DEVELOPMENT OF A CRITERION MEASURE OF NURSE AIDE PERFORMANCE

by

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CHAPTER I

INTRODUCTION

Statement of the Problem

Over 400,000 nonprofessional nursing personnel are employed in hospitals and nursing homes throughout the country in order to help satisfy nursing needs.(2) It has been found that, within this large group, the job-trained nurse aides often provide the bulk of direct patient care which may involve a broad range of activity from very simple to highly complex responsibilities.(39)

Hospital employers and nurses are aware of the variety of nursing situations which aides may be called upon to meet, and thus, generally have agreed that aides should carry out their work with professional supervision. However, the kind and amount of supervision which is needed have never been adequately defined. Problems that have developed around supervision and concomitant evaluation of aides' performance can be attributed to several factors. First, the aide's proper role in the nursing service structure is not clear. The specific purposes which aides' activities should fulfill have not been adequately clarified, other than to meet the need for nursing service economy, and provide a vague kind of "improved nursing care." Consequently, there is a great variability in what aides actually do and

how these tasks are carried out. Difficulties in evaluation have thus become intensified because no definitive ideal or standard has been established with which to compare actual job performance. That resulting evaluation procedures would reflect subjectivity probably accounts for the prevalent feeling, not only with aides where the problem is especially difficult, but in general, that evaluation is seldom anticipated favorably by either supervisors or those supervised.

The development of standards of evaluation involves problems which are not unique to nursing. Major issues in studies of assessment techniques in business and industry have been those of job definition and establishment of criteria for evaluating job success. Cardall, in illustrating these interdependent problems, has noted that administrative and supervisory personnel typically expect a kind of performance "....which they have never defined, which employees have never understood, and which no one attempts to evaluate."(12)

Numerous shortcomings of present methods of evaluation are set forth by writers in the personnel field and by nursing associates responsible for this function in their supervisory role. These are described in Chapter II of this study. Briefly, most usual job analysis techniques are designed to provide hunches, opinions, and general descriptive materials about first requirements for particular jobs. Resulting statements of requirements do not differentiate one specific job from scores of others. Subsequent design of related performance records and evaluation procedures usually involves abstract trait names which tend to provoke inconsistent interpretations by different raters; often describe an ideal employee for almost any job

rather than the specific one at hand; tend to carry a "halo-effect" from one trait to another; and tend to encourage rating all employees about the same.

A criterion of effective performance for use in any evaluation procedure should be: (1) specific to the job at hand, that is, based on what the worker actually does on the job and relevant to actual success on such job; (2) objective or free from personal bias; and, (3) dependable for consistent interpretation among raters measuring the same thing repeatedly. However, a basic source of inexactness in evaluation procedures has been failure to select and adequately define what the employee needs to do to be considered a successful worker. Flanagan has emphasized that the only valid basis for knowing what is required is a comprehensive analysis of the job, a prerequisite for the development of an evaluation system:

> Psychologists now see that without a definite and detailed definition of an activity or job in terms of actual behavior and the results of this behavior, the establishment of a criterion measure or personnel evaluation system is entirely out of the question. Thus it becomes necessary to make an intensive analysis of workers doing a job. (17)

Purpose of the Study

This study was concerned with defining more clearly the role of the nurse aide in terms of the behaviors which are deemed crucial to job success from the vantage point of persons most concerned with, and aware of, what aides do, thereby providing a criterion measure of aide performance.

Specifically, the purpose of the study was twofold:

1. to identify possible differences among patients, head nurses, staff nurses, and nurse aides in their perception of the role of an aide; and
2. to develop a checklist criterion of nurse aide performance for use in evaluation, and identifying job areas needing greater attention in training and supervisory programs.

Method of Research

The critical incident technique, described in Chapter II, was the method of data collection. This technique involves the collection of critical incidents, that is, descriptions of specific job behaviors deemed especially effective or especially ineffective which are observed and described by persons most competent to evaluate a job. From these observations a set of critical job requirements can be defined in terms of actual behavior judged crucial to job success or failure.

This personnel technique was developed by John Flanagan during World War II for selection and evaluation of military personnel. A host of occupational disciplines more recently have applied the procedure in different settings, thus contributing to its further development.

Not only has the technique been of value for development of criterion measures for use in selection and evaluation, but also for on-the-job training, counseling, and placement procedures.

Hypotheses

In relation to the purpose of the study, it was hypothesized that:

1. There are identifiable differences among patients, head nurses, staff nurses, and aides in their perception of the role of a hospital aide as defined by the critical incidents submitted by each group; and
2. Critical incidents can be used to define a set of behavioral criteria in several different categories which can be used to form a reliable checklist measure of aide performance.

Some particular variations were anticipated among the subject groups in incident distribution among identified categories of behavior, and in the emphasis given to important areas of the aide's job. For example, it was postulated that head nurses would describe incidents which placed major emphasis on the aides' ability to expedite smooth ward functioning, while the patients' incidents would place major emphasis on the aides' ability to render a type of service other than that requiring technical or procedural skill.

Limitations

For purposes of this study a "nurse aide" was defined as a hospital nursing employee who is trained on the job for relatively simple activities; may or may not have had previous experience or training; is not eligible for licensure or registration; and, is not held directly responsible for ward administration or charge nurse duties.

The study was confined to the collection of critical incidents of actual nurse aide performance observed in specific job situations in a 295 bed general hospital.

Primary sources of critical incident data included reports of directly observed aide behaviors, deemed especially effective and especially ineffective, by head nurses (including assistant head nurses), staff nurses (including evening and night shift charge nurses), nurse aides, and selected patients, through individual and group interview situations.

Participation of nursing personnel from day, evening, and night shifts was limited to those who (1) were employed by the hospital for a minimum of two months, (2) worked on a medical, surgical, or obstetrical ward, and, (3) were available and willing to contribute incidents during scheduled interview hours.

Patients were selected at random from medical, surgical, and obstetrical wards. The sample was limited to those patients who (1) had been hospitalized for a minimum of five days (3 days on the obstetrical ward), (2) were not critically ill nor under sedation, (3) were able to communicate, (4) were not scheduled for treatment at the time of, nor immediately following interview, (5) were permitted and could tolerate ambulatory or wheelchair privileges, (6) were able to verify their recognition of aides, and (7) were willing to describe incidents.

Assumptions

For collection and interpretation of critical incident data it was assumed that:

1. All four subject groups presented certain demands which were directly related to the aides' job responsibilities;
2. Members of the subject groups were adequately familiar with the job of an aide, had repeated opportunities to observe on-the-job activity, and, therefore, were qualified to evaluate and describe observations;
3. Adequate precautions were exercised to assure constant conditions in interview situations;
4. The quality and usability of incidents obtained through individual and group interview methods would be similar, and give similar results;
5. The frequency with which an identified category of behavior was mentioned by a particular subject group would reflect the importance of that category in the aides' performance from the point of view of that group; and
6. The difference between the number of effective and ineffective incidents described by a particular group would reflect that group's expectations of standard aide performance.

Justification

It would seem that informal evaluation of performance goes on almost continually during the course of daily work activities. For example, casual remarks concerning the relative worth of personnel on a job are instances when judgments, or evaluations, of workers definitely have been made. Although these comments are rarely based on unbiased and adequate observations, they tend to influence others who hear them, and frequently serve as a basis for administrative decisions. Therefore, it seemed timely to conduct a study which might help to provide an improved assessment technique for a large group of personnel about which so little is apparently known--nurse aides.

The critical incident technique provides for systematic observation and reporting of what actually happens in typical job situations that makes the difference between success or failure on the job. Performance rating procedures based on these data should increase the degree of objectivity because requirements for success can be defined in terms of actual behaviors which are relevant to the specific job. Therefore, the use of a checklist, designed from criterion behaviors, in applied performance rating procedures should give a better measure of the effectiveness of a worker than do other kinds of rating devices.

A comparison of critical incidents described by different groups of observers, who are about equally familiar with a particular job, should show the most important aspects of the job from the viewpoint of each group. If it were assumed that desirable standards of aide performance should be defined by the opinions of head nurses, staff

nurses, patients, and aides with whom aides closely interact, then possible differences expressed by these groups would help to identify sources of conflict in role definition. However, whether actual differences do exist must first be determined.

A statement of job requirements, defined in terms of critical behaviors, represents a standard or criterion of performance which has a number of possible uses beyond evaluation, for example: in providing leads to job areas needing increased emphasis in training and supervisory programs; in validating job selection tests; in implementing job placement, promotion and termination procedures; and in serving as a job reference for guidance and counseling purposes.

Procedure

The procedure for this study is shown in the following series of steps:

1. Suitable goals were established and a design for study developed and approved.
2. Clearance to pursue the study in a selected general hospital was secured from the nurse aide group, the director of nursing, and other appropriate administrative personnel.
3. Tentative "booklets" for collection of data and an interview guide were developed.
4. A trial run for collecting the data was made.
5. Revisions were made to develop a final data collection tool.
6. An interview time-schedule was developed for collection of data.

7. Critical incidents were collected.
8. A "category formulation" process was conducted, and analysis of reliability of data for categorization was made.
9. A behavior-checklist was constructed.
10. The checklist was applied by professional nursing staff to employed aides to determine its reliability as a rating device.
11. Findings were interpreted, conclusions drawn, and recommendations made.

Overview

A review of the literature is presented in Chapter II which includes the background of the use of nonprofessional nursing personnel, performance evaluation principles and procedures, and a description of the critical incident technique. Chapter III describes the conduct of the study. Findings and interpretation of the results are described in Chapter IV. A summary of the study, plus conclusions and recommendations are presented in Chapter V.

CHAPTER II

REVIEW OF LITERATURE AND RELATED STUDIES REGARDING NURSE AIDES AND PERFORMANCE EVALUATION

The Use of Nonprofessional Nursing Personnel

A search was made of nursing literature published since 1940 to obtain information regarding the use of nonprofessional personnel, particularly nurse aides, in general hospital nursing.

The use of auxiliary nursing personnel dates from World War I. The need for nursing services exceeded the potential supply of professional nurses being graduated, and at the same time, nursing leaders questioned the necessity of professional education for performance of relatively less complex nursing. Consequently, schools were established to train practical nurses in order to supplement hospital nursing shortages and to provide care for less acutely ill persons in homes. A very small number of untrained workers were used for various tasks largely of a housekeeping nature. Nonprofessional nursing groups almost disappeared from hospitals during the early depression years of the 1930's when the demand for nursing services markedly decreased.(26,33,39)

At the onset of World War II, another large group of untrained workers were brought into hospitals and other health facilities. Interchangeable titles identified these workers, namely: attendant,

custodial worker, nursing assistant, and nurse's aide. They were clearly differentiated from trained practical nurses who had had a planned course of instruction and practice. Varying ages, educational backgrounds, and types of work experience characterized this new group of auxiliary nursing personnel. It was not until their use became widespread that organized, on-the-job training and supervision became an aim of hospital employers.(33,39) In 1941, the American Red Cross (ARC) set up as part of the national defense program the training of a limited number of volunteer women to serve as nurse's aides in metropolitan hospitals.(5,13) It was strongly emphasized that they were not to be used to replace graduate nurses, and that professional nurses were responsible for supervision of all assigned tasks. As a cooperative effort, the American Nurses' Association published a list of approved duties for auxiliary workers(4) and gave official approval to the ARC aide program. In the subsequent years nurses' aides have continued to be utilized as adjuncts to nursing services.

The idea of planned programs for training nurse aides gained new impetus in 1952 with the development of the Nursing Aide Project. (22,29,30,33) The Health Resources Advisory Board requested the Division of Nursing Resources of the U. S. Public Health Service to study what might be done to provide training and to promote standardization and uniformity of aides' functions. Under the joint sponsorship of the Public Health Service, the National League for Nursing (NLN), and the American Hospital Association (AHA), a preliminary survey was made to determine, in part, the adequacy or inadequacy of staffing of nursing services in hospitals throughout the country, the

availability of resources for training aides, the amount of assistance industrial and vocational education groups could give to the proposed project.

On the basis of responses from approximately 80 participating hospitals, it was concluded from this preliminary study that: training programs should be designed for employees with a minimum of six to eight years of schooling; rapid, concentrated training would be necessary in view of high aide turnover rates; and, that planned programs would be essential for teaching the variety of tasks untrained workers performed.

Follow-up recommendations made to the Health Resources Advisory Board for a three part action program included: publication of the Handbook for Nursing Aides in Hospitals,[43] which described tasks most frequently reported as nursing aide duties, and those recommended by the AHA;[31] publication of the Nursing Aide Instructor's Guide;[44] and, finally, the establishment of the "Nursing Aide Inservice Project" which provided direct assistance to individual states through regional job-instructor-training institutes, and state workshops.[29,30]

An interim evaluation of the Nursing Aide Project was conducted by the NLN in 1956. On the basis of reports from instructors, hospitals, and cooperating state committees, it was concluded that the project had promoted better use of nursing aides and improved nursing care.[22] With modifications, according to local situations, the Nursing Aide Project has been continued.

Stewart and Needham reported a study of the functions of auxiliary personnel in Arkansas.[39] The study was one of a series on the

functions of general duty nurses, sponsored by the Arkansas State Nurses' Association as a contribution to a more general program of research in nursing functions by the ANA. Auxiliary nursing personnel were included in the study to provide a basis for comparison of functions of general duty nurses with those of some other type of nursing personnel. As a part of the general study, a master list of 392 categories of activities of general duty nurses in ten hospitals was prepared. Within each of the ten hospitals at least one person identified as an auxiliary worker was observed one or more times and was found to be performing 249 of the 392 categories of activities on the master list of general duty nurse functions.

The most obvious difference between the auxiliary and professional nursing personnel, found in the study, was in the large proportion of time devoted to activities classified as "Direct Nursing Care" by auxiliary workers as compared to professional nurses. It was concluded that: "The greater the amount of formal professional education or training of the nursing personnel, the smaller is the percentage of time spent in the direct nursing of the patient in 'bedside nursing'." (39) Personnel most apt to provide direct care were those with the least amount of formal training, which, in this study, were nurse aides and orderlies.

A second conclusion indicated that the duties and responsibilities of auxiliary personnel extended beyond "routine tasks of nursing" to include many of the more complex nursing procedures. The authors noted that this conclusion may invalidate a frequently made general assumption that:

> ....the original purpose of the employment of auxiliary nursing personnel in hospitals, broadly stated, was to free the professional nurse from the more routine tasks of patient care so that she might devote more time to those requiring greater skill and experience. A corollary assumption, which is seldom made explicit, is that the auxiliary personnel would perform these tasks with a minimum of supervision, for there would be no substantial saving of the time of the professional nurse if she were to be required to provide constant, detailed supervision for the auxiliary workers in all their activities. (39)

The authors explained that the complex nature of certain auxiliary personnel functions had particular implications for training programs:

> If the auxiliary nursing personnel are to be allowed, and even required, to perform complex nursing functions and to accept important nursing responsibilities, they should be trained and supervised as though they had complex functions and important responsibilities....and not on what appears to be an archaic notion concerning the purpose of hospital employment of the auxiliary personnel. (39)

The participants of the study included several kinds of auxiliary nursing groups with variable education and experience backgrounds. However, specific incidental findings relative to on-the-job trained aides seemed significant in illustrating prevalent contradictions in theoretical statements of what are considered appropriate aide functions and what are the actual functions and responsibilities of aides. The conclusions of a study of this limited nature, however, must be regarded with caution. Cultural and economic conditions differ from state to state, and accordingly no wide-spread generalizations can be drawn from a study made in ten hospitals in one state.

Data compiled and published by ANA in 1960 indicated that 56 per cent of all auxiliary personnel on general hospital services were

classified as nurse aides and attendants.(2)

In summary, the literature has revealed that nonprofessional nursing personnel have been used by organized nursing services since before 1920, initially to fill a definite wartime need and later to supplement nursing services. Aides currently make up the largest single group of such personnel, and development and expansion of aide job-training programs recently have taken form. General agreement, however, on aide functions and qualifications has not been realized.

Performance Evaluation

A search was made of the literature in order to obtain information regarding principles and policies which have implications for evaluation practices. The literature showed a wide divergence of opinion about performance evaluation and assessment techniques. Cardall indicated that performance evaluation is such a complex problem that it is nearly impossible to get a fair and dependable system;(12) Flanagan, however, has said that it is one of the simplest of personnel devices, although one of the most misunderstood and misused.(19)

Gordon stated that: "Evaluation is basically the determination of the value of something...in relation to a goal of some kind."(21) The goal, or standard, represents an established and accepted level of achievement, against which measuring devices can be applied to determine if the goal has been reached. The term "measurement" usually has referred to the use of objective instruments which give precise quantitative data in terms of fixed, absolute standards; evaluation has included "measurement" but generally has implied the use of tools which

give descriptive, qualitative data in terms of relative and flexible standards.(10)

The terms "evaluation" and "rating" of job performance generally are used interchangeably throughout the literature. However, various authors have made some sort of distinction between them. For example, Adkins and Cardall have referred to "rating" as a more limited process than evaluation, concerned with measurement of a worker's methods, and his quality and quantity of production without accounting for factors that affect the quality of his performance; attention is concentrated on the nature of the tool, and precludes measuring qualities "of the person."(1,12) Finer and Thorndike have explained "rating" as a single tool whereby evaluation can be achieved on objective terms despite relative degrees of observer bias and subjectivity.(15,40) Regardless of specific terminology, the essence of each of the aforementioned terms share a common interpretation, that is, judgments can be made which, in effect, serve as the basis for estimating job performance.

