PERCEPTIONS OF STRESS BY NURSES IN DIFFERENT SPECIALITIES: SOME IMPLICATIONS FOR NURSING ADMINISTRATORS

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Many writers have suggested that nursing is an occupation which can be considered high stress (Clark, 1980; Hartl, 1979; Parkes, 1980a, 1980b). Nurses' continual and intermittent exposure to crisis situations and emotionally-charged work situations have made them key targets for stress reactions. Although nursing administrators have long recognized that excess stress may adversely affect nurses' performance and levels of job satisfaction, there has been very little empirical research investigating the exact, nature of work-related stress for nurses. The limited amount of research which has been done has tended to focus upon nurses working in critical care areas such as intensive care units (Gowan, 1979; Huckabay & Jagla, 1979). There have been no studies to our knowledge attempting to find out whether stress may also be experienced by nurses working in the more traditional nursing specialities such as medicine, surgery, obstetrics, pediatrics or psychiatry. It is possible, for example, that nurses working in these specialities may experience different kinds and qualities of stress from that of nurses working in emergency departments, operating rooms, and special care units which are generally thought to be more stressful.

Although a number of prescriptions are being advocated for how nursing administrators can help nurses handle stress provoking situations (see for example: Stillman & Strasser, 1980), it would seem that

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more research is yet needed to find out the exact nature and sources of stress for nurses working in a variety of specialities so that nursing administrators can tailor helping mechanisms appropriately according to the quantities and qualities of stresses being experienced.

STUDY OBJECTIVES

The data reported here were part of a larger research project aiming to investigate the applicability of a contingency model of organizational functioning to nursing departments in hospitals. Contingency theory suggests that there are a number of technological and environmental factors which may influence an organization's performance and the behaviour of individuals within the organization (see for example: Perrow, 1970). The model indicates that managers and administrators may design their organizational structures and processes in order to achieve optional effectiveness (see for example: Child, 1977). Indicators of optional effectiveness may include high job satisfaction, low turnover, low stress or strain for workers, and high quality of output relative to costs. There has been little research attempting to apply contingency theory to nursing units in hospitals. Our study included measurement of a range of technological, structural and behavioural variables in nursing units. Some of the initial findings have already been reported (Leatt & Schneck, 1981; 1982a; 1982b).

One of the most important behavioural variables we were interested in, for both practical and theoretical reasons, was the nature of stress being experienced in nursing units.

In analyzing nurses' stress the objectives were:

1. to identify the main sources of stress for nurses working in a variety of specialities,
2. to develop types (for categories) of stress,
3. to find out if there were differences in nurses' perceptions of stress across a variety of specialities, and
4. to examine whether nurses of different age, experience, education, and length of time working in their position differed in their perceptions of stress.

CONCEPTUALIZATION OF STRESS

One of the first researchers to study stress was Selye (1956) who conceptualized stress in terms of a specific state of the human biological system brought about by change in the environment. This early approach was primarily physiological, however, more recently a great deal of work has been done to examine stress from a social-psychological perspective (see for example: Beehr & Newman, 1978; Kasl, 1978; McGrath, 1976; Schuler, 1980). In particular, there has been growing interest in stress as an organizational phenomenon where the focus is upon the effects of the work place in inducing stress reactions from individual workers (see for example: Cooper & Payne, 1978).

It has been recognized that stress is a complex and imprecise concept with no universally accepted meaning among social and behavioural scientists (Schuler, 1980). In general, stress is viewed as an outcome of a rather complex interaction between an individual and his/her environment. Accordingly, for stress in organizations, sources of stress may be inherent in the characteristics of the individual as well as in the attributes of the work place. For nurses, this can mean that stress may be a result of the individual nurse and who he/she is, and the nursing unit, its climate, physical facilities, technology, and so on.

In addition, it has been acknowledged that stress may be essentially a perceptual phenomenon (McGrath, 1976); that is, it must be perceived in order for it to be experienced. In other words, if the person does not perceive any stress in his/her situation, even though objective indicators may suggest that the circumstances should be disturbing, then no stress will be experienced.

DEFINITION OF STRESS

For this study, stress was viewed from a social-psychological perspective and defined according to McGrath (1976) in terms of nurses' perceptions of their interaction with their environment. McGrath has suggested there is potential for stress in situations that make demands which threaten to exceed a person's capability of coping with them. In these situations the rewards for meeting the demands are weighed as greater than the costs of not meeting the demands.

