

**DIFFERENCES IN INTERVIEW INTERACTION BEHAVIOR
AMONG NURSES, CIVIL SERVICE EMPLOYEES AND CLERKS**

by

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A THESIS

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CHAPTER I

INTRODUCTION

STATEMENT OF THE PROBLEM

The increased emphasis in nursing during the past decade has been on treating the whole patient and has been progressively transferred from purely functional tasks entailed in the care of the patient to the need to recognize covert behavior as symptoms of non-acceptance or maladjustment to the physical condition.

The nurse in her professional role is engaged in interaction with many groups of personnel and patients. How she herself reacts to situation and communications will affect her ability to interact therapeutically with patients. In an effort to determine if her professional education has conditioned her responses this study was undertaken to investigate any variance of her behavior and response differing from the responses of two other selected groups.

PURPOSE OF THE STUDY

The purpose of this study is to determine whether nurses react differently than other groups to a standardized interview.

The data for this study were collected for other purposes by a group of researchers in the departments of Medical Psychology and Psychiatry in conjunction with a long range program of research

extending over the past decade. These investigators generously made their data available to the writer for independent analyses for this study.

LIMITATIONS

This study will be limited to the data collected through interviews of eighteen selected nurses from a large general hospital in the metropolitan area; five civil service applicants, policemen; two groups of department store applicants, comprising a total of thirty-one applicants.

The recording of interview observations will be done by Chapple's Interaction Chronograph. (6) This instrument, a large computer which is activated by an observer from the other side of a one-way mirror while the interviewer is conducting the standardized interview, with a single interviewee, permits the continuous and simultaneous measurement and recording of such interviewee and interviewer interaction variables as: the number of units of each person's interaction; duration of each of these actions; the duration of each silence; the frequency with which the interviewee takes the initiative during a subperiod in which the interviewer purposely reacts with silence by failing to respond to the interviewee's last utterance; the frequency of each participant's interruptions and the resulting dominances and submissions; and several other variables. (17)

DEFINITIONS

For the study these definitions were used:

1. Number of speech units; the number of times the interviewee acted or spoke. A speech unit was recorded whenever the interviewee talked or nodded or indicated that she was communicating (interacting) with the interviewer.
2. Duration of utterance; the average duration of the interviewee's speech units. This measure was computed by dividing the total duration of interviewee's speech by the number of the interviewee's speech units.

HYPOTHESES

1. There is no difference between nurses and policemen on the frequency of speech dimension.
2. There is no difference between nurses and policemen on the duration of speech dimensions.
3. There is no difference between nurses and department store saleswomen on the frequency of speech dimension.
4. There is no difference between nurses and department store saleswomen on the duration of speech dimensions.
5. There is no relationship between the ages of the nurses and the number of speech units.
6. There is no relationship between the ages of the nurses and the mean duration of utterances.

JUSTIFICATION OF THE STUDY

There has been a multi-disciplinary approach to meeting the needs of the patient. This has been manifested in nursing by the increased need for formulating nursing diagnoses or nursing care plans. It is essential for the nurse to understand the physical, psychological and behavioral aspects of a total human being in order to fulfill her responsibility to the patient. Elie Wolfe (37) has emphasized the importance of the nurse's ability to express herself in words and action.

Increased numbers of non-professional personnel have placed the professional nurse in the position of supervision. To fulfill these obligations the nurse must be able to recognize the cause of behavior and to react in a supportive and counseling role.

A paper reported by Matirven and Schlotfeldt (23) in Nursing Research, Spring 1962, "The Social Interaction Inventory," has described the lack of ability of many nurses to communicate effectively with patients who are manifesting anxiety.

Since it is probable that the nurse will be influencing the attitudes of co-workers it becomes important to determine if her professional education has provided her with the facility to be non-judgmental and understanding in interactions.

PROCEDURE FOR SOLUTION

Source of data.-- The primary source of data was information obtained from the standardized interview (17) as recorded on the

interaction chronograph. The population included eighteen professional nurses from one general hospital, five policemen applicants from a metropolitan area, and thirty-one department store applicants.

The variables within the population included:

1. The individual frequency of speech units.
2. The individual duration of utterances.

The variables previously defined were utilized to determine similarity or dissimilarity of interactions among the selected groups.

The eighteen nurses who participated were the total population in staff nurse positions in the selected hospital. They participated at the request of one of the interviewers. The first five policemen applicants participated as they were referred for psychological assessment. The thirty-one applicants for department store jobs were unselected.

The secondary source of data was a review of related literature pertaining to social interaction. The nursing journals were searched as well as other recent publications on the subject.

The data were obtained by four interviewers using a standardized interview and one observer recording the data on a chronograph machine. Samples of the rules governing interviewers and a table depicting "characteristics of the standardized interview" will be found in appendix A and B.

Validation of the standardized interview.-- The standardized interview has been utilized in previous investigations by reliable

interviewees (21) hence needed no further validation.

Treatment of data.-- Total interview interaction scores, means, standard deviations, F-tests, and t-tests were compiled for each group in the study. The researcher did F-tests and t-tests between the means of the participating groups. Further analysis of data were by frequency distribution of interaction variables.

The F-test and t-test were used to reveal the significance of difference between the means of two groups. Frequency distribution indicated the range of individual difference within the groups as well as difference in means between groups. Rank Order Correlation (Rho) was computed for each nurse's age and her own number of speech units and also her own mean duration of utterance to reveal any relationship between age and each of these two variables.

OVERVIEW OF THE STUDY

There are three chapters in the remainder of the study. Chapter II is a review of related literature. Chapter III is the report of study containing findings and analysis of data derived from 54 interviews. Chapter IV presents the summary, conclusions, and recommendations.

CHAPTER XI

REVIEW OF RELATED LITERATURE

Communication is the process of passing information and understanding from one person to another.

An editorial in the American Journal of Nursing mentions that many a patient has been reluctant to ask questions or to expect other than the most urgent care, not so much because of what the nurse may say, but because she appears harrassed, impatient, pre-occupied. The personal, feeling type of relationship is expressed much more in actions than in words. Indeed, patients measure the nurse's effectiveness much less by the intelligence, the knowledge, and the technical skills she displays, than by the person she appears to be. (36)

Hise Wolfe (37) says a patient entering the hospital has uneasiness, this vague discomfort and psychological malaise, which can be relieved and counteracted by the demonstration of following the qualities which seem so basic that nurses hardly bother to consider them:

1. Unfailing politeness and courtesy,
2. Respect for the dignity of man,
3. Tact.

The tenets of courtesy, tact and respect have to be lived; they need to permeate our actual dealings with those above us, with those beside

us, and with those under us. They are the cornerstone of what we call "the therapeutic community"; they reflect the educated hearts of those who are building it.

All interpersonal relationships involve interaction between people. Ideally a nurse is sensitive to the feelings of others. She is aware of changes in their reactions and feelings. She is aware of the reactions her own behavior and personality bring out in others. The best nurse is humble, open-minded and willing always to admit her limitations and to learn from anyone with whom she has contact. She is flexible, being able, when necessary, to adjust her work and her living to the needs and desires of others. She must be genuinely interested in the welfare of others. She must be non-judgmental, accepting and tolerant. The term tolerant does not mean a passive, "I-can-put-up-with-it" tolerance. Rather it is an active, outgoing acceptance of other people, with no qualifications or strings attached. A nurse must be able to accept the differences in all of these people and to accept the right of all of them to be different, to behave differently, to think and feel differently from the way she is and feels.