Aims of Performance Evaluation

The question has been asked: "Why rate men at all?"(34) Bittner has noted that there actually is no choice between rating and not rating; workers are going to be judged in one way or another, with or without planned systematic rating procedures.(9) The choice rests in how ratings will be made. Such a decision must be based on the particular questions which ratings are intended to answer. What is to be accomplished by a rating technique will determine, in part, the form that a particular procedure will take.

Scattered widely throughout the literature are statements of some of the more specific purposes of performance rating which gradually have found a place of importance in business, educational, and governmental institutions over the past 30 years or more. The first experiments with "efficiency ratings" were marked by highly depersonalised objective grading to serve primarily as the basis for disciplinary action and termination. Since the development of automation, a notable change has occurred. Primary emphasis has shifted from the job per se to the worker's behavior on the job. Evaluation has come to lean more strongly in the direction of guidance and counseling of workers toward self-improvement, re-education and re-adjustment, as opposed to a disciplinary function. This shift has been a source of conflict to administrative personnel people in developing evaluation techniques. For example, Finer has stated, in an attempt to seem sympathetic to an humane attitude toward incompetent, maladjusted workers, that:

> It is of some moment to recognize that if this tendency were to go too far, until humaneness and 'good morale conditions' verged on softness, the well-being of the patient might well be subordinated to the concern for the well-being of the nursing personnel. (15)

The wisdom of using results of ratings for promotion and other direct administrative actions has been questioned. For example, salary increases supposedly should be based on merit, and ratings, therefore, should reflect the proper positioning of a worker within a salary range in direct relationship to his performance relative to others in the same job. Opinions differ as to whether requiring a certain merit rating should be the sole basis for assuring that salary changes will

be made.(9,12)

Flanagan,(19) Bittner,(9) and Tiffin(42) have defined the aims of performance rating as being directed toward employee: (1) development; (2) placement; (3) morale; (4) promotion; (5) termination; (6) job reference; and, (7) research.

In summary, the literature has revealed that evaluation is only a tool to help achieve certain aims, the establishment of which must precede that of a rating procedure if judgments made about personnel are to be valued. The need for collecting any information at all about personnel depends on a particular setting. Designs should be tailor-made to fit specific jobs and local problems.

Conventional Performance Evaluation Techniques

Major systems of rating that have been developed to accomplish one or more of the aforementioned objectives have involved different types of summary evaluation. Summary ratings entail a summary score of judgments based on observations of job performance carried out over an extended period of time.(40)

Summary rating devices have been customarily organised in one of two chart forms: a checklist; or a type of rating scale. Each of these forms usually consists of a list of general qualities or traits which may or may not have common meaning to raters who interpret them.

A general trait checklist is a form that lists characteristics which are checked off by a rater if they seem to apply to the worker being evaluated. If the rater is also asked to indicate how well, how much, or how often the traits appear to apply, a type of rating scale

results.(8,9)

Rating scales are the most common types of conventional evaluation systems.(16,32) A rater is required to check a point on a scale which represents the level or degree of a general quality or trait observed in the worker. The ordering of steps for each trait has been simplified by use of "constant alternatives", that is, a single set of rating steps which apply to all traits. Terms used to indicate the level or degree of a trait are variable. For example, degrees might be indicated by: (1) coded numbers or letters; (2) frequency of occurrence of a trait; (3) qualitative terms; (4) descriptive terms or phrases; or, (5) relative status within a group.(8,9)

A "graphic scale," the most commonly used rating scale device, is characterized by specific scale steps for each trait, as opposed to constant alternatives. A check mark is placed along a continuum at a point or "unit" of degree where the rater feels the worker stands between extremes of performance for each specific factor.(18,12)

The "forced choice" technique is a more recent method designed to overcome certain of the shortcomings of most other rating devices. Groups of phrases are used to describe relative "goodness" or "badness" of an aspect of performance to be rated. The rater is forced to select one or more phrases which most and/or least describe a worker's performance. The direction of the rating is disguised and guarded, thus the rater does not know if the rating result will be favorable or unfavorable.(16,34)

Ranking, grouping, and "man-to-man" or paired comparison are other rating procedures based on relative comparison.(12,42) They are used

primarily as a general baseline on which more extensive ratings can be made with reduced susceptibility to error.

Shortcomings in Performance Evaluation

Current rating procedures are subject to several known defects which limit their value. These errors function to reduce desirable characteristics of any good criterion measure, namely: (1) validity; (2) reliability; and, (3) objectivity. A tendency among raters has been to find exclusive fault with a rating form itself; that these shortcomings can occur in an observation itself, or arise within a rater to color his judgments often has not been recognized.

Characteristics of ratings vary, depending on (1) the degree to which they are based on specific evaluations, (2) the types of specific evaluations on which they are based, and, (3) the degree of objectivity in procedures for synthesizing them.(40) Summary ratings often are classic examples of evaluations which bear little relationship to any previous specific evaluations of workers. Thorndike has illustrated the point by stating that:

> One suspects that rating procedures in general, unless special provisions are made to the contrary, involve almost no reference to previous systematic observation or evaluation of the worker by the rater....The rating represents merely an unguided, subjective, intuitive impression of the rater. (40)

Rating procedures are particularly weak in areas of subjectivity and bias; variation in standards from rater to rater, from time to time, from place to place, and from variation in ratees' behavior, lead to lowered reliability. Errors in judgment and interpretation which come

between a worker's performance and a subsequent rating cause lowered validity.(16,40)

Shortcomings of performance ratings fall roughly into two broad areas depending upon the effect produced: (1) failure to discriminate between differences among groups of individuals; and (2) failure to discriminate between differences within individuals.(37) Common errors can be summerized as follows:

1. Central Tendency - occurs when a rater tends to place all employees at about the center of rating scales making them all about average;(8,16)
2. Leniency and Severity - occurs when a rater tends to overrate or downgrade all employees by grouping all ratings toward the top or bottom end of a scale; this produces effects similar to central tendency;(12)
3. Acquaintance Bias - occurs when a rater tends to rate employees more or less favorably depending on their length of service and/or age, length of time known by the rater, and whether or not the rater himself has trained them;(36)
4. Halo Effect - occurs when a rater allows a generalized impression about a single aspect of a worker's performance, which is conspicuously good or bad, to color observations and judgments about all other aspects;(34,37)
5. General Reputation Factor - occurs when the reputation attached to a worker tends to influence ratings; inter-rater reliability may be high because of the consistency

of reputation between raters rather than agreement on the worker's true performance;(40)

6. Logical Error - occurs when a rater assumes that two or more characteristics ought to go together even though the rater has observed only one of them; both are rated the same by generalizing from one to the other.(37)

Attempts to correct central tendency and similar effects described above have been based on the theory that finer discrimination would be required by a rater if more scale points were used. The practice has been to make an even number of points, and more of them, in order to spread out middle ratings and obtain, in general, a more adequate spread of scores.(16,36)

The halo effect and allied errors have been considered the result of rater-laziness. Attempts to correct for this have been to rearrange scale points on the form in random order. Supposedly, the rater is then forced to select more critically the degree of actual performance, rather than hurrying down a single column of the scale without attention to each item.(16,36)

In summary, the literature has revealed numerous inadequacies in rating procedures which have presented serious problems in obtaining a fair and accurate system of performance evaluation. Any kind of summary rating depends on relative degrees of judgment, and subsequent errors cannot be entirely ruled out regardless of the method used. However, the literature emphasized that ratings are of value only (1) when it can be determined what they actually do measure and whether or not they

consistently measure the same thing, and, (2) when limitations are recognized and caution is exercised in interpreting results.

Improving Performance Evaluation

The primary outcome of studies which have been done to correct deficiencies in rating procedures has been the correction of symptoms of the shortcomings. Basic sources from which these symptoms arise are:

1. failure to select and adequately define important job components and requirements;
2. failure to provide a basis for systematic observation of performance; and
3. failure to make adequate provision for recording and summarizing observations for practical use.(16)

Improvement of performance evaluation rests on these specific points.

Preliminary job evaluation should determine what factors to cover in a rating procedure. When analysis is comprehensive and representative of typical job activity, it will provide valid basis for accurate definition of what is required of the persons doing the job.(20,44) The factors included in the analysis should be selected on the basis of certain criteria, namely, they are: (1) capable of simple, precise definition; (2) observable; (3) applicable and important to successful job performance; and (4) distinguishable and unique.(9,12,40)

It has been recommended that: factors which can be evaluated by some other more objective test or record of performance should be omitted since such data will be more reliable than a rater's judgment; and only those aspects of performance which can be improved upon should

be included, particularly when ratings are to be used for guidance. (37,40,42)

Aspects of performance which are included should be defined in terms which can be observed in action. Quality and trait definitions have been emphatically discouraged because of relative inability to provide for their observation. It has been noted that: "...the basic cause of the much-discussed halo effect is not that raters are unwilling to provide the necessary information, but that they just don't have it."(36) The presence of a quality can only be generalized from overt behavior which defines it; therefore, greater objectivity can be anticipated if attention is directed toward something a worker did instead of what he appeared to be.(10,37,40)

Personnel studies in industry have repeatedly shown that multi-trait rating scales measure just two or three primary factors which account for most of the variation among workers. Overlapping in meaning and the inability of raters to distinguish between other traits have accounted for the low-variability in ratings of these factors.(9,32) In order to increase reliability in this area, a "pooling" of ratings has been proposed on the assumption that an average of several ratings will be more reliable than a single rating. However, it has been noted that this process works only if the raters are equally competent to make the ratings.(42) Bittner has explained that:

> Averaging a rating made by a rater who is unfamiliar with the ratee's work with a rating made by a rater who really knows the person's work merely lessens the validity of the good one. (9)

Provision should be made for raters to record and summarize observations before they have forgotten pertinent details of what they saw or have readjusted their initial judgments. No one rating procedure will be equally suitable for all jobs, nor even similar jobs. The specific job itself and the purposes that judgments are to serve about people on that job should determine the form. It has been suggested that a behavior checklist be used if the following aims are of major practical consideration: (1) when many varied aspects of performance are to be included in the rating, thereby avoiding an excessive number of scale factors; (2) when the form is to serve as a basis for interview and guidance to which actual behavior can be referred, rather than generalized traits; and, (3) when a factual basis for predictions and decisions is desired.(9,19,32)

In summary, the literature has revealed that a sound point of departure in designing a rating system is the establishment first of a valid basis for judgment of job performance among raters. Whether a worker has met requirements of a job is a question falling last in a series of preliminary events. Essentially this process includes the establishment of pre-determined and agreed upon standards by which raters can evaluate what they see with common meaning and uniform interpretation through: (1) job analysis; (2) definition of important job components; (3) systematic observation and judgment; and, (4) classifying, recording and summarizing these observations.

Techniques of job analysis to determine standards against which to measure performance often lack confirmation in actual behavior of what a worker needs to do to be considered successful. Statements are

typically based on hunches, opinions and descriptive materials of what workers should do, or are thought to be doing on the job. A relatively new research approach to job analysis which attempts to replace opinion with data in the form of representative samples of observed behavior has been described and supported by Flanagan.(16,17,19,20) This procedure has been designated by the American Institute for Research of Pittsburg as the critical incident technique.

The Critical Incident Technique

The critical incident technique is a research procedure which has been developed since World War II and given its present name by the American Institute for Research of Pittsburg in an attempt to obtain a more adequate criterion measure for selecting and evaluating military personnel. The method was used in, and is regarded as an outgrowth of, studies in the Aviation Psychology Program of the United States Army Air Forces established in 1941 to develop procedures for selection and classification of aircrews.

The technique essentially is "...a procedure for gathering certain important facts concerning behavior in defined situations."(20) The method consists of collecting reports of observed behaviors, or critical incidents, from persons who are most competent to make judgments about the workers being investigated. From these observations, a functional description of the activity, and a list of critical requirements can be developed.

> By an incident is meant any observable human activity that is sufficiently complete in itself to permit

> inferences and predictions to be made about the person performing the act. To be critical, an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effects. (20)

Thus, a critical incident is a first hand report of markedly effective or definitely ineffective performance of an assigned activity. The use of only extremes of behavior contributes to the success of the procedure because extreme behavior can be more accurately identified than average behavior. A critical requirement is defined as one which is crucial in the sense that it has "...been demonstrated to have made the difference between success and failure in carrying out an important part of the job assigned in a significant number of instances."(20)

Adequate and specific observer instruction is an essential part of the procedure to insure attention only on those aspects of behavior which are believed to be crucial to the successful performance of the specified group to be studied. The criteria for determining critical requirements and for increasing the objectivity and validity of the results have been summarized:(17,20)

1. Actual behavior must be observed.

2. The observer must have knowledge of the aims and goals of the individual with respect to the activity observed.

3. The specific judgment to be made by the observer in applying the criteria for determining especially effective and ineffective behavior with respect to important aspects of the activities reported on must be clearly defined.

4. The observer must be qualified to make judgments regarding successful and unsuccessful behavior in activity observed.

5. The conditions of reporting must be such as to insure a reasonable degree of accuracy. (18)

Data collection procedures provide for relatively prompt evaluation and recording of observed behaviors while the attendant facts are fresh in the mind of the observer. Recent incidents help to insure a representation of actual happenings with complete, precise and accurate details, and avoid isolated dramatic happenings and stereotypes. This aspect of the procedure has been accomplished with degrees of success in various ways, taking into account recency of observation, and time and place of recording. Essentially, the basic differences in the methods contrast on-the-spot evaluation and recording at the time of observation, or during a specified period immediately following with recall of previous observations from memory. Other considerations include a decision to give or withhold a list of types of incidents anticipated, or, advance notice that incidents are to be observed and remembered. Direct observation and relatively immediate recording are preferred, but if suitable precautions are taken, recalled incidents can be relied on to provide adequate data and generally make their use the more practical procedure.(20)

The most important part of the procedure is the questions asked of the observer. Standard instructions must be used to avoid biases and inherent changes in the characteristics and focus of the reported incidents. The instructions should: (1) state that an actual behavior, or what a person did is desired, (2) specify the type of behavior which

is relevant and the degree of importance which it must reach to be reported, and (3) set any other limits on the selection of incidents as deemed necessary to insure valid data. Once the initial instructions are completed and questions stated, the interviewer should remain neutral in manner and remarks, clarifying and restating only as indicated by observer response.

Data are usually obtained through partially structured interviews; either the interviewer records the observer's verbal descriptions or the respondent himself writes the incidents. The small-group interview method was developed to offset the cost, interview time and personnel required to conduct individual interviews. Similar preliminary introduction, orientation and instruction is given to the group as in the individual interview. The observers write incidents in answer to the specific questions on a prepared form. In addition to a reduction in interview time, the group technique retains the advantages of individual interview in regard to personnel contact, explanation and opportunity for questions and clarification.

Other variations in the procedure for data collection and modification of record forms have been described by Flanagan.(20)

Estimate of the size of the sample needed for an adequate statement of requirements is dependent on the nature of the job or activity in question. For complex supervisory jobs it has been found that two or three thousand critical incidents are required. For semiskilled or skilled jobs considerably fewer seem to be adequate for stable results. Critical behaviors for a relatively simple job may be covered with one hundred incidents or less.(20) The number of incidents required for a

specific job is determined best during a classification period carried out concurrently with the collection of data. Coverage usually is sufficient when further incidents add few, if any new additional critical behaviors to the original classification.

The collection of incidents according to recommended procedures provides a functional description of the job in terms of specific behaviors. Subsequent classification is done only for the purpose of summarizing and drawing inferences for practical purposes. No attempt is made to improve upon the completed descriptions in regard to scope, detail, or accuracy, but simply to increase their usefulness. Three primary problems involved in the analysis are: (a) the selection of the general frame of reference that will be most useful for describing the incidents; (b) the inductive development of a set of major area and subarea headings; and (c) the selection of one or more levels along the specificity-generality continuum to use in reporting requirements."(20)

Classification, or category formulation, is the point at which increased judgment and subjectivity enter the procedure. The step involves a long and laborious process of repeated inductive category development and definition. As incidents are classified, the need for new categories is determined.

The critical incident technique has been utilized in a number of studies at the University of Pittsburg by graduate students in the department of psychology for determining the critical requirements for specific occupational groups and activities, including dentists, industrial foremen, bookkeepers in sales companies, insurance agency heads, sales clerks in department stores, general psychology instructors,

and, for determining a functional description of emotional immaturity.

Flanagan[20] and Hardin[25] have noted that the technique also has been used by other researchers to determine critical requirements for scientists, general education teachers, research personnel in the social sciences, and industrial hourly wage employees.

Practical application of the statement of requirements hinges upon sound interpretation and generalization. If qualified judgments and evaluations of the results are made, the information can, and has served as a valuable tool for job design and re-design, selection and placement, evaluation of job performance and training needs, and counseling.

Studies in Nursing Using the Critical Incident Technique

A search of the literature did not reveal any study of the use of the critical incident technique to define general hospital aide job requirements. It was found that the technique has been used to develop criterion measures of effectiveness for hospital psychiatric aides[31,35], other psychiatric nursing personnel[14], professional staff nurses[6,27] and clinical nursing instructors.[11] Three of these studies have been reviewed to illustrate operation of the method and practical considerations in relation to the present study.

A published report of a study conducted by Schmidt and Cohen[35] at the Veteran's Administration Hospital, Coatsville, Pennsylvania, has demonstrated the use of the critical incident technique to define requirements for the job of psychiatric aides. The purpose of the study, the first of a series in the development of a pre-employment

selection program, was to obtain an adequate criterion of effective job performance of a psychiatric aide.

