THE EFFECT OF PRE-INFORMATION ON CLINICAL INFERENCE

AND NURSING ACTIONS

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ABSTRACT

A study to examine the effects of pre-information (what a nurse learns about a patient before they meet) on clinical inference and nursing actions, in a simulated nurse-patient situation. It was hypothesised that the nature of the pre-information will influence the way the patient is perceived, and the resulting nursing actions. The research was conducted in an obstetrical setting. There were 55 subjects within three groups. Two groups comprised student midwives, and the third group was of second year comprehensive nursing students near the completion of clinical experience in maternal and child health nursing. A five minute videotape sequence of a role-played post-natal patient was made for use in the research. All subjects were given the same initial pre-information, viewed the videotape and gave written descriptions of what they saw on the videotape and their response (as the nurse in the situation). This data provided a base-line for each subject. Subjects were then given additional pre-information concerning the patient's physical condition, her baby's condition, or formed part of the control group (receiving no additional pre-information). The procedure was repeated. These responses were then compared with the base-line for each subject.

Responses were coded by means of content analysis. Group data was analysed using a multivariate one way analysis of variance graphical display. The results indicated support of the hypothesis that the nature of the pre-information does influence the way in which a nurse perceives a patient, and resulting nursing actions. Implications of these findings for nursing are discussed.

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INTRODUCTION

Nursing practice is in the process of undergoing many changes. Today, perhaps more than at any other time nurses are questioning their previously accepted activities, looking for answers to formerly unasked questions, and seeking understanding of the different processes involved in the area of nurse-patient relationships.

While the traditional focus in nursing was on seeing and doing rather than on thinking there is now a need for nurses to consider cognitive as well as perceptual and motor skills. In the past the cognitive characteristics of nursing have not been dealt with in any systematic way. This is reflected in the fact that it is only recently that a major text-book on nursing (Beland & Passos, 1975) has identified and emphasised various cognitive tasks within nursing.

Consideration of the effects of pre-information, or what a nurse learns about a patient before they meet, on clinical inference and nursing actions is primarily a study of some of the cognitive functions of nursing. Only limited literature exists at present on the application of these cognitive functions to nursing practice, however, the rapid advancement in social science disciplines has meant that a wider source of theoretical knowledge is available.

The contributions of psychologists in areas of perception (especially person perception), cue-selection and utilisation, role expectation and stereotyping are particularly relevant to the development of this paper. It is proposed to examine these writings in some depth along with the available nursing literature to provide a background for understanding the effects that the nature of the pre-information received may have on both the manner in which a nurse perceives a patient and the resulting nursing actions.

CHAPTER 1

BACKGROUND LITERATURE

Cognitive Functioning

Observation has long been considered an important function of nursing. As early as 1859 Florence Nightingale wrote that "the most important practical lesson that can be given to nurses is to teach them what to observe ... how to observe ... what symptoms indicate improvement ... what the reverse ... which are of importance ... which are of none." (Nightingale, 1946, p. 59).

Travelbee (1972) has described observation as the first phase of every nursing situation, and the most important step in the nursing process. She stated that it would be practically impossible to communicate effectively with patients without being a skilled observer since systematic observations are used to determine patient needs. This view is endorsed by Goldin & Russell (1969) and Hay (1966) in consideration of the quality of therapeutic communication.

Over the years there had been changes in the observational tasks of the nurse. Three particular changes in practice are identified by Mumford and Poslusney (1967) which have made it increasingly important for the nurse (and doctor) to be able to observe a wide range of factors about the patient. They are:

1. expanded understanding of what patient care really means;
2. shorter periods of hospitalisation;
3. increasing specialisation involving the patient with a greater number of persons.

Thus the nurse's observations must be made with skill to be the most meaningful in planning patient care. This change in the observational task of the nurse is seen by Kelly (1966) as a movement from merely observing, recording and reporting, to the broader functions of:

1. observation or the recognition of signs and symptoms presented by the patient;
2. inference which is making a judgement about the state of the patient and/or the nursing need of the patient;

3.   decision-making or determining the action which
         should be taken that will be of optimal benefit to
         the patient.

All of these tasks - observation, inference and decision-making
are cognitive functions.

To study the psychology of the inference process is considered
by Hammond (1966) to be the study of one of the fundamental aspects
of knowing.   He quotes Scheere (1954) who says that "cognitive
theory might be expected to deal with the problem of how man gains
information and understanding from the world about him, and how he
acts in, and upon his environment on the basis of such cognitions"
(p. 91).

Thus the emphasis is appropriately placed on the two inter-
related aspects of how information and understanding is gained from
the environment and how the individual acts in and on the environment
on the basis of this knowledge.   In other words, what the individual
perceives;   what meaning is given to the perceptions; and what
resulting action is made.

Perception

Perception is described by Bartley (1958) as a process by which
the individual relates to the surroundings by means of the inter-
pretation, discrimination and identification of objects and conditions
experienced as existing in the environment.   This process is influenced
by a number of factors such as past experiences, attitudes and present
activities.   The results are often highly personal and subjective
in nature.   However, the core function of the perceptual process
is that of the organisation of the data available to the organism,
for as Brunswik (1956) says "the ability of perception to organise
information into cognitively parsimonious units and sub-units in
over-viewing the situation is unmatched among psychological functions.
Its speed and richness makes up for much of the short-comings in
strategy and attainment" (p. 105).

There are a large number of different theories of perception. Bartley (1958) lists thirteen such theories. Some of these theories concentrate specifically on the physiological aspects of the perceptual process, as their names suggest, such as the core-context theory, the texture-gradient theory, the adaptation-level theory, the motor-adjustment theory, and the sensory-tonic field theory. These theories have less direct relevance to this discussion because of their exclusively physiological emphasis than others which have a wider perspective and incorporate social factors. These include the probabilistic functional theory, the transaction theory, the directive-state theory, the hypothesis or expectancy theory, the Gestalt theory and the topographical theory. There is a degree of overlap, but these theories basically view perception from slightly different perspectives. While there are some relevant features, such as the acknowledgment of the relevance of past experience in the transactional theory, it is the probabilistic - functional theory which is of particular relevance and will be discussed further.

Probabilistic Functionalism Theory of Perception

Egon Brunswick (1903-1955) an Austrian psychologist who later became an American citizen is the acknowledged author of this theory which emphasises the phenomenon of perceptual "constancy" in which "cues" form a considerable explanatory role.

> It is said that the organism, in line with the
> requirements of biological adaptation and using
> available data, tries to 're-constitute' the object,
> and is able to approximate it. The object it
> re-constitutes is an intermediate one having
> properties somewhere between those of the 'real'
> object and the stimulus pattern received by the
> same organ.
>
> (Bartley 1958, p. 16)

Brunswik's Probabilistic Functionalism has been described by Postman and Tolman (1959) as an integrated and cohesive systematic approach to psychology, which is a blend of the philosophy of science, historical analysis, experimental methodology and a functional theory of cognition and perception. Bartley (1958), explains that the name "Probabilistic Functionalism" was arrived at since the object as perceived is never better than an approximation of reality and so represents a probability, which has been influenced by the individual's past experience, learned assumptions and inferences. A lens model is used (Brunswik 1956, 1969; Postman & Tolman, 1959) to describe this theory (see Figure 1.1).

The model is in the form of a double convex lens through which a band of light emanating from an initial focus (the distal variable or stimulus) is brought back into convergence at a terminal focus (the response). The left hand side of the model represents the environment, and describes the relations between the proximal cues and a distal variable (or stimulus). The environment (ecological system) is characterised by uncertainty and the cues are in probability relationships (ecological validity) to the distal variable and to each other. The right hand side represents the organismic system and describes the relationship between the cues and the response of the organism. The organism utilises the information in the cues concerning the distal variable in its adjustment to the environment.

The model draws attention to three distinct functional relationships, and examination of these relationships serves to highlight the essential uncertainty of the causal linkages in the environment and the probabilistic nature of the psychological laws - hence the name. The distinct functional relationships are:

1. the relationship between the distal variable (stimulus) and the cues (the ecological validity). The presence of a particular distal variable (stimulus) does not imply a specific pattern of cues, nor is it possible to infer with certainty the nature of the distal variable from a specific pattern of cues (Hammond, 1966; Postman & Tolman, 1959);
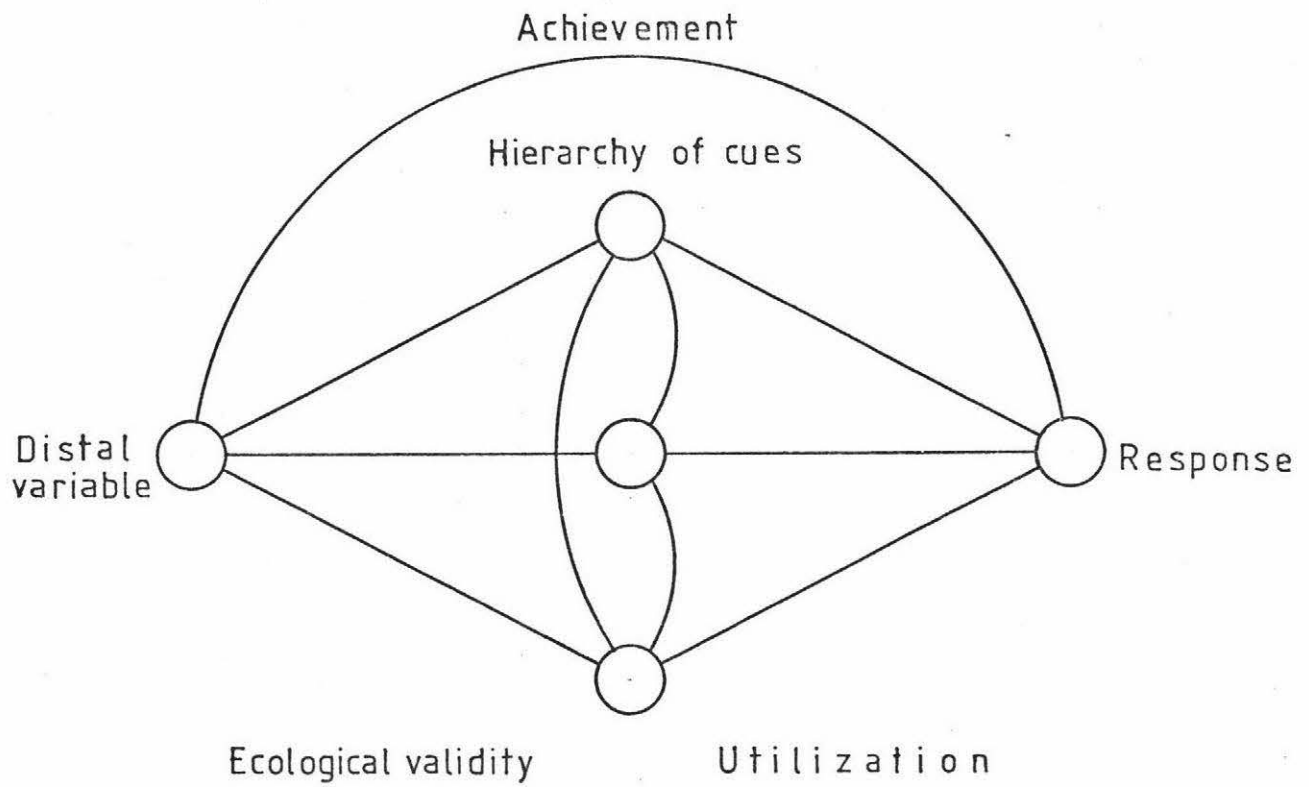
Figure 1.1.   Simple Diagram of Brunswik's Lens Model
(after Nystedt, 1972)..

2. the relationship between the cues and the response (the
    utilisation of cues).   In adjusting to stimuli the
    organism utilises whatever cues are available to it
    which it considers significant.   Since it is confronted
    by a variety of cues of limited validity the organism
    is forced to adopt a probabilistic strategy to combine
    and weigh cues or combinations of cues interchangeably
    to make the most sense out of the distal variable;

3. the relationship between the distal variable and the
    response (achievement or functional validity).   This
    measures the degree of the organism's perceptual
    achievement.

In describing the model Postman and Tolman (1959) point out that:

> the fact that perceptual attainment falls short of
> perfection is an inevitable consequence of the
> environmental uncertainties with which the organism
> must cope.   Since the association between distal
> and proximal events is probable rather than certain,
> foolproof perceptual achievement is in principle
> impossible for an organism that must depend on proximal
> cues.   The manner in which a fallible organism
> utilizes the available cues may result in further
> interference with perceptual achievement.   The main
> source of error in perceptual achievement lies in
> undependable object-cue relationships rather than in
> the organisms utilization of cues   (p. 513).

Brunswik's (1956) lens model has been recognised as a framework
for research in areas of subjective judgement and human inference
as it provides for analysis of both the situation and the organism's
inferential process (Hammond, Hursch & Todd, 1964).   Much of the
research based on this model has been undertaken by Hammond, either
alone or in conjunction with other researchers.   Some have been
investigations of a general nature such as a study of probability
learning (Hursch, Hammond & Hursch, 1964);   the use of linear and
non-linear cues in inductive inference (Hammond & Summers, 1965);
and an investigation of the process of prediction of another's behaviour
(Hammond, Wilkens & Todd, 1966).   Other work looked more specifically
at the model's application to clinical inference.   Brehmer (1969)
found that Brunswik's (1956) model enabled consideration of the
characteristics of the cognitive task as well as the characteristics
of the cognitive processes of the clinician in clinical prediction.

Hammond, Hursch and Todd (1964) adapted this model to become a double lens model to analyse the component's of clinical inference by means of multiple-regression analysis.   Multiple regression analysis was also utilized in conjunction with the model by Hammond (1955) to predict the clinician's level of functioning.

Ekehammar (1974) was critical of Brunswik's (1956) lens model because of his apparent "neglect of the perceptual - cognitive component of the individual - environment system" (p. 1038), by defining the situation or environment in objective terms independent of the responses of the person acting in the situation.   This omission has been rectified in Nystedt's (1972) modification of Brunswik's (1956) model which incorporates within the lens model a multidimensional model for the study of the cognitive organisation of the individual   (See Figure 1.2).

Nystedt's (1972) modified lens model has two systems, each with two sub systems.   Firstly, there is the ecological system which consists of the input-generating and the instrumental-response sub-systems.   The second is the cognitive system which replaces Brunswik's (1956) term "organismic system".   The cognitive system consists of the perceptual-cognitive system which includes the individual's perception of the ecological stimulus variables and the anticipated inter-relations between these variables and the distal variables, and the utilisation system which describes how the individual makes use of features of the perceptual-cognitive system in the prediction of distal events on the basis of information about the event. Nystedt (1972) presented a research paradigm for the study of inter-actions between these sub-systems and applied the model in a study of behaviour in utilising cues to make a total judgement.   This is a complex modification of Brunswik's (1956) lens model and is helpful in demonstrating how the cognitive processes of the individual and the influence they have on the present activity may be incorporated within the model.
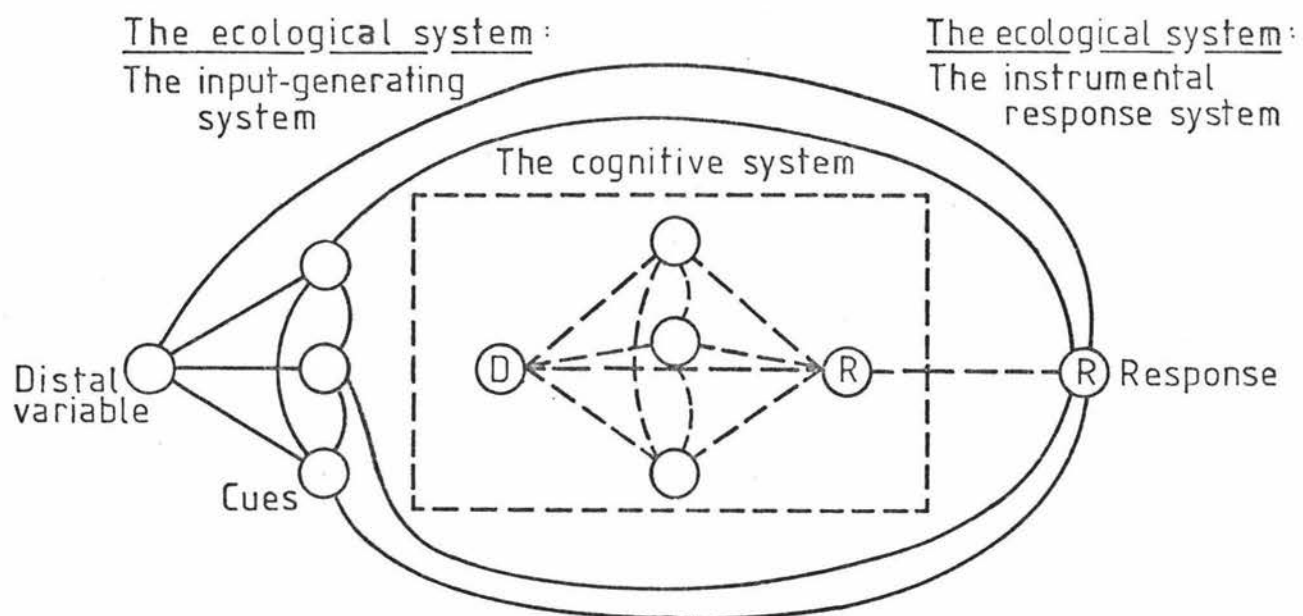
Figure 1.2.   A Modified Lens Model (after Nystedt, 1972)

Kelly (1964a, 1964b) and Hammond (1964) working together adapted Brunswik's (1956) lens model for use in the study of the clinical inferential process with specific application to nursing situations. Before studying their model in depth it will be helpful to look further at the inferential process in general, and at clinical inference in particular.

Inference

Inference was defined by Kelly (1964a) as "a conclusion or judgement drawn from data" (p. 315). Sarbin, Taft and Bailey (1960) drew attention to a developmental aspect of inference when they described this process as "the cognitive transformation of one set of events through another set of events which produces new knowledge about the first" (p. 45). Thus the inferential process can be seen as an ongoing and developing process.

According to Sarbin *et al* (1960) inference may be categorised into the following forms - formal, statistical and clinical. It is clinical inference which is of particular relevance to this study.

Clinical Inference

Clinical inference is the application of the inferential process to the area of doctor or nurse-patient relationships. Kelly (1964a) defined clinical inference as "a conclusion or judgement made in a ward situation when the inferrer (the nurse) is in a face to face relationship with the person - object (the patient)" (p. 315).

Sarbin *et al* (1960) identified five elements in the clinical inference process as follows:

1. the observer who is engaged in the transformation of knowledge;

2. the aim or objective of the cognitive task;

3. the cues presented by the subject and environment;

4. the manipulation and transmutation of cues into knowledge;

5.   the product of the inferential process, such as
a diagnostic statement or decision.

Clinical inference or clinical judgement is particularly
relevant today as there is more awareness of the quality of care
given, and of the need to evaluate the outcome.   For "the quality
of clinical judgement rendered by an individual physician who is
faced by a patient seeking help is probably the most important
determinant of the quality of care"   (Williamson, 1965, p. 180).
This quotation focuses on the importance of clinical competence and
the need for indicators and measures of the individual clinician's
competence within the process as well as at the outcome.   Others
such as Donabedian (1969) and Starfield (1974) have concentrated on
the measurement of the outcome of clinical intervention;   the
development of a nursing audit (Phaneuf, 1972), or scales to measure
the quality of care administered (Cornell, 1974;   Wandelt & Ager,
1974;   Wandelt & Stewart, 1975).

In response to claims by non-clinicians that the clinical
method does not meet the criteria of science, Hammond (1955)
demonstrated a retraceable process for predicting the clinician's
performance by using Brunswik's (1956) lens model in conjunction
with multiple-regression analysis.   This framework was also used
by Hammond, Hursch and Todd (1964) to study the components of
clinical inference.

Meehl (1957, 1960) investigated the complexity of the cognitive
activity of the clinician in the field of clinical psychology,
with special consideration of consistency and reliability in diagnosis
of psychological conditions.   Another paper (Meehl, 1959) discussed
the application of various statistical models in an effort to
investigate clinical inference in more detail.   Mathematical models
were also used by Hoffman (1960) to describe the mental processes
involved in making a clinical diagnosis.

While the above studies have considered clinical inference
in the areas of medicine and clinical psychology, others have
investigated the process in nursing.   It is now proposed to limit
further discussion to the clinical inferential process within a
nursing context.

Clinical Inference in Nursing

> In the performance of her professional duties
> the nurse routinely makes important and significant
> decisions based on uncertain data - data that is
> complex, non-discriminating and inconclusive. The
> action that she takes as a consequence of these
> influences, will alter, modify or maintain the course
> of nursing and medical history.
>
> (Kelly, 1964a, p.314)

Awareness that the inferential process of nursing had not been
subjected to careful analysis and evaluation by the nursing profession
prompted Kelly (1964a) and Hammond (1964) to direct their attention
and energies to this end.   Through their study they hoped to "give
an understanding of the way in which a nurse selects, assembles
and uses signs and symptoms and other information, in reaching a
judgement about the state or condition of the patient".   (Kelly,
1964a, p. 314).   As nurses rarely receive a single absolutely
dependable signal from the patient they must be equipped to respond
to many cues (physical, chemical, behavioural) from the patient and
the environment.

Hammond (1964) saw Brunswik's (1956) lens model as being
particularly applicable to a clinical situation because of the
highly probabilistic relationship between the cues and the actual
state of the patient and so adapted the lens model.   (See Figure 1.3).

