite est marqué.



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Application and enquiries should be directed to: Dr. J. Larsen, Director, School of Nursing, University of Manitoba, Winnipeg, Manitoba, R3T 2N2. Applications will be accepted until positions are filled.

# STRESSORS AND WAYS OF COPING IN MID-ADOLESCENT GIRLS

Adela Yarcheski, Noreen E. Mahon and Mary Ann Scoloveno

Some theorists (Blos, 1962; Hartzell, 1984; Lidz, 1968) believe that the relatively lengthy period of adolescent development is best described according to three stages—early, middle and late adolescence—and this belief has been expressed in the nursing literature (Mercer, 1979). Hartzell (1984) adds that clinicians working with adolescents should understand the three major areas of adolescent development (physical, intellectual and emotional), the main stages of maturation (early, middle, late) and "the characteristic behaviours and coping mechanisms of each stage" (p. 2). While there is a dearth of knowledge about the coping behaviours used by healthy adolescents who represent each of the three stages of adolescence, and the stressors that precipitate these coping behaviours, knowledge regarding these phenomena among mid-adolescent girls is virtually non-existent. The purpose of this study was to examine the ways of coping used by girls who represent middle adolescence, as determined by chronological age and to identify the major stressors in their lives.

## *Theoretical perspective on coping*

From a stress-coping paradigm, Lazarus and Folkman (1984) define coping as "constantly changing cognitive and behavioural efforts to manage external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). This definition limits coping to conditions of psychological stress, and it depicts coping as a process including anything the person does or thinks.

Lazarus and Folkman (1984) make a distinction between two major forms of coping with stressors in one's life: problem-focused forms of coping are directed at managing or altering the problem causing the distress, whereas emotion-focused forms of coping are directed at regulating the emotional response to the problem. Both forms of coping are manifest in a wide array of strategies and the use of these strategies is influenced by the specific context of the problem and the contextual conditions.

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According to Lazarus and Folkman (1984), problem-focused coping strategies are similar to those used for problem-solving. However, problem-focused coping also involves strategies that are directed inward, such as learning new skills, that help the individual manage or solve the problem, or strategies that are directed outward, such as seeking the support of others to help solve the problem. Cognitive emotion-focused coping strategies are either directed at lessening emotional distress, such as avoidance and wishful thinking, or at increasing emotional distress, such as self-blame.

### *Coping in children and adolescents*

The purpose of a study by Ryan (1989) was to develop a taxonomy of coping strategies used by school-aged children, aged 8 to 12. Using both group discussion and individual questionnaires, children were asked to name the strategies they use to deal with stressors in their lives, as well as strategies that do and do not work for them. Responses were sorted into 13 categories inductively derived from the content of the behaviours listed. Analysis of the data indicated that school-aged children used both cognitive and behavioural efforts, either problem-focused or emotion-focused, to cope with stressors. An example of coping behaviours considered problem-focused was figuring out or planning what to do about the problem, while examples of coping behaviours considered emotion-focused were crying and getting mad. Girls named significantly more social support and emotional behaviours than boys, while boys named significantly more physical exercise than girls.

Compas, Malcarne and Fondacaro (1988) studied older children and young adolescents, aged 10 to 14, to determine the strategies they use to cope with selected stressors in their lives, and their capacity to generate alternate solutions to cope with stressful events. Participants were asked to describe one academic and one interpersonal stressor, to indicate the ways they actually used to cope with these stressors and to generate a list of all possible ways of dealing with the stressors. Analysis of the responses indicated that older children and young adolescents used both problem-focused coping, such as "talking things over with the other person involved in the problem", and emotion-focused coping, such as "calmed myself down", in response to stressors. Although strong gender differences in the use of coping strategies were not found, girls used more emotion-focused strategies than did boys.

From a developmental perspective, Blanchard-Fields and Irion (1988) examined ways of coping with stress, measured with the Lazarus *Ways of Coping Scale*, in a sample of 60 participants, which included 20 adolescents (aged 14 to 16.5), 20 young adults (aged 20 to 25) and 20 mature adults (aged 30 to 46). Relevant to this study, the researchers found that adolescents endorsed more emotion- than problem-focused coping than either of the two

groups of adults, irrespective of whether the adolescents appraised the stressful episodes in their lives as controllable or uncontrollable. Data were not analyzed according to gender, and the most frequently used emotion- or problem-focused coping methods by adolescents were not reported. Tolor and Fehon (1987) did study the most frequently used coping strategies of 86 stressed high school boys, aged 14 to 18. Using the Coping Style Questionnaire, they found that of the four categories of coping techniques most and next most commonly used by the boys, three were problem-focused (e.g., taking positive action) and only one was emotion-focused (focusing on the positive). The present study examined the frequency with which mid-adolescent high school girls used both emotion- and problem-focused ways of coping, as described by Lazarus and Folkman (1984).