Professional and nonprofessional staff members were sampled in all hospital services, on all three shifts, and included: psychiatrists; psychologists; physicians; supervisory, staff and student nurses; charge aides, and aides.

Booklets were prepared for use at two levels appropriate to the educational level of aides and other respondents for collection of data in group interviews. Two incidents each of effective and ineffective job behavior of a psychiatric aide were requested of the subjects. Incidents submitted by persons employed less than three months were rejected to insure competent judgments.

Attempts to use booklets for collection of incidents from aides were unsuccessful, which was felt due to low educational level and some distrust and anxiety about the true purpose of the project. Satisfactory response was obtained from aides by individual interviews.

A total of 1,123 incidents were obtained from 325 respondents. Thirty-eight incidents obtained from twenty-four patients were not included because they did not contribute any areas of job behavior not already reported by other subject groups.

On the basis of sample control data obtained, analysis of the content of the critical requirements did not reveal any notable differences with respect to hospital service, shift worked, sex of aide observed, or supervisory action following the incident.

Category formulation resulted in seven major areas and 22 subareas of job requirements which were defined and reported in terms of

effective job behavior. Although it was recognized that the actual work done by the aide varies from one hospital to the next, the authors felt that while this was true, "the range of aide job behavior is well covered by the critical requirements /defined in the study/. Differences in local emphasis on the duties of the aide may make it advisable to weight the items differently."(35) Suggestions for weighting procedures were given on the basis of frequency distribution of incidents in subareas. Suggestions were also made regarding ways in which the findings could be applied to other settings.

An unpublished account of the construction and preliminary standardization of a performance rating scale based on the above critical incident study of the job of the psychiatric aide has been reported by Schmidt and Cohen.(36) The primary purpose of the construction of the scale was to provide a criterion against which to validate the aide selection research battery being used by the hospital where the study was conducted.

The scale included (1) items for validating purposes, such as length of acquaintance and closeness of association between raters and ratees, (2) information-gathering items for developing norms for different hospital services, and (3) performance rating items.

Performance rating items were designed to measure each area and subarea of performance. Their content reflected crucial job factors supplied by the informants' critical incidents in the preliminary job analysis. Six scale points were defined for each item.

Nurses and charge aides rated a stratified, representative sample of aides within the hospital.

Analysis of the scale revealed a high level of full-scale agreement between the two groups of raters. Some individual items were revised to improve reliability. Correlation of ratings with length and closeness of acquaintance was insignificant, thereby ruling out these factors as possible sources of bias. Operation of halo effect, tested by correlation of major area ratings was found to be minimal. A method by which the scale could be validly applied to other institutions was suggested.

A published report of a doctoral study conducted by Bailey(6) in the School of Education of Stanford University has described the use of the critical incident technique. The purpose of the study was to identify (1) behavioral criteria of professional graduate staff nurses, and (2) variations in judgments relative to staff nurse effectiveness among patients, doctors, head nurses, and clinical instructors, in three general hospitals in northern California.

Individual interviews were used for collection of incidents from all doctors and patients; individual and group interviews were used for head nurses and clinical instructors.

A total of 419 incidents were obtained from 187 respondents: 108 from head nurses and clinical instructors; 180 from patients; and, 131 from doctors (interns, residents and staff physicians).

Analysis of incidents by category formulation revealed seven major areas and 27 subareas of critical behaviors. Data indicated marked differences in the distribution of behaviors reported by each resource group within the seven major areas. Of the total 27 critical behaviors identified, doctors, supervisors, and patients demonstrated agreement

on only two behaviors. No two combinations of respondents agreed to any greater extent than any other two combinations.

Two recommendations made by Bailey were of practical consideration for the present study. These included utilization of the group interview technique to a greater degree, and, development of criteria for patient participation to include patients hospitalized for as little as five days or more, due to relatively short hospital stay for most patients.

In conclusion, the literature has revealed a growing recognition of the need for better methods of job analysis and performance evaluation. Developments have shown a trend toward a newer type of evaluation based on the use of more accurate behavior descriptions, and instruments designed for specific situations. A recent procedure which has served more nearly to accomplish these ends has been called the critical incident technique. Faith in this technique, as a better method than conventional procedures, has been acclaimed because its value as a criterion can be tested.

Major efforts in nursing performance have been directed first to nursing education and the measurement of student nurse achievement, and second, to the development of programs for evaluation of professional nursing service personnel.(7,28,38) Negligible account of actual or expected aide performance was found in the literature, excepting that related to psychiatric aides.(23,24) Published reports regarding general hospital aides dealt mostly with impressions about the aides' importance in nursing services, and aide training programs; these have lacked a satisfactory criterion of effective performance.

CHAPTER III

CONDUCT OF THE STUDY

Purpose

This study was concerned with defining more clearly the role of the nurse aide in terms of the behaviors which are deemed crucial to job success from the vantage point of persons most concerned with, and aware of, what aides do, thereby providing a criterion measure of nurse aide performance. The purpose of the study was twofold: (1) to identify possible differences among patients, head nurses, staff nurses and nurse aides in their perception of the role of an aide; and (2) to develop a checklist criterion of nurse aide performance for use in evaluation and in identification of job areas in need of greater emphasis in training procedures.

Pilot Project

The critical incident technique, described in Chapter II, was the method of study. A pilot project was conducted to test the tools and procedures designed for collection of data. Administrative permission was obtained for a trial run participation of professional and non-professional nursing personnel in a 32 bed medical unit within a 200 bed medical school teaching hospital. The Head of the Department of

Medicine granted clearance for intern, resident and patient participation from the same unit.

The hospital where the pilot project took place was in close geographic proximity to the hospital in which the actual study was conducted. However, there was no inter-exchange or rotation of nursing staff between hospitals. Other than chance social acquaintance, bus transportation was the only apparent common channel of communication which later might have influenced responses elicited during the actual study.

Subjects interviewed from the pilot unit included the Supervisor, Head Nurse and Assistant Head Nurse, four staff nurses, seven nurse aides (one of whom did not contribute incidents), two interns and three patients. Nursing personnel represented day and evening shifts.

Nursing and medical personnel were eligible for participation if they: (1) had been employed by the hospital for a minimum of two months; (2) were able to verify their recognition of aides on the ward; and (3) were available and willing to submit incidents during the hours scheduled for interview.

Criteria for patient participation required that they: (1) were not critically ill nor under the influence of sedatives; (2) were not scheduled for treatment at the time of, nor immediately following the interview; (3) had been hospitalized for a minimum of five days on the selected medical unit; (4) were able to communicate; and (5) were able to verify their recognition of aides on the ward. The Head Nurse and the writer selected the patient subjects.

Individual and group interview methods were used for collection of

data to determine the relative merits and problems of each, such as time involved, adequacy of instructions, the participants' ability to describe incidents, and the usability of incidents.

A preliminary orientation at each interview included an explanation of: (1) the sponsorship of the study; (2) the purpose and characteristics of the method of the study; (3) the qualifications particular to each status group which would make their contributions of value by virtue of their position to make observations; (4) the anonymity of data obtained from the standpoint of observer and the aide involved in the incident; (5) certain of the possible practical applications of the results; and (6) the importance of safeguarding the objectivity of the method by avoiding discussion with subjects who had not yet participated.

The directions were formulated to accompany the questions asked of each participant during the interview. The respondent was asked to describe especially good or effective aide behavior observed in a specific situation, and to describe particularly poor or ineffective behavior in a specific situation. Prepared booklets were used for recording the situations and behaviors, or incidents. The directions and questions stated in the "good" booklet and repeated as part of the standard verbal instructions were:

> Think of the most recent time when you saw an aide or (non-licensed) practical nurse do something which you thought was such an especially fine job that she certainly deserved to be praised and told how good it was. Describe a specific situation showing definitely good work.

> Tell exactly what happened. What was actually going on at the time?
>
> Exactly what did she do or say? (Appendix A)

On the pilot ward, civil service classification of "practical nurse" included practical nurses licensed by the State Board of Nursing, and aides granted the title after a year of meritorious service, but not eligible for licensure. A non-licensed practical nurse, therefore, met the requirements stated in the "nurse aide" definition used for this study.

A time limit was set for the subjects to record as many "good" incidents as possible. At the end of this period booklets were collected, and the "poor" booklets distributed for recording incidents. The directions and questions were:

> Think of the most recent time when you saw an aide or (non-licensed) practical nurse do something which you thought was a pretty poor job - the kind of thing which, if repeated, would definitely show that she was not an effective aide or practical nurse - the kind of thing that you think a very good aide or practical nurse should never do. Describe a specific situation showing definitely poor work.
>
> Tell exactly what happened. What was actually going on at the time?
>
> Exactly what did she do or say? (Appendix B)

Identifying information on the face sheet of personnel booklets included: name, position title, ward, length of time on ward, hours of work, and date of employment. (Appendix C) The information served multiple purposes: (1) to serve as a check against criteria for participation, (2) to assist with data analysis, (3) to serve as a factor in the motivation of subjects to put forth best efforts, and,

(4) to facilitate ease with which re-contact could be made with respondents for clarification of data.

Group composition, number in each group, and the time limits for recording incidents varied considerably when the group technique was used for interviewing nursing personnel. Because of ward demands, the number of personnel available at any one time did not exceed three persons. Interviewing time was limited to a maximum of one hour, and half-hour periods occasionally were requested by the head nurse or charge nurse for some staff members.

Homogeneous grouping, with respect to job titles, was found to promote the most satisfactory climate for data collection. Tension, evidenced by distrust of intent and use of data, self-derogation and defensiveness, and fewer incident descriptions occurred in grossly mixed groups, for example, supervisor or head nurse - aide combinations. However, little detrimental effect of aide - staff nurse group combinations was apparent.

The participants at first generally denied that they could recall specific incidents. Remarks, such as the following, demonstrated this difficulty: "Just afraid I can't help you"; "It's hard to think of something so specific in such a short time—it's easier to get more general--you don't really ever think about it much before this way"; and "I remember one thing that happened, but I can't remember what it was." Other respondents explained that they "didn't run around looking at others, or watching others."

The participants' self-confidence in their unique qualifications and ability to contribute worthwhile information was found to be an

important factor to consider in the data collection procedure. Comments, such as the following, indicated degrees of uncertainty and need for approval: "Is this what you mean, because this isn't good, is it?" or "Can you read my writing okay?"

Although seldom verbalised directly, the most significant factor for determining the readiness of nursing personnel to get to the task at hand seemed to be the degree of trust held in the explanation of the authority under which the study was conducted, and the confidentiality and use of raw data. The subjects' willingness to write incidents was found to be enhanced when seating was pre-arranged to provide privacy and maintain a relatively informal atmosphere. After the participants became more fully engrossed in using the booklets, their remarks were fewer and it would appear that unrest was dispelled.

Varying techniques were used for patient interviews. Detailed explanation and instruction seemed to be of little apparent interest to patients. Primary attention was directed to their ability to identify who aides were. Patients knew the study group, although they did not necessarily label them "aides". Personal reference was made, such as, "Oh! you mean like my nurse today."

It was difficult to control open discussion between patients in multiple-bed rooms, and to maintain their attention to the original question. Not only did discussion pertain to aides, but more decidedly, to an airing and comparison of feelings about hospital experiences in general. Certain other physical limitations of the patients made the use of the written group technique with them seem prohibitive.

An individual patient interview demonstrated the merits of

interviewer-recording. Specific, comprehensive examples were verbalized by patients with greater frequency and ease than were written incidents. Written end-products of previously verbalized incidents became general qualitative descriptions.

As observed of nursing personnel, patients also expressed concern about jeopardizing the job of the aide involved in a "poor" incident.

Individual interviews were conducted with two interns. Although they appeared eager to participate, their recognition of aides did not seem entirely adequate. In general, their incidents involved a summary of related happenings or effects, qualified by a statement which indicated that aides may or may not have been involved. However, an interesting opinion was expressed by the interns regarding their expectations, not only for aides but for nursing personnel in general. Degrees of "goodness" or "badness" in performance did not seem to be identifiable by them. "Good" work was felt to be non-existent. "Bad" work was felt to occur when activities necessary for carrying out orders were not fulfilled. To illustrate: "When work is done, it's not "good" because that's what it should be--done."

Sixty-eight incidents were obtained from pilot project participants. For the most part, these incidents adequately met the requirements for usability. The real need seemed to rest in the interviewing skill per se to effect a more rapid orientation phase so as to extend the actual production time in the working stage.

Observations which were found to be helpful for the conduct of the actual study have been summarized as follows: simple, precise, and consistent verbal interpretation of the study; direction of the subject's

attention to specific situations which were actually seen; de-emphasis on "too spectacular or outstanding" types of behavior, tempering the degree to "especially or particularly" good and poor; assisting participants to separate the person of the aide from the observed activity by omission of all references about good or poor aides, and minimum use of the term "aide" after the study group was clearly established; reassurance that the study was not a test of participant ability; reinforcement of the use and anonymity of data in relation both to the contributor and aide involved, emphasizing the lack of any kind of administrative action; avoidance of the implication that aides did not measure up to par and needed improvement.

Gains from the trial run also helped to expedite the administrative efficiency of the data collection procedure. Sample groups, interview and recording techniques, optimum group composition and number, seating arrangement, environmental comfort measures, and the approximate time required for collecting sufficient data were determined, in part, on the basis of pilot study observations.

Procedure for Collection of Critical Incidents for the Major Study

This study, conducted in a 295 bed general county hospital, was a part of a total research program undertaken to investigate selection and evaluation procedures for nonprofessional nursing personnel. The Director of Nursing was in full accord, she having been one of the first to express the need for such a study. Since personnel practices of the hospital were controlled by the civil service administration, its

interest, sanction, participation and blessing were obtained. A general orientation to the proposed overall program was presented to the nonprofessional nursing group during a regularly scheduled inservice meeting. The group asserted, by closed ballot, its interest and willingness to participate.

The nonprofessional nursing group in this setting was comprised of personnel entitled Aide I, Aide II, and Licensed Practical Nurse. Distinction was based on the extent of experience and training, and on the scope of responsibility assigned. Aide I's met the requirements of "aide" as defined in this study, and only they were considered for the investigation.

The source from which critical incidents were sought included all head nurses, assistant head nurses, staff nurses, evening and night shift charge nurses, and aides (I and II) from eight medical and surgical wards and the obstetrical unit. Random sampling of patients from the same medical, surgical and obstetrical wards was made. Selection of patients was based on their ability to meet the demands of the study and on the time limits imposed by the study. Interns and residents were omitted as sources of data.

The criteria for nursing personnel participation applied in the pilot project were found to be adequate, and were not revised for the actual study. (Appendix D) The criteria for patient participation were revised. (Appendix E)

A decision regarding the types of interviewing methods to use for the various subject groups was made on the basis of findings of other studies and pilot study observations.

Wagner described a study of the development of the group technique in which a group situation was compared with individual interviews for securing Air Force Officer personnel information. The comparison was made with the individual situations as the control. Wagner concluded: "Results indicate that the group interview accomplishes the work of the individual interview in one fourth the time with no loss of quality and no adverse morale effects."(45) Both procedures were used in this study.

One hour group interviews with simultaneous written responses were used to obtain incidents from nursing personnel. Groups were composed of personnel having like status, such as head nurses, assistant head nurses, staff nurses, and aides.

A schedule was arranged with the day shift supervisors for interview of day and evening shift personnel. The night supervisor arranged a similar schedule for interview of night shift personnel. Provision was made for an ample number of interviews in order to enforce an arbitrary limit of nine persons participating in any one group. This limit assured the least amount of ward disruption, and offered maximum opportunity for individual attention to group members.

Information gained from the trial run was incorporated into the revised interview guide (Appendix F) and recording booklets. Each group was given an orientation to the study and an explanation of the purpose of the interview. "Good" incidents were requested during the first half-hour of each interview. The revised directions and questions were:

> Think of a recent time when you saw an Aide I do something which you thought was an especially good thing to do--the kind of thing that definitely was effective. Something that you think the aide deserved to be praised about, and told how good it was. Describe a specific situation showing definitely good work.
>
> Tell exactly what happened. What was actually going on at the time?
>
> Exactly what did the aide do or say? (Appendix G)

A two-minute warning was given toward the end of the first half-hour, after which time "good" booklets were collected and "poor" booklets distributed. The revised directions and questions used for obtaining "poor" incidents during the second half-hour were:

> Think of a recent time when you saw an Aide I do something which you thought was a pretty poor thing to do--the kind of thing that definitely was not effective. Something that you think an Aide I should never do. Describe a specific situation showing definitely poor work.
>
> Tell exactly what happened. What was actually going on at the time?
>
> Exactly what did the aide do or say? (Appendix H)

Identifying items on the booklet face sheet were edited slightly to facilitate easier comprehension of desired information so as to avoid time lost by unnecessary clarification. (Appendix I)

It was anticipated that success of the study would lay not only in the number and variety of respondents interviewed and incidents collected, but also in the head nurses who would be vital factors in staff motivation and cooperation, in planning for release of staff during scheduled hours, and in the selection of patients. Therefore the head nurse group was the first to be interviewed and asked to contribute

incidents. At the conclusion of their interview, a more detailed explanation of the project and its value was offered. Prepared interview schedules were distributed. Discussion was encouraged regarding the head nurses' role in communicating and interpreting the program to their respective staff groups. Comments from the head nurses directed attention to problems of meeting interview schedules in view of ward demands, of squelching open staff discussions of the method, and of making the thinking and writing of incidents easier.