The model moves from left to right.   "State of patient" is
the state of affairs inside the patient about which a variety of
cues, many of them uncertain or ambiguous, are available to the
nurse.   The number of cues and lines indicating the probability
relationship between each signal and the state of the patient will
be different for different patient states.   The range of cues
utilised, the inference made and the range of actions considered
as appropriate are all cognitive functions occurring within the nurse.
Once the actions are implemented then the goal (or outcome) can be
evaluated by means of comparison with the initial state of the patient.
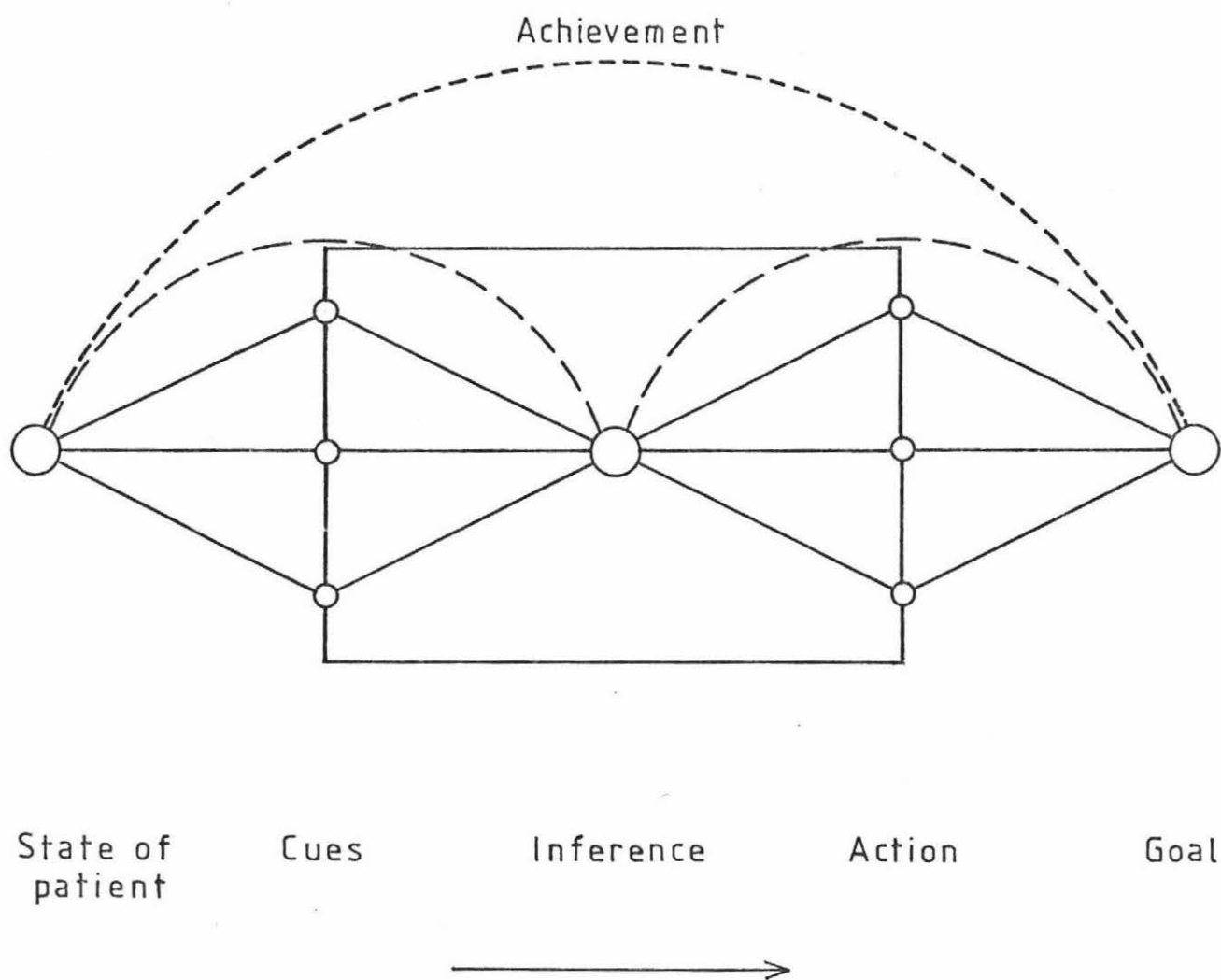
Figure 1.3.   Clinical Inference in Nursing in Terms of
              Brunswik's Lens Model (after Hammond, 1964).

This adaptation of Brunswik's (1956) lens model is useful in two respects. Firstly, it specifies problem areas, thus pin-pointing areas to be investigated such as factors influencing cue-utilisation; priorities of certain cues over others; and the range of actions considered to be appropriate. Secondly, the model is consistent with the actual condition (a nurse-patient situation) that it is intended to model. It provides for the measurement of the relationship between:

1. the hierarchy of cues and the state of the patient (a measure of ecological validity);
2. the cues and the nurse's dependence on the cue (a measure of cue utilisation);
3. the state of the patient, the inference and the goal (a measure of the nurse's achievement).

If the nurse places too much relevance on a cue that has little or no validity, or ignores a cue with high validity, then this will be indicated by either no change or a negative change in the state of the patient and is of as much or more consequence to the patient as to the nurse.

Information about the patient signalling system and the signal receiving system of the nurse is scant. No systematic studies of these systems specifically relating to nurse-patient situations have been found prior to the Kelly and Hammond studies (1964-1966). However, there are aspects of person-perception and cue-selection and utilisation studies that are relevant to the consideration of clinical inference in nursing, so a diversion into these areas in more depth may assist to clarify some of the important aspects involved in this model.

Person Perception

It is important for an individual to be able to make sense out of what is seen and experienced. Hastorf, Schneider and Polefka (1970) proposed an intent-act-effect sequence for organising the observed behaviour of others, as a means of providing structure, stability and meaning in the interpersonal relationships of everyday experiences. The processes by which this structure, stability and meaning is obtained have been collectively referred to as person

perception or social perception. Here "perception" is used in a much broader way than in physiological perception since in person perception the individual also perceives or infers a range of non-physical attributes such as intentions, attitudes, emotions, and ideas. Research in person perception has shifted from Woodworth's (1938) emphasis on the stimuli and the accuracy with which they are recorded to more recent emphasis on the manner with which the perceiver actively processes the stimuli that create interpersonal meaning. The development of attribution theory through the work of Heider (1958), Jones and Davis (1965) and Kelley (1967, 1972, 1973) has facilitated this shift in emphasis.

Attribution theory has been defined by Hastorf *et al* (1970) as "analyzing the processes by which we infer dispositional properties of another person from our observations of his behaviour in social situations" (p. 61). The broad assumptions of attribution theory identified by Jones, Kanous, Kelley, Nisbett, Valins and Weiner, (1972) are:

1. the individual attempts to assign a cause for important instances of his behaviour and that of others. When necessary he seeks information that enables him to do so;

2. the assignment of causes is determined in a systematic manner;

3. the particular cause that is attributed to a given event has important consequent feelings and behaviour.

Much of the research based on these assumptions seems to be in two main areas. Bem (1972), Heider (1958), Jones and Davis (1965), Jones, Davis and Gergin (1971), Thibaut and Reiken (1958) have all investigated factors determining the cause that will be assigned to a given event. The other area of research is into the consequences of making one causal attribution rather than another. The works of Aronson (1969) and Storms and Nisbett (1970) explore some of these consequences.

Hollander (1967) considers that the most noteworthy contribution to the area of interpersonal perception has grown out of the work of Heider (1958) which is based on Brunswik's (1956) model of probabilistic functionalism. Harvey and Smith (1977) consider the main difference between the work of Brunswik (1956) and Heider (1958) was that while Brunswik (1956) saw the fundamental problem of perception as being the coordination of perceptions with objects, Heider (1958) contended that the perceptions of others controlled the way the person behaved towards them and what he expected from them. This perception is vitally affected by factors such as constancy, balance and causality, which all influence the flow of the interaction.

Perceptions of causality were further subdivided by Heider (1958) into personal and impersonal causality. Personal causality was seen as arising from within the individual and was intended. Therefore the individual can be held responsible for the outcome of the action. Impersonal causality was seen as being external to the individual and not intentional, so the individual was not held responsible for the consequences.

Heider (1958) described a number of different cognitive levels on which an individual may operate when making an attribution. These levels are defined in terms of the criteria a person uses in attributing responsibility for an event to another person. Each level represents a more sophisticated stage of analysis. Heider's (1958) analysis of the cognitive aspects of social interaction provided a basis for others such as Jones and Davis (1965) and Kelley (1972, 1973) to build on.

Jones and Davis (1965) attempted to provide a conceptual framework which enabled inferences to be made from observed behaviour by providing information, or making assumptions, about the links (intention, ability and knowledge) between the dispostiion of the actor and the action. This resulted in the action-attribution paradigm (See Figure 1.4).

Inferred   Observed

Knowledge   Effect 1

Disposition — Intention — ⟨   ⟩ — Action — Effect 2

Ability   Effect 3
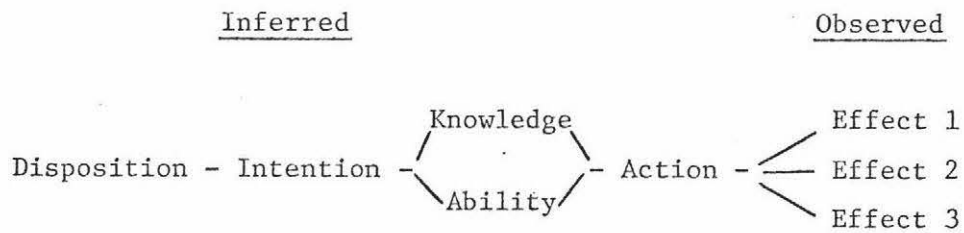
Figure 1.4.   The Action-attribution paradigm
(after Jones & Davis, 1965).

The perceiver is assumed to observe both the act and its effect(s)
and then, based on these observations to infer back to the underlying
intent and disposition of the actor by making decisions about the
actor's knowledge and ability to bring about the effects observed.

Various factors will influence the inferences that are made
by the observer.   For instance, Thibaut and Reickens (1958)
investigated the importance of power.   They found that an individual
will perceive the causal locus for compliance as "internal" (or
personal) for a high power stimulus person (who is seen as choosing
to comply), and as "external" (or impersonal) for a lower power stimulus
person (who is forced to, or feels obliged to comply).

Kelley (1972, 1973) built on the theories of both Heider (1958)
and Jones and Davis (1965) as he was concerned that many of the
studies of attribution theory had not dealt systematically with the
antecedents of the attribution.   Kelley (1972) identified two
types of attribution which were based primarily on the amount of
information available to the attributor.   If the attributor has
information from multiple observations then an effect is attributed
to one of the possible causes which has been present each time the
action occurs (covariation).   However, if the attributor has
information from only a single observation, then it is assumed that
past experience of similar situations will also provide ideas about
possible causes and how significantly they may be in influencing this

action (configuration of factors). In a later work Kelley (1973), developed an analysis of variance framework which attempts to take these different factors into account. While useful, this framework can only be an ideal (as Kelley, 1973, admits) since individuals are frequently called on to make a causal inference on the basis of limited time and knowledge.

Other factors can influence the nature of the inferential process and there are various principles that can operate in such situations. The perceiver often uses a discounting principle where certain causes are rejected in the presence of other more plausable causes (Bem, 1972; Thibaut & Reickens, 1958). Alternatively, the augmentation principle may be applicable where there are known constraints, costs, sacrifices and risks involved in taking the action, and so the action is attributed more to the actor than it would have been otherwise (Kelley, 1972).

Another line in the development of person perception has been in the area of impression formation. Asch's (1946) work on central traits is well-known for his findings relating to warm-cold attribution. Kelley (1950) replicated this research and his results were consistent with Asch's (1946) findings. Bruner and Tagiuri (1954) in reviewing earlier work on impression formation suggested that individuals can form integrated views of others based on limited information, because each perceiver has an "implicit theory of personality" which is their understanding of which traits are associated with, or implied by other traits. These theories are presumably built up from past experiences and assist in the making of rapid judgements of others. However, the information may be inaccurate and lead to stereotyping (a subject that is discussed in more detail later).

From the above discussion it is apparent that person perception is a cumulative process involving many and varied factors. Although none of these writers have applied their findings in a clinical setting they do contribute another dimension in the search for understanding what may be happening in nurse-patient situations.

Cue Selection and Utilisation

The other general area that provides material relevant to a
more detailed consideration of clinical inference in nursing is that
of cue selection and utilisation.

A cue has been defined by Chaplin (1968) as "a stimulus from
the object being observed, or the environment, which is used by the
observer in the making of a discrimination" (p. 117).   This
definition is particularly useful in that it draws attention to the
fact that the source of the cue may be from either the object,
or its environment, or from a combination of both.   In other words,
a cue serves as a critical link between the ecological occurrence
of the object being observed and the cognitive processes of the
observer.   (Sarbin *et al.*, 1960).

Cues provide the information that is used in attributing
causes to behaviour and are influenced by various factors such as
cultural variations (Davitz & Pendleton, 1969), and occupational
variations (Lenburg, Glass & Davitz, 1970).   Jones and Davis (1965)
emphasised the importance of cues in relation to the consistency
of action that indicates stability of the person, yet at the same
time accounts for variations in behaviour.

The individual is faced with a massive number of cues each
time an observation is made and only a portion of the total number
of cues available are selected and used.   It is important to consider
why and how certain cues are selected and utilised in preference to
others.   The following quotation from Sarbin *et al.*, (1960)
identifies some important factors in this process:

> The technique of searching the ecology for inputs
> will depend partly on the social situation,   partly on
> the behaviour analyst's purpose and partly on his
> characteristic strategies of search. (p. 203)

Bruner, Goodnow and Austin's (1956) categorisation of search
strategies is useful as it differentiates between selection and
reception strategies in obtaining the desired information.

Sarbin *et al* (1960) developed these concepts further and identified
the following three types of search strategy:

1. scanning - both simultaneous and successive sweeping
    of the ecology;
2. scrutinizing - the deliberate seeking of information;
3. probing - to uncover less obvious cues, which may be
    either selective or non-selective in nature.

Cues may be readily accessible to the observer or they may be
non-accessible. Alternatively they may have an intermediate status
which was identified by Sarbin *et al* (1960) as pre-accessible.
Such cues appear to be non-accessible initially, but with additional
scrutinizing or probing are found to become accessible. The
accessibility and source of the cue are not perfectly correlated.
Some cues arising from the internal ecology of the individual being
observed may be non-accessible, others may be accessible (by means
of outward manifestations), or pre-accessible (becoming accessible
by means of a range of investigative procedures).

Sarbin *et al* (1960) identified such different important aspects
of the nature of the cue as the validity, ambiguity and significance
of the cue being considered. The relevant characteristics of cues
identified by Kelly (1966) were the number, dependability,
intersubstitutionability, redundancy and significance.

However, attention should not be concentrated on the cue
alone for as Massorik quoted by Bohm (1977) explains:

> the cues we receive from outside must be processed
> through the perceptual equipment that is 'us' -
> through lenses of our own background and expectations.
> If we are to be successful in assessing the meaning of
> cues that impinge upon us, we must become aware of
> distortions that may be introduced by our 'built in'
> perceptual equipment. (p. 4).

The "mental set" (Bruner, 1957) of the individual will influence his
perception of cues. So also will any tendency to maximise balance
and avoid dissonance of cues (Heider, 1958). These may take the
form of producing a "halo effect" which may be either positive or
negative in nature, or in stereotyping of the individual observed
(Tagiuri, 1969). Many years earlier Tolman & Brunswik (1935) wrote

of the need for an organism (or individual) to develop "an adequate reception system that will tend to select reliable cues, rather than ambiguous, non-significant or misleading ones, and its task is to do this even when all the different kinds of cues are present and competing with one another" (p. 67). Thus factors in the cues and in the observer will influence the range of cues that are observed in any situation.

The cue utilisation range has been defined by Easterbrook (1959) as "the number of environmental cues in any situation that an individual observes, maintains an orientation to, or associates with a response". (p. 183). A wide range of studies in cue-utilisation have been undertaken, and much of this work is reviewed by Bartlett (1950) and Poulton (1956, 1957). The research in these areas has largely concentrated on relatively simple laboratory tasks involving serially integrated perceptual-motor tasks and pro-active learning, such as tracing mazes and learning series of numbers. Generally it was found that changes in cue-utilisation patterns under different conditions varied considerably depending on the complexity of the task undertaken. Other studies (Easterbrook, 1976; Hammond, 1966) have examined a variety of single-cue and multi-cue situations and found, perhaps not surprisingly, that the more discriminative the resultant behaviour, the greater the number of cues that had been utilized.

Easterbrook (1959) described the effects of emotions on tasks with varying numbers of cues. He found that emotional arousal, particularly anxiety, acted consistently to reduce the number of cues utilised. The peripheral cues are the first to be disregarded, while central and relevant cues are maintained. Thus in some tasks (such as in the immediate treatment of cardiac arrest) the reduction of cue-utilisation improves performance since irrelevant or redundant cues are excluded, while on other tasks proficiency demands a wide range of cues and so emotional arousal may disorganize and cause a lowering of overall performance. These findings were supported by Wachtel (1967) who described a narrowing of the attention field with moderate levels of anxiety, and disorganization of behaviour as anxiety increases. Easterbrook (1959) concluded that there appeared to be an optimal cue-utilisation level for each task. While this optimal cue-utilisation level may not be too difficult to identify in simple laboratory exercises it becomes a more complex task

when considering activities in a clinical setting.

Little work as yet has been reported on investigation into factors influencing cue selection and utilisation in nursing situations, although explorations of such aspects as Easterbrook's (1959) work would seem to be very relevant, both in terms of the optimal cue-utilisation levels in different areas of nursing and into the effects of emotional arousal on cue-utilisation in clinical situations. Hammond, Kelly, Castellan, Schneider and Vancini (1966) attempted to analyse the manner in which nurses utilised the cues available in a clinical setting and found that there were marked individual differences in both method of approach and outcome. Their results were inconclusive but appeared to indicate that the cognitive component within such activities can be studied productively.

It seems apparent that different hierarchies of cue priorities exist (Crowell, 1968) in nursing situations. Variations in cue priorities means that some persons may place more emphasis or attention on some cues than other persons in the same or similar situation, or that the order of priority or importance of cues varies depending on the nature of the situation in which the observation occurs. It is this latter situation that has similarities to Easterbrook's (1959) concept of "optimal cue utilisation level". In some situations, such as in "high risk" settings where life-threatening emergencies occur, there may be a set (learned) response pattern to the presence of certain cues. In other situations no obvious, or pre-determined priority exists and so more discrimination and decision-making skills may be required to know which cue to respond to, or even how to interpret the cues present. Corry (1976) developed this concept from the patient angle when she hypothesised that the health status of the individual being observed is in a direct relationship with the range of cues the nurse uses in decision-making in a clinical setting. Thus, the higher the health status of the patient the greater the range of cues utilised by the nurse.

Other factors may be important, such as the visibility of the cues, and the conditioning of the nurse to regard or disregard certain cues. Brown and Fowler (1971) categorised nursing functions into two groups on the grounds of the visibility of the function being performed. High visibility functions involved very obvious cues (such as physical actions), while in low visibility tasks the cues were much less obvious. The other factor, as seen by Davitz

and Pendleton (1969), is that the nurse's specialised training may have conditioned attention to certain cues and disregard for others.

Clinical Inference in Nursing Situations and the Effects on Nursing Actions

The most extensive work into clinical inference in nursing is reported in detail in a series of articles (Bailey, 1967; Hammond, 1964, 1966; Hammond, Kelly, Castellan, Schneider & Vancini, 1966; Hammond, Kelly, Schneider & Vancini (1966a, 1966b, 1967; Kelly 1964a, 1964b, 1966). Their study was conducted in three phases over a three year period, as follows:

Phase 1   – studied empirically the sign–symptom–action complex in nurse–patient situations;

Phase 2   – compared the information–value of various cues as derived from the situational study with the information–value of cues as utilised by nurses. (a study of cue–utilisation applying the adapted lens model);

Phase 3   – attempted to determine to what extent the nurse selects cues and revises her estimates about the probable state of the patient in a manner that is mathematically predictable.

Recognition of the lack of information about the nature of inferences made by nurses, and how nurses select and utilise information available to them, led to this investigation of the process of clinical inference in nursing in the hope of providing nurse educators with information which would be helpful in teaching nurses to make valid inferences. For, as Kelly (1966) pointed out, if the inferential process is considered to be important to nursing practice then more should be learned about this process to improve clinical practice.

In making an inference about the state of the patient the nurse can utilise numerous data available such as physical signs and symptoms, patient complaints, doctor's orders, laboratory reports, medical history and diagnosis, social history, nursing history, the cultural background of the patient, and physical and psychological factors in the environment.

Not all the data is relevant, and some of the information is of more significance than others. The nurse must "select and utilise those cues which will enable her to make a correct and, at times, an immediate judgement about the state of the patient" (Kelly 1966, p. 24).

Out of a detailed study, Kelly (1966) identified the following characteristics of nurse-patient inference situations:

1.   the inferences nurses make have high social significance;
2.   the inferences are based on uncertain, ambiguous and incomplete data;
3.   the inferences are followed by immediate action;
4.   the inference task is complex.

The other aspect of interest from this project was Bailey's (1967) analysis of actions taken by nurses in response to cognitive tasks.   That is, in response to the information received.   He found there was considerable lack of agreement among nurses as to relevant action patterns, but concluded that disagreement may be a result of the limitation in methods of analysis rather than in the actions themselves.