In listing all these attributes the aim is not to describe the actual nurse, but to describe an ideal, a goal toward which a mature professional person who wants to contribute her best to society, and to receive the most enjoyment from her work, will want to move.

Burton (5) believes the happy, effective nurse who is satisfied and satisfying in her profession does not necessarily possess all of the

ideal traits, but she is motivated to try to develop them.

Stanley H. Eldred (11) states that a nurse communicates to the patient through the means of three areas:

1. Language - written word,
2. Kinetics - totality of body act, rhythm and movement,
3. Vocalization - pitch, degree of loudness, "tone of voice."

Psychological stress is always part of a hospital's context. Any patient is under stress. All three aspects of a patient's communication, his language, his kinetics, and his vocalization are affected, whether he has appendicitis, or a broken arm, or asthma, or schizophrenia. Unless the nurse is aware of these alternations she is apt to misinterpret what the patient is saying. Nurses are careful in their professional roles not to say the wrong thing, but not so aware of what they communicate with their tone of voice and their kinetics.

Kelly (13) emphasizes that every time a nurse gives care to a patient, he will be able to tell almost immediately whether she is confident of her ability, sympathetic toward him, happy in her work, and in control of her emotions, or quite the opposite. Her appearance tells the world a great deal about her, and the quality of her voice, her inflections, and gestures are almost as important in communications as what she actually says.

Many times the emotional problems patients will reveal to nurses are not problems with which a nurse can help, beyond offering the comfort of a willing listener and referral to someone more highly trained. Nurses in every branch of the profession are faced with this situation

many times. The public health field particularly has a large share of such opportunities. Frequently when an individual is given the opportunity to talk out his anxiety (to verbalize or ventilate, as the psychiatrists refer to the process) he is able to clarify his own thinking and feeling to the point where he can give his own explanation. (3)

There may be emotional problems which have their roots in unrealistic anxiety or apprehension. When this is true, explanations will be of little value because the individual is not emotionally ready to accept them. He may not be ready to give up his worry or fear.

Patients frequently ask a nurse for help with their personal problems. In many situations the nurse could help if she had the necessary knowledge and understanding of the way in which problems develop, of the needs of the person who turns to her for help, and of simple counseling skills. In addition, the nurse needs an understanding of her own motivations and emotions, sensitivity to the feelings of others, knowledge of the dynamic interaction between herself and those she is trying to help, and the willingness to give of herself in helping others.

(5) It behooves the professional nurse to recognize the privilege that is hers, that of being near and working with people who are in trouble, people who are in pain, frightened, helpless, and wholly dependent upon doctors and nurses; people who are often afraid to communicate verbally what is really terrifying them but hope, somehow, to convey it through their eyes, their skin, their gestures. (16)

Because the nurse is in closer and more continuous contact with

patients than is the physician, nursing education has consistently recognized and emphasized the need for understanding the patient. The importance of understanding factors in interpersonal relationships is stressed. "Total patient care," "comprehensive care," "tender, loving care," have become concepts which students hear as soon as they enter the school of nursing.

The nurse of today has supervisory responsibilities which include interpersonal relationships with patients and nursing personnel. Are nurses prepared for this responsibility?

Killian's (15) study concluded that:

1. Professional nurses are not sufficiently aware of the attributes needed by a nurse who guides, directs, and supervises other nursing personnel.
2. There had been no real attempt made by the schools of nursing to introduce the concepts of supervision.

Conrad (9) states that where a profession differs from an ordinary occupation is "...in that plus factor which makes the job fascinating in itself." Spirit and devotion are facts alone which set nursing apart. The understanding of people, possession of extensive basic scientific and clinical knowledge, expert skill, correlation of activities of persons concerned with nursing care and service develop broad social vision and courage to interpret needs are all qualities of a nurse.

The nurse must see her function not only as that of making certain the patient has a comfortable bed, correct medications, and the physical

necessities, but also of being an emotional detection agent as well. The ability to "play by ear" and to improvise in relation to patients' problems and needs, valuable as this is, is not enough. It is important to know why a patient has particular problems and needs.

All the rules for courteous and suitable conversation in social situations apply in talking with patients. However, when a person is ill, especially if he is hospitalized, it is important to be even more careful about what to say, how to say it, when to say it, and where to say it. Because of the fears and tensions which always accompany illness, the patient may search for hidden meanings, incorrectly interpret the remarks, or place emphasis where none was intended. (27) Communication in its simplest sense means sending and receiving messages. The messages may be spoken or unspoken, written, depicted, or conveyed by emotions, mannerisms, and attitudes.

It is the nurse's direct responsibility to see to it that the patient's needs for help are met, either directly by her own activity or indirectly by calling in the help of others.

A paper by Mathven and Schlotfeldt (23) describes the development, refinement, and test of an instrument designed to determine the nature of verbal responses nurses tend to give in emotion-laden situations typically encountered in nursing practice. The Social Interaction Inventory promises to be useful as a diagnostic and evaluation tool to assess verbal communication skills of students of nursing and nurse practitioners. Substantive findings obtained from having nurses give free responses to descriptions of stressful situations, and those obtained through uses of the instrument itself indicate that at least some practicing nurses lack skill in communicating effectively with

patients who are manifesting anxiety.

In Argyris's (36) study of nurses some interesting personality characteristics were revealed which may have bearing on the verbalisation of nurses. They were summarized as follows:

1. The nurses are "indispensable minded," desiring to be needed by others, to have others depending on them for personal warmth and nursing skills.

2. Nurses are self-controlled, enduring considerable tension. They tend to "soak it in without dishing it out."

3. The nurse is "harmonious"--that is, she is sensitive to others and does everything possible to maintain overt harmony and to minimize conflict.

4. The nurse is "self-responsible," liking to be her own boss and disliking close supervision.

5. She is passive, disliking to be put in a position where she must initiate action for others.

Johnson and Herdin's (14) study of home visits of Public Health nurses revealed the discussion of the verbal involvement of nurses, patients, and families as the most interesting part of the report. The main focus was on quantitative rather than qualitative aspects of verbal involvement. Descriptions were given of the roles of nurses and patients in introducing ideas into and in sustaining verbal discussion. Careful consideration was given to many factors that could affect verbal involvement. These were classified as situational and background variables.

It was summarized that nurses tended to assess the health status of

their patients largely by asking general questions and by supplementing the general questions with one or two queries about particular bodily conditions, signs, or symptoms which are closely relevant to the patient's diagnosis. The fact that so many of the frequencies of relevant topics are low (less than 50 percent of the visits) suggests that the nurses do not ordinarily tend toward comprehensive and detailed assessment of the bodily status of the patient at the verbal level. The data of the study, though woefully insufficient as measures of all the nuances and more subtle features of direct nursing care, do at least point to one conclusion: The assumption of a direct linkage between the personal characteristics of nurses and how they perform should be re-examined.