This approach was in keeping with Mechanic's (1962) definition of stress as "discomforting responses of persons in particular situations when they are motivated to reduce or eliminate it" (p. 7).

From the organizational literature, it is possible to identify a wide range of events, conditions or places which may be potentially sources of stress for individuals in the work place (McGrath, 1976). Two of the most commonly discussed categories of events thought to induce stress are: 1) those associated with the *role* an individual plays in the work place; and 2) those related to the *tasks* the person must perform.

For this study, we initially focused on these two categories of sources of stress for nurses. First, those associated with the *role* nurses assume within the nursing team and as part of the larger health care team. Second, those associated with the *tasks* of nursing care that nurses perform in their work; these included potential stress associated with patients' health condition and prognosis, family well-being, nursing care and procedures, as well as stress associated with workload, leaving work unfinished and relieving or helping out in other specialities.

These specific items of potential sources of stress for nurses were generating on the basis of the nursing literature (for example: Gillis, 1973; Keck & Walther, 1977; Mauksch, 1966; Reichle, 1975; Reves, 1972; Strauss, 1975; West, 1975), as well as from interviews with nurses practising in different specialities. In total, 21 potential sources were identified which appeared to have both face and content validity. It was recognized that a number of these sources might be interrelated and may not be precisely classifiable as exclusively concerned with the *tasks* or the *role* of the nurse.

A questionnaire was developed which asked nurses to indicate their perceptions of the potential 21 sources of stress. In order to incorporate both a "psychological" (individual) and a "social" (work place) dimension of stress, questions were asked about the potential sources of stress in two ways. First, we asked the nurses to indicate how much stress they perceived was associated with the source. This assumed that if the individual perceived a great deal of stress associated with a particular source then it would generate a "disturbing" reaction for the individual. Second, the nurses were asked to indicate how frequently the stress situation occurred on their unit. This assumed that the circumstance, even if it was perceived as being very stressful, would not result in experienced stress for the individual unless it actually occurred in the work place. Accordingly, each nurse was asked to indicate how much stress he/she thought was associated with each source of stress by answering 'very little, a little, some, quite a bit or very much', and also to say how often the stress situation occurred by answering 'never, rarely, sometimes, often, always'.

Since we viewed experienced stress as the most complete measure of stress, the responses to the first part of the question (individual nurse's perceptions of the stressfulness of the event) were combined with the second part of the question (the frequency with which the event was perceived to occur). A stress score for each nurse was, therefore, calculated by multiplying the response to the first half of the question by the response to the second half (AMOUNT × FREQUENCY). Each part of the question was scored 1 to 5 which provided a composite stress score ranging from 1 to 25. Subsequent analysis was then done using the composite scores.

Question 1 (below) shows an example of a role-related stress question and questions 2 and 3 are task-related stress questions. Both parts of the responses are also illustrated.

1. How stressful is it if nursing staff are unable to satisfy the conflicting demands of various people (e.g., patients, physicians, other paramedical staff, etc.)?

	How often does this situation occur in your unit?	
_____very little stress	_____never	_____often
_____a little stress	_____rarely	_____always
_____some stress	_____sometimes	
_____quite a bit of stress		
_____very much stress		

2. How stressful is it if a patient is very ill and his prognosis is poor?

	How often does this situation occur in your unit?	
_____very little stress	_____never	_____often
_____a little stress	_____rarely	_____always
_____some stress	_____sometimes	
_____quite a bit of stress		
_____very much stress		

3. How stressful is it if the workload is so consistently heavy that the nursing staff lack energy for leisure activities?

	How often does this situation occur in your unit?	
_____very little stress	_____never	_____often
_____a little stress	_____rarely	_____always
_____some stress	_____sometimes	
_____quite a bit of stress		
_____very much stress		

The full list of questions is shown in a report by Leatt and Schneck (1980) where the results of an analysis of sources of stress for head nurses using the same questions are discussed.