There were two other reports concerning aspects of clinical inference in nursing situations.   Verhonick, Nichols, Glor & McCarthy (1968) studied observations made, and action taken by nurses in a simulated patient care situation.   They found that differences in both the observations made and the nature of the actions taken correlated positively with the type of nursing preparation the subjects had received.   Crowell (1968) adapted the research of Verhonick *et al* (1968) in an attempt to determine which cues are utilised by senior students of nursing when making an inference about the condition of the patient.   She compared different nursing programmes and found no marked differences between programmes, but found that the nurses respond to many different cues about the patient. The number and nature of the cues utilised varied from nurse to nurse, but the nurse always responded to more than one cue.   She also noted a tendency for nurses to report inferences rather than the observation that had led them to make the inference.

While it is apparent that there is tremendous scope for further study in the whole area of clinical inference in nursing situations in New Zealand, it is proposed to limit discussion to the effect of one variable (pre-information) on clinical inference in nursing and resulting nursing actions.

Pre information

Any information the nurse receives about a patient before they meet may influence the aim, purpose or objective of the inferential process as well as the structure of the input of raw material. Since during the inference process the observer does not passively assign equal priority to all available cues, but actively seeks out information that is relevant to the task in hand, prior information or "labels" may influence the observer's impression or perception of that person. Thus pre-information may restrict, modify or accentuate the impression formed by the observer.

There is usually a wide range of data available to the nurse before she meets the patient, and Kraus (1976) contended that the nature of the pre-information influence:

1. the organisation and direction of the nurse's observation;
2. the degree of certainty regarding the presence or absence of certain cues;
3. the ordering of priority of cues;
4. the interpretation of ambiguous cues.

Kraus (1976) structured her research to examine the effects of differing pre-information on the degree of certainty subjects had that selected characteristics were descriptive of a patient and the degree of importance attributed to these characteristics. One set of pre-information focused on the patient's disease state, while the other provided additional data on the emotional state of the patient. Her research findings supported the hypothesis regarding the effects of pre-information on organisation and direction of observations and the degree of certainty of the presence of cues, but not in regard to the ordering of priority of cues.

Much of the information available to the nurse, providing it is accurate and complete can assist in saving time and reduplication of questioning or investigative procedures, and so is of advantage

to both patient and nurse.   However, some of the pre-information available may be incomplete, inaccurate or biased, and if this is utilised by the nurse without checking it for accuracy or completeness then it seems likely that it could adversely affect both the performance of the nurse and the state of the patient.

This available information is also interpreted through the nurse's own previously formulated expectations of persons in a particular role - that of "patient".   For this reason it is proposed to consider some of the literature relating to role theory and its implications for the nurse-patient situation.

Role Expectation

Role expectation is perhaps the most relevant aspect of role theory for this study and is defined by Sarbin and Allen (1968) as "the conceptual bridge between social structure and role behaviour" (p. 497).   Role expectations are comprised of the rights and privileges and the duties and obligations of any other positions in the social structure.   These expectations are culturally defined, and apply to any person who holds that particular position.   They also contain specifications concerning the behaviour expected of counter-roles. For as Hunt (1971) points out, the individual learns both what is expected of a particular role by others, and what can be expected of other roles that interact with that particular role, and that "in practice these several conceptualisations mutually reinforce and modify one another " (p. 282).   Thus any significant influence or change in one role is seen by Bell (1967) to imply alterations or adaptations in inter-related roles.

This fact has considerable significance at a time when a number of roles are rapidly undergoing modification.   It is particularly relevant in consideration of the way in which the individual in the "nurse" role sees, and behaves towards the individual in the "patient" role.   In such a relationship, the individual's knowledge of the other's role expectation of him facilitates interaction with them.

These expectations, according to Sarbin and Allen (1968) influence the behaviour of the performer by inducing conformity, and influences the person with whom the performer interacts, who responds in different ways depending on whether the behaviour is interpreted as conforming to the relevant role expectation or not.

A number of different roles have been described for patients. Perhaps one of the best known is Parson's (1970) "sick" role. This concept was also studied by Gordon (1966) who found that sickness as a medical phenomenon differed from sickness as a social phenomenon. Adoption of a sick role includes compliance and co-operation with the competent help that has been sought. Vincent (1971) explored the situational factors that influenced the enactment of the sick role construct of complying with the advice of physicians and suggested that the nurse could assist in making the necessary adjustments from the patient's previous social role to the sick role by means of understanding, explanation and support. This is similar to Meleis's (1975) description of role-supplementation as an appropriate conceptual basis for nursing.

Distinctions between illness behaviour, sick role behaviour and impaired-role behaviour were developed by Wu (1973), while Anderson (1973) drew a distinction between a patient role and the sick role. While the sick role is a generalised role offered to ill persons that justifies their non-performance of other roles, the patient role is allocated to the person who seeks medical help. When this is assumed freedom, autonomy and self-direction are exchanged for controls. In return protection, care and freedom from responsibility are gained. If the patient role defined and fulfilled by the sick person does not coincide with the nurse's expectation of the patient role behaviour then role conflict may result (Congalton & Najman, 1970). Taylor (1970) found that hospital patients largely fell into either the category of welcoming the opportunity to play a cooperative role, or being prepared to submit themselves to the role that the hospital seemed to expect them to play. Therefore, those desiring a cooperative role may have problems, if the hospital staff expect only "submissive" patients.

When such role conflict occurs patients are frequently "labelled" with descriptive titles that denote how they are seen in the eyes of the hospital staff. Duff & Hollingshead (1968) identified the labels of "problem" or "no problem", while both Congalton & Najman (1970)

and Taylor (1970) found "good" and "bad" patients to be in common usage. In a cross-cultural comparison of nurses conceptions of both "sick-role" and "good patient" behaviour in both the United States of America and India, Bhanumathi (1977) found variations which may be attributed to the differing cultural backgrounds of the nurses. From the patient's view-point, MacGregor (1967) found that patient behaviour may be interpreted as "unco-operative" or "difficult" when in fact it may be due to the ethnic, social or religious background of the patient.

Similarly, it is possible that the diagnosis of the patient may influence the nurse's expectation of a patient role. Wright (1960) described discrepancy in expectations in physical disability. Both Davitz and Pendleton (1969) and Larson (1977) presented subjects with information about patients that remained constant apart from the diagnosis. Davitz and Pendleton (1969) found that patients with the diagnosis of burns received higher suffering ratings than those with leukaemia, diabetes or depression, while Larson (1977) found patients with what she considered to be "less acceptable" illnesses (alcoholism and ringworm) were rated more negatively than those with emphysema or laryngitis.

While the concept of role can be a useful one in providing an orderly framework to enable persons to see the behaviour and expectations of behaviour of themselves and others, there is a fine dividing line between the use of helpful categories (Brown, 1965) and becoming a stereotype where the categories and expectations are dependent on a few obvious cues and may not be highly accurate for that particular individual or for that particular situation (Deutsch, 1971).

Stereotyping

According to the International Encyclopaedia of Social Sciences (1968) the term "stereotype" originated from the printing trade and referred to the metal plate caste in the mould of the type, and thus enabling thousands of copies to be made without becoming worn. Aspects of this concept are to be found in the Concise Oxford Dictionary's (1960) definitions of a stereotype as "fixed mental impression; to make unchangeable; to impart monotonous regularity to; to fix in all details; to formalise" (p.1238).

The term was first used in the social sciences in 1922, and Lippman (1966) who was the originator of its use considered that the stereotype or mental set acquired by an individual of a particular group was not often an accurate representation of the members of the group. A stereotype is generally acquired second hand and when the individual has direct experience with the stereotyped object they "notice a trait which marks a well-known type, and fill in the rest of the picture by means of the stereotype (they) carry around in (their) heads" (p. 72). In other words, they see what they expect to see rather than what is really there. Tagiuri (1969) identified these traits as being "some easily and quickly identifiable characteristic such as age, sex, nationality, occupation, etc" (p. 422).

The formation of stereotypes falls within the general area of impression formation which is the process by which an individual transforms a multiplicity of observations about another person or group, into a set of interpersonal attitudes and perceptions. Studies in impression formation can be traced back to Asch's (1946) studies on the formation of personality impressions. While stereotypes may be positive or neutral, Deutsch (1971) considered that they are usually negative; often invalid; and based on inaccurate or incomplete knowledge. Yet a stereotype is rarely discarded when evidence to refute them comes to light, since they have become deeply embedded within the individual.

Once a person has been stereotyped the perceiver then responds towards that person in a pre-conceived manner. For a patient that may have profound effects. Morimoto (1955) found the manner in which nurses responded to "preferred" and "non-preferred" patients was strikingly contrasted. In research looking at the attitude of nursing personnel towards elderly patients Campbell (1971) examined the degree of acceptance of various stereotypes. She found that all nurses demonstrated ample willingness to accept stereotyped attitudes towards the elderly. While the registered nurses group were the least willing to accept stereotyped statements, they also spent the least time with the elderly, and generally preferred not to work with them.

Another important fact is that once a patient has been stereotyped it is difficult for him to be seen to deviate from that particular stereotype or label (Coon, 1977), and so the nurse loses sight of the individuality of the patient.   As a reaction to indiscriminant stereotyping of patients some writers have advocated avoiding the use of general categories and placed emphasis on the patient as a person.   Perhaps the most noteable of these was Travelbee (1972) who advocated the term "human to human" relationships rather than "nurse-patient" relationships.   She considered patient to be a stereotype, and her assumption was that the quality of care given any ill person was determined primarily by the nurse's perception of the ill person and the beliefs held concerning human beings.   Travelbee (1972) believed that it was important for the nurse to develop an understanding of the way in which the ill person perceived their illness, which was neglected if the patient had been stereotyped, and a pre-conceived set of behaviours and opinions had been attributed to them.   To discover how a patient perceives their illness and its effect on their life takes time spent with the patient - listening, observing, assessing and evaluating in an ongoing cyclical manner.   In other words, the nursing process (Yura & Walsh, 1973).   Jourard (1959) reinforced this by emphasising the importance of the nurse's ability to develop accurate "patient concepts", and to use these concepts in the planning and giving of care.   Travelbee (1972) highlighted the importance of the way in which the nurse views the patient when she stated:

> the nurse's perception of "patients" is a major
> factor in determining the quality and quantity of
> nursing care she will render ill human beings.
> These meanings can be inferred by observing and
> noting what the nurse says about or to ill persons,
> how she relates to them and the way she performs her
> activities. (p. 32)

As Travelbee (1972) ably pointed out, it is by observing the nurse relating to a patient and performing nursing tasks that one is able to determine how that nurse perceives that particular patient.

In most actual nursing situations nurses receive information in some form about the patient before they meet.   This pre-information may be communicated either directly so that the nurse realises that specific information is being passed on, or indirectly in a much more incidental manner with the nurse largely unconscious of its influence on patient assessment and subsequent nursing actions.   If the pre-information is accurate and complete then few problems arise, but this can rarely be the case as patients are complex and their situation changes frequently.   Little is known about the relationship between the pre-information received in a clinical situation and the use made of it by the nurse.   Therefore it is proposed to investigate the effect of the nature of the pre-information given, on the manner in which a nurse perceives a patient and subsequent nursing actions in a simulated nurse-patient situation.

Hypothesis

It is hypothesised that the nature of the pre-information the nurse receives regarding the patient will influence the way in which the patient is perceived, and the resulting nursing actions:

a.   Subjects receiving additional pre-information regarding the physical condition of the patient will increase the percentage of items in both their description of the patient that are attributed to her physical condition, and nursing actions specifically relevant to such a patient;

b.   Subjects receiving additional information regarding the baby's condition will increase the percentage of items in both their description of the patient that are attributed to her response to the baby's condition and nursing actions specifically relevant to a patient with an ill infant;

c.   Subjects receiving no additional information will not increase the percentage of items in either their description of the patient or nursing actions that pertain to either the patient's physical condition or the baby's condition.

Definition of Terms

For the purpose of this study the following terms are defined as follows:

Pre-information

Any information the nurse receives about the patient before nurse and patient meet.   It may be in any form (written, verbal), complete or incomplete, accurate or inaccurate.

Cue

Any stimulus from the patient or environment available directly or indirectly to the nurse that may be used in making an inference about the patient.

Clinical Inference

A conclusion or judgement regarding a patient made by a nurse in a nurse-patient situation.

Nursing Action

Any action (physical, verbal) taken by a nurse in the carrying out of a nursing function.

CHAPTER 2

BACKGROUND TO DEVELOPMENT OF THE METHOD

After a fairly detailed search of recent relevant research in nursing and allied health sciences a wide range of possible formats for both the presentation of the instrument and the measurement of responses that may be suitable for investigating the effects of pre-information on clinical inference and nursing actions were found.

Presentation of Instrument for Measurement

It appeared that such an instrument could be presented in a written, auditory or visual form, or possibly as a combination of two of these media.

A questionnaire was frequently used. Holliday (1961) and Moore & Cook-Hubbard (1975) presented statements to patients to evaluate their satisfaction with, or experience of, nursing care, while Ciesla, Deckor, Gavron, Incofano and Kirk (1965) questioned nurses regarding their views of nursing care. A list of statements providing general and specific information about patient conditions were presented to nurses by Hammond, Kelly, Schneider and Vancini (1966b), so that the usefulness of each cue in assisting to make an inference about the patient and subsequent actions could be indicated. White (1972) provided a checklist for both nurses and patients to ascertain the importance of fifty selected nursing actions.

Within the context of a much wider study, Copp (1971) presented nurses and patients with a series of cartoon strips requiring the final words to be put "into the mouth of" the nurse or patient, to obtain information regarding the role expectation of the other person. This was the only time the use of a projective-type cartoon was found.

34.

A variety of different simulation techniques have been used. Perhaps the best known written form is that of critical incidents. These include the presentation of brief descriptions of a patient or a nurse-patient incident and have been used for measuring clinical competence (McIntyre, McDonald, Bailey & Claus, 1972; Williamson, 1965); solving clinical problems (Boreham, 1977); assignment of priorities in a community health setting (Hansen & Thomas, 1968a; Thomas & Hansen, 1966); decision-making in patient management situations (Dincher & Stidger, 1976; Hansen & Thomas, 1968b; McGuire, 1963); and for making inferences of the suffering of others (Baer, Davitz & Lieb, 1970; Davitz & Pendleton, 1969; Lenburg et al, 1970).

Another form of the critical incident technique was used by Gorham (1962) who collected information about nursing behaviour by asking nurses to describe incidents which demonstrated specific types of behaviour. Kelly (1964b) obtained reports of nurse-patient situations, and selected those which included detailed descriptions of post-operative patients' complaints of abdominal pain. She then used these for eliciting the state of the patient, action, value of cues and certainty of response. A detailed written description of the patient was used by Larson (1977) in combination with a set of slides to determine whether a nurse's perception of patients was influenced by the patient's socio-economic class.

Wallston & Wallston (1975) had four simulated patients with differing diagnoses tape-record 20-30 second segments on twelve topics pertaining to their illness to test for nurses' willingness to both listen to a patient, and pass on information to the next nurse. Tape-recorded episodes of typical crying patient situations were used by Forster & Forster (1971) in exploring nursing students' reactions to the crying patient. Entire interviews were recorded by McDonnell, Kramer and Leak (1972) with subjects where they were required to choose between solutions to a clinical problem which presented a conflict between the needs of the patient and the needs of the institution. The only report found where non-verbal information was used was that of recorded heart murmurs used by Evans and Bybee (1965) to evaluate medical students' skills in physical diagnosis.

A number of researchers presented their instrument in a visual form. As already mentioned Larson (1977) used a set of slides in conjunction with written descriptions of the patients. Kraus (1976) selected a two-minute silent colour segment of the film *Pain and Its Alleviation* to use as the basis of her research into the effects of pre-information. Crowell (1968) used a two minute sequence of the colour sound film *This is Nursing* for the purpose of determining which cues were utilised in making a clinical inference.

Five scenarios depicting patient situations and reactions were filmed and used by Verhonick *et al* (1968) to elicit nurses' observations and suggested actions. These films are described in detail by Davis (1972) and were also used by her (Davis 1972, 1974).

Verhonick *et al* (1968) reported that "the outstanding advantage of presenting filmed stimuli as a survey tool is the implicit control factor of the instrument" (p. 38). Hammond (1964) endorsed the use of motion pictures for presentation although other factors prevented this method from being used in that particular research.

Measurement of Response

A number of researchers favoured the use of Likert-type scales of a varying number of points (four-seven) with a seven point scale being the most frequently used. Among those using this form of measurement were Baer *et al* (1970), Ciesler *et al* (1965), Davitz *et al* (1969), Forster and Forster (1971), Kraus (1976), Lenburg *et al* (1970), Risser (1975), Thomas and Hansen (1966) and White (1972). Other forms of measurement included the use of Osgood's Semantic Differential Scale (Forster & Forster, 1971); ranking of items (Crowell 1968; Holliday 1961); the selection of correct or preferred answers (Dincher & Stidger, 1976; McIntyre *et al* 1972; Williamson, 1965); and indication of true/false items (Moore & Cook-Hubbard, 1975).

The remaining form of measurement to be discussed is content analysis which is used to measure "open-ended" responses by coding the content into relevant categories.

King (1967) analysed 105 interaction incidents which occurred over a nine month period in recorded verbal interactions between one nurse and one patient to determine the inter-relationship between a nurse's communication pattern and a patient's use of denial.   Five categories of communication methods were developed.   Verhonick *et al* (1968) categorised observations into categories of signs and symptoms, patient actions, physical characteristics and environmental factors; and also into appropriate, inappropriate, and irrelevant subcategories.   She divided nursing actions into categories of "therapeutic", "supportive", notify a physician (several categories), and inappropriate.

Crowell (1968) in her adaptation of the above method concentrated on the classification of cues, inferences and actions.   Cues were categorised as signs and symptoms, patient actions, physical characteristics, environmental factors, psychological inferences reported as cues, or other inferences reported as cues.   Inference categories were adapted from Hammond, Kelly, Schneider and Vancini (1966a) as physical condition, psychological condition, condition requiring intervention, or condition requiring notification of physician or others.   Actions were categorised on the basis of an adaptation of Kelly's (1964b) four categories into categories of Doctor, Drug, Respirations, Comfort and Support, Position, Psychological Support, Evaluate or Inquire.

Since content analysis is a very pertinent method of measurement for this study and few details of the actual procedure are given in the literature already discussed it was necessary to look further afield.   In particular into its use in studies of psychotherapeutic interviews (Marsden 1965; Murray 1954, 1956), and general texts on the subject.

Content analysis is described by Carney (1972) as "a general purpose infrastructure, elaborated for a wide range of uses. It is intended for anyone who wishes to put questions to communications to get data that will enable him to reach certain conclusions" (p. 26), while Fox (1976) defined content analysis as "a procedure for the categorisation of verbal or behavioural data, for the purposes of classification, summarization and tabulation" (p. 259). Budd, Thorp and Donohew (1967) believe that content analysis studies usually involve stages as follows:

1. formulation of the research question, theory and hypotheses;
2. selection of a sample and defining of categories;
3. reading, listening or watching, and coding of content according to objective rules;
4. scaling of items may occur, and scores are obtained;
5. comparison of scores with measurements of other variables;
6. interpretation of findings according to appropriate concepts and theories.

Emphasis is placed by most writers on the importance of the research question, which must be defined in such a way that answers to it can be counted. Providing that all data, "pro and con", are impartially collected and all aspects of the question are investigated uniformly then Carney (1972) maintained that the findings would reveal trends or characteristics not otherwise observable because of the mass, the complexity, or the chaotic nature of the communication. According to Holsti (1968), content analysis is not just a frequency count, but aimed to compare the data it extracts against some norm, standard or theory, so as to draw conclusions. While content analysis will produce data in answer to a question it will not produce the question, and the quality of the answer depends largely on the quality and nature of the question asked.

Berelson (1962) described three basic assumptions of content analysis. It assumes that:

1. inferences about the relationship between intent and content or between content and effect can validly be made, or the actual relationships established;

2. study of the manifest content is meaningful - that the categories that the content is assigned to will be recognised as relevant to the speaker and the hearers;

3. the qualitative content of communication is meaningful. This applies only when the content units have a more or less equal weight for the purposes of analysis. (This emphasises the importance of selecting the categories for analysis.)

The coding of content analysis is "the process whereby raw data is systematically transformed and aggregated into units - which permit precise description of relevant content characteristics" (Holsti, 1968, p. 644). Methods of coding content materials carry with them certain assumptions about the data and the inferences that can be drawn from them. Since coding rules serve as the operational link between the investigators data and the hypotheses, they are an integral part of the research design, and need to be carefully considered as such. According to Holsti (1969) categories should:

1. reflect the purposes of the research;
    a. define clearly the variables being dealt with (validity)
    b. specify the indicators of each category (reliability);
2. be exhaustive (all items placed in a category);
3. be mutually exclusive (no item able to be placed in more than one category);
4. be independent;
5. be derived from a single classification system.

It is necessary to decide how general or specific the categories are to be. That is, how fine are the distinctions within categories. Subdivisions within categories permit the analyst to make more comparisons and to test more hypotheses, but research costs and time increases, and reliability may suffer as categories increase. In the absence of standard schemes of classification the analyst is usually faced with the task of constructing appropriate categories by trial and error methods, testing the usefulness of tentative categories and then modifying them in the light of the data.

The aim of content analysis is to find categories for which empirical evidence is clear enough so that competent judges will agree to a sufficiently high degree on which items of a certain population belong in a category and which do not (Schutz, 1958). A satisfactory level of agreement between judges was considered by Fox (1976) to be in the range of 85-90% depending on the degree of complexity in the coding system used.