The basic fact that verbal interaction is a two-way process is shown again and again in the data of the Johnson and Hardin study. (13) Since, by definition, interactions between individuals generate continuous variations in the behavior of each participant, is it surprising that the tactics of the nurse are subject to modifications during the course of face-to-face contact? A nurse imbued with up-to-date concepts and perceptions of proper nursing may yet face unforeseen difficulties in realizing them under certain conditions and with certain kinds of patients. The nurse may tend to adapt psychologically as well as behaviorally to the realities of the current norms and attitudes as these are communicated to her by colleagues and superiors in the nursing agency and as she begins to appreciate the vast differences in patients and the various possibilities they offer for being served or helped.

SUMMARY

The review of the literature relates the importance of good communications among the nurses, the patients, and other hospital nursing personnel. Communication is the process of passing information and understanding from one person to another.

This is important to the patient in the hospital and home situation since an interpersonal relationship has to be developed before the patient can discuss his anxieties with the nurse. If this relationship is established, even the patients who are afraid to communicate verbally will try non-verbal gestures to convey their apprehension. It is the nurse's direct responsibility to see to it that the patient's needs for help are met, either directly by her own activity or indirectly by calling in the help of others.

CHAPTER III

REPORT OF THE STUDY

PURPOSE OF THE STUDY

This study was undertaken to prove or disprove the null hypotheses:

There is no difference between nurses and policewomen on the frequency of speech dimension.

There is no difference between nurses and policewomen on the duration of speech dimensions.

There is no difference between nurses and department store saleswomen on the frequency of speech dimension.

There is no difference between nurses and department store saleswomen on the duration of speech dimensions.

There is no relationship between the ages of the nurses and the number of speech units.

There is no relationship between the ages of the nurses and their duration of speech dimensions.

PROCEDURE OF THE STUDY

The method of data collection for the study was a standardized interview given to three groups of people. One group was composed of eighteen registered nurses employed in the nursing service department of a selected hospital. The entire population of nurses was a random sample of staff nurses. They were interviewed in the order in which they could be scheduled and the particular combination of interviewer

and interviewee was by chance. The second group consisted of five unselected civil service applicants for policewomen jobs. The third group was divided into two populations: 1. Twenty unselected applicants for sales jobs from a selected department store in Boston; and 2. Eleven unselected applicants for sales jobs from a selected department store in Chicago.

The standardized interview.-- Unknown to the interviewee, the standardized interview is divided into five periods, with periods 1, 3 and 5 as free (essentially non-directive interviewing) give-and-take periods, and Period 2 (silence) and Period 4 (interruption) as stress phases of the interview.

The characteristics of such a standardized interview are shown in Appendix A, whereas the "rules" governing the interviewer's behavior have been standardized by Matarazzo, Saslow and Guze (18) and are given in Appendix B. Briefly, it suggests some rules to guide the interviewer's behavior, and in addition, by prescribing that the interviewer behave in a number of different ways as the interview proceeds, it is possible to sample a larger portion of the interviewee's repertoire of responses.

Essentially these rules require that the interviewer: 1. speak in utterances of approximately 5 seconds each time he speaks, 2. verbally respond to the interviewee's last remark quickly (with a latency of one second or less) in the three free periods, 3. fail to respond to the interviewee's last remark 12 times in Period 2, 4. verbally interrupt the interviewee each time he speaks, for a total of 12 times

in Period 4.

In all five periods the interviewer was asked to make his interactions verbal only, e.g., not to use head nods and other gestures alone. All of his utterances were planned to be of 5 seconds' duration and when an interviewee finished a comment the interviewer responded in less than one second, except as otherwise noted in period 2. If after the interviewer made a comment the interviewee did not respond the interviewer waited for 15 seconds and then spoke again in another 5-second comment. During period 2 (silence stress) the interviewer "failed to respond" to the last comment of the interviewee a total of 12 times (or for 15 minutes, whichever is shorter). After the interviewer had been silent for 15 seconds (and the interviewee had not taken the initiative to speak again) the interviewer made another 5-second comment. During period 4 (interruption stress) the interviewer interrupted the interviewee for 5 seconds for a total of 12 times. The interviewer was asked to begin his interruption about 3 seconds after the interviewee began her interaction. If after having interrupted the interviewee, she continued to talk through the interruption (did not submit, or talked down the interviewer) the interviewer did not interrupt again while the interviewee finished her utterance, i.e., the interviewer interrupted the interviewee only once during each utterance if she did not "yield." Except in period 4 the interviewer was asked not to interrupt the interviewee at all. The average total length of these interviews was approximately 35 minutes.

While the interviewer-interviewee pairs were free to discuss whatever content they wished in the course of their interview, the interviewer was asked to start each interview with a request to the interviewee

to describe her activities in a typical working day. Beyond this no standardization of interview content was attempted; the interviewer was asked simply to be nondirective in his interviewing style. That is, the interviewer was asked to make his comments non-challenging, open-ended and related to the interviewee's past comments or to some new, general topic.

Interviewers.-- In the present study four different interviewers were utilized. Two experienced male interviewers, one a psychiatrist and the other a psychologist, each interviewed one-half of the subjects in the staff nurse group. The psychologist interviewed the total subjects, civil service applicants, in the policemen group. The third and fourth interviewers, both female, were experienced interviewers from the personnel departments of their respective department stores and interviewed the two groups of department store applicants.

It has been proven statistically that reliability across different interviewers is very high for the interview interaction variables. (30)

Thus the four interviewers in this study, all following the rules of the standardized interview, could be thought of as essentially one interviewer.

Apparatus.-- The duration of each speech and silence unit for both interviewer and nurse and policemen interviewees was recorded by the Interaction Recorder. (34) This instrument is an electronic time-recording device which records on punched paper tape a record of when one or the other, both or neither person is speaking. The time readings are recorded in binary code acceptable to a Burroughs E101 computer.

The recorder is activated by a trained observer who can see and hear the interview from the other side of a one-way mirror. A unit of speech is recorded when the observer activates either the interviewer or interviewee "key." At the beginning of either participant's speech unit the appropriate key is depressed, (or both, when both are talking simultaneously) and at the completion of that speech unit the key is released. This recording permits a highly reliable, chronological, unit-by-unit recording of each unit of speech contributed separately by the interviewer and interviewee. The interviewer signaled the beginning of each new period of the interview for the observer by pushing a button under his desk which activated a red light in the observer's room. The interviewer and interviewee voices were transmitted to the observer by means of a microphone embedded in the ceiling of the interview room.

The recording of interview observations for the department store applicants was by Chapple's Interaction Chronograph. (6) This instrument, a large computer which is also activated by an observer from the other side of a one-way mirror while the interviewer is conducting the previously described standardized interview, with a single interviewee, permits the continuous and simultaneous measurement and recording of interviewee and interviewer's interaction variables.

TABULATION AND INTERPRETATION OF THE DATA

The data were tabulated and figures and tables were constructed. The variables between the groups were tested.

Table 1. Number of Speech Units During a Standardized Interview: Means, Standard Deviations, and F-Test Over Four Groups

Number of Speech Units	Type of Group				F-Test	F Level of F-Test
			Department Store Applicants			
	Nurses (N-18)	Police Women (N-5)	Gilchrist (N-20)	Carson (N-11)		
Mean	66.44	62.20	47.65	39.00	14.56	.001
Signa	12.32	6.61	11.45	14.39		

Table 1 presents, for each of the four groups, means and standard deviations for one interview interaction variable, number of speech units recorded during the standardized interview. This variable shows the mean scores obtained for each group on the basis of the total interview (i.e., means based on the total of all five periods).