## Method

### *Sample*

Of the 70 girls approached to participate in the study, 50 met the age delimitations and voluntarily agreed to participate. The responses of three participants were deleted from the analysis because of incomplete data. The final sample consisted of 47 girls between the ages of 15 and 16 ( $M = 15.62$ ), which represented middle adolescence according to chronological age (Mercer, 1979). All of the girls were white and in the tenth grade of an urban high school. According to their responses to a demographic data sheet, none of the girls was under the care of a physician for an acute or chronic illness at the time of the study.

### *Instrument*

The *Revised Ways of Coping Checklist* (RWCCCL) is a measure of coping derived from Lazarus's transactional model of stress and coping (Vitaliano, Russo, Carr, Maiuro & Becker, 1985). In essence, the RWCCCL is a revised version of the *Ways of Coping Checklist* developed by Folkman and Lazarus (1980). As a result of principal components analysis with Varimax rotation, the RWCCCL has 42 items, distributed across the following five subscales: problem-focused (15 items), seeks social support (6 items), blamed self (3 items), wishful thinking (8 items) and avoidance (10 items). Thus, two subscales measure problem-focused coping (problem-focused and seeks social support), while the remaining three measure emotion-focused coping (wishful thinking, blamed self and avoidance). Subjects are asked, first, to list the major stressor in their lives and, secondly, to respond to the 42 coping thoughts and behaviours elicited by the stressor on a four-point Likert-type scale, ranging from "never used" (0) to "regularly used" (3). Finally, subjects are asked to rate 14 appraisal items regarding the stressor on a five-point Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (5) (Vitaliano et al., 1985).

Vitaliano et al. (1985) assessed the psychometric properties of the RWCCCL with three samples: 83 psychiatric out-patients, 62 spouses of patients with Alzheimer's disease and 425 medical students. Coefficient alpha reliabilities for the revised subscales ranged from .74 to .88 in the sample of medical students, .71 to .85 in the spouse sample and .76 to .88 in the psychiatric out-patient sample. The coefficient alphas obtained on the subscales in the present study of mid-adolescent girls were: problem-focused, .62; seeks social support, .74; blamed self, .65; wishful thinking, .85; and avoidance, .63. The coefficient alpha for the entire RWCCCL was .74.

According to Vitaliano et al. (1985), concurrent validity was attested to by the finding that medical students in group therapy had significantly higher scores on the RWCCCL than medical students not participating in such groups. In terms of construct validity, depression was negatively related to the revised problem-focused subscale, and positively related to the revised wishful thinking subscale across subsamples. Anxiety demonstrated a similar pattern of findings across samples and it was also positively related to the "seeks social support" subscale across samples.

### *Procedure*

Access was gained to an urban high school. One week prior to testing, the researchers attended the health education classes in the tenth grade to explain the study and the procedures involved. Only girls were invited to participate. One week later, only girls who gave informed consent, and had parental consent as well, were administered the test materials in a classroom setting. All participants completed the RWCCCL and a demographic data sheet.

## **Results**

### *Categories of stressors*

The stressors listed by the participants were examined and the categories of School, Home and Family, Personal and Social, and Work (Employment) were inductively derived from the content of the stressors listed. The "School" category developed from such stressors as poor grades and relationships with teachers. Stressors such as parents' arguments and family illness formed the category of Home and Family. The category of Personal and Social developed from such stressors as changes in physical appearance and relationships with same- and opposite-sex peers. Finally, stressors such as demands at work and working hours formed the category of Work (Employment). Interestingly, the girls did not list stressors related to personal health-illness concerns. As can be seen in Table 1, the most frequently listed stressors fell into the category of Personal and Social, whereas the least frequently listed stressors fell into the category of Work. When the categories

were ranked, based on frequencies of stressors, the rank order was as follows: Personal and Social, School, Home and Family and Work.