The analyst must designate the size of the unit to be coded. That is, the smallest segment of the content to be counted and scored - such as a word, sentence, theme or item. A theme is often a useful unit, and is "a conceptual unit, thought-process or view-point which can be seen as a conceptual whole" (Carney, 1972, p. 159). This is a single assertion about the subject, and using such a coding unit often enables the construction of ingenious analyses which produce very dramatic findings as they can sometimes reach into aspects of a communication which cannot be dealt with by other methods such as word frequency counts. Themes are a useful unit for the measurement of values, attitudes and beliefs (Carney, 1972). A similar unit called a statement or meaning phrase was selected by Murray (1954, 1956) for the study of psychotherapy.

The main problem with using themes or statements is that these units are not clear cut, self-evident wholes as words are, and the boundaries are not easily identified. Consequently there tend to be problems in the reliability of coding them. Carney (1972) believes that it is important for the person coding not to have to make a series of judgements in doing so, and this can be avoided by atomizing and the use of a "decision-tree".

To overcome the problem of assuming that all units have the same importance a weighting system can be devised which reflects the nature of the range of content being analysed (Fox, 1976). Another problem that may arise is when context units containing differing numbers of content units are to be compared. Murray (1956) recommended using percentages rather than raw scores in such situations.

Use of Judges

A panel of experts, who usually work independently and then compare their results, is frequently used in this form of research. The main times when judges are used is prior to the collection of data and then in the analysis of the data.

Judges were used prior to the collection of data for purposes of establishing criteria for responses (Verhonick *et al*, 1968; Williamson, 1965); classifying items using previously obtained criteria (Kraus, 1976; McIntyre *et al* 1972); assigning weighting to each item (Dincher & Stidger, 1976); categorising items on a seven point scale (Hansen & Thomas, 1968b); and for ranking of items (Hansen & Thomas, 1968b). In the analysis of data judges were used for reviewing each response and attaching key words to the response (Copp, 1971); and categorising the responses as a control for the researcher (Crowell, 1968; King, 1967).

CHAPTER 3

METHOD

Sample

A total of 55 female subjects (not including the pre-test) participated in the research. The sample was composed of three groups of nursing students as follows:

Group 1 - 28 midwifery students in the fifth month of their six month course. These students were all registered general and obstetric, or comprehensive nurses who had applied for and been selected for this programme leading to registration by the New Zealand Nursing Council as registered midwives. In this particular programme the students had a regular weekly study day throughout their course and worked rostered shift duties as part of the nursing service establishment of the obstetric hospital;

Group 2 - 12 midwifery students in the third month of their six month course. These students were all registered general and obstetric nurses who had applied for and been accepted for this programme which also led to registration by the New Zealand Nursing Council as registered midwives. In this programme, the first three months was largely with student status with emphasis on theoretical knowledge and observational experience, with increasing clinical experience and responsibility in the latter half of the course;

Group 3 - 15 comprehensive nursing students near the completion of clinical experience in maternal and child health nursing at the end of the second year of a three year programme leading to registration by the New Zealand Nursing Council as registered comprehensive nurses. This nursing programme is based within a Technical Institute and is student-based. In clinical experience the students are allocated suitable patients selected by their tutor in conjunction with the hospital staff, and they provide nursing care under the direction of the tutor responsible for the students at that time.

Each group of subjects was divided into three categories. Two
categories received different pre-information and the third category
acted as the control group. Numbers in each category were:

	Category D Control	Category B	Category C	Total
Group 1	10	8	10	28
Group 2	4	4	4	12
Group 3	5	5	5	15
	19	17	19	55

Presentation of Instrument for Measurement

After consideration of the various forms of presentation available
it was decided to follow the recommendations of Hammond (1964) and
Verhonick *et al* (1968) regarding the advantages of visual presentation.

A five minute black and white videotaped sequence was planned of
a role-played post-natal patient in bed in a single room. It was
filmed in a hospital ward for authenticity of setting and back-
ground noises. The sequence was filmed as it would be seen by a
nurse approaching and then entering the room. It intentionally
portrayed a number of potentially ambiguous cues that could possibly
be interpreted in a variety of ways. There was only one person in
the film, the role-played patient. A verbal request, "Can't you do
anything?" was intentionally placed near the end of the sequence to
provoke a response from the subject.

Pre-information was given on two occasions, prior to the first
and second viewing of the videotaped sequence. Prior to the first
viewing all subjects received a copy of Pre information A. It
stated briefly that they had just commenced afternoon duty on
a post-natal ward, and they were meeting for the first time Mrs Wilson
(the patient on the videotape) who was now four days post-partum.
Prior to second viewing additional information regarding Mrs Wilson
was given to some subjects prior to their second viewing of the
videotape sequence. This pre-information consisted of the following
three main facts:

1. Mrs Wilson had been transferred in labour from a country hospital and had a difficult delivery (information regarding transfer);

2. That morning (fourth day) Mrs Wilson was reported to have a temperature of 37.5°C and a slightly inflamed perineal suture line (information regarding patient's physical condition);

3. Baby Wilson had been transferred to the Neonatal Unit following delivery. That morning (fourth day) Mrs Wilson's doctor had told her that baby's condition had deteriorated slightly, and no further information had been received (information regarding baby's condition).

No subjects received all of this information. Some subjects within each group received Pre-inforamtion B which contained information regarding Mrs Wilson's transfer and physical condition. Other subjects received Pre-information C which contained information regarding Mrs Wilson's transfer and baby's condition. The remainder of the subjects in each group received Pre-information D which told them that they were part of the control group and received no further information regarding Mrs Wilson. See Appendix A for details of pre-information sheets.

Procedure

Permission to conduct this research was obtained from the relevant nursing authorities in each instance. Arrangements were made with the tutor responsible for the programme (where necessary) for an hour to be allocated at a mutually convenient time on a study day. This meant that only those students present on that particular day were included within the sample. The videotape equipment was set up prior to each session, and I was introduced to the two groups who did not know me as a registered nurse who was doing research as part of a Master's degree. I spoke briefly of having observed a wide range of different ways that nurses saw and responded to patients, and of my interest in investigating this area further. The students were then invited to take part in this research, and in all cases all present agreed to participate.

It was explained to them that they would have an opportunity to view a short videotape of a post-natal patient and then to describe what they had seen and how they would respond if they were the nurse in the situation. It was emphasised that there were no right or wrong answers, but that I was interested in how they saw the patient and what they considered was the best response for them to make.

A number was allocated to each subject which they were asked to put on each sheet of paper, so that while annonymity was maintained, it was possible to identify all sheets belonging to the same subject. Each subject was given:

1. a personal data sheet (see Appendix B);
2. Pre-information A;
3. an unlined fool-scap sized page headed "Describe what you saw on the video (in as much detail as possible)";
4. an unlined fool-scap sized page headed "Describe your response (in as much detail as possible)".

The subjects were instructed to complete the personal data sheet which was then collected. They were then asked to read Pre-information A sheet which could "give them information about the patient they would meet on the videotape", and to watch the videotape carefully. Once the videotape had been played time was allowed for all subjects to complete their answers on the pages supplied. There was no time limit and generally 10-15 minutes was taken. These two pages were then collected as the subjects indicated they had finished.

When all sheets had been collected I made as a statement, "You didn't have much information about Mrs Wilson did you?" (to which there was loud agreement). "I'm now going to give.you some more information and then an opportunity to see the video and complete your answers again".

All subjects were then given:

1. Pre-information B, C or D (these were all on the same sized paper and folded in two so that no indication was given of different information);
2. two more pages headed as before.

Initially it had been intended to place the subjects into as equally balanced groups as possible on the basis of their personal data sheets, but it was found that the seating arrangements in the room (over which the researcher had no influence in two instances) placed the subjects in close groups with opportunity to easily see the content of the pre-information given to other subjects. Thus it was decided to give all subjects within the same seating groups the same pre-information on the basis that avoidance of seeing other pre-information was more important than having more evenly balanced groups.

Subjects were then instructed to read the pre-information sheet. The videotape was played. Responses were written as before and collected when completed. When all data had been collected an explanation was given of the purpose of the research. The three different pre-information sheets were read, and there was an opportunity for questions and discussion on the effects of pre-information on nursing practice.

Pre-test

The instrument and procedure was pre-tested with a group of eleven comprehensive nursing students who were part of the other half of the second year class of comprehensive students who made up Group 3. This group was also near the completion of their clinical experience in maternal and child health nursing, and were at this time two-thirds through the second year of their three year programme. The only major difference to Group 3 was that the pre-test group had not yet undertaken an intensive three month programme in psychiatric nursing.

On the pre-test it was found that the procedure was workable. Several subjects were unsure of what was required as "your response", and described their response to viewing the videotape rather than their response as the nurse in the situation. So that aspect was emphasised on other occasions. No other changes were made.

Measurement of Response by Content Analysis

Since the data collected was in the form of open ended unstructured responses content analysis was the method of measurement selected.

Content Unit

The statement or meaning unit was selected as the content unit. Instructions for scoring this content unit were adapted from Murray (1956). (See Appendix C).

Categories

The categories for coding the data were arrived at by a lengthy process of trial and error. Mindful of the emphasis given by Carney (1972) to the importance of the question to be asked, considerable effort was placed on defining the question as accurately as possible. The question asked of the data was:

"Does the nature of the pre-information influence the content of the subject's description of the patient and subsequent described nursing action?"

"Describe what you saw on the video"

These items were categorised into three broad categories as follows:

A. Patient Surroundings;

B. Patient Appearance;

C. Patient Actions.

Each of the above categories were subdivided as follows:

1. descriptive items - factual items which were present in the videotape. Lists of these items were compiled from extensive viewing of the videotape;

2. assumptive items - items not within the descriptive list but which were used by the subjects to describe what they saw or how they interpreted what they saw on the videotape.

Assumptive items were then further subdivided into five categories
as follows:

a.   attributed to patients physical condition.   These
     items were related to signs and symptoms of perineal
     infection such as painful perineum, fever, general
     malaise;

b.   attributed to patient's response to baby's condition
     such as the patient's concern for baby, and wanting
     news of, or contact with baby;

c.   attributed to patient's response to transfer from a
     country hospital;
     items concerned with being in a large hospital and
     separated from family and friends;

d.   attributed to waiting for or expecting visitors;

e.   general items which were not attributed to any of the
     above sub-categories.   These may be non-specific and
     general in nature, or attributed to "routine" fourth
     day post-natal conditions such as "post-natal blues"
     or breast engorgement.

A final "other" category was provided for the very few items
which could not be placed in any of the above categories.

Weighting of Assumptive Items

Considerable differences were apparent in the manner in which
subject's expressed assumptive items.   To include these differences
within the analysis all assumptive items were weighted as follows:

1.   low potency items were tentative statements, often
     prefixed with "maybe", "perhaps" or in the form of a
     question, for example, "Is she worried about baby"? (given
     a weighting of one point);

2.   average potency includes all aspects of usual expression
     (given a weighting of two points);

3.   high potency items were expressed strongly.   They may be
     conveyed by such words as "obviously", "extremely" or
     "very" (given a weighting of three points).

There was no intention to weight the nature of the activity, or emotion being expressed, but rather the strength or certainty with which it was expressed by the subject.

In brief, the decision-tree for coding "Describe what you saw on the video" was:

1. is the item - patient surroundings, appearance, or actions?;
2. is it a descriptive or assumptive item?;
3. if an assumptive item, to which of the five sub-categories does it belong?:
4. if an assumptive item, which weighting?

"Describe Your Response"

The categories for this section were fewer in number. There were three main categories with three subcategories in two of these as follows:

A. Establishing Nurse-Patient Relationship
   This category included all items specifically connected with the establishment of a nurse-patient relationship such as:
   1. initiation of relationship by the nurse by such actions as introduction by oneself, moving towards patient or sitting down;
   2. identification or empathy with patient by finding similarities with own experience;
   3. facilitation of a trusting relationship by showing genuine interest or concern, reflecting what had been said and encouraging further non-specific disclosure.

B. Assessment of Patient
   Inquiry of patient:
   1. to validate the inferences the nurse has formed of patient's condition or situation;
   2. to clarify how the patient sees own situation and the nature of assistance desired;
   3. to seek additional information.
   Inquiry of staff or notes for additional information.

Assessment items were subdivided into:

1. <u>Assessment-general</u> items which related to the physical and emotional wellbeing of the patient and included inquiry regarding the fact that she was alone, and of possible fourth day "routine" conditions such as the establishment of lactation and "fourth day blues";

2. <u>Assessment-physical</u> items related to patient's physical condition. Specific assessment in relation to possible perineal infection such as the presence of pain, discomfort or temperature;

3. <u>Assessment-baby</u> items related to patient's response to baby's condition including inquiry as to whether she is worried about baby and does she want additional information, or to see her infant.

C. Actions by the Nurse

All items in which the nurse:

1. assists to meet the patient's physical needs;

2. provides emotional support;

3. gives additional information to the patient;

4. enlists assistance from other resources such as patient's husband, or professional experts.

Action items were subdivided into:

1. <u>actions-general</u> items relating to the general comfort of the patient, "routine" fourth day complications, diversional activities and providing general information;

2. <u>actions-physical</u> items relating to patient's specific physical condition and concerned with a painful and possibly infected perineum, such as inspection of suture-line, lochia and fundus; provision of pain-relief, bidet, salt-sitz baths, or heat-lamp; and obtaining a specimen for culture;

3. <u>actions-baby</u> items relating to the care of the mother of a baby in the neonatal unit concerned with arranging for, or taking her to see baby, and giving information about baby's condition or treatment.

There was also an "other" category for the very few items unable
to be categorized into any of the above seven categories.

Obtaining Scores for Each Subject

It was decided to use the response following the first viewing
of the videotape as the base-line for that particular subject.
That decision was based largely on a previous exploratory study
(McIntosh, 1976) where wide variation in the nature of responses
of the subjects were found within recognized groups of nurses.

Once the individual baseline was obtained for each subject
by recording the number of items in each category on specially
prepared forms (See Appendix D), the response after the additional
pre-information and second viewing of the videotape was compared.
This meant that each subject obtained a plus or minus score in each
category.

Since there was considerable difference in the number of
content units both between the first and second responses for
the same subject and between the subjects, all scores were converted
to percentages as had been advocated by Murray (1955).

The percentages for surroundings, appearance and actions were
then combined to provide total scores in each of the following
categories:

1. descriptive items;
2. general items;
3. items attributed to visitors;
4. items attributed to transfer;
5. items attributed to patient's physical condition;
6. items attributed to baby's condition

No changes were made to the categories for "Describe Your Response"
which were as follows:

1. items relating to establishing a nurse-patient relationship
   (N-P):
2. assessment-general items;
3. assessment-physical items;
4. assessment-baby items;
5. actions-general items;
6. actions-physical items;
7. actions-baby items.

Comparisons were then made of the scores for each category by means of multivariate one way analysis of variance using the following computer programme.

Multivariate One Way Analysis of Variance Graphical Display

Starts with ni groups.

ith group has n [i] observations in it.

Each observation is a nj dimensional vector.

1. Translate the data so overall mean is 0.

2. Define the covariance matrix by:

$$\sigma \, [j_1, \, j_2] = \frac{1}{\Sigma n \, [l]} \sum_{i=1}^{3} \sum_{k=1}^{n[i]} \left[y[i, j_1, k] - \mu[i, j_1] \right] \left[y[i, j_1, k] - \mu[i, j_2] \right]$$

where $\mu[i,j]$ is the mean of the jth component of the ith group.

3. Scale so that the variance in any direction, $\sigma[j, j]$ is 1.

4. Ignore any directions in which the scaled co-variance is less than 0.1 (3) and (4) are only to take into account the singularity of the data (i.e. the components are linearly dependent).

5. Scale so that the co-variance matrix is the identity matrix (ignoring those directions eliminated by 4).

6. Choose the 2 largest eigenvalues of the scaled version of:

$$\sum_{i=1}^{3} n \, [i] \, \mu \, [i, \, j_1] \, \mu \, [i, \, j_2].$$

7. Project all the results onto the 2 dimensional subspace corresponding to the 2 largest eigenvalues (these represent the differences in which the "most significant differences" between groups occur).

8. Draw 80% confidence ellipses about the results for each group (on the assumption that they have a multivariate normal distribution, but taking the co-variance matrix from the individual group, not the combined groups).

9. For each original co-ordinate direction j, take the transformed image of the plane χj = constant. Take the unit vector ortho-normal to the plane (orthonormal with respect to the co-variance matrix, which has been transformed to be the identity). Project these orthonormal vectors onto the subspace generated in 7).

Conclusions to be drawn from display

1. Groups of data separate from each other indicates a significant difference between the groups.
2. Clearly different shapes to confidence ellipses indicates that different groups have different co-variance matrices.
3. Image of the co-ordinate vectors:
   a. if long then implies the co-ordinate is important in indicating the differences between the groups;
   b. if short, then not very important;
   c. if 2 vectors point in much the same or opposite directions then there is a high degree of duplication between the information they give, and only one is sufficient. Ideally we want 2 directions with fairly long vectors, and roughly at right angles to each other. These 2 directions could then be said to "explain" most of the differences.

Use of Judges

Judges were used for two distinctive purposes in the process of this study. Firstly in developing the categories and then as a control in the analysis of the data.

A panel of three "experts" who were all registered midwives with considerable experience in post-natal care provided a monitoring role for the criteria for categorization of items. These judges met together with the researcher, and after a brief explanation of the nature of the research they were given copies of all the pre-information and then viewed the videotape as long as they wished. They then completed the same tasks as the subjects - describing what they saw on the videotape and their response. When completed, the judges then read their responses to each other and discussed these together. There was considerable variation in the range of content and degree of detail, but general agreement resulted. An indepth discussion followed on the range of "acceptable" nursing actions for such a post-natal patient. From this discussion arose the four main aspects that formed the basis of the categories for the analysis of the description of subjects actions.

Judges were used for two different functions as controls
in the analysis of the data.   Two judges were used to monitor
the defining of the content unit, and three different judges were
used for coding the content of the responses.

Two judges who were not actively involved in either psychology
or nursing areas were given instructions for determining the Content
Unit (See Appendix C), and copies of the responses from three subjects
selected at random.   They were asked to indicate the content units
following the instructions and their papers were compared with that
of the researcher.   It was found that one judge was in complete
agreement with the researcher, while the other differed in one instance
by making two units out of which the researcher and other judge had
determined was one unit.   Thus there was a very high level of agree-
ment between judges and researcher.

Judges were also used for monitoring the reliability of coding
of responses.

Three judges who were familiar with the area of research were
enlisted and given:

1.   instructions regarding the categories (see Appendix E);

2.   data from three subjects selected at random in both sections;

3.   copies of the prepared forms for recording their coding.

These judges were directed to read the instructions carefully and
then to categorize each item on the relevant form.   It had been
intended to measure the level of agreement between the judges and
with the researcher, but it was later found that no statistical method
was available for use on data in that form.   Although it was
evident from comparing the coding that there was considerable agreement
it was decided to perform this control activity again in the form
advocated by Fox (1976).

One hundred items were selected at random from the subject's
responses (50 from both "Describe what you saw in the video" and
"Describe your response").   Three further judges were obtained.
(Distance and time factors precluded using the same judges as
before.)   They were given an explanation of their task (see
Appendix F).   The lists of instructions concerning categories, and
the lists of items (see Appendix G) and requested to indicate the
category of each of the 100 items.

CHAPTER FOUR

RESULTS

Pre-test

Total number of subjects: 11

Number in each category:

Category D (Control):   3

Category B (Pre information B):   4

Category C (Pre information C):   4

Composition of Categories

Unfortunately the personal data for subjects in the pre-test was lost.   As they are all students it only related to age and general education.

"Describe What You Saw on the Video"

(See Appendix H, Tables H.1 for Raw Scores, H.2 for Weighted Scores and H.3 for Percentages.)

Table 4.1

Weighted Combined Percentages for Each Subject in Pre-test Group by Category to "Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	− 1.00	− 2.70	0.00	0.00	0.00	0.00
	− 6.00	− 5.80	−11.80	0.00	0.00	0.00
	− 0.30	−41.80	− 3.40	0.00	1.90	14.20
Category B	− 7.30	− 2.30	0.00	0.00	0.00	0.00
	4.00	− 8.30	−14.30	0.00	11.10	0.00
	− 3.40	9.60	0.00	0.00	0.00	0.00
	− 9.40	4.00	0.00	0.00	2.70	0.00
Category C	−17.80	17.70	0.00	0.00	0.00	0.00
	−18.20	−54.60	9.10	9.10	0.00	36.40
	−47.00	58.00	0.00	0.00	11.10	33.30
	−20.90	−20.30	0.00	15.00	7.60	20.00

55.

This table shows considerable individual differences within all
categories in spite of the fact that the score for each subject
is the difference (plus or minus) from their individual baseline.
Ten subjects showed a reduction in their descriptive items (ranging
from -0.30 to -47% While four subjects attributed items to visitors
after pre-information A, only one of these (in category C) did so
after additional pre-information.   Only two subjects (both in
category C) included items attributed to the patient's transfer (pre-
information on transfer was available to subjects in categories B & C).
In the control group (category D) one subject included items
attributed to the patient's physical condition, and baby's condition
(without the relevant pre-information).   In category B (receiving
pre-information about the patient's physical condition) no items were
attributed to the baby's condition, and two (or half) of the subjects
did not give items attributed to the patient's physical condition.
In category C (receiving pre-information about the baby's condition)
there was the greatest amount of change from the individual base-lines.
All subjects had reductions in the descriptive items (ranging from   -
-17.80 to -47% and changes in general items (ranging from -54.60 to 58%).
Three out of the four subjects increased their items attributed to
baby's condition (ranging from 20 to 36%), and two subjects also
increased their items attributed to the patient's physical condition
(ranging from 7.60 to 11.10%). Thus it appears that pre-information
about the baby's condition not only increased the percentage of items
attributed to the baby's condition but also the items relating to
the patient's physical condition.   In fact, this was increased to a
greater extent than for those in category B who received pre-information
regarding the patient's physical condition.   These trends are also
demonstrated in terms of group data in the following table.