SAMPLE

The data were collected in 1977 from 1253 nurses working in 24 hospitals in Alberta, Canada. The nurses were from 9 specialities as follows: 200 nurses from medical (MED) units; 269 from surgical (SURG) units; 106 from intensive care (ICU); 94 from rehabilitation (REHAB) units; 102 from chronic auxiliary (AUX) units; 191 from pediatrics (PEDS); 110 from psychiatry (PSYCH); 100 from obstetrics (OBS), and 81 nurses working in rural (RURAL) hospitals. The sampling process took place in several stages. First, we attempted to achieve a wide range of types of relatively common, yet specialized, units (n=9); second, we included all units of the selected types within each hospital at the discretion of the director of nursing (n=157); third, we included all nurses from each unit who were on duty day, evening, and night shifts on randomly selected data collection days. For each unit, there were on average 40% of the full complement of staff who participated.

The sample of nurses on each unit was stratified according to the ratio of professional to non-professional nurses within each unit; therefore over one third of the nurses were Registered Nurses (or Bachelor or graduate degrees). The rest of the participants were non-professional categories such as Registered Nursing Assistants.

RANKING OF SOURCES OF STRESS

In order to find out which stress situations were perceived by the nurses to be responsible for the most stress, the composite responses to the 21 questions were ranked according to the mean responses for all nurses. The results are shown in Figure 1. The single most stressful event for nurses as indicated by its highest ranking was WORKLOAD. Ranking closely second was stress associated with physicians not being available when they were needed, and third, stress resulting from insufficient resources. There was no distinct pattern in the order in which the stressful events were ranked but the need to relieve or help out on the same or other specialities ranked considerably lower than the other potential stressors indicating a relatively small amount of stress associated with this activity. The finding of WORKLOAD as the highest ranking stress event was in keeping with the findings of Huckabay and Jagla (1979) for intensive care unit nurses.

Rank	Stress	Mean	Standard Deviation	n
1	Workload	11.79	5.26	1251
2	MDs unavailable	11.35	4.24	1240
3	Insufficient resources	11.10	4.51	1251
4	Patient's behaviour	10.82	4.33	1242
5	Conflicts nursing	10.66	4.84	1244
6	Conflicting demands	10.57	4.4	1251
7	Patient's prognosis	10.42	4.13	1244
8	Family upset	10.33	3.98	1249
9	MDs not communicating	10.07	3.99	1242
10	Staffing	10.03	5.26	1248
11	Patients dying	9.83	4.43	1236
12	Insufficient knowledge	9.62	3.87	1241
13	MDs critical	9.28	4.03	1240
14	Leftover work	8.93	4.18	1253
15	Responsibilities unclear	8.73	4.0	1248
16	Care painful	8.43	3.94	1228
17	Patient's age	8.37	5.5	1171
18	Family not informed	8.23	3.69	1243
19	Crises	8.21	3.53	1227
20	Relieve different speciality	7.68	4.5	1225
21	Relieve same speciality	6.15	4.21	1212

Figure 1. Ranking of sources of stress. Mean composite scores (range 1 to 25).

TYPES OF STRESS

We were interested in finding out whether it was possible to identify distinct categories or types of stress for nurses. Factor analysis was used to attempt to summarize the 21 stress sources into groups. By using an oblique factor rotation we were able to describe four interrelated types of stress underlying the 21 sources of stress we had initially defined. This factor solution explained 61% of the variance in responses to the 21 items. The four types of stress were labelled ROLE CONFLICT, TASK DIFFICULTY, RELIEF WORK, and WORKLOAD.

As indicated by the high factor loadings in Table 1, the first category of stress, ROLE CONFLICT was primarily related to problems with nurses' interactions among themselves and with other members of the health team. Stressful situations included: when there

were conflicting demands, responsibilities were unclear, nurses had insufficient knowledge or resources to do their job, physicians were not available or not communicating, and physicians were very critical of nurses' work.

TABLE 1

Types of Stress
(Factor analysis — oblique factor structure)