**Table 1**  
*Categories of Stressors with Frequency and Rank Reported by Participants (N=47)*

Stressors	Frequency	Rank
Personal and Social	19	1
School	14	2
Home and Family	9	3
Work	5	4

*Appraisal of stressors*

Means were generated for the appraisal of each stressor item for the sample. Of the 14 appraisal items, those with the two highest means were, "I think about the stressor often" ( $\underline{M}$ =4.30) and, "It is very important to me" ( $\underline{M}$ =4.17). Those with the two lowest means were, "It is very threatening" ( $\underline{M}$ =2.48) and, "It will always be a problem in my life" ( $\underline{M}$ =2.68).

*RWCCL Subscales*

Means were generated for each RWCCL subscale. Because each subscale has a different number of items, proportional means were calculated by dividing the mean for the subscale by the number of items on the subscale. The proportional means were then ranked to see more clearly the order of the most and least "ways of coping" by the participants. As can be seen in Table 2, wishful thinking had the highest proportional mean followed by problem-focused, blamed self, seeks social support and avoidance, in that order. Thus, wishful thinking was the most frequently used coping method and avoidance the least frequently used coping method by mid-adolescent girls.

*Individual items on the RWCCL*

The frequency of use of the 42 coping items on the RWCCL was also examined. For each of the 42 items, ranks were derived from the mean of the responses given by the sample. The means were then assigned a rank, with 1 being the way of coping most frequently used by the participants. When more than one item had the same mean, rank position was averaged to yield



**Table 2*****Means, Proportional Means<sup>a</sup> and Ranks for RWCCL Subscales (N=47)***

Subscales	Means	Proportional Means	Rank
Wishful thinking	15.87	1.98	1
Problem-focused	28.06	1.87	2
Blamed self	4.94	1.65	3
Seeks social support	9.70	1.62	4
Avoidance	15.19	1.52	5

<sup>a</sup> Mean for the subscale divided by the number of items on the subscale.

an equal weighted rank. Table 3 presents the means and ranks of the seven most and seven least used individual coping strategies reported by the participants. Of the seven most frequently used coping items, the item "wish that I could change what had happened," had the highest mean and, thus, was ranked number 1. This item, as well as two others from the seven most frequently used coping items were from the wishful thinking subscale. Two items were from the problem-focused subscale, and two items were from the seeks social support subscale. None of the seven most frequently used coping items were from the avoidance or blamed self subscales.

Of the seven least frequently used coping items, the item, "got professional help and did what they recommended," had the lowest mean and, thus, was ranked number 42. Five of the seven least frequently used ways of coping were emotion-focused and were all from the avoidance subscale; two items were problem-focused and from the seeks social support subscale.

### Discussion

When using the Lazarus *Ways of Coping Scale*, Blanchard-Fields and Irion (1988) found that the most prominent stressors reported by adolescent boys and girls were school-related and family-related problems. In contrast, personal and social stressors emerged as those most frequently experienced by the mid-adolescent girls in this study. Examples of personal stressors listed by the girls included changes in their physical appearance and concerns about being overweight. According to Hartzell (1984), mid-adolescent boys and girls show a great interest in their bodies and are often dissatisfied with their height, weight and general appearance. Girls especially are concerned with weight problems and their physical appearance. An interpretation of the present data suggests that these normal developmental concerns were perceived, by the girls in this study, as stressors in their lives.



**Table 3**

*Means and Ranks of 7 Most and 7 Least Used Coping Items<sup>a</sup> from the Revised Ways of Coping Checklist (N=47)*

Item	Mean	Rank	Subscale
<i>Most</i>			
Wished could change what had happened	2.40	1	Wishful Thinking
Talked to someone to find out about the situation	2.26	2	Seeks Social Support
Wished the situation would go away or be finished	2.23	3	Wishful Thinking
Talked to someone about feelings	2.21	4	Seeks Social Support
Took things one step at a time	2.19	5	Problem-focused
Knew what had to be done... tried harder to make things work	2.17	6.5	Problem-focused
Wished could change the way I felt	2.17	6.5	Wishful Thinking
<i>Least</i>			
Refused to believe it happened	1.38	36	Avoidance
Went on as if nothing happened	1.34	37.5	Avoidance
Talked to someone who could do something about problem	1.34	37.5	Seeks Social Support
Slept more than usual	1.09	39	Avoidance
Felt better by eating, drinking, etc.	1.06	40	Avoidance
Tried not to act too hastily	.94	41	Avoidance
Got professional help... followed recommendations	.04	42	Seeks Social Support

<sup>a</sup>The original rankings of the 42 item scale are given. Items were shortened for tabulation purposes.