Table 4.2

Comparison of Category Mean Percentages for Pre-Test Group
to "Describe What You saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	- 2.43	-16.77	- 5.07	0.00	0.63	4.73
Category B	- 4.02	0.75	- 3.58	0.00	3.45	0.00
Category C	-25.98	0.20	2.27	6.03	4.67	22.43

Figure 4.1. Multivariate One Way Analysis of Variance Graphical
Display for Pre-test Group to "Describe What You Saw
on the Video".

Key: 1. descriptive items
     2. general items
     3. items attributed to visitors
     4. items attributed to transfer
     5. items attributed to patient's physical condition
     6. items attributed to baby's condition.

Category C has the greatest increase in items attributed to the baby's condition (22.43%). Category B shows an increase in items attributed to the patient's physical condition (3.45%) but not as great as that in category C (4.67%). Category D (control group) has less items attributed to either patient's physical condition or baby's condition than either category B or C respectively.

Multivariate One Way Analysis of Variance Graphical Display for Pre-test Group to "Describe What You Saw on the Video".
(See Figure 4.1)

This portrays the three categories with quite different shaped ellipses indicating different co-variance matrices, and the ellipses for category B and category C as being quite separate, which indicates a significant difference between the two groups. The longest co-ordinate vector image lines are for descriptive items (1) and items attributed to baby (6). It is the variations in these items that are responsible for most of the differences between the categories. However, these results must be interpreted with caution as there are such small numbers in each category that they can only be seen to indicate tendencies.

"Describe Your Response"
(See Appendix H, Table H.4, for Raw Scores).

Table 4.3

Percentages for Each Subject in Pre-test Group by Category
to "Describe Your Response"

		Assessment			Actions		
	N - P	General	Physical	Baby	General	Physical	Baby
Category D	-17.90	17.90	0.00	0.00	0.00	0.00	0.00
	-30.30	- 3.30	0.00	33.30	0.00	0.00	0.00
	30.00	-30.00	0.00	0.00	0.00	0.00	0.00
Category B	-46.70	26.70	20.00	0.00	0.00	0.00	0.00
	-14.30	-28.50	7.10	0.00	28.60	7.10	0.00
	-19.00	-10.00	28.60	0.00	0.40	0.00	0.00
	-22.30	-11.10	22.20	0.00	11.10	0.00	0.00
Category C	-54.90	24.20	0.00	23.10	7.10	0.00	0.00
	-66.60	0.00	0.00	0.00	-13.30	0.00	80.00
	-33.30	-33.30	0.00	33.30	0.00	0.00	33.30
	0.00	-22.20	0.00	33.30	-11.10	0.00	0.00

With two exceptions there is a reduction over all three categories in the number of items relating to the establishing nurse-patient relationship (N-P) which ranges from -14.30% to -66.60%. Only one subject in the control group (category D) actually showed an increase in these items (30%). Assessment general items showed both increases and decreases in items in all three categories (ranging from - 33.30% to 26.70%). Assessment-physical items are given only by subjects in category B (who received pre-information regarding the patient's physical condition). Here all subjects show an increase (ranging from 7.10 to 28.60%). Assessment - baby items are given by three subjects in category C (who received pre-information about the baby's condition) and one subject in the control group (whose score of 33.30% is the same as the top score for category C).

Subjects in the control group do not show an increase in any items concerned with actions. In fact they did not give any "actions" items on either trial. Three subjects in category B give an increased number of actions - general items (ranging from 0.40 to 28.60%) while only one subject in category C shows an increase in these items (7.10%). However, two subjects in category B show a decrease in actions - general items (- 11.10%, - 13.30%).

There is only one subject with actions - physical items. This subject is in category B and has a score of 7.10% Two subjects (both in category C) show increased actions - baby items. The scores are fairly high (33.30% to 80%). It is interesting to note that the subject with the highest score of actions - baby items has no assessment - baby items.

Table 4.4

Comparison of Category Mean Percentages for
Pre-test Group to "Describe Your Response".

	N - P	Assessment			Actions		
		General	Physical	Baby	General	Physical	Baby
Category D	- 5.97	-2.93	0.00	11.10	0.00	0.00	0.00
Category B	-25.57	-5.73	19.48	0.00	10.03	1.78	0.00
Category C	-38.70	-7.83	0.00	22.43	- 4.33	0.00	28.32

This table shows clearly the reduction in nurse-patient items. It is least for category D (-5.97%) and greatest for category C (-38.70%). Assessment - general items show the same tendency but this time the range is less (from -2.93 to -7.83%). Category B has the only increased mean in assessment - physical items (19.48%), while category C has the greater increase in mean in assessment - baby items (22.48%). Category B's mean for actions - physical items (1.78%) is must less than the mean for category C for actions - baby items (28.32%).

Multivariate One Way Analysis of Variance Graphical Display for Pre-test Group to "Describe Your Response". (See Figure 4.2).

The ellipse for category B is well separated from the other two indicating a significant difference in the composition of this category. Category C has a clearly different shaped ellipse from either category B or D due largely to a wide minor axis. The difference in shape indicates a difference in co-variance matrix. The longest co-ordinate vector image lines are for nurse-patient items (1) and actions - baby items (7) showing that these co-ordinates are important indicators of the difference between the categories. However, since these lines point in almost opposite directions there is a high degree of duplication in the information they convey. The line for assessment - general items (2) is very short portraying the unimportance of these items in determining the difference between the categories.

Group Results

All

Total number of subjects:	55
Number in each category :	
Category D:	19
Category B:	17
Category C:	19

These results are a combination of Groups 1, 2 and 3 to show overall tendencies. The three groups will later be discussed individually.
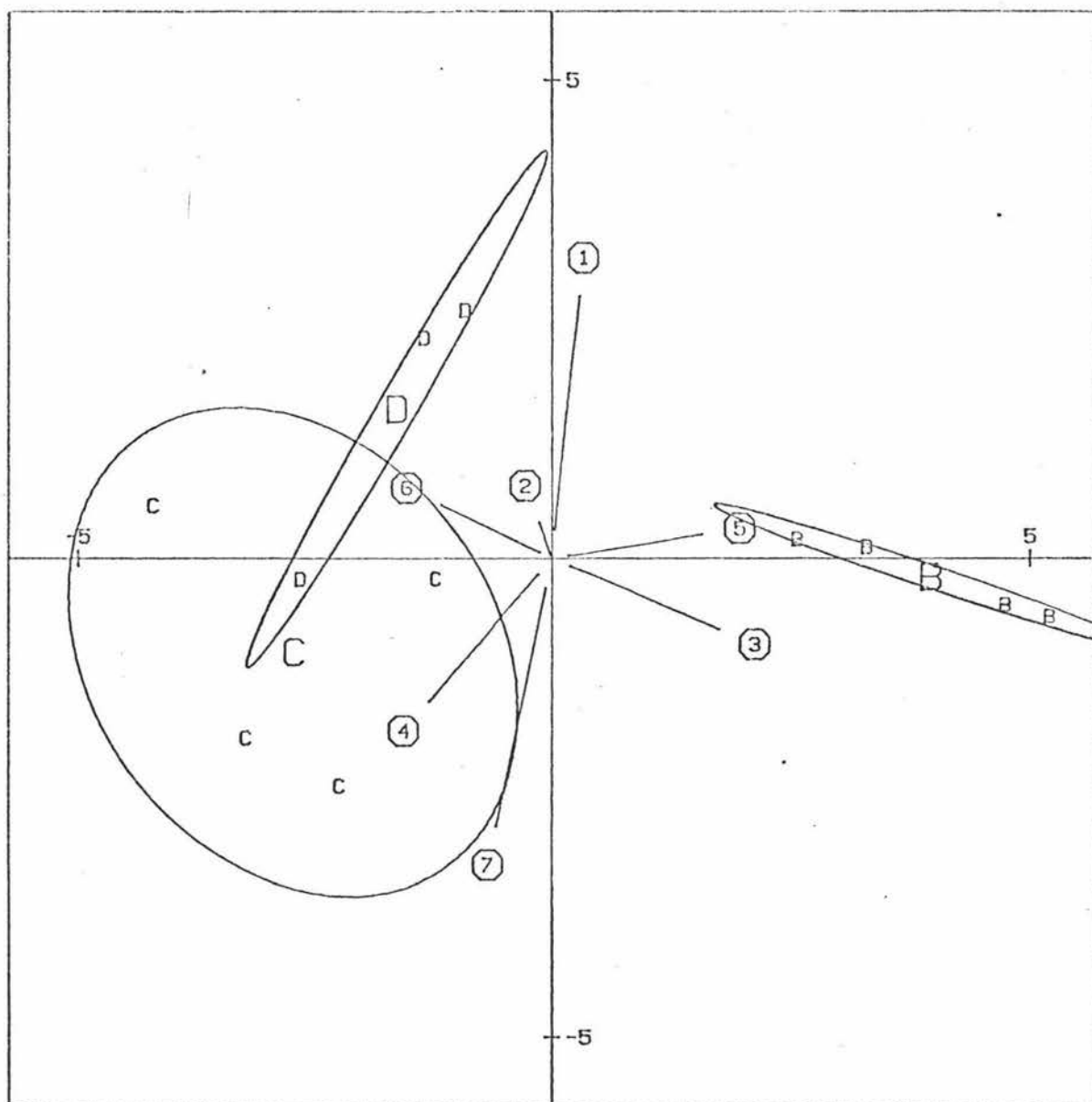
Figure 4.2. Multivariate One Way Analysis of Variance Graphical
            Display for Pre-test Group to "Describe Your Response"

Key: 1. items relating to establishing a nurse-patient relationship
        2. assessment-general items
        3. assessment-physical items
        4. assessment-baby items
        5. actions-general items
        6. actions-physical items
        7. actions-baby items

Table 4.5   61.

Distribution of Personal Data for All Subjects by Category

	Category D N = 19		Category B N = 17		Category C N = 19		Total N = 55	
	N	%	N	%	N	%	N	%
Age: under 20 years	3	5.45	4	7.27	3	5.45	10	18.18
20 - 24 years	9	16.36	7	12.73	5	9.09	21	38.18
25 - 29 years	4	7.27	3	5.45	9	16.36	16	29.09
30 - 34 years	3	5.45	1	1.82	1	1.82	5	9.09
35 - 39 years	0	0.00	1	1.82	0	0.00	1	1.82
40 years and over	0	0.00	1	1.82	1	1.82	2	3.64
Education: 3 years secondary	1	1.82	0	0.00	0	0.00	1	1.82
School Certificate	6	10.91	0	0.00	2	3.64	8	14.55
6th Form Cert.	2	3.64	6	10.91	3	5.45	11	20.00
University Entrance	8	14.55	10	18.18	11	20.00	29	52.73
7th Form Cert.	1	1.82	0	0.00	2	3.64	3	5.45
Bursary	1	1.82	1	1.82	0	0.00	2	3.64
Degree Paper	0	0.00	0	0.00	1	1.82	1	1.82
Nursing Registration: None	5	9.09	5	9.09	5	9.09	15	27.27
R.G.O.N.	14	25.45	11	20.00	13	23.64	38	69.09
R.Com.N.	0	0.00	1	1.82	1	1.82	2	3.64
Years since Basic Reg: 0	5	9.09	5	9.09	5	9.09	15	27.27
Less than 1 year	2	3.64	0	0.00	3	5.45	5	9.09
1 - 2 years	2	3.64	3	5.45	3	5.45	8	14.55
2 - 3 years	3	5.45	4	7.27	0	0.00	7	12.73
3 - 4 years	3	5.45	3	5.45	0	0.00	6	10.91
4 - 5 years	0	0.00	0	0.00	3	5.45	3	5.45
5 - 9 years	3	5.45	0	0.00	4	7.27	7	12.73
10 years & over	1	1.82	2	3.64	1	1.82	4	7.27
Years of Active Nursing: 0	5	9.09	5	9.09	5	9.09	15	27.27
less than 1 year	2	3.64	0	0.00	3	5.45	5	9.09
1 - 2 years	3	5.45	3	5.45	2	3.64	8	14.55
2 - 3 years	3	5.45	4	7.27	3	5.45	10	18.18
3 - 4 years	3	5.45	3	5.45	0	0.00	6	10.91
4 - 5 years	1	1.82	0	0.00	2	3.64	3	5.45
5 - 9 years	2	3.64	0	0.00	3	5.45	5	9.09
10 years & over	0	0.00	2	3.64	1	1.82	3	5.45
Post-basic Obstetrics: 0	7	12.73	8	14.55	12	21.82	27	49.09
less than 3 mths	4	7.27	5	9.09	2	3.64	11	20.00
3-6 months	3	5.45	2	3.64	1	1.82	6	10.91
6 mths - 1 year	3	5.45	0	0.00	0	0.00	3	5.45
1-5 years	2	3.64	1	1.82	4	7.27	7	12.73
Over 5 years	0	0.00	1	1.82	0	0.00	1	1.82

The subjects are not as evenly distributed throughout the three groups as was initially intended (for reasons already explained). The main areas of uneven distribution can be seen to be in the 20-29 years age brackets, years since registration, years of active nursing since registration (especially above three years), and in length of post-registration obstetrical experience prior to present programme. It is not known how much effect these variables actually have, either collectively or individually.

It can be seen that the majority of subjects (67.27%) are aged 20-29 years, with only 5.46% over 35 years. This is perhaps not surprising for the sample is composed of students. Over half (52.73%) have university entrance, and the majority (69.09%) are registered general and obstetric nurses. There are only two (3.65%) registered comprehensive nurses in the sample.

There is a fairly general distribution of years since basic registration, and active nursing since registration (with least in the 4-5 year bracket (5.4%)). However, it is interesting to note that 21.82% (excluding the 27.27% who are students prior to registration) had no obstetrical experience since their basic registration prior to this present programme, and another 20% had had three months or less such obstetrical experience.

"Describe What You Saw on the Video"

There is no table to show the weighted combined percentages for each subject by category. These will be discussed as each group's results are considered.

Table 4.6

Comparison of Category Mean Percentages for "All" Group to "Describe What You Saw on the Video"

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	- 2.95	- 2.11	3.07	0.00	0.12	0.51
Category B	0.91	-15.58	4.96	2.47	5.74	0.59
Category C	- 4.05	-10.29	0.26	1.89	0.16	13.08

Category C (receiving pre-information about the baby's condition) increase items attributed to baby's condition markedly (13.08%) in comparison with category B (0.59%) and category D (0.51%). Category B (receiving pre-information about the patient's physical condition) show an increase in items attributed to the patient's physical condition (5.74%) that is greater than the increase in these items for category C (0.16%) and category D (0.12%). However, the increase for category B of 5.74% for items attributed to the patient's physical condition is much less than category C's increase of 13.08% for items attributed to baby's condition.

It is of interest to note that the increase for category D (the control group) on both these items is little different to the increase for the other category in each case. Only the category receiving the relevant pre-information shows a marked increase while the other category shows a very small increase relative to that of the control group.

Items attributed to the transfer of the patient (pre-information given to both category B and C) are increased for both categories B and C, with category B showing the greater increase in these items (2.47%).

There is a reduction in general items for all categories ranging from -2.11% for category D to -15.58% for category B. Categories D and C show a reduction in descriptive items while category B has a small increase (0.91%).

Multi-variate One Way Analysis of Variance Graphical Display for "All Group to Describe What You Saw on the Video" (See Figure 4.3).

The ellipse for category D is much smaller than the other two and is almost entirely contained within both the ellipse for category B and the ellipse for category C. This indicates similarities in a number of the responses, but much wider spreads for categories B and C in divergent directions. The ellipse for category C is larger on both axes than the ellipse for category B portraying differences in co-variance matrices.
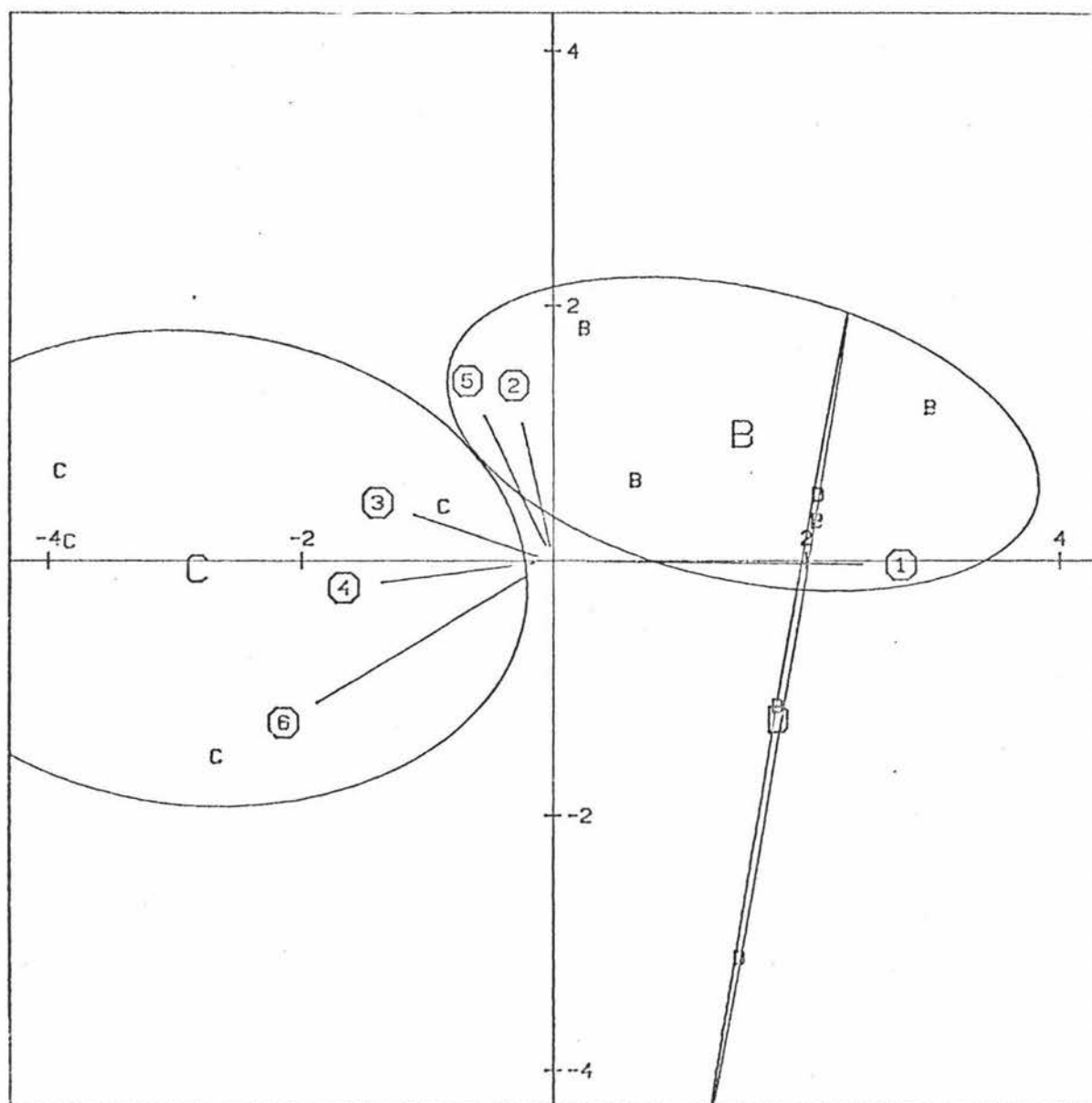
64.
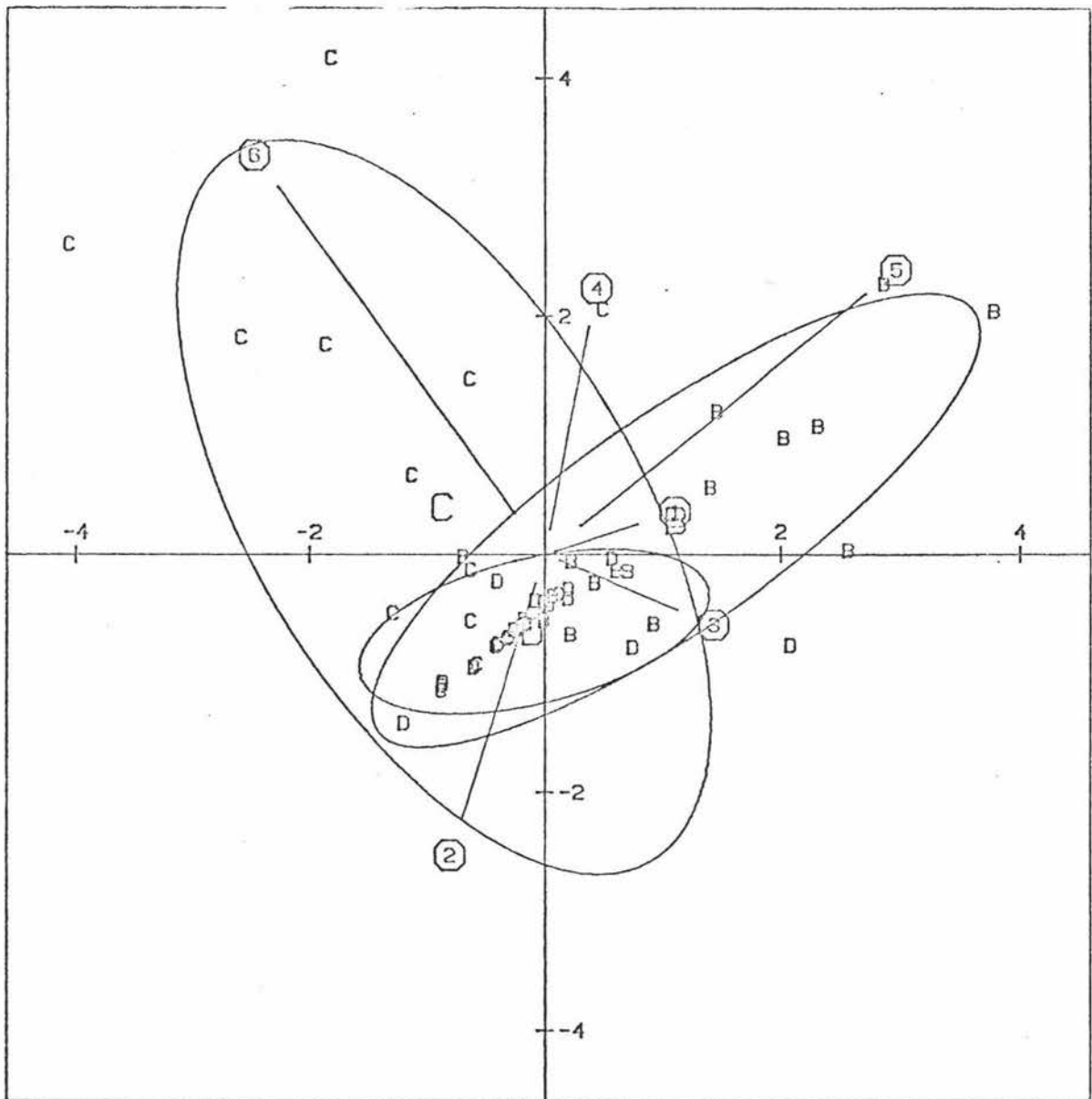
Figure 4.3. Multivariate One Way Analysis of Variance Graphical
             Display for "All" Group to "Describe What You Saw
             on the Video".