SOURCES OF STRESS	ROLE CONFLICT	TASK DIFFICULTY	RELIEF WORK	WORKLOAD
Insufficient resources	0.55	−0.31	0.09	0.51
Conflicting demands	0.59	−0.36	0.12	0.48
Responsibilities unclear	0.61	−0.25	0.12	0.34
Insufficient knowledge	0.59	−0.29	0.06	0.38
MDs critical	0.72	−0.29	0.26	0.17
MDs unavailable	0.71	−0.28	0.25	0.17
MDs not communicating	0.75	−0.38	0.22	0.19
Patient's prognosis	0.28	−0.79	0.04	0.25
Care painful	0.32	−0.75	0.14	0.17
Family not informed	0.37	−0.62	0.24	0.21
Family upset	0.39	−0.71	0.13	0.30
Patients' dying	0.22	−0.79	0.05	0.37
Crises	0.36	−0.55	0.32	0.35
Relieving same speciality	0.15	−0.15	0.80	0.20
Relieving different speciality	0.27	−0.14	0.83	0.05
Patient's age	0.12	−0.36	−0.09	0.56
Staffing	0.34	−0.25	0.36	0.67
Workload	0.34	−0.40	0.11	0.77
Leftover work	0.39	−0.36	0.88	0.56
Nursing conflicts	0.46	−0.12	0.20	0.58

The second category of stress was concerned with TASK DIFFICULTY; for example, when patients had poor prognosis and/or were dying, nursing care involved pain for the patient, and there were many crises. There was also stress when patients' families were upset and uninformed about their relatives' conditions.

The third type of stress of RELIEF WORK was distinct from the other types and focused upon stress associated with the need to relieve or help out in other units or specialities.

The fourth category, stress from WORKLOAD, included situations when there were staffing problems, leftover work by shifts, personality disagreements among the nurses, and heavy workload itself. Also associated was the extent to which elderly patients were part of the patient group.

The four types of stress were found to be interrelated, suggesting that there was no single stressor or category of stress for nurses but a number of interrelated situations which could provide stress. For example, the stress associated with the nurse's ROLE CONFLICT was relatively highly correlated with all three other types of stress (Table 2).

TABLE 2

Correlations Among Types of Stress (n=1055)

	TASK DIFFICULTY	RELIEF WORK	WORKLOAD
ROLE CONFLICT	0.37	0.26	0.35
TASK DIFFICULTY		0.14	0.35
RELIEF WORK			0.12

All relationships were significant at 0.01 level (probably due to the large sample size).

VARIATIONS IN STRESS FOR NURSES IN DIFFERENT SPECIALITIES

It was expected that nurses in different specialities would perceive different types of stress as well as stress of varying levels of intensity. In order to test this, factor scores for each of the four types of stress (ROLE CONFLICT, TASK DIFFICULTY, RELIEF WORK, WORKLOAD) were calculated for each nurse. Analysis of variance was used to find out if there were differences between nurses working in the nine different specialities in terms of their perception of the four types of stress. Some differences were statistically significant at 0.05 level. The results are shown in Table 3.

TABLE 3

Ranking of Nurses from Different Specialities on Stress Types

n=1055

	Low								High
ROLE CONFLICT	PSYCH	AUX	MED	RURAL	OBS	SURG	REHAB	PEDS	ICU
	−0.25	−0.16	−0.13	−0.11	0.01	0.03	0.04	0.23	0.38
TASK DIFFICULTY	OBS*	PSYCH	REHAB	SURG	PEDS	RURAL	AUX	MED	ICU*
	−0.38	−0.53	−0.29	−0.05	−0.01	0.08	0.16	0.38	1.09
RELIEF WORK	RURAL	AUX	ICU	PSYCH	REHAB	MED	SURG	OBS	PEDS*
	−0.48	−0.32	−0.19	−0.17	−0.16	−0.09	0.06	0.18	0.69
WORKLOAD	PEDS	OBS	PSYCH	SURG	ICU	MED	RURAL	REHAB	AUX*
	−0.51	−0.34	−0.25	−0.01	0.04	0.11	0.14	0.18	0.90

* Indicates nurses in this type of unit were significantly (0.05) higher or lower than the nurses for all other types of units.

In terms of stress associated with nurses' ROLE CONFLICT the nurses from the intensive care units ranked highest followed by pediatric care units second highest. The findings indicated that nurses from these specialities perceived considerable stress from their relationships with physicians, from conflicting demands, insufficient resources and knowledge, and from responsibilities being unclear. Nurses from psychiatry and auxiliary units ranked lowest in this type of stress.

For stress from TASK DIFFICULTY, the nurses from the intensive care units perceived more stress than nurses from all the other specialities and obstetrical nurses less than all other nurses. Clearly, this type of stress for the intensive care unit nurses seemed to stem from patients with poor prognosis and/or dying, care being painful, many crises and families being uninformed or upset. These kinds of situations were, of course, less likely to occur for obstetrical nurses.