Common social stressors that emerged from the present data included having an argument with a friend and breaking up with a boyfriend. According to Lidz (1968), the peer group gains in importance and heterosexual love relationships begin during mid-adolescence. Because of the heightened

importance of both the peer group and early love relationships, it is obvious that when conflict or disruption occurs with either type of relationship, mid-adolescent girls perceive these events as stressful. All in all, the dominant category of stressors that emerged from these data is consistent with developmental theories about the dominant concerns experienced by mid-adolescents in general, and mid-adolescent girls in particular.

When the adolescent girls appraised the stressors they had identified, as a group there was most agreement that they thought about the stressor often and that it was very important to them. Two possible explanations are offered for these findings. First, several theorists (Blos, 1962; Lidz, 1968) indicate that narcissism, which is characterized by self-absorption and self-centredness, dominates mid-adolescence. Secondly, other theorists (Hansell, Mechanic & Brondolo, 1986), who take a general approach to adolescent development, suggest that introspectiveness increases during adolescence. Introspectiveness is the tendency to devote diffuse attention to thoughts and feelings about the self. Either explanation could account for the findings regarding the most agreed upon form of appraisal reported in this study. However, even though they thought about the stressors often and felt they were very important in their lives, as a group there was greatest disagreement that the stressors were very threatening. Realistically, the girls indicated that the stressors would not always be a problem in their lives.

When the subscales of the *Revised Ways of Coping Checklist* were analyzed, wishful thinking emerged as the "ways of coping" category most frequently used by the girls in this study. Wishful thinking is an emotion-focused form of coping that consists of cognitive processes directed at lessening the emotional distress associated with the stressful situation (Lazarus & Folkman, 1984). The question arises as to why, of the five coping subscales studied, the girls used wishful thinking most frequently to deal with the stressors in their lives. Both Blos (1962) and Lidz (1968) point out that fantasy life and creativity are at a peak during mid-adolescence, and this is especially true for girls. Because items on the wishful thinking subscale measure coping strategies such as "Had fantasies or wished about how things might turn out" and "Daydreamed or imagined a better time or place than the one I was in," the finding that the mid-adolescent girls used wishful thinking more frequently than other forms of coping is consistent with developmental theory regarding mid-adolescence.

Interestingly, the second most frequently used "ways of coping" category reported in this study was problem-focused coping. Although the process of moving from concrete to formal operational thinking begins in early adolescence, consolidation of abstract conceptualizations, that promote objectivity in problem-solving, occurs during mid-adolescence and continues into early adult life (Inhelder & Piaget, 1958). These same ideas are expressed by

theorists who view adolescent development from an early, middle and late perspective (Blos, 1962; Lidz, 1968; Mercer, 1979). Thus, even though emotion-focused coping, manifested in wishful thinking, took precedence over problem-focused coping for dealing with stressors, problem-focused coping was used more frequently than the two remaining emotion-focused coping methods studied.

The findings also revealed that the least frequently used "ways of coping" strategy in this study was the avoidance category. Lidz (1968) suggests that, theoretically, mid-adolescents are motivated toward exploring their world and expanding their horizons in order to gain adult prerogatives. Thus, frequent use of avoidance coping methods would be at variance with this notion of expansion, both in theory and in practice.

When the *individual* items were ranked according to means, the item "wished that I could change what had happened" emerged as the most frequently used specific coping strategy by mid-adolescent girls. Again, wishful thinking is a cognitive emotion-focused form of coping directed at decreasing—rather than increasing—the emotional distress associated with the stressful situation (Lazarus & Folkman, 1984). As with most emotion-focused forms of coping aimed at reducing distress, wishful thinking does not change the stressful situation. However, it does provide some comfort and security for the individuals experiencing the stressor (Lazarus, Averill & Opton, 1974).

Recently, Tilden and Gaylen (1987) have suggested that social support has both costs and benefits to individuals engaged in mutually supportive relationships. However, because the second most frequently used specific coping strategy was from the seeks social support category, it is suggested that the mid-adolescent girls in this study perceived "talking to someone to find out about the situation" as being a more beneficial than costly way of coping.

Five of the seven least frequently used specific coping strategies reported were emotion-focused; all of the five were from the avoidance category. There are ten items on the avoidance subscale: five were among the least frequently used specific ways of coping and none was among the most frequently used specific ways of coping. As such, it is obvious that mid-adolescent girls are more apt to use specific coping strategies that confront rather than avoid stressors which, again, is consistent with developmental theory (Lidz, 1968) regarding mid-adolescence.