The results in Table 1 and Table 2 indicate that nurses, who spoke an average of 66.44 times during a standardized interview, spoke significantly more often (p of .001) than did both the Gilchrist group (47.65) of women department store applicants and the Carson group (39.00) of similar applicants. Thus, on the average, the nurses spoke approximately 50 percent more often than did their female store applicant counterparts in a similar interview situation.

The nurses (66.44) did not differ from the small group of police-women applicants (62.20). Interestingly, both the group of nurses and the group of policewomen applicants had college degrees. Since similar educational data were not collected on the department store groups,

this comparison could not be made. Although not scientifically documented, the interviewers remember that most of the store applicants were not college educated.

Tables 1 and 2 also show, not surprisingly, that the Gilchrist group (47.65) did not differ from the Carson group (39.00) of applicants. In a way, this lack of difference between two similar occupational groups lends a kind of reliability to the other findings in Table 1 and 2.

An analysis of variance (22) across the four groups was carried out with a value for F of 14.56, which is significant at the .001 level of confidence. Thus it can be assumed that there is a statistically significant difference among some of the means in Table 1. Table 2 was constructed to determine which of the four means differed from each other. The null hypothesis formulated:

There is no difference between nurses and policemen on the frequency of speech dimension.

There is no difference between nurses and department store saleswomen on the frequency of speech dimension.

The t -tests were done to prove or disprove the null hypothesis.

Table 2. Number of Speech Units During a Standardized Interview: Significance Levels of t-tests of Differences Between Means of Pairs of Four Groups

Type of Group	Type of Group			
			Department Store Applicants	
	Nurses	Policewomen	Gilchrist	Carson
Nurses	--	--	.001	.001
Policewomen . .	--	--	.01	.01
Gilchrist.001	.01	--	--
Carson001	.01	--	--

Using the formula for t-test in which $t = \frac{M_1 - M_2}{\sigma \text{ diff.}}$

There was no significant difference between the number of speech units between nurses and policewomen and between Gilchrist and Carson, but it was significant to the .001 level between nurses and Gilchrist, and nurses and Carson. It was significant to the .01 level between policewomen and Gilchrist and policewomen and Carson.

Therefore the hypothesis:

There is no difference between nurses and policewomen on the frequency of speech dimension.

was accepted and the hypothesis:

There is no difference between nurses and department store saleswomen on the frequency of speech dimension.

was rejected and there was a difference between nurses and department store applicants on the number of units of speech dimension.

Table 3. Mean Duration of Utterance During a Standardized Interview: Means, Standard Deviations and F-Tests Over Four Groups

Mean Duration of Utterance	Type of Group					
			Department Store Applicants		F-Test	P-Level of F-Test
	Nurses (N-18)	Police Women (N-5)	Gilchrist (N-20)	Carson (N-11)		
Mean.*	21.75	25.16	50.00	70.70	10.60	.001
Sigma	7.68	4.88	25.03	41.29		

* (in seconds)

Table 3 presents, for each of the four groups, means and standard deviations for interview interaction variable, mean duration of utterances recorded during the standardized interview. This variable shows the mean scores obtained for each group on the basis of the total interview. Table 3 indicates that department store clerks, Gilchrist and Carson, have means of 50.00 and 70.70 respectively, and that the department store clerks were talking on the average of two and three times longer than the nurses and policewomen with means of 21.75 and 25.16, (F-test value is 10.60, p of .001). As shown in Table 1 nurses and policewomen spoke statistically significantly more often than department store clerks, however in Table 3 it is clear that nurses and policewomen spoke in shorter intervals each time they spoke, as compared to department store clerks. Table 4 was constructed to determine if this was also true. The null hypothesis formulated:

There is no difference between nurses and policewomen on the duration of speech dimension.

There is no difference between nurses and department store saleswomen on the duration of speech dimension

The t-tests were done to prove or disprove the null hypothesis.

Table 4. Mean Duration of Utterance During a Standardized Interview: Significance Levels of t-Tests of Differences Between Means of Pairs of Four Groups

Type of Group	Type of Group			
			Department Store Applicants	
	Nurses	Policewomen	Gilchrist	Carson
Nurses.	--	--	.001	.001
Policewomen . . .	--	--	.001	.01
Gilchrist.001	.001	--	--
Carson.001	.01	--	--

There was no significant difference between the duration of speech dimension between nurses and policewomen and between Gilchrist and Carson, but it was highly significant to the .001 level between nurses and Gilchrist, and nurses and Carson. It was significant to the .01 level between policewomen and Carson and to the .001 level between the policewomen and Gilchrist.

Therefore the hypothesis:

There is no difference between nurses and policewomen on the duration of speech dimensions.

was accepted and the hypothesis:

There is no difference between nurses and department store saleswomen on the duration of speech dimension.

was rejected and there was a difference between nurses and department store applicants on the duration of speech dimensions.

Figures 1 and 2 present the total number of speech units and the mean duration of utterance for each individual. The number of units (Figure 1) and the mean duration of speech (Figure 2) for each individual is shown as a single square in the two figures. The frequency distributions thus obtained allow one to gain a more effective (visual) picture of the range of individual differences within each of the four groups, as well as differences in means between the groups.

From Figure 1 it is again clear that with the interviewer's behavior minimally standardized nurses and policemen interact about 50 percent more often during the interview than do the department store applicants.

Figure 1 also shows the considerable differences among individual subjects within each of the four groups. Thus during the same standardized (total) interview, one department store clerk had twenty-one interaction units, while another had seventy-one. Despite these individual differences, however, not one nurse or policeman had a speech unit score below the means of both groups of department store clerks.

Figure 2 represents the frequency distribution and range of the mean duration of utterance of the four groups.

The range of the mean duration of utterance for nurses was 12.5 to 36.7; of policemen, 10.1-29.5; of Gilchrist Department store applicants, 16.5-128.6; and of Carson Department store applicants, 26.9-147.4. It is clear that while nurses spoke more frequently as shown in Figure 1, they tended to speak in shorter durations than department store applicants.