At the close of each subsequent nursing personnel interview, an attempt was made to ascertain what, and how much, the participants had heard or had been told about the interview process. A few persons apparently were misinformed intentionally. The majority acquired little information other than "we're not supposed to talk about it." All denied being told precisely what to expect.

Patients were interviewed orally on an individual basis. Head nurses selected from their respective wards the patients who met pre-established criteria, and submitted a list of names of those eligible to the interviewers upon request. The needs of the patients, naturally arising from patient status, were considered in their selection, as well as their ability to meet the demands of the project. Interview areas outside the immediate ward environment, apart from activities and possible interruptions by other patients and staff, were made available for use on each floor. The patients' responses, in answer to identical questions asked of all other participants, were recorded verbatim by the interviewers. Identifying data were pre-recorded. (Appendix J)

Description of Analysis of Critical Incident Data

Critical incidents were obtained over a six week period. Each incident was transcribed unedited from booklets to a 3 by 5-inch card, with keyed identifying information preserved on the reverse side. A decision was made about the usability of each incident by application of certain criteria, that is: was a comprehensive report of relevant factors in a specific situation given; and was actual aide behavior observed and reported.

An inductive category formulation process was developed and carried out concurrently with the collection of data by two formulators, or judges. Essentially, the categorizing system which was devised provided a means of classifying raw data, or incidents, into areas which served best the purpose of developing a procedure for evaluating job effectiveness to establish a criterion of success. Randomly selected incidents were sorted and tentatively grouped together on the basis of similar or like behavior from a point of view of what seemed like an identifiable, circumscribed phase of on-the-job activity. Each tentatively established category was labeled and defined accordingly, with reference to job-behavior content. Additional incidents were classified into these categories, and the need for redefinition and development of new categories was noted. The process was continued until somewhat less than one half the total number of incidents from each sample group were classified. Category modifications were made as indicated. Major categories were divided into subareas in which incidents, describing more nearly identical types of critical behavior,

were grouped. More explicit definition of each subcategory described its nature in relation to the major category from which it was derived.

In the event that a critical incident described more than one behavior of apparent equal emphasis in the specific situation, each behavior was treated separately and classified into the appropriate category. On the other hand, if one or more behaviors were judged critical, and others appeared to be of incidental background importance, then only those behaviors of primary emphasis were abstracted from the incident and categorized as crucial.

Because of the element of subjectivity arising from personal judgment inherent in this type of procedure, the remaining half of the incidents were classified independently by the two judges into the established categories. The per cent of agreement in classifying each incident individually was used as the measure of reliability of the original category system.

Final category definitions were stated in terms of effective and ineffective critical job behaviors. (Appendix K)

The critical incident data were tabulated to show the total number of subjects, and the number within each of the four different groups who were interviewed; from these figures the actual number of respondents who gave descriptions was determined.

Further tabulation showed the total number of behaviors given by each respondent group and by combined groups. The average number of descriptions given per person in each of the different groups and in combined groups was found.

The incidents were classified according to mention of "good" or of "poor" behavior, and according to the group of respondents which had given them. Further analysis was made of the characteristics of the incidents to show the per cent of the total number of descriptions given by each of the different groups that fell into each major category and subcategory; the per cent of these incidents which described "good" and "poor" behavior was noted. From these percentages, comparison of the four respondent groups was made to show the frequency with which each group mentioned each of the different categories of behavior, and to show whether they mentioned the particular categories in "good" or in "poor" incidents.

Procedure for Developing a Behavior-Checklist

The critical incidents were used to develop a rating checklist by which the quality of the aides' performance might be evaluated in terms of critical job behaviors described by the four respondent groups.

The checklist incorporated behavioral content of nearly all of the incidents into rating items which were listed to parallel the sequence of major category headings and subarea descriptions. When several incidents were found to describe essentially the same or closely related types of performance, they were combined to form a single checklist item; such items were stated perhaps less specifically, but in more practical rating terms than were the original descriptions.

The number of checklist items included for each particular area of behavior was roughly proportionate to the per cent of all of the

incidents previously classified into each of the different categories.

Statements worded in terms of "good" and of "poor" behavior were listed alternately throughout the checklist so the raters would need to consider all items with equal care and attention in order to decide upon their responses.

Procedure for Testing the Reliability and Validity of the Checklist

The behavior-checklist was used to obtain independent ratings of each aide's performance by the two registered nurses who were most familiar with a particular aide's work, and who felt best qualified to rate her performance. The head nurses, in consultation with their professional staff, were asked to select the raters and to evaluate all aides, on all shifts. A letter soliciting interest and cooperation accompanied the checklists and sets of directions given to the head nurses for distribution to the selected raters. (Appendices L and M)

Each pair of raters who evaluated an aide was asked to decide which one of the two felt best qualified, and which one second best qualified, to rate the particular aide; each rater indicated herself to be "first" or "second" rater by marking in the appropriate space provided on the checklist form.

Five alternate responses relative to each item of behavior were arranged in columns on the checklist. The raters were instructed to mark, on separate forms and without discussion between them, the response which best described the aide's work in relation to each item. The responses provided were:

1. "yes", if the aide being rated demonstrated the particular behavior;
2. "no", if the behavior was not demonstrated by the aide;
3. "sometimes", if the rater thought a statement was partially applicable to the aide;
4. "not applicable to the ward situation" (NA), if a behavior was one that an aide would never have an opportunity to demonstrate on the particular ward; and
5. "don't know" (DK), if the rater could not answer a statement by one of the above alternate responses because of insufficient observation of the aide on the particular behavior.

Each rater also was asked to give an "excellent", "satisfactory", or "inferior" global evaluation of the aide's performance without considering checklist responses.

Control items were placed on the checklist form for gathering information relative to each rater's status, shift, and period of job acquaintance with the aide.

Description of Analysis of Checklist Evaluation Data

Individual checklist items were pre-keyed and later scored by a method which interpreted the rater's response to each statement, as shown in Appendix M. For example, when a rater checked in the column headed "yes" opposite a particular item, that response was keyed to indicate either "good" or "poor" performance depending on whether the corresponding statement reflected positive or negative behavior.

A "sometimes" option was made available in an attempt to insure complete ratings even when raters felt unable to check an item by using one of the other four responses. The assumption was made that a "sometimes" response would imply indecision or reluctance on the part of the rater to take a definite "yes" or "no" stand on the aide's performance in relation to the given item. When a compromise response of "sometimes" was checked, that item was scored to show whether it might reflect "good" or "poor" behavior even if demonstrated only some of the time. Thus, each item also was keyed for scoring purposes as "sometimes good" (SG) or as "sometimes poor" (SP); which interpretation was used for each item was determined primarily by the per cent of "good" and of "poor" incidents mentioned by the reporting groups in each of the different areas of behaviors.

First and second ratings for each aide were scored, tabulated and subtotaled to show the number of "good", "poor", "SG", "SP", "NA" and "DK" responses given by each rater in each major category according to the shift worked by the aide; also noted was the number of rater-errors, such as, items which were not rated at all, or for which more than one response was checked.

Inter-rater reliability was determined by rank order correlation of rating scores for aides on each shift and with shifts combined. Agreement between checklist scores and the raters' global evaluations (accepted as an outside criterion of effectiveness) was examined in order to determine the accuracy of the checklist as a criterion measure of aide performance.

CHAPTER IV

PRESENTATION AND INTERPRETATION OF FINDINGS

Results of the Interviewing Program

Certain initial reactions to the data collection procedure were similar to those apparent in the trial run. Facetious comments by both nurses and aides gave some assurance that the true purpose and the technique of the interview had not been communicated prior to their actual participation, and seemed to suggest that the participants had anticipated a formal test exercise.

By far the most frequent comments from nurses and aides were those that expressed the difficulty they experienced in having to recall specific aide behavior in a specific situation. From certain remarks it would appear that some nurses consider it highly important that "aides just get their work done", with considerably less concern for what the work involves and how it is carried out.

Periodic clarification of the handling and use of data seemed successful in promoting the feeling among respondents that their reports would be helpful, that data would remain anonymous, and that no administrative action would result. Initial reluctance and hesitancy to write incidents because of these factors was illustrated by one comment made in response to such an explanation: "That's good, because there could

sure be trouble."

Critical incidents were collected from four subject groups: head nurses (including assistant head nurses); staff nurses (including evening and night charge nurses); aides; and patients. The three nursing groups contributed data through 19 written group interview procedures; each group was composed of from two to eight persons having like or similar status. The average group size numbered four persons. The patients were interviewed orally on an individual basis.

The four subject groups were asked for "good" incidents first, and given equal opportunity to describe both "good" and "poor" incidents. The number of subjects interviewed, and the number of effective and ineffective behaviors described by each of the groups is shown in Table I.

TABLE I

NUMBER OF SUBJECTS WHO RESPONDED FROM THOSE WHO WERE INTERVIEWED SHOWING NUMBER OF "GOOD" AND "POOR" INCIDENTS DESCRIBED BY THE GROUPS OF HEAD NURSES, STAFF NURSES, NURSE AIDES, AND PATIENTS

Subject Group	Total Number Interviewed	Number of Respondents and Incidents: Number "Good" Respondents	Number "Good" Incidents	Number "Poor" Respondents	Number "Poor" Incidents	Number Not Responding	Total Incidents
Head Nurses	17	17	47	17	50		97
Staff Nurses	14	14	31	14	36		67
Aides	58	53	113	51	110	4	223
Patients	21	19	84	12	33	2	117
Total	110	103	275	94	229	6	504

The four subject groups described 504 specifically observed aide behaviors deemed especially effective or good, and especially ineffective or poor. Of the 110 subjects who were interviewed, 104 described "good" and/or "poor" incidents. Of 58 aides, two described effective but not ineffective behaviors; one reported "good" incidents but could not remain to complete the "poor" booklet; another wrote no "good" items but did take later opportunity to describe "poor" items; and three did not write in either booklet but remained in the group for the full hour. Seven of the 19 patients who responded, described "good" but not "poor" incidents.

Table II shows the average number of incidents reported by the participants who were willing and able to describe any at all.

TABLE II

AVERAGE NUMBER OF "GOOD" AND "POOR" INCIDENTS DESCRIBED BY EACH PARTICIPANT FROM THE GROUPS OF HEAD NURSES, STAFF NURSES, NURSE AIDES, PATIENTS, AND FROM GROUPS COMBINED

Subject Group	Average Number "Good" Incidents by Each Participant	Average Number "Poor" Incidents by Each Participant	Total Average Number Incidents by Each Participant
Head Nurses	2.8	2.9	5.7
Staff Nurses	2.2	2.6	4.8
Aides	2.0	2.0	4.0
Patients	4.4	1.7	6.1
Total Average Number Incidents by each Participant with Groups Combined	2.6	2.2	4.8

Although the nursing groups frequently commented during the initial "good" section of the interviews that "poor" incidents would be much easier to recall, they produced the two kinds in approximately equal numbers. In marked contrast, patients described many fewer "poor" than "good" items despite intensive efforts to elicit "poor" incidents on the part of the interviewers. The difference in ease of reporting "good" and "poor" items on the part of patients might have been due to a number of factors: satisfaction with, and gratitude for, services and experiences in the hospital in contrast to deprived home environments of these patients; dependency on the hospital staff with fear of jeopardizing the aides' job security and of retaliation; avoidance of "complaining" as a disapproved behavior for medically indigent persons.

Categories of Behavior

One-half of the 504 critical incidents were randomly selected and used to develop a category system designed to group together descriptions of similar behavior, as described in Chapter III.

When the remaining incidents were classified independently by the two judges (who had collaborated in developing the classification system) into the established categories, major inter-judge disagreement was noted in six of the 23 original subcategories. When consistent overlapping of behaviors between two subcategories was observed, the areas involved were combined so as to form sub-subcategories, thus forcing up the per cent of agreement for the new combined subcategory.

A total of six major categories and 23 subcategories of critical job behaviors resulted from the classification system. (Appendix K) Overall reliability of categorizing was 86 per cent, as shown in Table III, which is considered to represent more than adequate reliability for this kind of judging task.

The functionally described categories have been briefly summarized under the following headings:

I. Ethics and Administration

1. Maintains ethical standards--follows professional ethics in dealing with patients and staff; for example, regarding appropriateness of information given patient, respecting confidentiality.

2. Organizes and leads--assists with administrative responsibilities; for example, acts as team leader, utilizes Kardex to correct errors.

II. Staff Interrelations

1. Serves ward--assists staff beyond usual duties; for example, volunteers extra help for sake of ward as a whole.

2. Orients--orients or explains policies, procedures to new personnel.

3. Reduces tension--contributes to pleasant interreactions among staff.

4. Helps staff and channels information.

   a. Helps--assists others in duties and avoids leaving or creating work for others.

   b. Channels--follows correct channels of communication.

5. Innovates--makes suggestions for changes in routines or procedures to ease work of all.

6. Learns--accepts supervision gracefully and shows alert interest in learning.

III. Emergency Functioning--recognizes and acts appropriately and effectively in acute emergency situations.

IV. Interpersonal Relations with Patients

1. Is kind and reassuring.

   a. Shows patience and kindness--is patient, gentle, tactful in dealing with patient while carrying out duties and in gaining patient cooperation.

   b. Reassures and sympathizes--reassures and diverts patient through attention, listening, conversation.

2. Responds to requests--acknowledges and efficiently responds to patient's requests for service or attention.

3. Gives extra service--offers patient extra technical or personal care out of concern for patient's comfort, morale, appearance.

4. Orients--instructs patient appropriately in his self care, gives explanations regarding service, facilities, procedures.

5. Offers personal service--offers personal errands and services; for example, getting cigarettes, making phone calls for patient.

V. Technical Skill

1. Maintains asepsis--observes requirements for aseptic technique.

2. Performs procedures--is technically competent in performance of specific treatments, procedures, or care of individual patient.

3. Omits and observes.

a. Omits--omits necessary specific treatment or an aspect of it.

b. Observes--observes and investigates patient's condition and takes appropriate action.

4. Provides for safety--observes safety precautions for patient and staff.

VI. Overall Competence--is competent in carrying out overall assignments promptly, accurately, and thoroughly.

TABLE III

INTER-JUDGE RELIABILITY OF CATEGORIZING ACCORDING TO PER CENT AND NUMERICAL AGREEMENT

Category	Reliability Using Judge 1 as Criterion		Reliability Using Judge 2 as Criterion	
	Per Cent Agreement	Numerical Agreement by Judge 2 with Judge 1	Per Cent Agreement	Numerical Agreement by Judge 1 with Judge 2
I	87%	13/15 *	100%	13/13
1	90	9/10	100	9/9
2	80	4/5	100	4/4
II	79	23/29	77	23/30
1	100	5/5	83	5/6
2	100	3/3	75	3/4
3	100	2/2	67	2/3
**4	76	10/13	91	10/11
5	67	2/3	100	2/2
6	100	3/3	75	3/4
III	89	17/19	100	17/17
IV	94	89/95	86	89/104
**1	98	41/42	85	41/48
2	83	10/12	91	10/11
3	95	17/21	95	17/21
4	100	16/16	100	16/16
5	89	8/9	100	8/8
V	85	84/99	84	84/100
1	100	14/14	100	14/14
2	85	28/33	80	28/35
**3	88	37/42	88	37/42
4	80	8/10	89	8/9
VI	89	17/19	94	17/18
TOTAL	86%	243/282	86%	243/282

* Read table as follows: Judge 2 agreed 87 per cent with Judge 1's classification of incidents into category I; of 15 incidents assigned to category I by Judge 1, Judge 2 classified 13 of the same incidents into the same category.

** Each of these subcategories represents two original subcategories which were later combined because of overlapping of incidents between them.

Emphasis Given Different Categories by Different Groups

The per cent of all of the incidents described by each group which fell into each category was obtained. It was assumed that the frequency with which a category of behavior was mentioned by a particular group would indicate the relative value or importance of the category in the aide's job performance from the point of view of that group.

Table IV shows the order of importance of major categories for each group and the per cent of each group's incidents in each of the major categories.

Table V shows, in rank order for each group, the most frequently mentioned subcategories and includes the two major categories (III and VI) which involve logically nondivisible areas of behaviors as defined in the study.

TABLE IV

RANK ORDER OF MAJOR CATEGORIES ACCORDING TO FREQUENCY OF MENTION SHOWING PER CENT INCIDENT DISTRIBUTION BY THE GROUPS OF HEAD NURSES, STAFF NURSES, NURSE AIDES, AND PATIENTS

Head Nurses			Staff Nurses			Aides			Patients		
R*	Category	'Per Cent	R	Category	'Per Cent	R	Category	'Per Cent	R	Category	'Per Cent
1	V Technical Skill	49.5%	1	V Technical Skill	41.8%	1	V Technical Skill	44.8%	1	IV Patient Relations	92.3%
2	IV Patient Relations	17.5	2	II Staff Inter-relations	22.4	2	IV Patient Relations	26.5	2	II Staff Inter-relations	4.3
3	II Staff Inter-relations	14.4	3	IV Patient Relations	13.4	3	II Staff Inter-relations	13.0	3	V Technical Skill	2.6
4	VI Overall Competence	9.3	4	VI Overall Competence	9.0	4	III Emergency Functioning	7.6	4	I Ethics and Administration	0.8
5	I Ethics and Administration	6.2	5	III Emergency Functioning	7.5	5	VI Overall Competence	4.0			
6	III Emergency Functioning	3.1	6	I Ethics and Administration	6.0	6	I Ethics and Administration	3.6			

* R = the rank of the category in the series; 1 = highest ranking.