Key: 1. descriptive items
      2. general items
      3. items attributed to visitors
      4. items attributed to transfer
      5. items attributed to patient's physical condition
      6. items attributed to baby's condition

The longest co-ordinate vector image line is for items attributed
to the baby's condition (6) and the location of category C's ellipse
to this line indicates the influence these items have in determining
the difference between this category and the other two.   The next
longest line is for items attributed to the patient's physical
condition (5) and category B's ellipse is closely associated with
this line.   These two lines are almost at right angles to each other
indicating the important part they both play in determining the
difference between the groups.

"Describe Your Response"

Table 4.7

Comparison of Category Mean Percentages for
"All" Group to "Describe Your Response"

	N - P	Assessments			Actions		
		General	Physical	Baby	General	Physical	Baby
Category D	- 6.04	1.05	1.16	-1.27	5.56	- 0.17	- 0.28
Category B	-17.89	-10.05	8.65	-0.08	-4.76	21.40	2.57
Category C	-17.02	-20.31	- 1.03	6.21	-3.87	0.35	41.55

Category D who received no additional information regarding
either the patient's condition or the baby's condition has a small
increase in assessment - physical items (1.16%) and reductions in
assessment - baby, actions - physical and actions - baby items.   At
the same time this category has an increase in assessment - general
items (1.05%) and in actions - general items (5.55%).   This is the
only category to show an increase in "general" items.   The reduction
in assessment - general items of - 20.31% for category C appears to be
important, as it is replaced by a smaller increase in assessment -
baby items (6.21%) and a marked increase in actions - baby items (41.55%).

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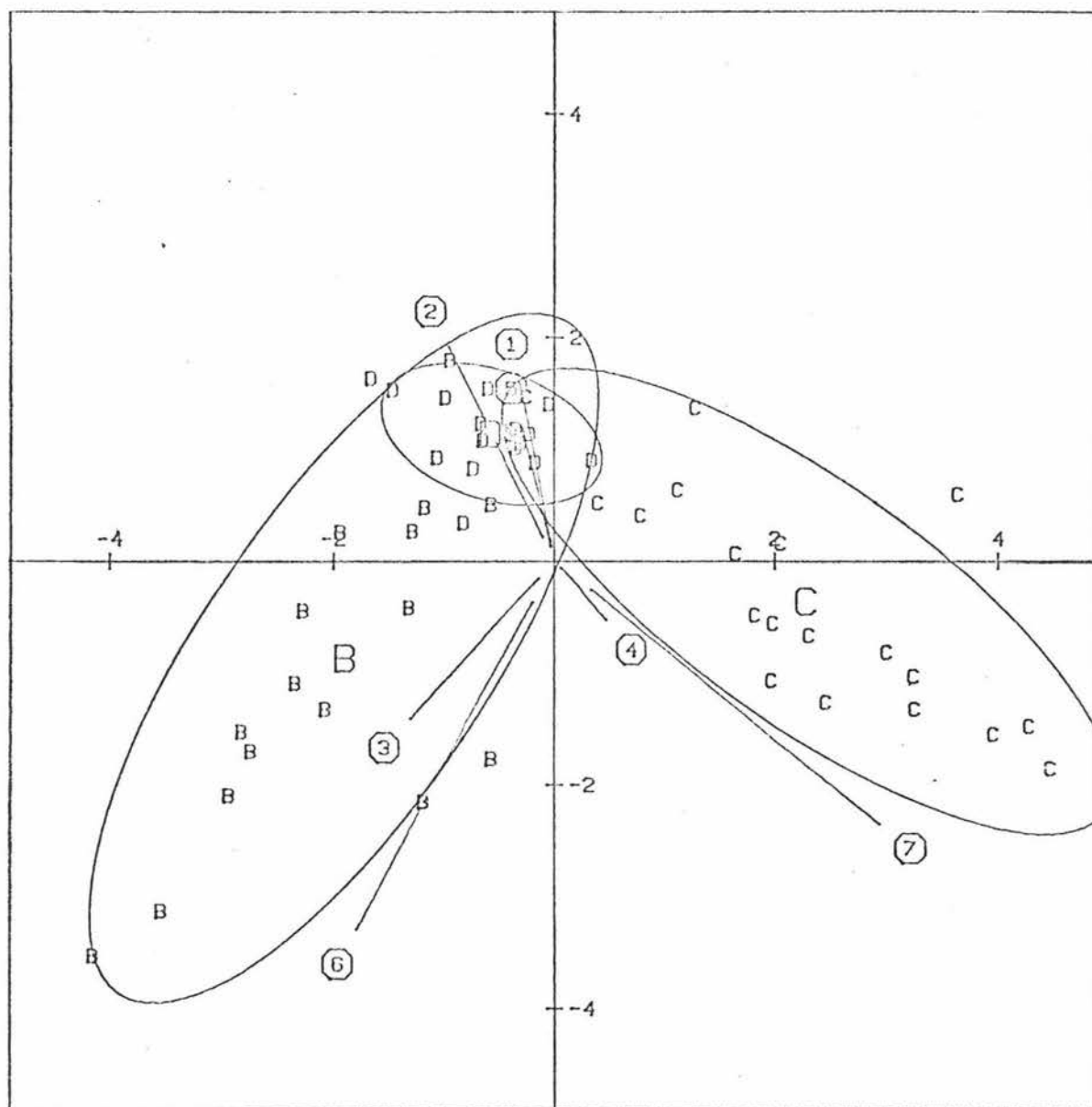
Figure 4.4. Multivariate One Way Analysis of Variance Graphical
            Display for "All" Group to "Describe Your Response"

Key: 1. items relating to establishing a nurse-patient relationship
      2. assessment-general items
      3. assessment-physical items
      4. assessment-baby items
      5. actions-general items
      6. actions-physical items
      7. actions-baby items

Category B's increase in actions - physical items of 21.40%
is much less than category C's for actions - baby items (41.55%) but
category B has a greater increase in "assessment" items relative to the
pre-information received. There is a reduction in items relating
to establishing a nurse-patient relationship over all three categories
with the reduction for category B and C being similar, and greater than
for category D.

Multivariate One Way Analysis of Variance for "All" Group to "Describe Your Response" (See Figure 4.4)

The ellipse for category D is almost entirely contained within
the ellipse for category B, but only partially contained within
category C's ellipse. There is only a small portion of overlap
between the ellipses of category B and C. In comparison with Figure
3 there is a change in the order of size of ellipse. Here category
B has the largest ellipse, indicating a greater spread in responses,
while previously it was category C.

The longest co-ordinate vector image lines are those of actions -
physical (6) and actions - baby (7). These are again at right-
angles to each other indicating that these two co-ordinate vectors
"explain" most of the differences between the categories.

Group 1

Total number of subjects: 28

Number in each category:

    Category D: 10

    Category B: 8

    Category C: 10

Composition of Categories

Table 4.8 demonstrates that these variables are not evenly
distributed throughout the three categories. This is perhaps most
noticeable in the difference in education qualification between
categories C and D. Category C has 80% of subjects with University
Entrance or higher, while category D has only 30%. The only two subjects
in the sample who are registered comprehensive nurses are in this group.

Table 4.8

Distribution of Personal Data for Group 1 subjects by Category

	Category D N = 10		Category B N = 8		Category C N = 10		Total N = 28	
	N	%	N	%	N	%	N	%
Age under 20 years	0	0.00	0	0.00	0	0.00	0	0.00
20 — 24 years	4	14.29	4	14.29	1	3.37	9	32.15
25 – 29 years	3	10.71	3	10.71	8	28.57	14	50.00
30 – 34 years	3	10.71	0	0.00	0	0.00	3	10.71
35 – 39 years	0	0.00	0	0.00	0	0.00	0	0.00
40 years & over	0	0.00	1	3.57	1	3.57	2	7.14
Education: 3 years secondary	1	3.57	0	0.00	0	0.00	1	3.57
School Cert.	5	17.86	0	0.00	1	3.57	6	21.43
6th Form Cert.	1	3.57	3	10.71	1	3.57	5	17.86
University Entrance	3	10.71	4	14.29	6	21.43	13	46.43
7th Form Cert.	0	0.00	0	0.00	1	3.57	1	3.57
Bursary	0	0.00	1	3.57	0	0.00	1	3.57
Degree Paper	0	0.00	0	0.00	1	3.57	1	3.57
Nursing Registration: R.G.O.N.	10	35.71	7	25.00	9	32.14	26	92.86
R.Com.N.	0.	0.00	1	3.57	1	3.57	2	7.14
Years since Basic Reg. less than 1 year	1	3.57	0	0.00	0	0.00	1	3.57
1 – 2 years	2	7.14	3	10.71	2	7.14	7	25.00
2 – 3 years	2.	7.14	2	7.14	0	0.00	4	14.29
3 – 4 years	2	7.14	2	7.14	0	0.00	4	14.29
4 – 5 years	0	0.00	0	0.00	3	10.71	3	10.71
5 – 9 years	2	7.14	0	0.00	4	14.29	6	21.43
10 years & over	1	3.57	1	3.57	1	3.57	3	10.71
Years of Active Nursing less than 1 year	1	3.57	0	0.00	0	0.00	1	3.57
1 – 2 years	2	7.14	3	10.71	2	7.14	7	25.00
2 – 3 years	2	7.14	2	7.14	2	7.14	6	21.43
3 – 4 years	3	10.71	2	7.14	0	0.00	5	17.86
4 – 5 years	0	0.00	0	0.00	2	7.14	2	7.14
5 – 9 years	2	7.14	0	0.00	3	10.71	5	17.86
10 years & over	0	0.00	1	3.57	1	3.57	2	7.14
Post-basic 0	1	3.57	2	7.14	5	17.86	8	28.57
Obstetrics : less than 3 mths	3	10.71	3	10.71	1	3.57	7	25.00
3 – 6 mths	2	7.14	2	7.14	1	3.57	5	17.86
6 months – 1 year	2	7.14	0	0.00	0	0.00	2	7.14
1 – 5 years	2	7.14	0	0.00	3	10.71	5	17.86
over 5 years	0	0.00	1	3.57	0	0.00	1	3.57

"Describe What You Saw on the Videotape"

(See Appendix H.   Tables H.5. for Raw Scores, H.6. for Weighted Scores
and H.7. for Percentages).

Table 4.9

Weighted Combined Percentages for Each Subject in Group 1 by
Category to "Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	-15.40	- 4.70	20.00	0.00	0.00	0.00
	21.70	-21.60	0.00	0.00	0.00	0.00
	0.70	- 4.20	0.00	0.00	0.00	0.00
	3.30	-15.20	0.00	0.00	0.00	4.80
	- 2.20	2.30	0.00	0.00	0.00	0.00
	24.40	7.70	0.00	0.00	0.00	0.00
	-44.50	47.20	0.00	0.00	0.00	0.00
	- 7.10	0.10	0.00	0.00	0.00	0.00
	- 4.80	9.30	- 4.60	0.00	3.40	0.00
	- 1.40	-11.10	0.00	0.00	0.00	0.00
Category B	- 6.30	-20.00	4.40	0.00	1.40	- 1.50
	23.50	-66.10	0.00	0.00	20.70	0.00
	18.70	-40.80	0.00	9.50	6.30	0.00
	-17.30	2.60	5.00	0.00	0.00	10.00
	- 3.60	-33.60	29.40	0.00	5.90	0.00
	13.70	-20.10	0.00	0.00	0.00	0.00
	- 4.70	-19.00	19.10	0.00	0.00	0.00
	4.30	-18.60	0.00	0.00	14.30	0.00
Category C	- 8.40	1.10	0.00	0.00	0.00	0.00
	9.10	36.10	0.00	0.00	0.00	0.00
	0.00	-18.10	0.00	0.00	0.00	18.20
	4.40	- 5.80	0.00	0.00	0.00	0.00
	0.00	-33.40	0.00	0.00	0.00	33.30
	- 6.40	27.00	- 1.90	0.00	- 1.90	8.30
	11.50	-19.30	0.00	0.00	0.00	0.00
	16.70	-27.20	0.00	0.00	0.00	0.00
	- 3.30	1.30	0.00	0.00	0.00	0.00
	-11.20	-20.80	0.00	21.70	0.00	10.30

Again there are considerable individual differences within each
category.

Category C subjects show the greatest number of items attributed
to the baby's condition, but even here only four out of the ten who
received relevant pre-information do so.   One subject in both
category B and category D increase their items attributed to the baby's
condition, and one subject in category B reduces these items by -1.50%.

Five (out of eight) subjects in category B increase their
items attributed to the patient's physical condition (ranging from
1.40% to 20.70%).   One subject in category D increased items attributed
to patient's physical condition, and one subject in category C reduced
these items slightly (-1.90%).   Two subjects (one in both category
B and C) have increased items attributed to transfer, out of the 18
subjects that this information was available to.

Table 4.10

Comparison of Category Mean Percentages for Group 1
to "Describe What You Saw on the Video"

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	- 2.53	0.98	1.54	0.00	0.34	0.48
Category B	3.54	-26.95	7.24	1.19	6.08	1.06
Category C	1.24	-13.14	-0.19	2.17	-0.19	7.01

There is a marked decrease in general items in both categories
B and C.   Category C has a reduction of -13.14% which is less than
half the reduction for category B (-26.95%).   Category D on the other
hand shows a very small increase (0.98%) on these items.

Category B has a mean percentage increase of 6.08% of items
attributed to the patient's physical condition, while category C
has an increase of 7.01% of items attributed to the baby's condition.
So there is less than 1% difference between these two categories
in regard to items relative to the nature of the pre-information they
received.

Category C shows a small reduction (-0.19%) in items attributed
to the patient's physical condition, while category B has a slightly
larger increase (1.06%) of items attributed to baby's condition.
Category D has a small increase (0.34% and 0.48%) in both these
categories.
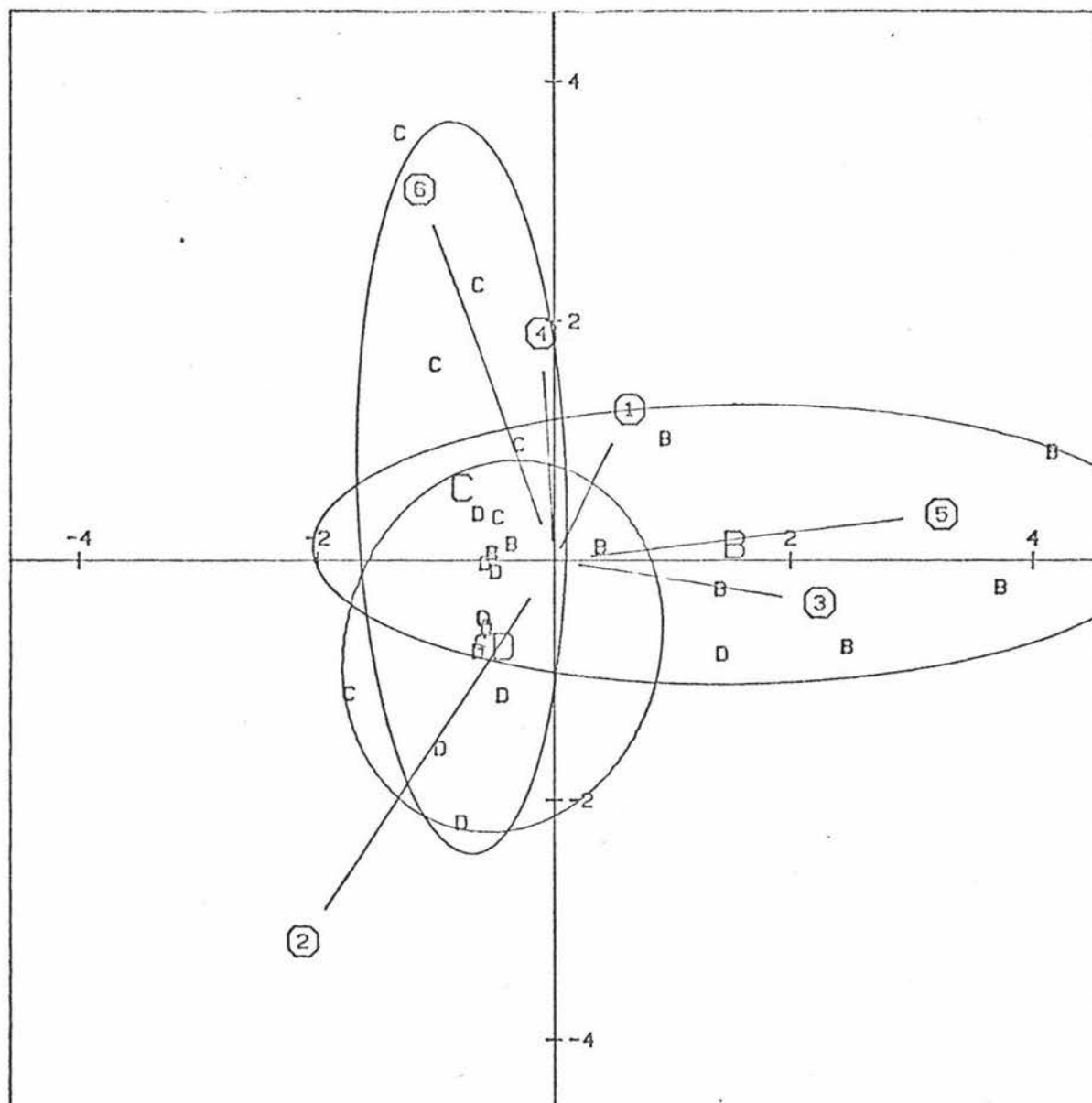
Figure 4.5. Multivariate One Way Analysis of Variance Graphical
Display for Group 1 to "Describe What You Saw on the
Video".

Key: 1. descriptive items
2. general items
3. items attributed to visitors
4. items attributed to transfer
5. items attributed to patient's physical condition
6. items attributed to baby's condition

Multivariate One Way Analysis of Variance Graphical Display to "Describe What You Saw on the Video" (See Figure 4.5).

It can be seen that the shape of the ellipse for category D is markedly different to the other two. Its almost circular shape indicates a different co-variance matrix. Much of category D's ellipse is contained within either of the other two ellipses and there is overlap of a portion of category B's ellipse through the centre of the ellipse for category C. The longest co-ordinate vector image lines are for general items (2) and items attributed to baby's condition indicating that these items are the important ones in regard to differences between the categories. This is the only time that general items is of such importance in identifying differences between categories.

"Describe Your Response"

Table 4.11 sets out the percentages for each subject in Group 1 by category to "Describe your Response". (See Appendix H. Table H.8 for raw scores.)

Category B has three subjects who show an increase in assessment - physical items (ranging from 10% to 22.20%), and all but one subject in this category has an increase in actions - physical items (ranging from 22.20 to 60%).

Category C has two subjects with an increase in assessment - baby items (10% and 11.10%) and four subjects who have a decrease in these items (ranging from -2% to -13.30%) while all subjects in this category have an increase in Actions - Baby items (ranging from 23% to 80%). No subject in category C has any assessment - physical or actions - physical items although three subjects in category B have increased assessment - baby items (ranging from 10% to 14.30%) and two of these subjects have increased actions - baby items also.

Apart from one subject in category B there are no subjects in either category B or C who show an increase in items relating to establishing a nurse-patient relationship, and the majority of subjects in these categories show a reduction in these items (ranging from 7.50% to 50%). The majority of subjects in categories B and C also decrease assessment - general items (ranging from -7.50% to -55.60%) while in category D, 60% of the subjects increase these items (ranging from 1.80% to 32.30%).

Table 4.11

Percentages for Each Subject in Group 1
by Category to "Describe Your Response".