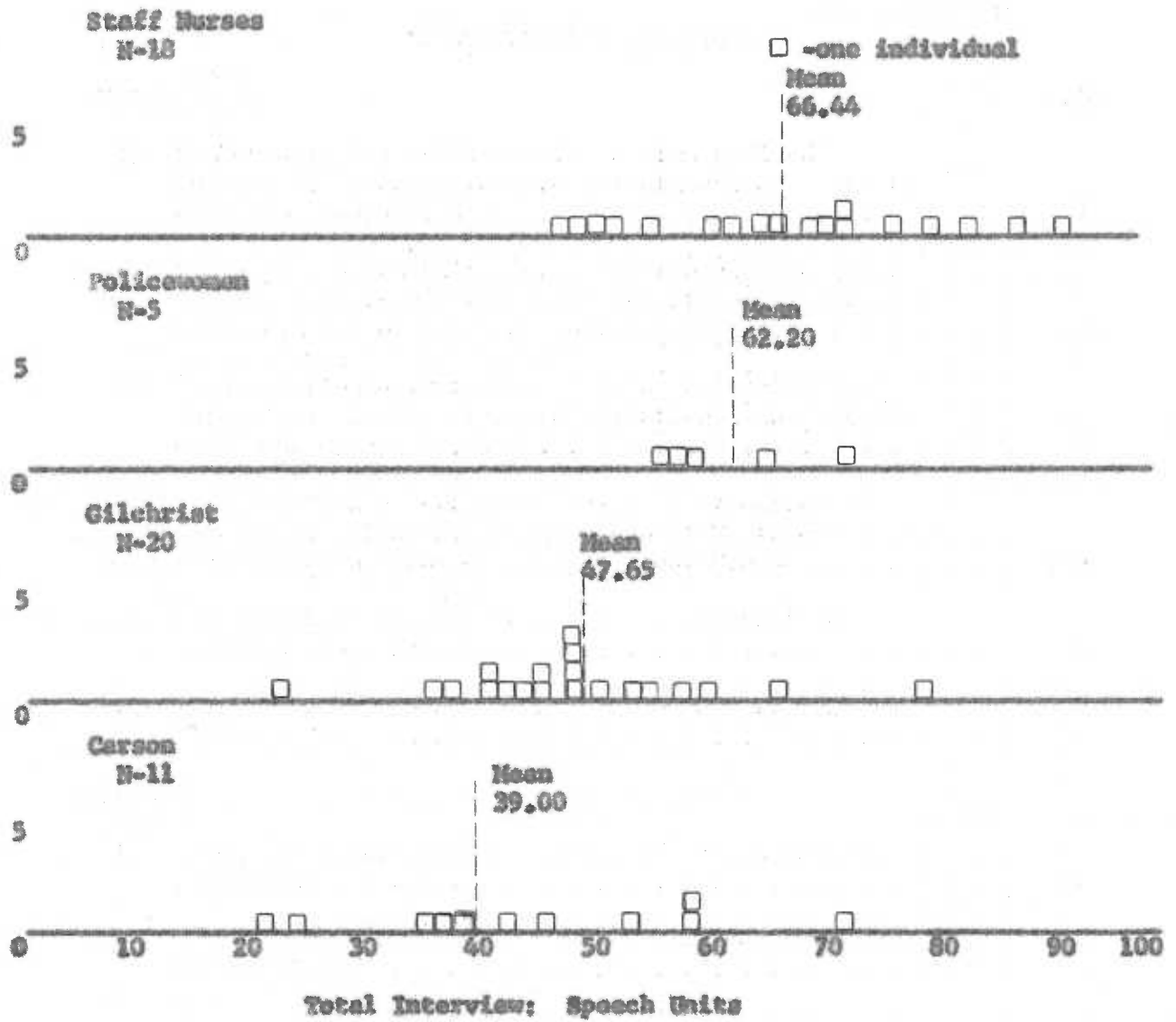


Figure 1. Frequency Distribution; Number of Speech Units of Four Groups

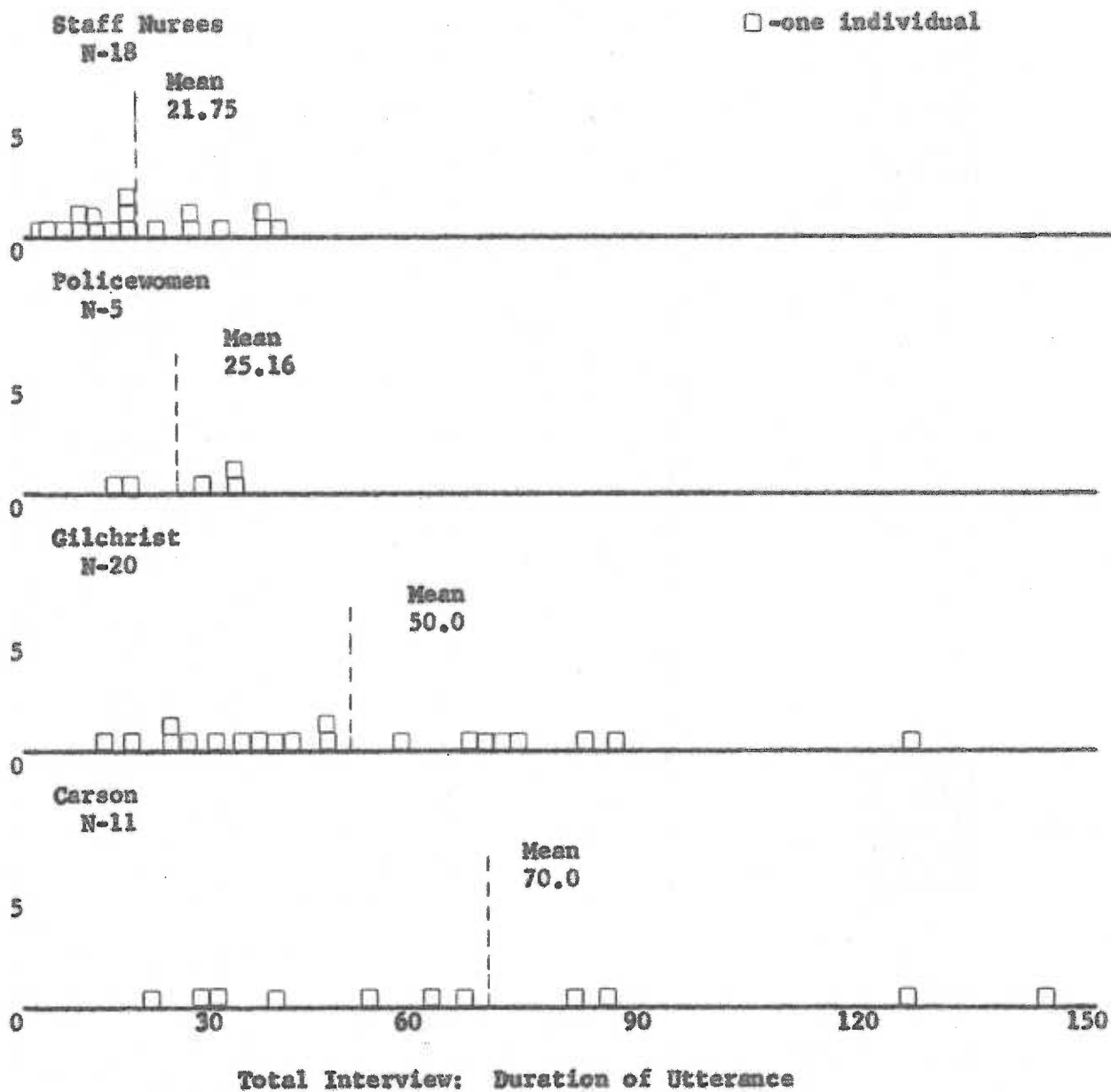


Figure 2. Frequency Distribution: Mean Duration of Utterance of Four Groups

Figure 1. The department store applicants' means exceeded the nurses' and policewomen's means by a factor of two to three times.

Figure 2 again shows the considerable differences in individuals. Not one nurse or policewoman earned a mean duration of speech above the mean of the department store clerks. It is interesting to note that the mean duration of utterance of three department store applicants were 126 seconds, 136 seconds and 147 seconds respectively; while in the same group an individual spoke only on the average of 16 seconds. Only two clerks spoke in seconds below the mean of the nurses and three clerks below the mean of the policewomen.