TABLE V

RANK ORDER OF THE MOST FREQUENTLY MENTIONED SUBCATEGORIES AND MAJOR CATEGORIES WITH NO SUBAREAS BY THE GROUPS OF HEAD NURSES, STAFF NURSES, NURSE AIDES, AND PATIENTS

Head Nurses		Staff Nurses		Aides		Patients	
R*	Category	R	Category	R	Category	R	Category
1*	V-3b Observes	1	II-4a Helps Staff	1	V-2 Does Procedures	1	IV-1a Is Kind
2	V-2 Does Procedures	2	V-3b Observes	2	IV-1a Is Kind	2	IV-3 Offers Extra Care
3	V-3a Omits	3	V-2 Does Procedures	3	V-1 Maintains Asepsis	3	IV-1b Reassures
4	VI Overall Competence	4	VI Overall Competence	4	III Functions in Emergency	4	IV-2 Responds to Requests
5	IV-4 Orients Patient	5.5	III Functions in Emergency	5	V-3b Observes	5	IV-5 Offers Personal Services
6	II-4a Helps Staff	5.5	IV-1a Is Kind	6	IV-3 Offers Extra Care	6	IV-4 Orients Patient
7	IV-1a Is Kind	7.5	V-1 Maintains Asepsis	7	II-4a Helps Staff	7.5	II-4a Helps Staff
8	I-1 Is Ethical	7.5	V-3a Omits	8.5	V-3a Omits	7.5	V-2 Does Procedures
9.5	III Functions in Emergency	9.5	II-1 Offers Extra Ward Help	8.5	VI Overall Competence		
9.5	II-5 Innovates	9.5	V-4 Provides Safety	10	IV-4 Orients Patient		

* R = the rank of the category in the series; 1 = highest ranking.

As shown in Table VI, the three nursing groups agreed rather strongly in the ranking (shown in Tables IV and V), and hence presumably in the overall value of major and minor categories of behavior. However, differences in the relative value and importance attributed

TABLE VI

RANK ORDER CORRELATION OF ALL MAJOR CATEGORIES AND SUBCATEGORIES BETWEEN THE GROUPS OF HEAD NURSES, STAFF NURSES, AND NURSE AIDES

Paired Groups	Rho (N=23 Categories)
Head Nurses and Staff Nurses	.81*
Staff Nurses and Aides	.82*
Head Nurses and Aides	.74*

* P = less than .01

to individual categories, as inferred from actual frequency of mention shown in Appendix N, were found between all four subject groups.

First, patients emphasized most frequently (92 per cent of their incidents) the interpersonal aspects in the way aides approached and worked with them, and mentioned little else. Of particular importance to patients was the aide's manner of display of kindness, gentleness and patience in the performance of nursing care. Patients also stressed some interpersonal aspects which nursing groups seldom or never mentioned, for example: offering personal services and errands; acknowledging and following through requests; and providing comforting reassurance, attention and conversation. Giving extra care out of concern for the patient's comfort and morale was emphasized by patients,

mentioned also by aides though less frequently, but rarely mentioned by head nurses and staff nurses.

The three nursing groups shared in emphasizing the importance of staff interrelationships, the staff nurses giving major consideration (16 per cent) to the aides' willingness to help each other and the staff in cooperative endeavors; this area also was indicated as important by head nurses and aides, though mentioned considerably less frequently (6 per cent and 5 per cent respectively). Staff nurses and aides paid greater attention to the aides' handling of acute emergency situations than did the head nurses.

Aides placed much more value (26 per cent) on interpersonal relations with patients than did head nurses and staff nurses, who nevertheless considered this important (17 per cent and 13 per cent respectively). Within this area, head nurses emphasized instruction of patients involving explanation and clarification of care and treatment, while aides more frequently mentioned gentleness and patience in the performance of care, and offering extra care.

All three nursing groups mentioned the area of technical skill most frequently and with about equal major emphasis, approaching 50 per cent. Within this area aides gave greatest attention to being able to perform procedures without error (22 per cent), while head nurses more frequently mentioned inadvertent or deliberate omission of a care or treatment or an aspect of such (10 per cent).

Head nurses, in contrast to aides, rarely mentioned aseptic technique, while aides mentioned observation of patients' conditions

much less frequently (7 per cent) than the head nurses and staff nurses (22 per cent and 13 per cent respectively).

The three nursing groups paid the least attention to upholding ethical standards and administrative activities, and head nurses and staff nurses considered overall general competence of greater importance than did aides.

Mention of "Good" versus "Poor" Incidents

All of the incidents were classified as to whether they described "good" or "poor" behavior. The per cent of "good" and of "poor" incidents mentioned by each group in each of the categories was obtained.

When at least 70 per cent "poor" examples of behavior were described for a given area by a particular group, it was assumed that the group considered that area as basic and essential in the aides' performance, and therefore not praiseworthy in its presence, but only blameworthy in its absence; it might be said that the area was taken for granted by the reporting group. On the other hand, when primarily "good" examples of an area were reported, it was assumed that behaviors within that area were not expected as standard aide performance but represented extra dividends or "pleasant surprises" to the reporting group.

The different subject groups mentioned some categories with about equal numbers of "good" and "poor" items, which seemed to indicate that such areas were considered important, but viewed with tolerance by the particular group. When equal mention of "good" and "poor" was observed, it was assumed that aides probably were expected to develop new skills

only gradually in these areas, so while "poor" behaviors were being corrected, "good" ones were rewarded and not taken for granted by the particular group.

Each area of the aide's work was compared in order to discover which groups appeared to take a particular area for granted, to view it with "happy surprise" or as a mark of distinction, or to consider it tolerantly through equal mention of "good" and of "poor" incidents. Thus, each group's expectations of the aide's job behavior in a given area were noted.

Table VII shows the emphasis on "good" or "poor" behaviors within certain areas, from which each group's expectation were inferred. The direction of emphasis has been designated only for those categories which included at least five per cent of the total number of incidents described by a particular group. A "good" or a "poor" designation indicates that, of all the incidents described by a group in that particular category, at least 70 per cent of them were "good" or 70 per cent were "poor"; an "equal" emphasis has been designated when a category was mentioned by a given group with about equal numbers of "good" and "poor" items.

TABLE VII *

MENTION OF CATEGORIES ACCORDING TO "GOOD," "POOR," AND "EQUAL" EMPHASIS BY THE GROUPS OF HEAD NURSES, STAFF NURSES, NURSE AIDES, AND PATIENTS

Categories	Groups			
	Head Nurse Emphasis	Staff Nurse Emphasis	Aide Emphasis	Patient Emphasis
I Ethics and Administration	Poor	Equal		
II Staff Interrelations	Equal	Poor	Equal	
4. Helps and Channels	Poor	Poor	Poor	
a. Helps	Poor	Poor	Poor	
III Emergency Functioning		Good	Good	
IV Patient Relations	Equal	Poor	Equal	Good
1. Is Kind and Reassures	Equal	Poor	Equal	Good
a. Is Kind	Equal	Poor	Equal	Equal
b. Reassures				Good
2. Responds to Requests				Equal
3. Offers Extra Care			Good	Good
4. Orients	Equal			
5. Offers Personal Service				Good
V Technical Skill	Equal	Equal	Equal	
1. Maintains Asepsis		Poor	Poor	
2. Does Procedures	Poor**	Equal	Equal	
3. Omits and Observes	Equal	Good	Equal	
a. Omits	Poor	Poor		
b. Observes	Good	Good	Good	
VI Overall Competence	Poor	Good		

* Table shows only those categories where at least 5 per cent of a group's incidents fell into a single category; a "good" or a "poor" emphasis is designated only when a category was composed of at least 70 per cent "good" or 70 per cent "poor" items; "equal" designations show categories which included approximately equal numbers of "good" and "poor" items. (See Appendix N)

** 69.2 per cent "poor" incidents.

As shown in Table VII, all three nursing groups appeared to take it for granted that the aides would attend conscientiously to assigned tasks and willingly help co-workers with the ward work load; the groups reported mostly "poor" items in this area of intra-staff relations. Staff nurses and aides were pleasantly surprised when aides were able to take appropriate action in acute medical emergencies; this probably was because competency in emergency situations ordinarily would imply initial self-directed activity and would demand a relatively more advanced or unexpected level of understanding of the basis for correct action. No "poor" behaviors were described in this area by any group, probably because emergencies were being avoided rather than handled poorly by aides who were unable to meet them.

Aides and patients were pleasantly surprised at finding that aides would offer extra care out of concern for the patient's comfort and morale. Patients, but no one else, considered it especially praiseworthy when aides provided sympathetic, reassuring attention and comfort, and offered to oblige personal needs. Surprisingly, patients did not indicate that they took it for granted that the aides would acknowledge even direct requests for attention or service, but appeared tolerant when the aides refused, evaded, or were slow in responding to these requests.

The major category of technical skill behavior was taken for granted by no one, but within this area staff nurses and aides took it for granted that aides would adhere to correct practices of medical and surgical asepsis, mentioning this only when aides made or ignored breaks in technique. Head nurses rarely mentioned asepsis at all,

presumably taking it even more for granted and perhaps less aware of infractions. Head nurses and staff nurses expected aides to carry out all technical procedures completely, and indicated disappointment when aides omitted an important care or treatment, or an aspect of one. All three nursing groups considered it unusual that aides were able to make pertinent and accurate observations of changes in a patient's condition and take competent action, usually prompt verbal reporting.

Particularly interesting were the areas for which the groups appeared to differ in what they expected. For example, head nurses and aides were tolerant of the aides' job relationships with co-workers, while staff nurses, who reported many more "poor" than "good" items in the area of intra-staff relations, indicated frustration because their expectations were not being met.

It was again the staff nurses who seemed to find the area of aide relations with patients disappointing, especially with respect to the expectations they held for kindness, gentleness, and patience with which aides would carry out their duties; head nurses and aides were tolerant in the same areas, giving about equal numbers of "good" and "poor" items, while patients were pleasantly surprised with the aides' overall interpersonal relations, but were tolerant with respect to the aides' kindness and patience in the performance of care.

One explanation for the difference between the head nurses' and staff nurses' expectations of aides in the area of patient relations was offered by head nurses themselves in a group discussion of these findings. They presumed that staff nurses more comfortably could afford to expect more of aides and show greater disappointment about

poor aide behavior with patients because any subsequent discipline function would fall, not with the staff nurses, but with the head nurses.

In the area of competency in carrying out technical procedures correctly, it was the head nurses who indicated frustration, while the staff nurses and aides were tolerant. Again, head nurses offered the explanation that, in the final analysis, it was they who must assume total responsibility for safe, competent care, so perhaps would hold higher expectations for this area of aide performance than either staff nurses or aides. It might be inferred that the head nurses are somewhat inconsistent in their expectations and attitudes.

Also striking was the contrast between head nurses' frustrated expectation that aides would be able to perform their overall routine assignments well, and the pleased surprise the staff nurses registered in the same area. Head nurses interpreted the staff nurses' value held for this area on the basis of similarity of staff nurse and aide assignments. For example, work loads which often require comparable ability are assigned to both staff nurses and aides; head nurses felt this situation might account for staff nurses' particular surprise at finding aides able to carry out these assignments well.

Reliability of the Behavior-Checklist Ratings

As described in Chapter III, the critical incidents collected from the four subject groups were used to develop a checklist of specific job behaviors. The 178 item checklist was used to obtain two independent evaluations of each aide's performance, in all departments and on

all shifts, by the two registered nurses who were most familiar with each aide's work and who felt best qualified to rate the aide's performance.

Two ratings were completed for each of 50 aides by the two nurses selected as the best and second best qualified raters for each aide, hence known as rater 1 and rater 2. Two second ratings, in which a page or more of items were unmarked, were discounted. For one other aide the second rating, but not the first, was completed and returned.

All of the day shift aides (N=25) were rated by day nurses with but one exception where a second rater indicated that she worked evenings and had spent just two shifts with the aide. All of the night aides (N=16) were rated by night nurses, whereas six first raters for evening aides (N=9) worked the evening shift, two rotated between shifts, and one worked days. It was also found that six of the nine second raters for evening aides were day nurses, and the other three were assigned to the evening shift. It was presumed that the raters who designated different shifts than their ratees had encountered these aides in common work situations by periodic inter-shift rotations, since this was a hospital personnel policy.

Table VIII shows the means, medians, ranges and rank order correlation of ratings for first and second raters for each shift, and for total combined shifts, for each of the following checklist scores: number "good"; number and per cent "good plus sometimes good"; number and per cent "poor plus sometimes poor"; number "not applicable"; and number "don't know" (excluding rho's for number "don't know" due to high number zero scores).

TABLE VIII

RATER RELIABILITY BY DAY, EVENING, AND NIGHT SHIFT AND TOTAL COMBINED SHIFTS FOR RATINGS OF 50 NURSE AIDES

	Total (N=50)		Days (N=25)		Evening (N=9)		Night (N=16)	
	Rater 1	Rater 2	Rater 1	Rater 2	Rater 1	Rater 2	Rater 1	Rater 2
Number Good								
Mean	106	97	102	110	108	74	111	89
Median	115	103	94	111	113	69	116	102
Range	16-158	13-157	16-158	30-157	72-132	21-148	39-138	13-139
Rho	.672***		.839***		.429		.652***	
Number Good Plus Sometimes Good								
Mean	122	115	122	131	119	96	124	102
Median	129	119	128	142	127	85	129	115
Range	25-165	30-163	25-165	48-163	72-151	38-149	51-147	30-144
Rho	.679***		.800***		.729**		.660***	
% Good Plus Sometimes Good								
Mean	80%	80%	78%	83%	85%	77%	80%	78%
Median	84%	85%	85%	86%	86%	80%	83%	84%
Range	19-97%	23-98%	19-97%	38-97%	65-94%	52-97%	40-88%	23-98%
Rho	.647***		.725***		.779**		.480*	
Number Poor Plus Sometimes Poor								
Mean	31	28	35	27	22	29	30	29
Median	25	23	26	24	22	28	27	18
Range	2-107	2-101	2-107	4-79	5-53	2-66	15-78	3-101
Rho	.606***		.666***		.663*		.385	

TABLE VIII (concluded)

	Total (N=50)		Days (N=25)		Evening (N=9)		Night (N=16)	
	Rater 1	Rater 2	Rater 1	Rater 2	Rater 1	Rater 2	Rater 1	Rater 2
% Poor Plus Sometimes Poor								
Mean	20%	20%	22%	17%	15%	23%	20%	22%
Median	17%	15%	16%	15%	13%	20%	17%	16%
Range	3-81%	2-77%	3-81%	3-62%	6-35%	3-48%	12-60%	2-77%
Rho	.642***		.700***		.650*		.495*	
Number Not Applicable								
Mean	16	18	10	9	21	23	23	28
Median	11	11	7	6	12	7	18	24
Range	2-89	4-90	2-40	5-19	8-89	4-90	9-69	5-68
Rho	.507***		.252		.367		.426*	
Number Don't Know								
Mean	8	16	10	10	14	30	0	17
Median	2	7	4	3	9	25	0	7
Range	0-91	0-92	0-91	0-92	4-53	1-79	0-2	0-94

*** P = .01
** P = .05
* P = .10

As shown in Table VIII, the number of "good" responses by raters for the day shift aides was not most reliable of all of the scores; a rho of .839, significant at the .01 level, represents a reliability figure comparable to, if not higher than, that usually obtained by rating procedures of this kind. Tiffin cited a study which revealed the reliability for a rating scale to be .59 and stated that: "This figure is rather typical of the reliability that may be expected of any merit-rating system based on two or three competent raters."(41)

The day shift raters consistently agreed better than raters for evening and night aides on four of the five behavioral scores, possibly because day shift personnel have greater opportunity to observe aides more closely than do personnel on other shifts.

The number "good plus sometimes good" was the most reliable score for the ratings of all aides on the three combined shifts, and for the night ratings separately, whereas the per cent "good plus sometimes good" score showed the most agreement between raters for the evening aides.

For the day shift, the second raters gave somewhat more "good" and "good plus sometimes good" responses than the first raters. For the night and evening shifts, the second raters gave many fewer "good" and "good plus sometimes good" responses than the first raters; however, these second raters gave correspondingly more "don't knows" and "not applicables", and only slightly more "poor" responses than the first raters. Thus, the night and evening raters, especially the second raters, probably felt less well acquainted with the aides' work than did the day shift raters.

Each of the three types of "good" scores were somewhat more reliable than the per cent "poor plus sometimes poor" scores, even though the latter discounts the effect of inter-rater differences in the number of items marked "don't know" and "not applicable", and hence in the total number of behaviors rated. This finding seemed to suggest that raters are less certain of the poor things aides do than they are of the desirable things, or else they perhaps share this information to a lesser degree.

Strikingly low correlations, as shown in Table VIII, were found for the number "not applicable" scores for each shift separately. This finding would lead one to question the care with which the ratings were done, or else suggest some misuse of "not applicable" for "don't know" in the raters' responses. The effect of "halo" ratings by some raters on items which actually were not applicable to the ward situation is also suggested by the low reliability of this score.