RELIEF WORK stress, from relieving on other units, was perceived as more stressful by pediatric nurses than by any other group. It is not possible to tell from this analysis whether the stress was perceived because of pediatric nurses' discomfort when needed to work with adults as opposed to children or whether the situation of having to relieve or help out on other units did not occur frequently for pediatric nurses.

WORKLOAD stress was perceived significantly greater by nurses working in chronic auxiliary settings than by nurses working in any other speciality. These nurses indicated more stress from staffing problems, workload, left over work from shift to shift, nursing conflicts, and so on.

EFFECTS OF NURSES' EDUCATION, AGE, EXPERIENCE AND LENGTH OF TIME ON THE JOB

Although it was not feasible to do comprehensive analysis of the effects of nurses' personal characteristics on their perceptions of stress because of limitations of the study design, some initial exploration was possible.

For example, in terms of education, we found that Registered Nurses (or greater qualifications) perceived more stress from ROLE CONFLICT and from TASK DIFFICULTY than did the persons from nonprofessional categories. This may have been related to the fact that more Registered Nurses tented to be employed in the high stress specialities such as intensive care units and pediatrics. The nurses' level of education, however, was unrelated to their perceptions of stress from RELIEF WORK and WORKLOAD.

The length of time a nurse has been emloyed in the position showed no relationship to the nurses' perceptions of any of the four types of stress. Younger nurses and those with less experience tended to show more stress from ROLE CONFLICT and TASK DIFFICULTY but the relationships were not strong.

This finding may also have been related to the possibility that younger nurses tend to be attracted to certain specialities, especially intensive care units.

CONCLUSIONS AND IMPLICATIONS FOR NURSING ADMINISTRATION

The findings from this research suggested that the highest source of stress for nurses across nine types of specialities was their WORKLOAD. This result was in keeping with the other research which has considered only the stress of nurses in high technological specialities such as intensive care. The finding suggests that nursing administrators should keep in tune with the workload being encountered by all nurses and perhaps find ways of interpreting lack of resources or reasons for reallocation of resources to individual nurses. The second most important source of stress identified by the nurses was that occurring when physicians were not available when needed. This would imply an important role for nursing administrators as part of the management team to interpret to physicians and other health care workers the critical importance of their presence and availability to the patient care areas.

It was possible to identify four types or categories of stress as perceived by the nurses and also to describe differences in ranking of the nurses from the various specialities on the four types. Clearly, nurses from intensive care units perceived considerable stress from ROLE CONFLICT and from TASK DIFFICULTY; however, it was interesting that nurses from the other specialities also perceived a relatively large amount of certain types of stress and in some instances, more than intensive care nurses experienced. For example, pediatric nurses reported considerable stress from ROLE CONFLICT and from RELIEF WORK. Medical nurses reported relatively high stress from TASK DIFFICULTY. Auxiliary (chronic care) nurses perceived the greatest amount of stress from WORKLOAD. Psychiatric nurses ranked relatively low on their perceptions of all four types of stress.

In keeping with the contingency model of organizations, these findings of differences in nurses' perceptions of stress across the various specialities could have implications for the organization and management of nursing departments. For example, different specialities may call for different personnel selection criteria and other personnel policies. Also, different leadership styles may be required in order to assist the nurses in handling the varieties of stress or in coping with them. Unit organizational structures may need designs to be tailored to the individual specialities in order to provide appropriate stress support mechanisms and communication channels.

Also, the findings may have implications for the kinds of inservice and continuing education needs of nurses working in the various specialities. For example, nurses in intensive care units might be provided with programs which assist them with the difficulties associated with their tasks and also with programs which promote their interrelationships with physicians. The nurses from intensive care units, pediatric and medical units would seem to require opportunities to work through the stress perceived to be associated with patients' poor prognosis, death and dying, and families being upset.

The results imply that auxiliary (chronic care) unit nurses would seem to require considerable support in order for them to maintain adequate patient care given their perceptions of high stress associated with staffing problems and workload.

Finally, this research did not attempt to investigate non work-related stress which could influence perceptions of work stress. Clearly, more work is yet required to find out the extent to which personal characteristics of individual nurses can influence their perception and abilities to cope with different levels and types of stresses.

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