Figures 1 and 2 show that many differences exist between the four groups. These differences are demonstrable despite the existence of large individual differences within any one group. The obtained differences in interview behavior have thus been shown to be related to criteria (occupation) external to the standardized interview itself. It is assumed that the four groups were identical along a number of related dimensions. Yet, objective measures of actual interview behavior in a standardized situation revealed them to be different in several ways.

As each person is (interactionally) different, so each job differs in its behavioral requirements. A saleswoman obviously has to have a high degree of activity and drive in order to make sales, while a machine operator or a bookkeeper would not need these characteristics. Nurses and policewomen are placed in situations where fact-finding and evaluation are essential, thus verbal interactions would be related to questions and the need to listen. Chapple and Sayles (7) state,

How much you listen, how dominant you are, how much initiative you show, whether you are quick or slow to act, are all characteristics which vary in their importance from job to job. Not only do jobs differ in their inherent interactional dimensions, they also differ according to the personalities who fill the surrounding organizational positions.

Thus, it appears that the results of this study substantiate this hypothesis of Chapple and Sayles that different occupations may require different verbal interactional styles of the type investigated and shown in Figures 1 and 2.

One of the variables not controlled in this study was the ages of the individual women in each of our four groups. It occurred to the investigator that, compared to department store applicants, nurses and policemen applicants might talk more often (units) and with longer duration because these two other groups of individuals were older (or younger) than the two former groups.

Unfortunately, the ages of the department store personnel were not recorded at the time they were given the standardized interview. Nevertheless, in an earlier study R. G. Metarazzo, et al (21) showed that age of the interviewee did not influence the number of times he spoke nor the duration of his average speech unit.

To check out this point still further with the present data, an analysis was made to see whether or not age played a role in the interviewee speech behavior of the group of eighteen nurses (on whom the writer did have the age information). The Rank Order Correlation (R_{ho}) was computed for each nurse's age and her own number of speech units (Table 5) and also her own mean duration of utterance (Table 6). The value of R_{ho}

(.06 and .09, respectively) failed to show a relationship between age and each of these two variables.

From these two correlational analyses, plus the earlier R. G. Matarazzo et al study (21), the writer concluded that had age data been collected on all four of the groups, age probably would not have been found to be a relevant variable.

Table 5 was constructed to show a rank order correlation between the age of the staff nurse and number of speech units. The rank order is determined by arranging the ages from the youngest to the oldest and the units of speech from the least number of units to the most. The null hypothesis was formulated:

There is no relationship between the ages of the nurses and the number of speech units.

Table 5. Age and Number of Speech Units and Rank Order of Age and Number of Speech Units of Eighteen Staff Nurses

Nurses	Age	Number of Speech Units	Rank Age	Rank Number of Speech Units
1	21	61	1.5	6
2	21	75	1.5	14
3	22	70	4	12.5
4	22	68	4	10
5	22	81	4	16
6	23	66	6.5	9
7	23	52	6.5	4
8	24	62	8.5	7
9	24	54	8.5	5
10	25	69	11	1
11	25	90	11	18
12	25	70	11	12.5
13	27	85	13.5	17
14	27	51	13.5	3
15	30	50	15.5	2
16	30	78	15.5	15
17	31	69	17	11
18	48	65	18	8

Using the formula $RHO = 1 - \frac{6 \sum D^2}{n(n^2-1)}$ $RHO = 0.06$

This is not significant at the 0.05 level of confidence of the Table of Critical Values of the Spearman Rank Order. Therefore the null hypothesis was accepted and it may be stated that if one knows the age of the nurse one cannot predict the number of speech units.

Table 6 was constructed to show a rank order correlation between the age of the staff nurse and the mean duration of utterance. Again the rank order is determined by arranging the ages from the youngest to the oldest and the mean duration of utterance of the least number of seconds to the most seconds. The null hypothesis was formulated:

There is no relationship between the ages of the nurses and their mean duration of utterances.

Table 6. Age and Mean Duration of Utterance and Rank Order of Age and Mean Duration of Utterance of Eighteen Staff Nurses

Nurses	Age	Mean Duration of Utterances	Rank	
			Rank Age	Mean Duration of Utterances
1	21	21.8	1.5	12
2	21	17.0	1.5	7.5
3	22	25.0	4	13
4	22	20.3	4	9
5	22	14.3	4	3
6	23	21.1	6.5	10
7	23	27.1	6.5	15
8	24	21.7	8.5	11
9	24	25.6	8.5	14
10	25	19.4	11	17
11	25	12.5	11	1
12	25	15.7	11	5
13	27	13.4	13.5	2
14	27	39.0	13.5	16
15	30	36.7	15.5	18
16	30	15.5	15.5	4
17	31	16.4	17	6
18	48	17.0	18	7.5

Using the formula $RHO = 1 - \frac{6 \sum D^2}{n(n^2 - 1)}$ $RHO = 0.09$

This is not significant at the 0.05 level of Confidence of Critical Values of the Spearman Rank Order. Therefore the null hypothesis was accepted and it may be stated that if one knows the age of the nurse one cannot predict the mean duration of utterance.

It was interesting to note that in Johnson and Hardin's study (14) when known relevant factors were controlled, two of the most crucial personal characteristics of nurses rarely showed any relationship to behavior in the nurse-patient contact. One personal characteristic was age (as a measure of experience). Data showed that the older nurses may have tended to verbalize at slightly greater length.

The researcher considered the purpose of the interview as still another variable which might account for the differences shown in Figures 1 and 2, namely, that the two department store applicant groups were being interviewed for a job, while the group of eighteen nurses were being interviewed about their already existing job. However, since the five policewoman applicants, who did not differ significantly from the nurses, also were applying for a job, it can probably be concluded that "applicant" versus "non-applicant" status is not a contaminating variable.

The writer is left, then, with a highly suggestive finding that different occupations may attract people with different verbal interactional styles.

Since the numbers of individuals in each of the groups were small,

from the present study, the researcher can conclude only that the results suggest this as a feasible hypothesis for still further exploration of this question.

The summary of the findings, the conclusions drawn and recommendations for further studies have been stated in the next chapter.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY OF THE STUDY

Many times the emotional problems patients will reveal to nurses are not problems with which a nurse can help, beyond offering the comfort of a willing listener and referral to someone more highly trained. Nurses in every branch of the profession are faced with this situation many times.

All interpersonal relationships involve interaction between people. Burton (5) has emphasized that nursing is one profession in which satisfaction, happiness and success are dependent to a great extent on the skills a nurse has developed in promoting good interpersonal relations. The day-by-day routine of a nurse's work, whether she does bedside nursing in a hospital, or public health nursing in the community, whether she is an operating room supervisor or an instructor or a nurse in industry, consists of a series of interpersonal relationships. In any type of nursing she is interacting in a variety of situations with many different kinds of people. The success she experiences in her chosen field in her efforts to help other people will depend upon her ability to interact with them in a positive way. It will depend upon the interpersonal relationships she experiences and upon how she uses herself in these relationships.

Orlando (26) states that in one way or another the knowledge a nurse gains is related to people, their environment and their health.

This study was interested in measuring and comparing the verbal activity of nurses, policewomen and department store applicants in a standardized verbal interaction situation.

It was possible to compare individual differences among nurses within each group as well as to compare the similarities and differences among the four female groups on such interview variables as frequency and duration of single units of speech.