The night shift raters agreed the best of the three shifts on "not applicable" scores, probably because the first rater was the same person for all 16 night ratings, with but one exception, and therefore more intra-first-rater consistency in what behaviors were "not applicable" occurred. However, the fact that the first night rater answered all of the items with one of the behavioral responses or "not applicable", and gave zero "don't knows", undoubtedly reduced the reliability of the night ratings. Thus, for four of the five behavioral scores, the correlations for night ratings were lower than for the ratings on the other two shifts, while for the number "good" scores, the evening ratings were lowest.

As shown in Table VIII, roughly 20 per cent of the checklist behaviors, on the average, were noted to be performed poorly or sometimes poorly with a wide range of individual rating differences. The evening raters gave fewer extremely high "poor" ratings, although their means and medians were roughly comparable to those of the day and night raters.

Most of the scores showed skewing; this was most marked for "don't know" and "not applicable", where a large number of low tallies predominated. In general, the scores were grouped at the low side of the mean, excepting scores for number "good plus sometimes good" and per cent "good plus sometimes good" which were skewed to the left (high side) of the mean.

Validity of the Behavior-Checklist Ratings

A comparison of "excellent", "satisfactory" and "inferior" global evaluations of the aides' performance shown in Table IX, revealed that, for each shift, the second raters gave many more "excellent" and fewer "satisfactory" overall ratings than first raters, while first and second raters gave about the same number of "inferiors".

TABLE IX

NUMBER "EXCELLENT," "SATISFACTORY," AND "INFERIOR" GLOBAL EVALUATIONS OF 50 NURSE AIDES ON DAY, EVENING, AND NIGHT SHIFT AND TOTAL COMBINED SHIFTS BY FIRST AND SECOND RATERS

Type of Global Evaluation	First Rater				Second Rater			
	Day Aide Ratings	Evening Aide Ratings	Night Aide Ratings	Total Ratings	Day Aide Ratings	Evening Aide Ratings	Night Aide Ratings	Total Ratings
Excellent	8	3	3	14	13	4	11	28
Satisfactory	15	5	12	32	10	3	3	16
Inferior	2	1	1	4	2	2	2	6
Total	25	9	16	50	25	9	16	50

The relationship between the global ratings of effectiveness and checklist scores was observed by compering the results of two contingency tables, thus noting whether the checklist criterion accurately ranked the aides from best to poorest. However, in order to test the results observed in Table IX by chi-square, the "satisfactory" global ratings were combined with the "inferiors", as shown in Table X, because of low expected frequencies for "inferior" ratings alone.

TABLE X

COMPARISON OF FIRST AND SECOND RATER AGREEMENT ON "EXCELLENT" AND "SATISFACTORY AND INFERIOR" GLOBAL EVALUATIONS OF 50 NURSE AIDES

			First Rater Global Evaluations		
			"Excellent"	"Satisfactory and Inferior"	Total
Second Rater Global Evaluations	"Excellent"	fo	11	17	28
		fe	(7.8)	(20.2)	
	"Satisfactory and Inferior"	fo	3	19	22
		fe	(6.2)	(15.8)	
	Total		14	36	50

$X^2 = 4.12$ df = 1 P = between .02 and .05

Although not apparent in Table X, it was found that for all of the paired raters' "excellent" global evaluations, no corresponding "inferior" ratings were noted. Of the 20 overall ratings on which the raters disagreed, the first raters gave 17 of these aides a "satisfactory" evaluation to whom the second raters gave "excellents", and three aides given "satisfactory" evaluations by second raters were judged "excellent" by first raters.

Table XI shows the results of a comparison of first and second raters number "good" checklist scores falling above and below the median from ratings of the 50 aides. Thirty-six agreements and 14 discrepancies were noted.

TABLE XI

COMPARISON OF FIRST AND SECOND RATER AGREEMENT ON NUMBER "GOOD" CHECKLIST SCORES FALLING ABOVE AND BELOW THE MEDIAN FROM RATINGS OF 50 NURSE AIDES

			First Rater Number "Good" Scores		Total
			Above Median	Below Median	
Second Rater Number "Good" Scores	Above Median	fo	18	7	25
		fe	(12.5)	(12.5)	
	Below Median	fo	7	18	25
		fe	(12.5)	(12.5)	
	Total		25	25	50

$X^2 = 9.86$ df = 1 P = less than .01

A stronger agreement was noted between the raters' number "good" scores falling above and below the median than between their global ratings, although the observed results of both comparisons were significant, as shown by X^2 values in Tables X and XI.

Since it would not be expected that all of the aides who ranked above the median would be "excellent", it seemed unreasonable to test the agreement of number "good" scores above and below the median with global ratings by a contingency table. However, of the 14 aides given "excellent" evaluations by first raters shown in Table X, three ranked below the median for their respective shifts, whereas seven of these aides would be expected to rank below the median by chance alone. Six of the 14 "excellent" aides ranked among the eight highest in number "good" scores, and nine of the 14 were among the fourteen highest in

number "good" scores. For number "poor plus sometimes poor" scores, eight of the 14 "excellent" aides ranked among the lowest twelve.

For one of the three globally "excellent" aides who were below the median in number "good" scores, it was observed that 51 per cent of the checklist items were marked "don't know" by the first rater. Since the rater indicated a 16 month period of job acquaintance with the aide, it would seem that she either was lacking in confidence and overly cautious in her rating, or else knew surprisingly little about the aide's performance.

Of the four aides rated "inferior" by first raters, three of them ranked among the highest four scores in number "poor plus sometimes poor". The fourth globally "inferior" aide was closer to the median for her shift in number "good" scores than were the other three who had correspondingly higher scores for number "sometimes good" and "not applicable".

A greater variability was observed in the checklist scores than in the global evaluations, the latter being grouped at "satisfactory" and "excellent" with very few "inferiors" noted.

It was not expected that the checklist rating procedure would give a perfect estimate of job success, but that it might have value comparable to, or result in some improvement over, methods that have preceded it. How much correlation there is between checklist scores and global evaluations ultimately will be determined by the usefulness of the checklist in further actual application. If aides should perform better, on the whole, when the results are used to help with such problems as selection, placement and training programs, the validity of the criterion

will have been determined further and data will be available for cross-validation.

Major Category Behavior Ratings

The per cent occurrence of a given checklist response by day, evening and night shift first raters in relation to the actual frequency of rating items in each major category is shown in Table XII.

TABLE XII

COMPARISON OF DAY, EVENING, AND NIGHT SHIFT FIRST-RATER CHECKLIST RESPONSES BY PER CENT MENTION IN MAJOR CATEGORIES FOR RATINGS OF 50 NURSE AIDES

Type of Item Response	Per Cent Frequency of Mention in Category I (10 Items)			in Category II (29 Items)		
Shift:	Day	Eve	Night	Day	Eve	Night
Good	* 56%	63%	61%	57%	63%	60%
Sometimes Good	5	4	5	12	6	11
Poor plus Sometimes Poor	27	12	29	22	19	23
Not Applicable	9	16	5	6	6	6
Don't Know	3	5	0	2	6	0
Total	100%	100%	100%	99%	100%	100%

TABLE XII (concluded)

Type of Item Response	Per Cent Frequency of Mention in Category III (7 Items)			in Category IV (60 Items)		
Shift:	Day	Eve	Night	Day	Eve	Night
Good	28%	33%	49%	54%	56%	58%
Sometimes Good	18	4	8	18	11	9
Poor plus Sometimes Poor	16	6	14	18	14	14
Not Applicable	22	22	28	4	15	19
Don't Know	15	35	0	5	5	0
Total	99%	100%	99%	99%	101%	100%

Type of Item Response	Per Cent Frequency of Mention in Category V (61 Items)			in Category VI (9 Items)		
Shift:	Day	Eve	Night	Day	Eve	Night
Good	61%	68%	71%	62%	71%	69%
Sometimes Good	6	3	3	12	6	8
Poor plus Sometimes Poor	20	8	14	23	15	22
Not Applicable	5	10	12	0.4	6	2
Don't Know	7	11	0.2	2	2	0
Total	99%	100%	100.2%	99.4%	100%	101%

* Read table as follows: 56 per cent of all the checklist items for Category I were checked "good" by first raters on the day shift.

As shown in Table XII, the aides' performance on each shift was noted to be well over 60 per cent "good" or "sometimes good" for five of the six major categories. Roughly one-fourth of the behaviors in Category III (Emergency Functioning) were found to be "not applicable" on each of the three shifts.

About the same per cent of "poor plus sometimes poor" performance was noted for aides on the day and night shifts in each of the categories. Evening raters tended to rate somewhat more performance "good", and much less "poor", in each category than did day and night raters.

The highest per cent of "poor plus sometimes poor" aide behavior on the day and night shifts shown in Table XII was observed in Category I (Ethics and Administration; 27 per cent and 29 per cent respectively), probably because almost one-half of the checklist items in this category concerned the aide's leadership and administrative ability which was not expected by the participant groups as standard performance for aides (as inferred from their mention of "good" versus "poor" incidents). For aides on the evening shift, the most "poor plus sometimes poor" behavior was found to be in Category II (19 per cent) which concerned the aide's job relationship with coworkers; the second highest per cent occurrence of poorly performed behaviors for aides on the day and night shifts was noted in this same category and in Category VI (Overall Competence).

It would seem that areas in which poorly performed behaviors occurred most frequently would be those most in need of attention in training programs. For example, twenty per cent of the items in

Category V (Technical Skill) were noted to be performed poorly by aides on the day shift. Since technical skill behavior was the most heavily emphasized in incidents described by all three nursing groups, and thus presumably of greatest importance from the viewpoint of the nursing groups, it would seem to follow that increased training and supervision could be profitably directed to this major area of job performance. Further analysis of subcategory checklist items would isolate the specific aspects of job activity which aides find to be of greatest difficulty.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was concerned with defining more clearly the role of the nurse aide in terms of the behaviors which are deemed crucial to job success from the vantage point of persons most concerned with, and aware of, what aides do, thereby providing a criterion measure of nurse aide performance. The purpose of the study was twofold: (1) to identify possible differences among patients, head nurses, staff nurses and nurse aides in their perception of the role of an aide; and (2) to develop a checklist criterion of nurse aide performance for use in evaluation and in identification of job areas in need of greater emphasis in training procedures.

The critical incident technique was the method of data collection; 504 descriptions of specific, actually observed aide behaviors, deemed especially effective and especially ineffective, were collected in a general county hospital from four groups of subjects, namely: head nurses (including assistant head nurses); staff nurses (including evening and night shift charge nurses); aides; and patients. Critical incidents were written by nursing personnel in prepared data collection booklets in group interview situations for which standard instructions

were used. Incidents were described orally by patients and recorded verbatim by the interviewers in individual interviews.

One half of the incidents were used to develop a category system in which related behaviors were grouped and defined in operational terms of job activity. As new behaviors were observed in the incidents, additional categories were developed or original categories redefined. The process was continued until all incidents were classified into distinguishable performance areas. Adequate inter-judge reliability in categorizing was demonstrated using the remaining half of the incidents. Six major categories and 23 subcategories of critical job requirements ultimately were defined in terms of effective and ineffective critical job behaviors. (Appendix K)

The four subject groups were compared on the relative number of incidents described in each category and on the relative emphasis on effective and ineffective incidents in each category. Group comparisons revealed that the three nursing groups agreed on the overall value of the major behavioral categories, with particular emphasis on the aide's ability in the area of technical skill, but differed in their emphasis on specific aspects of the aide's work within major areas. Incidents reported by patients were more like the descriptions given by aides than those of head nurses and staff nurses, in that patients emphasized almost exclusively the aide's effectiveness in interpersonal relations with patients, and gave prime consideration to kindness and gentleness in the performance of care, reassuring and sympathetic attention, offering extra care, and personal errands and services.

A 178 item checklist of specific job behaviors was developed from

the incidents and applied to employed aides for performance evaluation. Inter-rater reliability was evaluated through independent ratings by the two nurses who were most familiar with each aide's work. Checklist scores were compared with the raters' global evaluations of aide performance (as an outside criterion of effectiveness) to determine the validity of the checklist as a criterion measure.

In retrospect, the following two findings substantiated the hypotheses: differences among patients, head nurses, staff nurses and aides in their perception of the aide's job role were identified in several different categories as defined by the critical incidents submitted in this study; and adequate inter-rater reliability was demonstrated by the checklist, thus providing a criterion measure for performance evaluation and identification of areas in need of greater emphasis in training programs.

Conclusions

From the findings of this study the following conclusions have been drawn:

1. The critical incident technique is a useful procedure for definition of critical job requirements and for performance evaluation of nurse aides in a general hospital.
2. Evaluation of aide performance is customarily done by head nurses and other supervisory personnel. This study has shown the value of seeking critical incidents (to be used for criterion measures from somewhat different vantage points) from other resource groups, such as, from staff nurses and aides, and from the recipients of nursing,

namely, the patients.

3. The area of behavior which the patients deemed to be of greatest importance was concerned with the aide's personal relations with patients. Since a high per cent of the nursing service is now being performed by aides, it would follow that an important aspect of aide training would be that of developing skill in establishing effective interpersonal relations with patients.

4. In view of the high per cent occurrence of good aide behavior observed in the performance rating results, it might be concluded that the raters had a tendency to overrate, that the aide's performance in this setting was in reality of unusually good quality, or that there were defects in the rating tool itself. Since all of the "poor" behaviors had been actually observed in this same setting, it would appear that the aides were not unusually competent but that the head nurses and supervisors of aides probably do not have opportunity to observe some of the crucial behaviors.

Recommendations for Further Study

1. A comparable study should be undertaken for a different group of nursing personnel in the same setting to provide a basis for comparative analysis of critical job behaviors. Such a study might ascertain the areas of similarity and dissimilarity between the job behaviors of registered professional nurses performing staff nursing, licensed practical nurses, and nurse aides.

2. Since in other studies patients have emphasized a wider variety of behaviors, the critical incident technique should be applied to general hospital aides in another setting, preferably in a private hospital, to determine whether the findings of this study can be generalised more widely or if they are inherent only in this setting.
3. The checklist should be utilized as a criterion measure of job performance for a sufficient period of time to justify or negate its usefulness. The report of further utilisation should then be analysed, evaluated, and reduced to writing.
4. An item analysis should be made of the checklist to determine the items that fail to discriminate between effective and ineffective job performance, and to identify the specific behaviors most often performed poorly as a guide to specific job activities in need of increased training and supervision.
5. Tools should be devised which could be used as pre-employment tests for predicting potentialities for successful aide performance as measured by the checklist.

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APPENDIX A

SAMPLE PAGE OF PILOT PROJECT BOOKLET FOR COLLECTION OF "GOOD" CRITICAL INCIDENTS

Page Number _____

P1

Think of the most recent time when you saw an aide or (non-licensed) practical nurse do something which you thought was such an especially fine job that she certainly deserved to be praised and told how good it was. Describe a specific situation showing definitely good work.

Tell exactly what happened. What was actually going on at the time?

Exactly what did she do or say?

APPENDIX B

SAMPLE PAGE OF PILOT PROJECT BOOKLET FOR COLLECTION OF "POOR" CRITICAL INCIDENTS

Page Number _____

P1

Think of the most recent time when you saw an aide or (non-licensed) practical nurse do something which you thought was a pretty poor job - the kind of thing which, if repeated, would definitely show that she was not an effective aide or practical nurse; the kind of thing that you think a very good aide or practical nurse should never do. Describe a specific situation showing definitely poor work.

Tell exactly what happened. What was actually going on at the time?

Exactly what did she do or say?

APPENDIX C

PILOT PROJECT FACE-SHEET FOR PERSONNEL DATA COLLECTION BOOKLET

PLEASE PRINT:

Name _____

Position Title _____

Ward _____

Length of Time on Ward _____

Hours of Work _____

Date of Employment _____

APPENDIX D

CRITERIA FOR PERSONNEL PARTICIPATION IN PILOT PROJECT AND MAJOR STUDY

1. Employed by the hospital for a minimum of two months.
2. Able to verify recognition of nurse aides on the ward.
3. Available and willing to submit incidents during the hours scheduled for interview.

APPENDIX E

REVISED CRITERIA FOR PATIENT PARTICIPATION

1. Have permission to participate from the medical staff administration.
2. Hospitalized for a minimum of five days on a medical and/or surgical ward; three days on the obstetrical unit.
3. Not critically ill nor under sedation.
4. Able to communicate.
5. Not scheduled for treatment at the time of, nor immediately following, the interview.
6. Permitted, and can currently tolerate, ambulatory or wheelchair privileges.
7. Able to verify recognition of nurse aides on the ward.
8. Willing to submit incidents.

APPENDIX F

INTERVIEW GUIDE FOR COLLECTION OF DATA

1. Sponsorship of the Study: indicate on what authority the interview is being held.

2. Purpose of the Study: a statement that the study is being made to describe the requirements of the job of the nurse aide.

3. Identification of the Aide: determine the observer's knowledge of "who are nurse aides."

4. The Group Being Interviewed: forestall a "But, why ask me?" feeling by pointing out that each member of said group is in an unusually good position to observe and report on this job; mention special qualifications of members.

5. The Anonymity of the Data: especially in the collection of information about ineffective behavior, convince the observer that his report cannot harm the person reported on in any way.

6. Safeguarding the Objectivity of the Method: solicit cooperation of the observers in assuming individual responsibility for remaining noncommittal to direct inquiries regarding the method used and the responses submitted.

APPENDIX G

SAMPLE PAGE OF REVISED BOOKLET FOR COLLECTION
OF "GOOD" CRITICAL INCIDENTS

Page Number _____

Think of a recent time when you saw an Aide I do something which you thought was an especially good thing to do - the kind of thing that definitely was effective. Something that you think the aide deserved to be praised about, and told how good it was. Describe a specific situation showing definitely good work.