		Assessment			Actions		
	N – P	General	Physical	Baby	General	Physical	Baby
Category D	-40.00	-40.00	0.00	0.00	80.00	0.00	0.00
	- 7.00	9.90	0.00	28.60	-23.10	0.00	- 7.70
	33.30	19.00	0.00	0.00	-52.40	0.00	0.00
	25.00	0.00	0.00	-33.30	8.30	0.00	0.00
	0.00	3.10	0.00	0.00	- 4.50	0.00	1.50
	10.90	1.80	0.00	-27.30	13.60	0.00	0.90
	10.00	13.30	0.00	0.00	-23.30	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16.70	-20.80	12.50	0.00	- 4.20	- 4.20	0.00
	- 2.00	32.30	9.10	-11.10	-17.10	-11.10	0.00
Category B	-20.00	-40.00	0.00	-10.00	41.40	28.60	0.00
	-28.60	0.00	0.00	0.00	-31.40	60.00	0.00
	-35.00	- 7.50	0.00	12.50	-20.00	37.50	12.50
	-28.60	14.30	0.00	14.30	-42.90	28.60	14.30
	-13.90	-16.70	22.20	0.00	-13.90	22.20	C.00
	- 7.50	-10.00	10.00	10.00	- 2.50	0.00	0.00
	13.30	-20.00	0.00	0.00	-15.60	22.20	0.00
	-18.20	-36.30	18.20	0.00	-18.20	54.50	0.00
Category C	-31.50	-14.50	0.00	0.00	23.00	0.00	23.00
	-33.30	-27.80	0.00	11.10	- 5.57	0.00	55.60
	-19.50	-28.60	0.00	-14.30	-10.40	0.00	72.70
	0.00	-55.60	0.00	-13.30	-11.10	0.00	80.00
	0.00	13.90	0.00	0.00	36.40	0.00	37.50
	-24.20	-46.50	0.00	- 2.00	36.40	0.00	36.40
	-50.00	-50.00	0.00	0.00	14.30	0.00	85.70
	-12.50	-12.50	0.00	-12.50	-12.50	0.00	50.00
	-16.70	-33.30	0.00	10.00	10.00	0.00	50.00
	-41.70	-12.50	0.00	0.00	4.20	0.00	50.00

Table 4.12

Comparison of Category Mean Percentages
for Group 1 to "Describe Your Response".

		Assessment			Actions		
	N - P	General	Physical	Baby	General	Physical	Baby
Category D	4.62	1.86	2.16	-4.31	2.27	- 1.53	- 0.53
Category B	-17.31	-14.53	6.30	3.35	-12.89	31.70	3.35
Category C	-22.94	-26.74	0.00	-2.10	- 2.30	0.00	54.09

The mean percentages reflect the decreases for categories B and C in items relating to establishing a nurse-patient relationship, assessment - general and actions - general items. Category B has a small increase in assessment - baby and actions - baby items (3.35%), a slightly larger increase in assessment - physical items (6.30%) and an increase of 31.70% in actions - physical items. Category C shows different tendencies with no assessment - physical or actions - physical items, a small reduction (-2.10%) in assessment - baby items, and a large increase (54.09%) in actions - baby items.

Multivariate One Way Analysis of Variance Graphical Display for Group 1 to "Describe Your Response (See Figure 4.6).

The most striking feature of this display is the marked difference in size for the ellipse for category D indicating the closeness of the scores in that category in comparison to the other two categories. In fact, all three ellipses are considerably different in shape showing different co-variance matrices. The ellipse for category C is quite separate from the other two ellipses which shows there is considerable difference in the nature of responses in this category to the other two categories. The ellipse for category D overlaps slightly into category B's ellipse indicating some degree of similarity between the two categories in some responses.

The longest co-ordinate vector image lines are for actions - physical (6) and actions - baby (7) showing the importance of these items in the differences between the categories. The proximity of the ellipses for category B and category C to one of these lines shows the nature of the differences between the categories.

Figure 4.6. Multivariate One Way Analysis of Variance Graphical
Display for Group 1 to "Describe Your Response"

Key: 1. items relating to establishing a nurse-patient relationship
     2. assessment-general items
     3. assessment-physical items
     4. assessment-baby items
     5. actions-general items
     6. actions-physical items
     7. actions-baby items

Group 2

Total Number of subjects: 12

Number in each category: 4

Table 4.13

Distribution of Personal Data for Group 2 Subjects by Category

	Category D N = 4		Category B N = 4		Category C N = 4		Total N = 12	
	N	%	N	%	N	%	N	%
Age less than 20 years	0	0.00	0	0.00	0	0.00	0	0.00
20 - 24 years	3	25.00	3	25.00	4	33.33	10	83.33
25 - 29 years	1	8.33	0	0.00	0	0.00	1	8.33
30 - 34 years	0	0.00	1	8.33	0	0.00	1	8.33
Education: School Cert.	1	8.33	0	0.00	1	8.33	2	16.67
6th Form Cert.	0	0.00	1	8.33	1	8.33	2	16.67
Univ. Entrance	2	16.67	3	25.00	2	16.67	7	58.33
7th Form Cert.	1	8.33	0	0.00	0	0.00	1	8.33
Nursing Reg. R.G.O.N.	4	33.33	4	33.33	4	33.33	12	100.00
Years since Basic Reg. less than 1 year	1	8.33	0	0.00	3	25.00	4	33.33
1 - 2 years	0	0.00	0	0.00	1	8.33	1	8.33
2 - 3 years	1	8.33	2	16.67	0	0.00	3	25.00
3 - 4 years	1	8.33	1	8.33	0	0.00	2	16.67
4 - 5 years	0	0.00	0	0.00	0	0.00	0	0.00
5 - 9 years	1	8.33	0	0.00	0	0.00	1	8.33
10 years and over	0	0.00	1	8.33	0	0.00	1	8.33
Years of Active Nursing less than 1 year	1	8.33	0	0.00	3	25.00	4	33.33
1 - 2 years	1	8.33	0	0.00	0	0.00	1	8.33
2 - 3 years	1	8.33	2	16.67	1	8.33	4	33.33
3 - 4 years	0	0.00	1	8.33	0	0.00	1	8.33
4 - 5 years	1	8.33	0	0.00	0	0.00	1	8.33
5 - 9 years	0	0.00	0	0.00	0	0.00	0	0.00
10 years and over	0	0.00	1	8.33	0	0.00	1	8.33
Post-Basic Obstetrics 0	1	8.33	1	8.33	2	16.67	4	33.33
less than 3 mths	1	8.33	2	16.67	1	8.33	4	33.33
3 - 6 mths	1	8.33	0	0.00	0	0.00	1	8.33
6 mths - 1 year	1	8.33	0	0.00	0	0.00	1	8.33
1 - 5 years	0	0.00	1	8.33	1	8.33	2	16.67

The subjects appear to be fairly evenly spread throughout the three categories on most of these variables, except in regard to years of active nursing since registration. Category C has more subjects with a shorter length of nursing experience. All subjects are registered general and obstetric nurses.

"Describe What You Saw on the Video"

(See Appendix H. Table H.9 for Raw Scores, H.10 for Weighted Scores, H.11 for Percentages).

Table 4.14

Weighted Combined Percentages for Each Subject in Group 2 by Category to "Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	3.70	-22.50	0.00	0.00	-0.20	0.00
	1.10	6.80	0.00	0.00	-3.60	0.00
	2.40	-30.90	0.00	0.00	4.20	0.00
	-16.40	13.00	0.00	0.00	-1.60	0.00
Category B	-22.80	-17.10	8.70	0.00	13.70	4.40
	7.90	- 8.70	- 6.60	0.00	4.30	0.00
	- 7.50	-18.10	- 2.60	12.50	18.80	0.00
	5.60	1.20	0.00	0.00	0.00	0.00
Category C	0.20	- 0.50	0.00	0.00	0.00	7.60
	-12.70	-19.00	20.50	0.00	6.30	46.80
	-13.00	- 9.30	0.00	0.00	-4.30	56.40
	- 4.30	-34.50	0.00	0.00	10.60	21.10

All subjects in category C increase items attributed to baby's condition (ranging from 7.60% to 56.40%) while three out of the four in category B increase items attributed to the patient's physical condition (ranging from 4.30% to 18.80%). The increase in scores for category C (up to 56.40%) are noticeably higher than those for category B (up to 18.80%) in the respective items. There is one subject in category B who has an increase in items attributed to baby's condition (4.40%), and one subject in category C who with an increase in items attributed to the patient's physical condition (10.60%). However, category C also has two subjects who show reductions in their items attributed to the patient's physical condition (-4.30% and -6.30%).

Only one subject (in category B) out of the eight who received
pre-information about the patient's transfer attributed items to this
factor. All subjects in category C reduce their general items
(ranging from -0.50% to -19%), while three out of four subjects in
category B do so as well (ranging from -8.70% to -18.10%). This
change is less noticeable in category D where two subjects show a
decrease in general items (-22.50% and -30.9%) and two subjects
increase these items (6.80% and 13%).

Subjects in category D give no items attributed to baby's
condition, and while one subject in this category increases items
attributed to the patient's physical condition, the other three
show a slight decrease.

Table 4.15

Comparison of Category Mean Percentages for Group 2
to "Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	- 2.30	- 8.40	0.00	0.00	- 0.30	0.00
Category B	- 4.20	-10.68	- 0.13	3.13	9.20	1.10
Category C	- 7.45	-15.83	5.13	0.00	0.00	32.97

This table sets out clearly the increasing reduction of descriptive
and general items from Group D (least) to Group C (greatest). The
increase in items attributed to the patient's physical condition for
category B of 9.20% is much less than the increase of 32.97% for
category C of items attributed to the baby's condition. Category
B has a small increase in mean (1.10%) for items attributed to the
baby's condition while category C has no increase in items attributed
to the patient's physical condition. Category D has no items
attributed to the baby's condition and a very slight reduction (0.30%)
in items attributed to the patient's physical condition.

Figure 4.7. Multivariate One Way Analysis of Variance Graphical
Display for Group 2 to "Describe What You Saw on the
Video".

key: 1. descriptive items
        2. general items
        3. items attributed to visitors
        4. items attributed to transfer
        5. items attributed to patient's physical condition
        6. items attributed to baby's condition

Multivariate One Way Analysis of Variance Graphical Display
for Group 2 to "Describe What You Saw on the Video".
(See Figure 4.7).

There are marked differences in the shapes and size of the
ellipses for the three categories.   Category D's ellipse is small
which indicates closeness in the subject's responses, while the
spread is greater for category B and C.   The ellipse for category
D is almost entirely contained within the other two ellipses, and
there is a small area common to all three categories.

The longest co-ordinate vector image line is for items attributed to
baby's condition (6) and is displayed within the ellipse for category
C, showing the importance of these items in the difference between
the categories.   Two lines are of almost equal length.   These
are for the items attributed to the patient's physical condition,
(5) and items attributed to transfer (4).   These items are of next
importance and as they are almost parallel this shows that they convey
much the same kind of information.   Two other lines which are much
shorter so of less importance, but are very closely parallelled
so again conveying similar information.   These are the descriptive
items (1) and general items (2).   This fact was also commented on
in discussion of the means in Table 4.15.

Table 4.16

Percentages for Each Subject in Group 2 by
Category to "Describe Your Response".

	N - P	Assessment			Actions		
		General	Physical	Baby	General	Physical	Baby
Category D	-54.20	-20.80	0.00	12.50	0.50	12.50	0.00
	-27.70	- 5.50	0.00	5.60	27.80	0.00	0.00
	-11.90	- 8.70	7.10	- 4.00	17.50	0.00	0.00
	-32.30	5.10	0.00	0.00	0.00	0.00	0.00
Category B	-30.40	-22.30	25.00	- 1.80	10.70	12.50	6.30
	-12.70	-26.60	26.30	5.30	-13.60	21.10	0.00
	-50.00	0.00	0.00	0.00	11.10	33.30	5.60
	-15.30	19.40	14.10	- 5.90	-13.50	35.00	5.00
Category C	-25.00	-60.70	14.30	35.70	0.00	0.00	35.70
	0.00	-35.80	-21.40	- 7.10	14.30	0.00	50.00
	-15.40	- 7.70	0.00	7.70	-30.80	0.00	46.20
	-20.00	-18.30	0.00	0.00	15.00	6.70	46.70

In category C all subjects increase actions - baby items (35.70% to 50%) and while two subjects increase assessment - baby items (7.70% and 35.70%) one has a reduction in these items (-7.10%). In category B all subjects increase actions - physical items (12.50% to 35%) and three increase assessment - physical items (14.10% to 26.30%). There are more subjects in category B who increase actions - baby items than in category C for actions - physical items. In category D there are no actions - baby items, and only one subject increases action - physical items (12.50%).

All but one subject decreases items relating to establishing a nurse-patient relationship (ranging from -11.90 to -54.20%). Another interesting fact is that all category C subjects show a reduction in assessment - general items (from -7.70% to -60.70%).

Table 4.17

Comparison of Category Mean Percentages
for Group 2 to "Describe Your Response".

	N - P	Assessment			Actions		
		General	Physical	Baby	General	Physical	Baby
Category D	-31.53	- 7.48	1.78	3.52	30.65	3.13	0.00
Category B	-27.00	-17.07	16.35	- 0.60	- 1.33	25.48	4.23
Category C	-15.10	-30.63	- 1.77	9.07	7.53	1.68	44.65

Category C has the greatest increase for actions - baby items. (44.65%), then category D for actions - general items (30.65%) and category B for actions - physical items (25.48%). In all three cases that mean is markedly above that of the other two categories for that particular item. Category B has a greater increase for actions - baby items (4.23%) than category C for actions - physical (1.68%). Also, category B's increase in assessment - physical items is greater than category C's increase in assessment - baby items (9.07%), category D has an increase in both assessment - physical and assessment baby items that is not apparent in either of the other categories apart from items relative to the pre-information they received. There is a decrease in all categories for items relating to establishing a nurse-patient relationship and assessment general items and it is interesting to note that the ranking is inversed for these items.
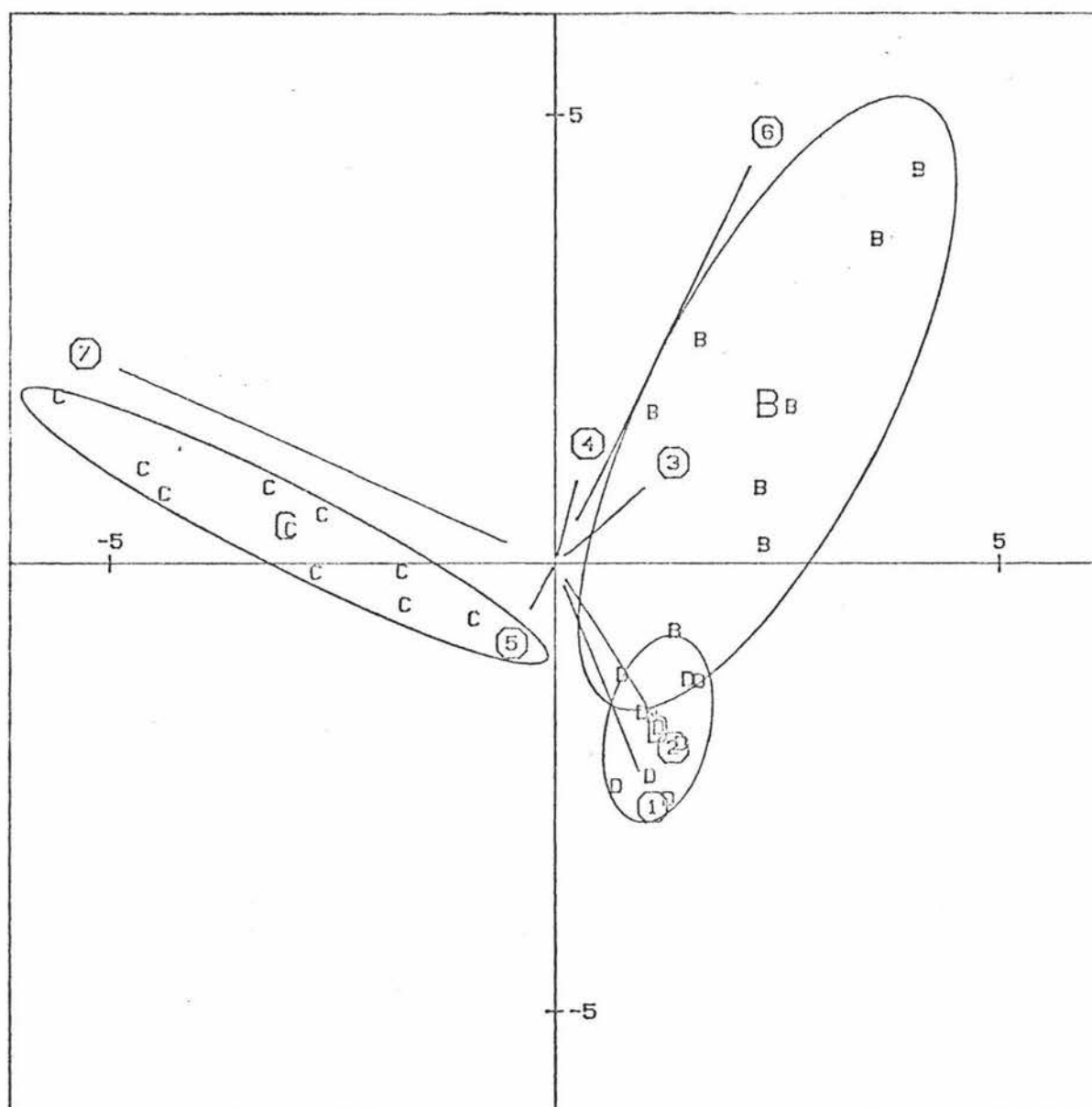
Figure 4.8.   Multivariate One Way Analysis of Variance Graphical
              Display for Group 2 to "Describe Your Response".

Key: 1. items relating to establishing a nurse-patient relationship
      2. assessment-general items
      3. assessment-physical items
      4. assessment-baby items
      5. actions-general items
      6. actions-physical items
      7. actions-baby items

Multivariate One Way Analysis of Variance Graphic Display
for Group 2 to "Describe Your Response. (See Figure 4.8)

Here can be seen small clusters for each category, widely
separated. The separation is even more than initially appears, due
to the smaller scale of this display to previous figures (as is
indicated on the grid). Consequently the ellipses also appear
smaller. The differing shapes of the ellipses again indicate
different co-variation matrices.

There is indication here that the categories are significantly
different, yet as there are only four subjects in each category this
must be interpreted cautiously. The longest co-ordinate vector
image line is for actions - physical items (6) with category B's
ellipse close by. The line for assessment - physical items (3),
while shorter, superimposes line 6 indicating that these lines give
very similar information. The other line of importance is that of
actions - baby (7) and its location near to the ellipse for category
C is noted.

Group 3

Total number of subjects: 15

Number in each group: 5

Composition of Categories:

Table 4.18

Distribution of Personal Data for Group 3
Subjects by Category.

	Category D N = 5		Category B N = 5		Category C N = 5		Total N = 15	
	N	%	N	%	N	%	N	%
Age:								
less than 20 yrs	3	20.00	4	26.67	3	20.00	10	66.67
20 - 24 years	2	13.33	0	0.00	0	0.00	2	13.33
25 - 29 years	0	0.00	0	0.00	1	6.67	1	6.67
30 - 34 years	0	0.00	0	0.00	1	6.67	1	6.67
35 - 39 years	0	0.00	1	6.67	0	0.00	1	6.67
Education:								
6th Form Cert.	1	6.67	2	13.33	1	6.67	4	26.67
Univ. Entrance	3	20.00	3	20.00	3	20.00	9	60.00
7th Form Cert.	0	0.00	0	0.00	1	6.67	1	6.67
Bursary	1	6.67	0	0.00	0	0.00	1	6.67

As these subjects are all students of a basic nursing programme only the age and general education variables are applicable. The majority of subjects (66.67%) are under 20 years of age, with the remaining five subjects spread over the brackets up to 39 years. The majority of subjects (60%) have university entrance while two subjects have higher educational qualifications. The subjects appear to be fairly evenly distributed over the three categories as far as these two variables are concerned.

"Describe What You Saw on the Video"

(See Appendix H Table H.13 for Raw Scores, H.14 for Weighted Scores, H.15 for percentages).

Table 4.19

Weighted Combined Percentages for Each Subject in Group 3 by Category to "Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	2.50	− 4.80	0.00	0.00	0.00	0.00
	−23.60	−19.30	42.90	0.00	0.00	0.00
	13.70	−13.60	0.00	0.00	0.00	0.00
	2.00	0.70	0.00	0.00	0.00	0.00
	−16.10	20.80	0.00	0.00	0.00	0.00
Category B	− 5.90	11.70	20.00	20.00	0.00	− 3.00
	18.40	−28.40	0.00	0.00	2.00	0.00
	4.20	− 7.90	3.00	0.00	3.10	0.00
	−25.80	18.00	3.60	0.00	7.10	0.20
	13.10	− 5.70	0.40	0.00	0.00	0.00
Category C	−15.00	17.50	0.00	0.00	0.00	0.00
	4.30	− 4.20	0.00	0.00	0.00	0.00
	−30.00	24.40	0.00	0.00	0.00	0.00
	− 9.10	−44.10	−13.70	14.30	7.90	42.90
	− 9.70	− 5.60	0.00	0.00	0.00	3.60

This group shows a considerably different pattern of responses. Very few subjects in any category attributed items to any other than general items.