The nurse, policewomen and department store applicants were reacting to a standardized comparable stimulus situation and it thus was possible to compare one female with another and one group with another.

While there were gross individual differences among all the groups, it was generally apparent that nurses and policewomen did not significantly differ from each other on the two interview variables that were measured. The staff nurses differed significantly from both groups of department store applicants as did the policewomen.

PURPOSE OF THE STUDY

The purpose of this study was to obtain information from data collected by special interaction recorders of interviews by four interviewers of four selected groups of females to prove or disprove the following null hypothesis:

There is no difference between nurses and policemen on the frequency of speech dimension.

There is no difference between nurses and policemen on the duration of speech dimensions.

There is no difference between nurses and department store saleswomen on the frequency of speech dimension.

There is no difference between nurses and department store saleswomen on the duration of speech dimensions.

There is no relationship between the ages of the nurses and the number of speech dimensions.

There is no relationship between the ages of the nurses and their duration of speech dimension.

The primary source of data was obtained by a standardized interview given to four groups of females, namely: eighteen staff nurses selected at random from a selected hospital in Oregon, five unselected civil service applicants for policeman jobs in Oregon, twenty unselected applicants for sales jobs from a selected department store in Boston and eleven unselected applicants for sales jobs from a selected department store in Chicago. There were four interviewers and three observers using two recording machines, an Interaction Recorder (34) and the Interaction Chronograph. (6) The characteristics of a standardized interview are shown in Appendix A, whereas the "rules" governing the interviewer's behavior have been standardized by J. D. Meterazzo et al (18) and are given in Appendix B. Essentially these rules require that the interviewer: 1. speak in utterances of approximately 5 seconds each time he speaks, 2. verbally respond to the interviewee's last remark quickly in the three free periods, 3. fail to respond to the interviewee's last remark 12 times in Period 2,

4. verbally interrupt the interviewee each time she speaks, for a total of 12 times in Period 4. Beyond this no standardization of interview content was attempted; the interviewer was asked simply to be nondirective in his interviewing style. That is, the interviewer was asked to make his comments non-challenging, open-ended and related to the interviewee's past comments or to some new, general topic.

Means and standard deviations were formulated on two variables for the purposes of this study: 1. the number of speech units and 2. the duration of speech of the four groups interviewed. T-tests were done between the four groups to test the differences between nurses and policemen on frequency of speech dimension and duration of speech dimension, and the differences between nurses and department store applicants on frequency of speech dimension and duration of speech dimension.

The following null hypotheses were accepted:

1. There is no difference between nurses and policemen on the frequency of speech dimension.
2. There is no difference between nurses and policemen on the duration of speech dimension.

The following null hypotheses were rejected:

1. There is no difference between nurses and department store saleswomen on the frequency of speech dimension.
2. There is no difference between nurses and department store saleswomen on the duration of speech dimension.

Rank order correlations were done on the nurse group to determine if age made a difference as to the number of speech units and the duration of speech. Both correlations were not significant at the

0.05 level of Confidence of Critical Values of the Spearman Rank Order. Therefore both null hypothesis

There is no relationship between the ages of the nurses and the number of speech dimensions.

There is no relationship between the ages of the nurses and their duration of speech dimension.

were accepted, and it may be stated that if one knows the age of the nurse one cannot predict the number of speech dimensions or the duration of speech dimensions.

CONCLUSIONS

On the basis this information was obtained from selected interviews, no widespread generalizations can be drawn. Therefore these conclusions are limited to the data obtained from this study.

1. This supports other studies in that the age of the nurse has no influence to frequency and duration of speech dimension.
2. Department store applicants speak longer than nurses.
3. Nurses speak more frequently than department store applicants.
4. The frequency and duration of speech dimension of nurses and policewomen are the same.

RECOMMENDATIONS FOR FURTHER STUDIES

Based on the findings of this study it is recommended that the following studies be made.

1. Conduct a study to see if other variables of nurses such as education, level of intelligence and position affect the frequency and duration of speech.

2. Conduct a study to see if it would be possible to select an individual for a certain position by the interactional behavior demonstrated to a standardized interview and if the interview could be used on a promotional level.
3. Conduct a study to see if the standardized interview would be helpful in selection of applicants to schools of nursing.
4. Conduct a study of nurses in other areas of the United States to see if the results compare.
5. Conduct a study to see if job requirements concerning verbal interaction are similar for nurses and policemen.

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APPENDICES

APPENDIX A

Characteristics of the Standardized Interview

Period	Type of Inter- viewing	Duration of Period	
		Fixed Duration	Variable Duration
1	Free	10 minutes	
2	Stress (Silence)		12 failures to respond, or 15 minutes, whichever is shorter
3	Free	5 minutes	
4	Stress (Interruption)		12 interruptions, or 15 minutes, whichever is shorter
5	Free	5 minutes	
Total		20 minutes	plus a maximum of 30 more minutes

APPENDIX B

RULES FOR INTERVIEWER**Periods 1 to 5 (all periods):**

- a. Interviewer introduces each period by a 5-second utterance (following his signal to the observer).
- b. All interviewing must be nondirective. No direct questions, no probing or depth interviewing. Interviewer can reflect, ask for clarification, ask for more information, introduce a new topic area, etc. In general, interviewer's comments should be nonchallenging and open-ended and related to the subject's past comments or to some new, general topic.
- c. All interactions must be verbal only, or verbal and gestural at the same time; i.e., interviewer cannot use head nods and other gestures alone. This rule simplifies the observer's task.
- d. All of interviewer's utterances must be of approximately 5-second duration.
- e. After subject finishes a comment or other interaction, interviewer must respond in less than 1 second, except as otherwise noted in Period 2.
- f. Each time subject interrupts interviewer, the latter must continue to talk for 2 more seconds. This rule insures more explicit definition of a subject's assentance-submission pattern than would be possible if interviewer "submitted" immediately.

Periods 1, 3 and 5:

- a. Interviewer must never interrupt subject.
- b. If, after interviewer makes a comment, subject does not respond, interviewer must wait 15 seconds and then speak again for 5 seconds.

Period 2 only:

- a. Interviewer must "fail to respond" to last interaction of subject a total of 12 times (or for 15 minutes, whichever is shorter).
- b. After interviewer has been silent for 15 seconds (and subject has not taken initiative) interviewer makes another 5-second comment.

Period 4 only:

- a. Each time subject acts, interviewer must interrupt subject for 5 seconds for a total of 12 times.
- b. Interviewer's interruption should begin about 3 seconds after subject has begun his action.
- c. After having interrupted subject, if the subject continues through the interruption (does not submit), interviewer will not interrupt again until subject has finished his utterance, i.e., interviewer will interrupt subject only once during each utterance of the latter if subject does not "yield."
- d. The period is ended after 12 interruptions of 15 minutes of attempting to obtain these.