Tell exactly what happened. What was actually going on at the time?

Exactly what did the aide do or say?

APPENDIX H

SAMPLE PAGE OF REVISED BOOKLET FOR COLLECTION
OF "POOR" CRITICAL INCIDENTS

Page Number _____

Think of a recent time when you saw an Aide I do something which you thought was a pretty poor thing to do - the kind of thing that definitely was not effective. Something that you think an Aide I should never do. Describe a specific situation showing definitely poor work.

Tell exactly what happened. What was actually going on at the time?

Exactly what did the aide do or say?

APPENDIX I

REVISED FACE-SHEET FOR PERSONNEL DATA COLLECTION BOOKLET

PLEASE PRINT:

Name _____

Position Title _____

Ward _____

Date of Assignment to Ward _____

Shift _____

Date of Employment _____

Today's Date _____

APPENDIX J

FACE-SHEET FOR PATIENT DATA COLLECTION BOOKLET

PLEASE PRINT:

Name _____

Age _____

Sex _____

Ward _____

Room Number _____

Date of Admission _____

Today's Date _____

APPENDIX K

CATEGORIES OF EFFECTIVE AND INEFFECTIVE CRITICAL
JOB BEHAVIORS FOR NURSE AIDES

I. Ethics and Administration

1. Divulges information to outsiders, and offers direct advice or diagnostic information to patient or family which is clearly improper; gossips and criticizes staff to patients; talks or laughs about patients where they can overhear; talks in loud, unrefined manner, and engages in inappropriate topics of conversation with patients; deliberately falsifies records and reports.

2. Acts as team leader, assists with charge duties or assumes these in absence of charge nurse, organizes lists and work of others; takes responsibility for arranging to correct mistakes according to knowledge from Kardex.

II. Staff Interrelationships

1. Assists doctors or nurses beyond usual duties; volunteers extra help or errand for sake of total ward situation (as different from giving help to single staff member in performance of duties as in #4 below).

2. Orients, welcomes, explains policies and procedures to new aides or demonstrates procedure for aides, students, LPN's; instructs doctors and nurses.

3. Contributes to reduced staff tension: friendliness, pleasant interaction, lack of irritability with colleagues; has to do with manner of exchanges and not work per se.

4. Helps staff and channels information appropriately:

   a. Offers to help other aides and does so efficiently to avoid duplication - vs. - Avoids duties, leaves work for others or by carelessness or untidiness adds to others' work; refuses to help others when asked to do duty.

   b. Reports off work to proper person - vs. - Does not follow correct channels of staff communication.

APPENDIX K (continued)

5. Suggests innovations in routines or procedures or instrumentation to ease or make more efficient the work of all.

6. Accepts supervision gracefully; is alert, interested, attentive in learning situations - vs. - is argumentative, extremely defensive, or insolent when questioned or corrected; flaunts authority.

III. Emergency Functioning

In acute emergency, observes and recognizes situation, takes competent action quickly, reports or sends for help, assists doctor or nurse in coping with; includes reference to any B.P., pulse, or respiration which ceases, patient in acute cardiac or respiratory distress; frank hemorrhage; seizures; insulin or diabetic reactions; actual deliveries or abortions; falls from bed by patient with injury (where omission of safety precautions are not inferred as in V-4); any other that is indicated as an emergency, or reported like an emergency. Not all aspects (see, act, report) are necessarily involved - that is, may not act if it would be inappropriate. Is more extreme than observation of less acute symptoms or changes in signs (V. Technical Skill).

IV. Interpersonal Relations with Patients

1. Is kind, sympathetic, and reassuring:

   a. Is patient, pleasant, gentle, kind, interested, encouraging, persuasive, and tactful in manner and speech, especially with irritable or obstreperous patients, in the performance of duties - vs. - speaks sharply, insults, badgers, shouts, uses rough actions which may or may not cause physical injury or discomfort; includes use of these to manage patient's behavior, gain his cooperation. Includes sensible flexibility in adherence to rules.

   b. Talks to patients to divert them from troubles, cheers them regarding improvement, condition, listens to troubles, is sympathetic and warm, comforts regarding pain and worry, gives personal attention (including welcome and orienting to ward); provides diversionary activities; gives comforting reassurance (as different from more factual information in #4 below).

2. Responds to patient's requests for attention or service (including requests for physical or personal care) - vs. - refuses requests, is slow in acknowledging, or evades requests (includes lights).

APPENDIX K (continued)

3. Offers to patient, or via staff, extra time, technical or personal care (with or without a direct request) out of concern for patient's comfort, morale and looks (includes extra coffee, diet substitutes, and the like) - (observing condition and need for care or action without heavy emphasis on patient's comfort = V-2 or 3b) - vs. - is neglectful, careless or incomplete in care, with emphasis on patient's emotions or comfort (as opposed to technical skill or physical condition).

4. Offers appropriate factual information to patient or family, health teaching, reassurance, helps to get information from others including family - vs. - gives or comments audibly regarding upsetting but not unethical information or omits giving information (for example, where being taken, reasons for rules, clarification of misunderstandings, discharge instructions).

5. Offers to perform personal errands and chores, that is, gets cigarettes, personal items, drinks, makes phone calls, reads letters - vs. - is resentful of the time and imposition.

V. Technical Skill

1. Observes requirements of sterility and medical asepsis (includes cross-contamination from patient-to-patient, staff-to-patient, patient-to-staff, or staff-to-staff via persons or objects).

2. Is technically competent in the performance of specific treatments, procedures or care for a single patient, corrects mistakes and problems, uses ingenuity - vs. - makes error in a specific treatment, procedure or aspect of care.

3. Omits activity and observes patient's condition:

   a. Omits specific treatments, procedures or care for a single patient or an aspect of such (as different from proceeding in error in V-2).

   b. Observes and investigates patient's condition and takes appropriate action and/or reports and/or records. Suggests extra care aide could do to alleviate observed condition. (Less acute than III. Emergency Functioning - less focus on patient's reaction than in IV-3.)

4. Observes safety precautions for patient and staff (other than sterility, correct treatments).

APPENDIX K (continued)

VI. General Competence

Carries out overall assignments accurately, promptly and thoroughly, including all assigned treatments and procedures, with observations of conditions calling for special attention; seeks out help when needed; reports and records accurately and completely; organises equipment, materials, supplies, lists, and the like to maximize efficiency - vs. - doesn't complete assignments nor report nor chart; confuses records, reports, requisitions (as different from falsifying in I.).

APPENDIX L

LETTER WHICH ACCOMPANIED CHECKLISTS GIVEN TO HEAD NURSES, AND NIGHT SUPERVISOR AND CHARGE NURSES

August 30, 1960

Dear Head Nurse: (or Night Supervisor or Charge Nurse)

Thank you for your help in testing the nurse aides this week. We hope the tests will help us to learn more about what a person needs in order to be a good aide. To do this, we need some indication of how good a job each aide does, and so would very much appreciate your help in rating all of the aides.

The attached checklist is the product of the actual examples of Nurse Aide I behaviors observed on the job and described to us by you and your staff early this spring.

To be of value as an evaluation tool, we need to know whether or not the items really do differentiate good performance from poor performance - i.e., good aides from poorer aides. With your help this becomes possible.

We ask that you select two nurses to rate, <u>independently</u> (on separate forms and without discussion between them), each Aide I on your ward (all shifts); two nurses who know the aide's job performance best, and who feel best qualified to rate her. On some wards and for some aides, this might be the head nurse and a team leader; on another it might be a staff nurse and the assistant head nurse, etc. Who can best do the ratings can be decided by you in consultation with your nursing staff.

Please have the raters indicate, in the space provided at the top of the first page, which one of them is the <u>most</u> familiar with the aide's work, and which one is less acquainted with her work.

We realize that this request places an additional burden on your already busy ward schedules. We hope, however, that as a result of your efforts, we will be able to give back to you some pertinent information about aide evaluation and selection.

Thank you,

Peggy Brunkow

Jeanne S. Phillips, Ph.D.

P.S. The forms can be returned in the enclosed envelope to Dr. Jeanne S. Phillips, OPC; Peggy Brunkow, OPC; or Mrs. McWilliams, Night Supervisor. We hope that they can be completed within several days.

APPENDIX M

CHECKLIST OF AIDE I BEHAVIORS,
INCLUDING RATERS' INSTRUCTIONS
AND SUPERIMPOSED SCORING KEY

Directions For Use Of The Checklist

After reading each description of a behavior an Aide I might show, place an "X" opposite the statement under the column which best applies to the aide you are rating.

Please check all statements. The following key will help you in checking those items about which you may be undecided:

1. Answer either "Yes" or "No" to as many of the descriptions as you can. A partly applicable statement can be checked "Sometimes."

2. If a particular behavior is one that the aides on your ward would never have an opportunity to demonstrate, check under the column "Not Applicable to Ward Situation."

3. If you cannot check a statement "Yes," "No," or "Not Applicable" because of insufficient observation of the Aide on the particular behavior, check under the column "Do Not Know."

Thank you for giving so much of your time and effort in completing the Checklists. We hope that you will be interested in learning with us more about evaluation of aide performance.

APPENDIX M (continued)

Aide's Name _____ Date _____ Ward _____

Indicate by X: Best qualified rater _____ Second best qualified rater _____

Checklist of Aide I Behaviors

Indicate, by placing an "X" under the appropriate word to the right of each statement, which one best describes the aide's behavior.

	Yes	No	Sometimes	Not Applic. to Ward Sit.	Don't Know
Example: Registered nurses prescribe medications		X			
I. ETHICAL AND ADMINISTRATIVE					
1. On occasion has falsified clinical records and reports; e.g., T.P.R. sheets, nurses notes	P	G	SP*		
2. Divulges diagnostic information or offers direct advice to patients or families	P	G	SP		
3. Gossips about or criticizes staff to patients or family	P	G	SP		
4. Talks or laughs about patients where they can overhear	P	G	SP		
5. Talks in loud unrefined manner	P	G	SP		
6. Engages in inappropriate topics of conversation with patients; e.g., own personal problems, improper stories	P	G	SP		
7. Has functioned as a team leader when necessary to meet the demands of the ward.	G	P	SG		
8. On occasion has organized and directed the work of others	G	P	SG		
9. Has assisted with charge duties or assumed these when necessary in absence of charge nurse	G	P	SG		
10. Takes responsibility for arranging to correct mistakes according to knowledge from Kardex; e.g., holds wrong diet tray	G	P	SG		

* Check columns should be interpreted as follows: For item #1 above, a "yes" response indicated "poor" (P) behavior; "no" response indicated "good" (G) behavior; and "sometimes" response was considered to indicate "poor" behavior even though demonstrated only sometimes, hence "sometimes poor" (SP).

II. STAFF INTERRELATIONSHIPS

	Yes	No	Sometimes	Not Applic. to Ward Sit.	Don't Know
11. Volunteers extra time for ward housekeeping duties	G	P	SG		
12. Volunteers to assist doctors with locating equipment and with diagnostic procedures	G	P	SG		
13. Volunteers to go to another department in need of help	G	P	SG		
14. Makes ward rounds when nurse is unavoidably detained with patient or doctor	G	P	SG		
15. Facilitates pleasant adjustment of new staff members; e.g., personal interest, accompanies to meals	G	P	SG		
16. Orients new aides, LPN's, and students to physical facilities, policies, and procedures	G	P	SG		
17. Instructs doctors and nurses about routine procedures and unfamiliar equipment	G	P	SG		
18. Is abrupt, antagonistic or intolerant in response to requests for information re: procedures or routines from staff members	P	G	SP		
19. Reduces staff tension in a stressful ward situation with appropriate humor	G	P	SG		
20. Shows resentment toward preceding shift because of work left undone	P	G	SP		
21. Offers help to others at neglect of own assigned work	P	G	SP		
22. Confuses clinical data by careless handling of specimen requisitions	P	G	SP		
23. Takes accurate verbal or written phone messages and refers to proper person	G	P	SP		
24. Is willing to carry out own part in cooperative staff efforts; e.g., assists in turning helpless patients	G	P	SP		
25. Jeopardizes ward efficiency by repeated absenteeism from work	P	G	SP		
26. Neglects responsibility for answering call lights	P	G	SP		
27. Leaves bed changes for others by avoiding to check incontinent patients	P	G	SP		
28. Shows more interest in housekeeping and managerial duties than in caring for patients	P	G	SP		
29. When going off work, neglects to inform nurse of additional care required for patients; e.g., leaving patient on bedpan	P	G	SP		
30. Works cooperatively by taking appropriate measures to avoid duplication of another's work	G	P	SG		

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
31. Disrupts ward organization by repeated tardiness reporting to work	P	G	SP		
32. Suggests innovations or improvisions of routines or procedures to make more efficient the work of all staff members	G	P	SG		
33. Reports off work to proper person	G	P	SP		
34. Gives reports of patients' conditions directly to the doctor	P	G	SP		
35. Requests or takes verbal orders from doctors	P	G	SP		
36. Asks for opportunities to do new procedures	G	P	SG		
37. Takes undue advantage of the charge nurse's absence from ward; e.g., congregates with others for a smoke	P	G	SP		
38. On occasion refuses to help others when requested to do so	P	G	SP		
39. Shows interest in self-development by questioning and alert attention in learning situations	G	P	SG		
III. EMERGENCY FUNCTIONING					
40. Remains with and institutes adequate protective measures for patients during seizures and reports pertinent observations	G	P	SG		
41. Quickly gathers equipment and assists with oxygen administration in emergencies	G	P	SG		
42. Upon discovery of cardiac emergencies, immediately checks vital signs and reports findings	G	P	SG		
43. Recognizes signs and symptoms of Insulin Shock and Diabetic Coma	G	P	SG		
44. Delivers babies when necessary in absence of doctor or nurse	G	P	SG		
45. Administers artificial respiration when indicated in emergency situations	G	P	SG		
46. Applies first aid techniques to control external hemorrhage due to accidental injury of patients	G	P	SG		

IV. INTERPERSONAL RELATIONS WITH PATIENTS

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
47. Tells helpless patients that they cause physical strain and injury to staff who move and position them	P	G	SP		
48. Insults or badgers patients about appearance, weight, hygiene, handicaps or illness	P	G	SP		
49. Speaks kindly and pleasantly in response to demands, interruptions, complaints, or retorts from patients	G	P	SP		
50. Shouts or raises voice at elderly and confused patients	P	G	SP		
51. Quarrels with patients	P	G	SP		
52. Succeeds in attempts to gain patients' cooperation and to alleviate their anxiety by appropriate verbal persuasion	G	P	SG		
53. Responds harshly and impatiently to patient's questions or attempts at conversation	P	G	SP		
54. Demonstrates gentleness and patience in physical handling of patients	G	P	SP		
55. Manifests repulsion toward unsightly wounds	P	G	SP		
56. Places personal interest and gain above patient's immediate needs; e.g., hurrying to coffee, lunch, meet with friends, get off work	P	G	SP		
57. Handles difficult patients roughly, impatiently, or unsafely	P	G	SP		
58. Instills feelings of confidence and self-worth in patients by unconditional acceptance of their physical limitations and dependency	G	P	SG		
59. Individualizes care by sensible flexibility in adherence to rules and expected routines	G	P	SG		
60. Intimidates patients by threats of punishment to gain their cooperation	P	G	SP		
61. Expresses anger with patients by use of profanity when unable to gain their cooperation	P	G	SP		
62. Allows for preferences and decisions of patients to help structure their plans of care	G	P	SG		
63. Conveys attitudes to patients of sincerity, enjoyment, and willingness in giving service to them	G	P	SP		

APPENDIX M (continued)

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
64. Evades or is slow in answering patients' call lights	P	G	SP		
65. Anticipates wants for attention or service by periodically checking with patients	G	P	SP		
66. On occasion excuses self from acting upon requests of patients on premise of being "too busy"	P	G	SP		
67. Acknowledges patients' requests promptly	G	P	SP		
68. On occasion has deliberately turned off unanswered call lights without ascertaining the needs of the patients	P	G	SP		
69. Transfers the feeling to patients that they must wait their turn for service	P	G	SP		
70. Refers requests to qualified staff members	G	P	SP		
71. Offers help to patients to solve problems presented by staff expectations for self-administered therapy; e.g., offers to assist patients with Sippy routines	G	P	SG		
72. Offers extra time and attention to make patients more comfortable for meals	G	P	SG		
73. Offers extra time to bedfast patients to comb neglected, unkept hair	G	P	SG		
74. Takes note of improper placement of nasal tube adhesive strips and adjusts these for patient's comfort and appearance	G	P	SG		
75. Offers PRN enemas to patients for relief of stated bowel distress	G	P	SG		
76. Overlooks opportunities to assist patients who appear to be tiring or weak while up walking in the hall	P	G	SP		
77. Offers appropriate diet substitutes, second cups of coffee, or additional servings of food in accord with patient's preferences	G	P	SG		
78. Gives special attention to patients' appearance and comfort in preparation for visitors	G	P	SG		
79. Overlooks opportunities to straighten bed linens for patients who are up in readiness for their return to bed	P	G	SP		
80. Offers extra back rubs for comfort of patients	G	P	SG		
81. Gives special attention to patients' immediate personal environment; e.g., tidying up beside stand, winding clock	G	P	SG		

APPENDIX M (continued)