The least frequently used specific coping strategy was "got professional help and did what they recommended", which is an item on the seeks social support subscale. Of all the items on the seeks social support subscale, getting professional help is the only one that makes reference to formal relation-

ships. According to Tilden's (1985) analysis of social support, it would be expected that this item would be rated lower than other items on the subscale. This is because individuals generally seek social support within the context of informal relationships, such as family and friends, as opposed to formal relationships, such as those with health care providers. However, the finding that this item was rated as the least used specific coping strategy in this study, of all the 42 items on the RWCCCL, is of significance for those individuals engaged in adolescent health care—particularly school nurses.

Clearly, any practical implications suggested for the findings of this study are contingent upon mid-adolescent girls viewing nurses as being important sources of support and assistance with stressful episodes in their lives, and as having knowledge about effective means of coping with stressors they commonly experience. Therefore, nurses should incorporate counseling sessions along with physical assessments routinely performed in school programs. During these times mid-adolescent girls should be encouraged to talk about the stressors in their lives, the ways in which they are coping with them, and the extent to which they think the coping methods they are using are effective. If the youngsters do not think their coping methods are effective, nurses can and should suggest alternate ways in which the girls can deal with their problems. Unless this type of nursing action is implemented, nurses will not be sought out for their professional knowledge and expertise, and mid-adolescent girls will continue to give the lowest priority to "getting professional help" as a way of coping with their problems.

Health education classes are another means by which nurses can take the initiative to teach these youngsters about the stress-coping relationship in their lives. The most frequent stressors experienced by the mid-adolescent girls in this study were personal and social in nature, which is consistent with adolescent developmental theory. Therefore, nurses should concentrate on imparting information about normal developmental concerns experienced by girls as they progress through mid-adolescence, why these concerns might be experienced as stressful and the time-limited nature of these concerns. Wishful thinking was used more frequently than any other form of coping with stress by the girls in this study, probably because fantasy life is at a peak during mid-adolescence. However, as suggested by Lazarus & Folkman (1984), emotion-focused coping, such as wishful thinking, does not change the stressful situation. Therefore, in order to balance normal developmental needs with coping efforts that ameliorate the stressful situations, nurses should not discourage mid-adolescent girls from using wishful thinking as a means of coping with their stress. Instead, nurses should encourage them to identify and use more problem-focused coping methods to deal with their stressors.

Several areas for future research are suggested for those who are interested in developing knowledge according to the three stages of adolescence, as

well as the gender of adolescents. First, for comparative purposes, the major stressors experienced by late adolescent girls and the ways in which they cope with these stressors must be explored in the same manner in which they were explored in this study. Secondly, research methods must be used to determine whether the most frequently listed stressors precipitating coping behaviours are also the most severe stressors experienced by adolescent boys and girls at each of the three stages of adolescence. Thirdly, both quantitative and qualitative methods of assessing coping used by early, middle and late adolescent boys and girls must be carried out in the same study. This will help to determine whether ways of coping, as assessed through instrumentation, are consistent with coping methods expressed by these youngsters through interviews and open-ended questionnaires. These research efforts, as well as others, can begin to fill the gap in knowledge noted by Hartzell (1984) with regard to the characteristic behaviours and coping mechanisms used by adolescents during each of the three stages of adolescence.

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## RÉSUMÉ

### Mode d'adaptation au stress chez des adolescentes de 15 et 16 ans

La présente étude visait à examiner les modes d'adaptation utilisés par des adolescentes de 15 et 16 ans, et à déterminer les principaux facteurs de stress auxquels elles sont exposées. L'échantillon comprenait 47 adolescentes de 15 et 16 ans, auxquelles on a administré en classe le questionnaire intitulé Revised Ways of Coping Checklist (RWCCCL). Les facteurs de stress signalés par les adolescentes ont été regroupés sous les rubriques suivantes : vie personnelle et sociale, école, foyer et famille, travail. Selon les résultats de l'échelle d'évaluation, les adolescentes s'accordaient à dire qu'elles pensaient souvent aux facteurs qui sont pour elles une source de stress. Par rapport aux résultats des sous-échelles RWCCCL, la stratégie qui consiste à prendre ses souhaits pour une réalité est celle qui est le plus fréquemment utilisée pour s'adapter au stress, alors que la stratégie d'évitement est celle qui l'est le moins. Les résultats relatifs aux facteurs de stress et aux stratégies d'adaptation utilisées par les adolescentes sont interprétés à la lumière de la théorie du développement des adolescents.

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