APPENDIX C

Staff Nurses (N-18)

Speech Units

Nurse	Age	I	II	III	IV	V	Total
# 1	27	29	14	14	12	16	85
2	30	23	12	12	15	16	78
3	22	18	13	13	13	13	70
4	22	19	12	16	14	20	81
5	25	37	11	13	14	15	90
6	22	16	12	9	14	17	68
7	48	19	12	11	14	9	65
8	27	15	14	3	13	6	51
9	23	16	14	7	13	16	66
10	30	15	12	6	13	4	50
11	25	9	12	8	14	6	49
12	21	17	12	9	15	8	61
13	24	15	12	6	15	14	62
14	31	22	12	10	15	10	69
15	24	13	13	6	14	8	54
16	21	25	12	13	13	12	75
17	23	14	12	7	13	6	52
18	25	21	12	12	12	13	70

Staff Nurses

Duration of Utterance

Nurse	I	II	III	IV	V	Total
1	427	218	250	35	210	1140
2	382	305	259	64	200	1210
3	486	650	285	84	248	1753
4	399	308	220	33	198	1158
5	430	141	241	135	181	1128
6	472	431	205	71	200	1379
7	390	163	269	74	209	1105
8	512	707	156	161	251	1787
9	469	424	229	82	189	1399
10	555	648	301	105	325	1834
11	525	582	285	59	266	1737
12	399	396	258	54	221	1328
13	479	302	237	64	263	1345
14	438	176	240	56	223	1133
15	507	269	234	60	312	1382
16	404	466	168	68	172	1278
17	451	359	271	79	247	1407
18	390	181	251	57	218	1097

Policewomen (N-5)

Speech Units

Applicant	I	II	III	IV	V	Total
1	14	16	7	13	9	59
2	16	12	6	16	8	58
3	19	12	7	17	9	64
4	22	13	12	14	12	73
5	19	12	5	14	7	57

Policewomen

Duration of Utterance

Applicant	I	II	III	IV	V	Total
1	491	516	309	107	307	1730
2	491	483	311	139	286	1710
3	438	234	261	173	227	1333
4	442	398	235	85	235	1395
5	491	411	266	82	293	1543

Gilchrist Department Store (N-20)

Speech Units

Applicant	I	II	III	IV	V	Total
# 1	26	13	10	15	15	79
2	12	12	3	13	4	44
3	9	13	6	12	6	46
4	20	14	6	16	9	65
5	13	14	2	14	1	44
6	11	14	6	15	4	50
7	8	13	2	20	3	46
8	11	9	3	14	4	41
9	12	13	1	10	3	39
10	6	13	5	14	8	46
11	8	11	3	18	2	42
12	18	20	3	13	5	59
13	10	13	1	17	2	43
14	12	15	7	14	4	52
15	11	12	3	12	3	41
16	4	8	1	7	3	23
17	16	13	7	15	5	56
18	10	12	3	18	3	46
19	17	12	4	16	4	53
20	5	13	3	15	2	38

Gilchrist Department Store

Duration of Utterance

Applicant	I	II	III	IV	V	Total
# 1	496	109	245	248	205	1303
2	670	596	272	393	221	2152
3	581	646	457	302	261	2247
4	497	250	184	125	184	1240
5	538	883	158	704	341	2704
6	356	248	271	178	287	1504
7	633	467	294	154	335	1883
8	728	771	262	460	364	2585
9	541	707	328	789	406	2771
10	493	493	300	259	268	1813
11	816	1245	317	198	344	2720
12	457	467	225	250	302	1601
13	535	658	355	503	359	2410
14	565	444	293	380	317	1999
15	491	660	344	781	283	2359
16	572	808	296	906	375	2957
17	590	402	200	244	175	1611
18	640	511	259	262	257	1929
19	560	270	300	308	382	1900
20	443	885	422	733	364	2847

Carson Department Store (8-11)

Speech Units

Applicant	I	II	III	IV	V	Total
1	12	11	2	15	4	40
2	12	10	2	8	3	31
4	9	1	2	9	3	15
5	12	10	4	11	2	35
8	15	11	8	12	10	53
9	7	11	4	9	5	33
10	12	10	8	15	8	49
11	20	12	7	16	8	61
15	4	7	2	6	2	19
16	4	14	3	12	9	40
17	16	12	5	14	12	53

Carson Department Store

Duration of Utterances

Applicant	I	II	III	IV	V	Total
1	794	586	358	752	298	2788
2	812	830	304	887	277	3110
4	958	842	274	896	316	3285
5	844	461	310	832	297	2744
8	838	217	256	209	284	1805
9	861	807	307	783	263	3021
10	831	305	280	360	256	2032
11	812	339	302	210	246	1909
15	869	762	309	856	302	3096
16	869	390	324	591	337	2471
17	663	173	233	375	235	1680

Typed by Dorothy M. Wilson

AN ABSTRACT OF THE THESIS OF

Elizabeth L. Stenberg

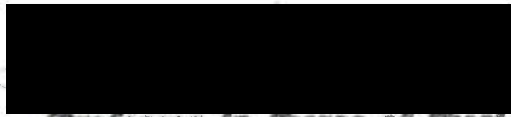
for the Master of Science in Nursing Education

Date of receiving this degree: June 10, 1965

Title: Differences in Interview Interaction Behavior

Among Nurses, Civil Service Employees and Clerks.

Approved:



(Professor in Charge of Thesis)

THE PROBLEM

Many times the emotional problems patients will reveal to nurses are not problems with which a nurse can help, beyond offering the comfort of a willing listener and referral to someone more highly trained. Nurses in every branch of the profession are faced with this situation many times.

All interpersonal relationships involve interaction between people. The day-by-day routine of a nurse's work, whether she does bedside nursing in a hospital, or public health nursing in the community, whether she is an operating room supervisor or an instructor of a nurse in industry, consists of a series of interpersonal relationships. In any type of nursing she is interacting in a variety of situations with many different kinds of people.

This study was made in conjunction with a long range program of research extending over the past decade in the departments of Medical Psychology and Psychiatry.

The purpose of this study was that of measuring and comparing the verbal activity of nurses, policewomen and department store applicants in a standardized verbal interaction situation.

DESCRIPTION OF PROCEDURE

The data were collected by special interaction recorders of interviews by four interviewers of four selected groups of females. It was possible to compare individual differences among nurses within

each group as well as to compare the similarities and differences among the four female groups on such interview variables as frequency and duration of single units of speech.

SUMMARY OF RESULTS

The following null hypotheses were accepted:

1. There is no difference between nurses and policemen on the frequency of speech dimension.
2. There is no difference between nurses and policemen on the duration of speech dimension.
3. There is no relationship between the ages of the nurses and the number of speech dimensions.
4. There is no relationship between the ages of the nurses and their duration of speech dimension.

The following null hypotheses were rejected:

1. There is no difference between nurses and department store saleswomen on the frequency of speech dimension.
2. There is no difference between nurses and department store saleswomen on the duration of speech dimension.

The following results appeared:

1. This study supports other studies in that age of the nurse has no influence on frequency and duration of speech dimension.
2. Department store applicants speak longer than nurses.
3. Nurses speak more frequently than department store applicants.
4. The frequency and duration of speech dimension of nurses and policemen are the same.

RECOMMENDATIONS FOR FURTHER STUDIES

1. Conduct a study to see if other variables of nurses such as education, level of intelligence and position affect the frequency and duration of speech.
2. Conduct a study to see if it would be possible to select an individual for a certain position by the interactional behavior demonstrated to a standardized interview and if the interview could be used on a promotional level.
3. Conduct a study to see if the standardized interview would be helpful in selection of applicants to schools of nursing.
4. Conduct a study of nurses in other areas of the United States to see if the results compare.
5. Conduct a study to see if job requirements concerning verbal interaction are similar for nurses and policemen.