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
82. Explains and clarifies for patients what they can expect to happen during treatments and diagnostic tests	G	P	SG		
83. Interprets the meaning of unfamiliar medical terms used by staff members at patient's bedside	G	P	SG		
84. Teaches positive health by providing for, and encouraging, good hygienic habits	G	P	SG		
85. Gives upsetting or unsolicited personal opinions to patients regarding effectiveness of some medications ordered for them	P	G	SP		
86. Prepares patients for discharge without explaining discharge orders, medication schedules, clinic appointments, etc	P	G	SP		
87. Explains hospital policies and regulations to patients upon admission	G	P	SP		
88. Tries to elicit a patient's reasons for wanting to sign himself out of the hospital	G	P	SG		
89. On occasion has revealed to patients unpleasant information concerning their relatives	P	G	SP		
90. Alleviates patients' concern and worry about possible problems at home by appropriate referrals or suggestions; e.g., social service, baby care agencies, telephone calls via the nurse	G	P	SG		
91. Expresses uselessness to patients of certain treatments ordered for them	P	G	SP		
92. Informs and prepares patients in advance of unexpected tests and x-rays off the ward	G	P	SG		
93. Teaches appropriate exercises to patients with C.V.A.'s	G	P	SG		
94. Helps resistant patients to understand the purpose of restraints and side rails	G	P	SG		
95. Demonstrates to new mothers how to hold and feed their babies	G	P	SG		
96. Offers to make personal phone calls for patients	G	P	SG		
97. Offers to purchase commodities (candy, cigarettes, drinks) for patients on return from lunch or coffee breaks	G	P	SG		
98. Offers to obtain for patients their personal belongings when needed or requested	G	P	SG		

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
99. Offers to assist patients who are unable to read their incoming mail	G	P	SG		
100. Neglects to introduce new patients to other roommates in the ward	P	G	SP		
101. Orients new patients to ward facilities	G	P	SG		
102. Introduces new patients to available staff members upon admission	G	P	SG		
103. Recognizes patients' concern for their condition, surgery, therapy, etc., and takes time to give comforting reassurance	G	P	SG		
104. Utilizes physical comfort measures and warm personal contact to alleviate patients' fear and loneliness	G	P	SG		
105. Provides diversional materials to patients in accord with their interests and educational level	G	P	SG		
106. Converses and socializes with patients usually in areas of aide's own personal concern or self-interest	P	G	SP		
107. Acknowledges the significance of special occasions to patients, when known about; e.g., patients' birthday, etc	G	P	SG		
V. TECHNICAL SKILL					
108. On occasion places or leaves contaminated dressings in clean areas on ward ...	P	G	SP		
109. Washes own hands between each patient contact	G	P	SP		
110. On occasion forgets to wear mask and sterile gloves to change sterile dressings	P	G	SP		
111. Interchanges pillows from one patient to another when needed	P	G	SP		
112. On occasion has used urinary catheters or instruments which were known to be inadvertently contaminated	P	G	SP		
113. Interchanges or mixes up drinking water pitchers enroute to patients after being refilled	P	G	SP		
114. Handles gowns properly when entering and leaving isolation units	G	P	SP		
115. Removes tape marks from wound area when changing dressings	G	P	SP		
116. Overlooks the need for special oral hygiene	P	G	SP		

APPENDIX M (continued)

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
117. Permits activity for patients on strict bed rest at patients' requests; e.g., bathing, feeding, shaving self	P	G	SP		
118. Takes note of defective equipment and brings to the attention of proper person	G	P	SG		
119. Clamps off drainage tubes at will to facilitate ease in caring for patients	P	G	SP		
120. Proceeds, when in doubt, without clarifying Kardex notation or assignments	P	G	SP		
121. Tests temperature of solutions for soaks and internal irrigations	G	P	SP		
122. Brings to the attention of the proper person the need of constant attendance for one of a group of assigned patients	G	P	SG		
123. On occasion has disregarded patients' complaints that a wet pack was too hot	P	G	SP		
124. Shows ingenuity in preventing excoriation of the skin due to persistent incontinent stool or urine	G	P	SG		
125. Allows patients to sit up immediately following spinal anesthesia upon the patients' request	P	G	SP		
126. On occasion has left patients alone with rectal thermometer in place	P	G	SP		
127. Inadvertently removes or disregards uneaten food on diabetic trays which requires replacements	P	G	SP		
128. Has boiled thermometers along with other articles when discontinuing isolation	P	G	SP		
129. Recognizes apparent membrane injury by interrupting assigned tracheal suction of patients when unexpected bloody mucus returns	G	P	SG		
130. On occasion has forgotten to replace inner tracheotomy cannula after cleaning	P	G	SP		
131. Is attentive to patients' need for frequent turning; e.g., q 2 hr. orders	G	P	SP		
132. Gives special attention to accurate listing of patients' belongings on clothes sheets upon admission	G	P	SP		
133. When in a hurry, consistently seeks adequate help to turn patients with spinal fusions, discs, or fractured hips, etc	G	P	SP		
134. Complains about tedious assignments requiring long periods of time without relief	P	G	SP		

APPENDIX M (continued)

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
135. Gives careful attention to indwelling catheters to insure an unobstructed flow of urine	G	P	SP		
136. Shows ingenuity in safely forcing fluids with difficult patients	G	P	SP		
137. Occasionally waits until the end of the shift to report over-due treatments not completed or carried out	P	G	SP		
138. Due to lack of knowledge of a care or treatment, occasionally omits it unquestioningly	P	G	SP		
139. Has omitted an order to weigh bed rest patients on basis of personal decision that patients should not get out of bed	P	G	SP		
140. Has omitted some q 2 hr. suctionings on the basis of personal decision that the patients didn't need it	P	G	SP		
141. Omits gavage feedings when prepared formula is not found in refrigerator	P	G	SP		
142. Takes responsibility to give "complete" bath to comatose patients	G	P	SP		
143. Marks intake and output records accurately	G	P	SP		
144. Aspirates levine tubes before giving gavage feeding	G	P	SP		
145. Reports to proper person when patients refuse meals	G	P	SP		
146. Protects patients by appropriate padding before applying leather cuff restraints	G	P	SP		
147. Gives special attention to changing soiled linens and gowns whenever noticed	G	P	SP		
148. Is attentive to oxygen supply in portable tanks being used	G	P	SP		
149. Takes responsibility to change nasal oxygen catheters at specified intervals	G	P	SP		
150. Is careless about leaving side rails down with confused and convulsive patients	P	G	SP		
151. Provides wheelchair or physical support for weak or debilitated patients when up	G	P	SP		
152. Reports to the proper person before leaving ward regarding patients in need of close observation when out of bed	G	P	SP		
153. Neglects to ascertain patients' physical condition before allowing them to be up unattended	P	G	SP		

APPENDIX M (continued)

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
154. Occasionally complains of back strains and muscle injuries following poor use of body mechanics or unwise manipulation of patients without adequate help	P	G	SP		
155. Appropriately supports and protects fainting patients; e.g., stays with patient, calls for help	G	P	SG		
156. Is alert to observations of bloody appearing stools and urine and reports findings	G	P	SP		
157. Reports unusual wound drainage noticed on external surface of dressings	G	P	SG		
158. Reports a patient's difficulty in swallowing	G	P	SG		
159. Observes and reports cyanosis, pulse and respiratory change of new post-op patient	G	P	SP		
160. Is astute to significant changes in patients' general condition from preceding day and reports findings	G	P	SG		
161. Recognizes untoward reactions to medications and reports the observations of such	G	P	SG		
162. Overlooks reporting observations of increase in vaginal bleeding	P	G	SG		
163. Neglects to report or record the occurrence of emesis	P	G	SP		
164. Following the administration of an enema, occasionally has neglected to report when no results were obtained	P	G	SP		
165. Is alert to the beginning signs of decubiti and takes appropriate action	G	P	SG		
166. Upon observation of an unusual feverish appearance of patients, takes temperature and reports findings	G	P	SG		
167. Is alert to the occurrence of unusual mental changes of patients, takes vital signs and reports findings	G	P	SG		
168. Upon discovery of fecal impactions while giving enemas to patients, continues giving the enema unquestioningly	P	G	SG		
169. Volunteers to describe previous typical observations of patients to new charge nurses who are unfamiliar with the patients	G	P	SG		

	Yes	No	Some-times	Not Applic. to Ward Sit.	Don't Know
VI. OVERALL COMPETENCE					
170. Has demonstrated the ability to give care to several new surgical or critically ill patients and make pertinent observations; e.g., vital signs, color, dressing observations and changes, outputs, observation of IV's, etc	G	P	SG		
171. Has demonstrated the ability to give thorough care to semi-convalescent and convalescent patients, recognizing the need for proportionately greater attention to the more seriously ill	G	P	SG		
172. Demonstrates a desirable degree of dexterity and accuracy	G	P	SP		
173. Completes assignments within the time allotted or expected	G	P	SP		
174. Occasionally leaves wards in a disorganized untidy condition	P	G	SP		
175. Occasionally is satisfied with partially completed procedures; e.g., neglects to strip beds completely during a.m. cares, etc	P	G	SP		
176. Has shown the ability to determine the priority of tasks at hand and functions accordingly	G	P	SG		
177. Collects and organizes equipment and supplies prior to starting procedures, treatments or cares	G	P	SP		
178. Anticipates or ascertains the immediate needs of all patients upon entering a ward, and acts upon them at the time before starting new business	G	P	SG		

APPENDIX M (continued)

OVERALL EVALUATION

(Do not consider the checklist responses for this, but give your overall impression.)

Check one:

This aide does a satisfactory job. _____

This aide is really exceptional in her job and the kind of worker I value and would always like to have. _____

This aide is inferior in her job and the kind of worker I would prefer to see replaced. _____

Rater's Status:

Head Nurse _____

Assistant Head Nurse _____

Staff Nurse _____

Supervisor _____

Rater's Shift _____

How long have you known this person as an aide? _____

APPENDIX N

NUMERICAL AND PER CENT DISTRIBUTION OF INCIDENTS IN EACH CATEGORY AND PER CENT "GOOD" AND "POOR" INCIDENTS WITHIN EACH CATEGORY AS DESCRIBED BY EACH OF THE FOUR SUBJECT GROUPS

	Subject Group							
	Head Nurses				Staff Nurses			
Category	Total Incidents No.	Total Incidents %	% "Good" Incidents In Category	% "Poor" Incidents In Category	Total Incidents No.	Total Incidents %	% "Good" Incidents In Category	% "Poor" Incidents In Category
I	6	6.2	25.0	75.0*	4	6.0	50.0	50.0
1	4	4.1	0.0	100.0	2	3.0	0.0	100.0
2	2	2.1	100.0	0.0	2	3.0	100.0	0.0
II	14	14.4	50.0	50.0	15	22.4	26.7	73.3
1	2	2.1	100.0	0.0	3	4.5	100.0	0.0
2	1	1.0	100.0	0.0	0	0.0	0.0	0.0
3	0	0.0	0.0	0.0	0	0.0	0.0	0.0
4	7	7.2	0.0	100.0	11	16.4	9.1	90.9
a	6	6.2	0.0	100.0	11	16.4	9.1	90.9
b	1	1.0	0.0	100.0	0	0.0	0.0	0.0
5	3	3.1	100.0	0.0	0	0.0	0.0	0.0
6	1	1.0	100.0	0.0	1	1.5	0.0	100.0
III	3	3.1	100.0	0.0	5	7.5	100.0	0.0
IV	17	17.5	58.8	41.2	9	13.4	11.1	88.9
1	7	7.2	42.9	57.1	5	7.5	20.0	80.0
a	5	5.1	40.0	60.0	4	6.0	0.0	100.0
b	2	2.1	50.0	50.0	1	1.5	100.0	0.0
2	0	0.0	0.0	0.0	2	3.0	0.0	100.0
3	2	2.1	100.0	0.0	0	0.0	0.0	0.0
4	8	8.2	62.5	37.5	2	3.0	0.0	100.0
5	0	0.0	0.0	0.0	0	0.0	0.0	0.0
V	48	49.5	47.9	52.1	28	41.8	50.0	50.0
1	1	1.0	0.0	100.0	4	6.0	0.0	100.0
2	13	13.4	30.8	69.2	7	10.4	57.1	42.9
3	33	33.0	59.4	40.6	14	20.9	71.4	28.6
a	10	10.3	0.0	100.0	4	6.0	0.0	100.0
b	23	22.7	86.3	13.7	10	14.9	100.0	0.0
4	2	2.1	0.0	100.0	3	4.5	0.0	100.0
VI	9	9.3	22.2	77.8	6	9.0	83.3	16.7
Total	**				***			

* Read table as follows: Six head nurse incidents fell into major category I (6.2% of their total), of which 25% described "good" and 75% "poor" behavior within category I.

** Total Number = 97 incidents: 48.5% "good"; 51.5% "poor".

*** Total Number = 67 incidents: 46.3% "good"; 53.7% "poor".

APPENDIX N (continued)

Category	Subject Group: Aides — Total Incidents No.	Aides — Total Incidents %	Aides — % "Good" Incidents In Category	Aides — % "Poor" Incidents In Category	Patients — Total Incidents No.	Patients — Total Incidents %	Patients — % "Good" Incidents In Category	Patients — % "Poor" Incidents In Category
I	8	3.6	25.0	75.0	1	0.8	0.0	100.0
1	6	2.7	0.0	100.0	1	0.8	0.0	100.0
2	2	0.9	100.0	0.0	0	0.0	0.0	0.0
II	30	13.0	40.0	60.0	5	4.3	40.0	60.0
1	3	1.3	100.0	0.0	1	0.8	0.0	100.0
2	7	3.0	71.4	28.6	0	0.0	0.0	0.0
3	3	1.3	33.3	66.7	0	0.0	0.0	0.0
4	14	6.3	7.1	92.9	3	2.6	33.3	66.7
a	12	5.4	8.3	91.7	3	2.6	33.3	66.7
b	2	0.9	0.0	100.0	0	0.0	0.0	0.0
5	1	0.4	100.0	0.0	0	0.0	0.0	0.0
6	2	0.9	50.0	50.0	1	0.8	100.0	0.0
III	17	7.6	100.0	0.0	0	0.0	0.0	0.0
IV	59	26.5	55.9	44.1	108	92.3	75.9	24.1
1	32	14.2	53.1	46.9	47	40.2	72.3	27.7
a	25	11.2	44.0	56.0	31	26.5	61.2	38.8
b	7	3.0	85.7	14.3	16	13.7	93.8	6.2
2	6	2.7	0.0	100.0	15	12.8	53.3	46.7
3	13	5.8	92.3	7.7	28	23.9	89.3	10.7
4	8	3.6	50.0	50.0	4	3.4	50.0	50.0
5	0	0.0	0.0	0.0	14	12.0	100.0	0.0
V	100	44.8	43.0	57.0	3	2.6	0.0	100.0
1	19	8.5	10.5	89.5	0	0.0	0.0	0.0
2	49	22.0	46.9	53.1	3	2.6	0.0	100.0
3	25	11.2	64.0	36.0	0	0.0	0.0	0.0
a	9	4.0	0.0	100.0	0	0.0	0.0	0.0
b	16	7.2	100.0	0.0	0	0.0	0.0	0.0
4	7	3.0	28.6	71.4	0	0.0	0.0	0.0
VI	9	4.0	66.7	33.3	0	0.0	0.0	0.0
Total	+				++			

\+ Total Number = 223 incidents: 50.7% "good"; 49.3% "poor".

++ Total Number = 117 incidents: 71.8% "good"; 28.2% "poor".

APPENDIX O

NUMERICAL AND PER CENT DISTRIBUTION OF INCIDENTS IN EACH CATEGORY AND PER CENT "GOOD" AND "POOR" INCIDENTS WITHIN EACH CATEGORY AS DESCRIBED BY THE FOUR SUBJECT GROUPS COMBINED

	Total Incidents		"Good" Incidents		"Poor" Incidents	
Category	Total Category Number	Per Cent Of Total	Category Number	Per Cent Of Category	Category Number	Per Cent Of Category
I	19	3.8	6	32.0	13	68.0
1	13	2.6	0	0.0	13	100.0
2	6	1.2	6	100.0	0	0.0
II	64	12.7	25	39.0	39	61.0
1	9	1.8	8	89.0	1	11.0
2	8	1.6	6	75.0	2	25.0
3	3	0.6	1	33.0	2	67.0
4	35	6.9	3	8.6	32	91.4
a	32	6.3	3	9.4	29	90.6
b	3	0.6	0	0.0	3	100.0
5	4	0.8	4	100.0	0	0.0
6	5	1.0	3	60.0	2	40.0
III	25	5.0	25	100.0	0	0.0
IV	193	38.3	126	65.0	67	35.0
1	91	18.1	55	60.0	36	40.0
a	65	12.9	32	49.0	33	51.0
b	26	5.2	23	88.0	3	12.0
2	23	4.6	7	30.0	16	70.0
3	43	8.5	39	91.0	4	9.0
4	22	4.4	11	50.0	11	50.0
5	14	2.8	14	100.0	0	0.0
V	179	35.5	80	45.0	99	55.0
1	24	4.8	2	8.3	22	91.7
2	72	14.3	31	43.0	41	57.0
3	71	14.1	45	63.0	26	37.0
a	23	4.6	0	0.0	23	100.0
b	48	9.5	45	94.0	3	6.0
4	12	2.4	2	17.0	10	83.0
VI	24	4.8	13	54.0	11	46.0
Total	*		**		***	

* Total Number = 504

** Number "Good" = 275 (55.0% "good")

*** Number "Poor" = 229 (45.0% "poor")

Typed by

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and

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