In category C only two subjects show an increase in items attributed to baby's condition. One of these is only a small increase (3.60%) while the other is larger (42.90%). Three subjects in category B show increases in items attributed to the patient's physical condition (ranging from 2% to 7.10%), but a subject in category C has a greater increase in these items (7.90%). Category D has no items attributed to patient's physical condition, baby's condition or transfer.

Two subjects (one in both category B & C) increase items attributed to transfer (20% and 14.30%).

Table 4.20

Comparison of Category Mean Percentages for Group 3 to
"Describe What You Saw on the Video".

	Descriptive	General	Visitors	Transfer	Physical	Baby
Category D	- 4.30	- 3.24	8.58	0.00	0.00	0.00
Category B	0.80	- 2.46	5.40	4.00	2.44	- 0.35
Category C	-11.90	- 2.40	- 2.74	2.86	1.58	9.30

There are only small changes either way in comparison to the other groups.

Category B increases items attributed to the patient's physical condition by 2.44% but this mean percentage is less than for items attributed to transfer (4%).

Category B increases items attributed to baby's condition by 9.30% with 1.58% increase in items attribuged to patient's physical condition, which is less than 1% below the mean for category B for these items. There is a reduction in the mean for general items for all categories.

Multivariate One Way Analysis of Variance Graphical Display for Group 3 to "Describe What You Saw on the Video". (See Figure 4.9)

This display is on a much larger scale (as is shown on the grid). All three ellipses are of a similar shape and size, with category B's ellipse just slightly larger, indicating very little difference between the groups.
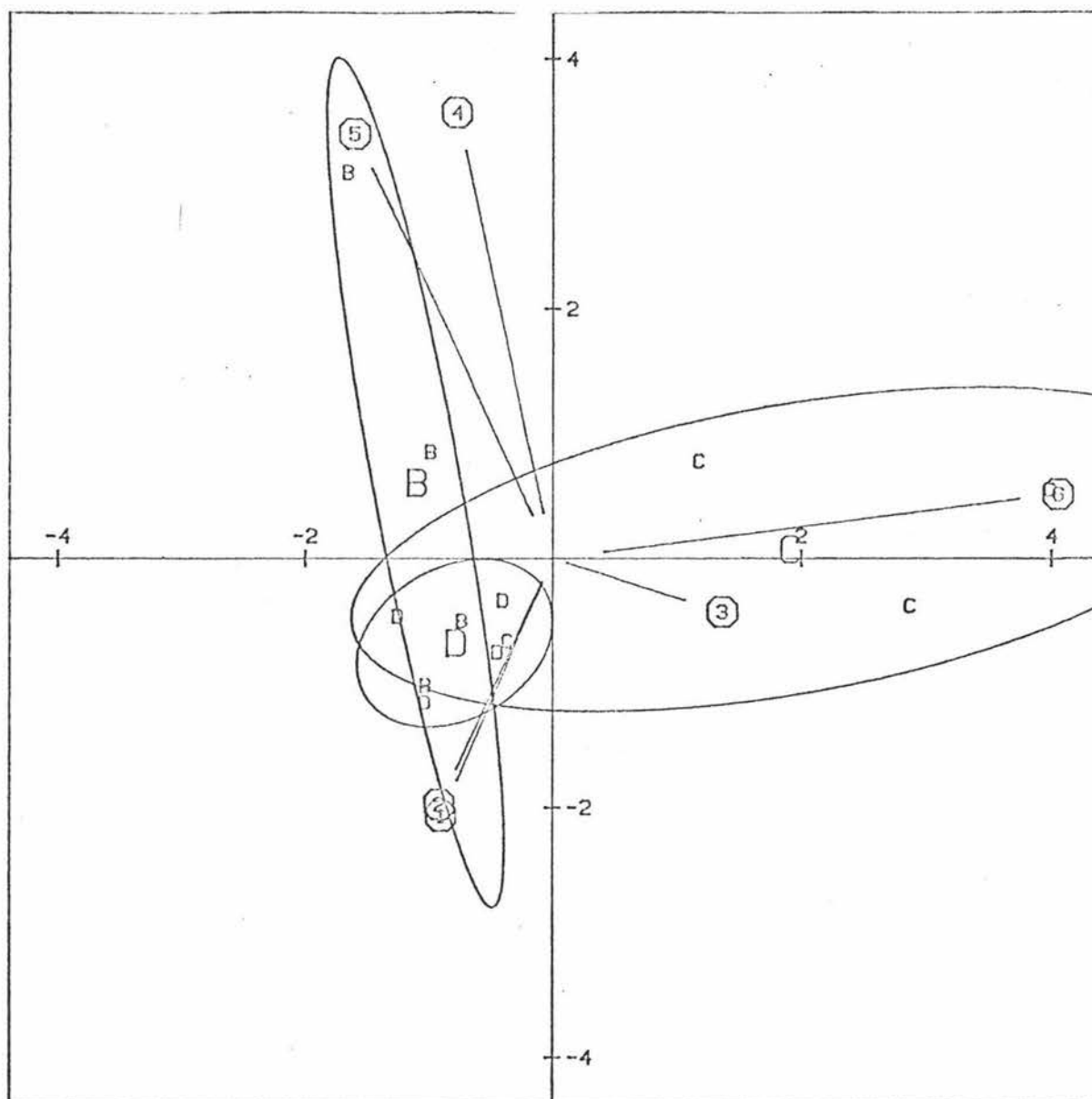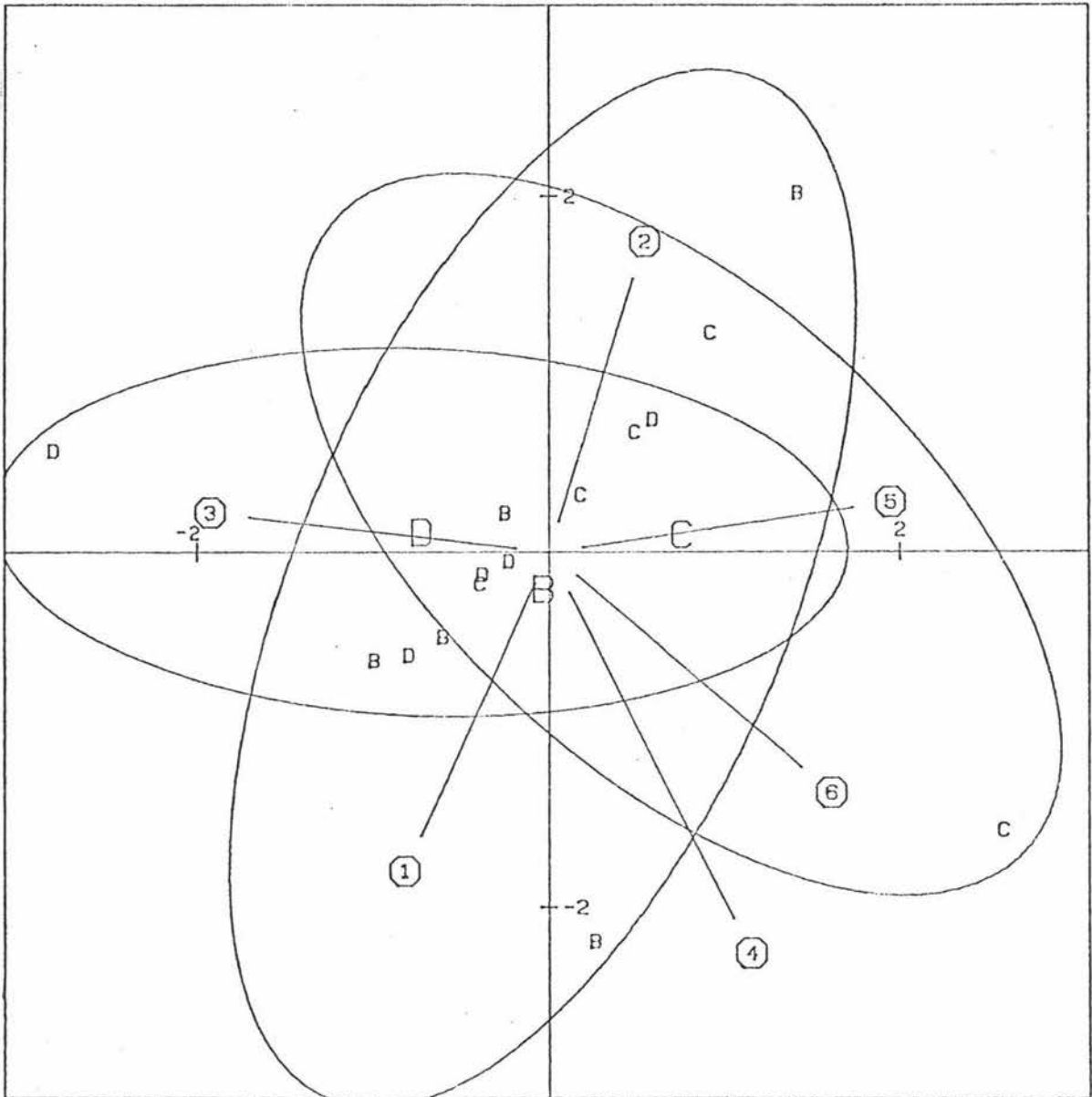
Figure 4.9.   Multivariate One Way Analysis of Variance Graphical
              Display for Group 3 to "Describe What You Saw on the
              Video".

Key: 1.   descriptive items
       2.   general items
       3.   items attributed to visitors
       4.   items attributed to transfer
       5.   items attributed to patient's physical condition
       6.   items attributed to baby's condition

All three ellipses overlap in the centre indicating similarities in the distribution of scores.

The co-ordinate vector image lines are all much the same length and widely spread. The line for items attributed to transfer (4) is slightly longer than the others, indicating that these items are a little more important in determining the small amount of difference between the categories.

"Describe Your Response"

(See Appendix H Table H.16 for Raw Scores).

<div align="center">

Table 4.21

Percentages for Each Subject in Group 3
by Category to "Describe Your Response".

</div>

		Assessment			Action		
	N - P	General	Physical	Baby	General	Physical	Baby
Category D	16.70	-11.10	0.00	0.00	- 5.50	0.00	0.00
	-23.80	23.80	0.00	0.00	0.00	0.00	0.00
	-26.50	13.10	- 6.30	4.80	14.50	0.00	0.00
	3.10	- 0.80	0.00	0.00	- 2.30	0.00	0.00
	- 4.30	6.20	- 0.40	0.00	- 1.00	-0.40	0.00
Category B	-54.50	18.20	18.20	0.00	18.20	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	- 8.30	-25.00	-18.30	0.00	16.70	8.30	0.00
	10.20	20.50	- 7.70	-23.10	0.00	0.00	0.00
	5.00	0.00	12.50	0.00	- 7.50	0.00	0.00
Category C	12.50	25.00	0.00	12.50	0.00	0.00	0.00
	- 2.50	12.50	0.00	37.50	0.00	0.00	0.00
	11.10	6.90	-12.50	19.40	-25.00	0.00	0.00
	- 7.10	9.60	0.00	0.00	-16.70	0.00	14.30
	-25.00	-25.00	0.00	33.30	-38.90	0.00	55.60

Again there is a different response pattern. In category C two subjects increase actions - baby items (one by 55.60%), and four subjects increase assessment - baby items (ranging from 12.50% to 37.50%). Three subjects reduce actions - general items (from -16.70% to -38.90%).

However, in category B only one subject increases actions - physical items and two subjects increase assessment - physical items while the other two subjects decrease these items.

Table 4.22

Comparison of Category Mean Percentages for Group 3 to "Describe Your Response".

	Assessment				Actions		
	N – P	General	Physical	Baby	General	Physical	Baby
Category D	– 6.96	6.24	– 1.34	0.96	1.14	– 0.08	0.00
Category B	–11.52	2.74	6.26	– 4.62	5.48	1.66	0.00
Category C	– 6.70	0.80	– 2.50	20.54	–16.12	0.00	13.95

Category C has an increase of 13.95% for actions – baby items and this is noticeably more than category B's increase of 1.66% for actions – physical items.   There is an increase in both categories B and C for relevant assessment items, but here again the increase for category C (20.54%) is noticeably greater.   All categories increase assessment – general items with the greatest increase being for category D (6.24%).   As with other groups, there is a reduction in items relating to establishing a nurse-patient relationship, with the greatest decrease being for category B (-11.52%).

Multivariate One Way Analysis of Variance Graphical
Display for Group 3 to "Describe Your Response"
(See Figure 4.10).

There are similar shaped ellipses for all categories.   However the ellipse for category D is smaller on both axes.   Much of category D's ellipse overlaps into the ellipses of the other categories; although there is very little overlap of all three ellipses. . This indicates the differences that occur between categories B and C.

The image line of the co-ordinate vector for assessment – physical items (3) is the longest, and the line for actions – physical (6) while shorter is very close indicating that these items convey similar material. The line for actions – general items (5), is next in length and almost at right angles to lines 6 and 3.   The line for assessment – baby items (4) is almost as long as line 5 and lies opposite indicating the high degree of duplication of material they convey.
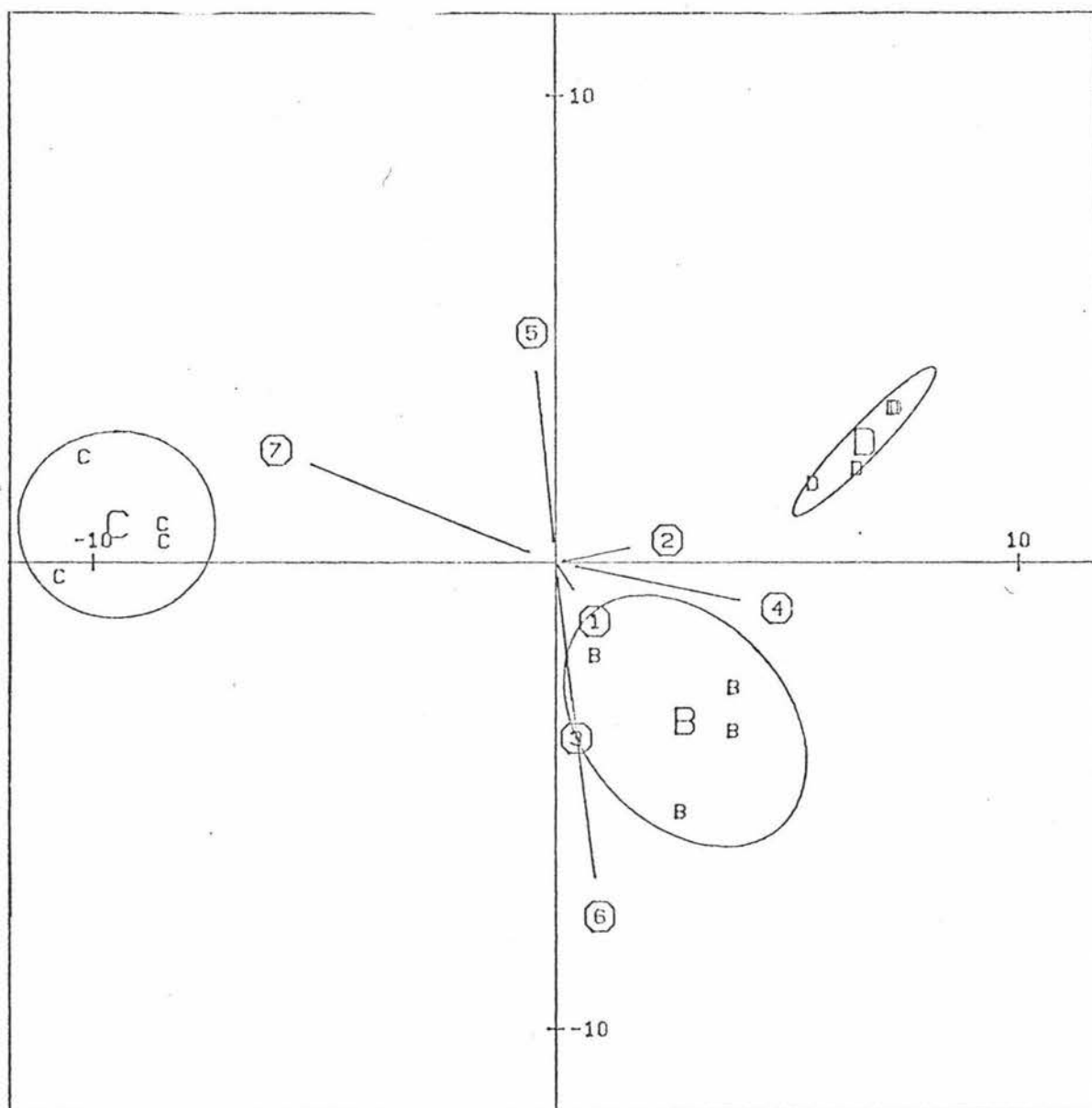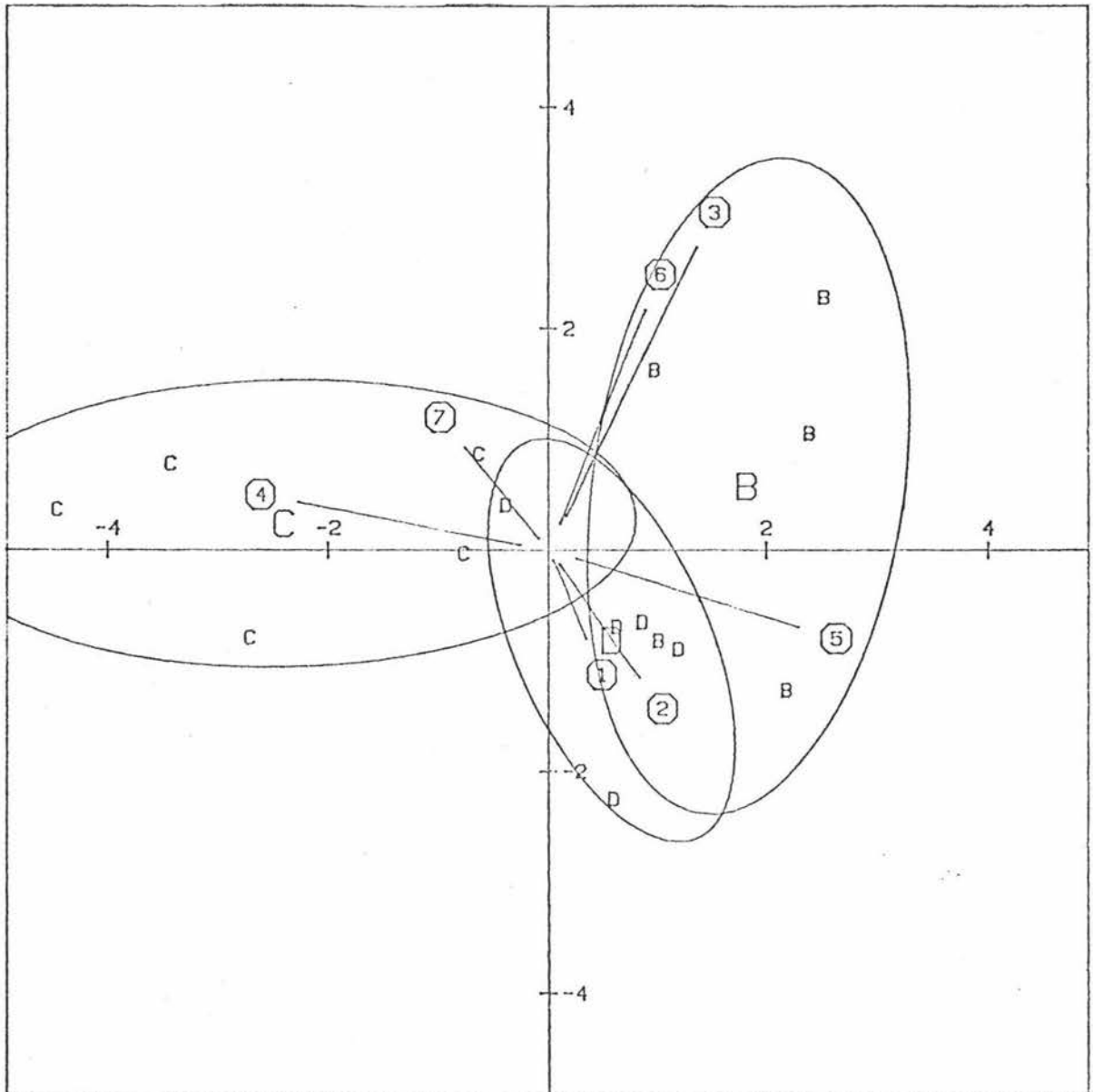
Figure 4.10.   Multivariate One Way Analysis of Variance Graphical
Display for Group 3 to "Describe Your Response".

Key: 1.   items relating to establishing a nurse-patient relationship
       2.   assessment-general items
       3.   assessment-physical items
       4.   assessment-baby items
       5.   actions-general items
       6.   actions-physical items
       7.   actions-baby items

Summary of Trends in Group Results

"Describe What You Saw on the Video"

Greatest Increase in Items

In all categories the greatest increase in items occur in category C for items attributed to baby's condition, and is noticeably greater than the increase in category B's items attributed to the patient's physical condition.

Reduction in General Items

A reduction in these items occur in all groups over most categories, and is greater for categories B and C than for category D.

Descriptive items

These tend to be reduced overall.

Co-ordinate Vector Image Lines

In all groups line 6 (items attributed to baby's condition) is one of the longest lines.

"Describe Your Response"

Increase in "Actions" Items

Again, in all groups the greatest increase is in category C for Actions - baby items. The next is in Category B for Actions - physical items. Overall, category B tends to have more increase in action - baby items than category C does for actions - physical items.

Differences in Actions - general and Assessment - general items.

Categories B and C show a reduction in these items while category D tends to increase both items.

Assessment Items

With the exception of Group 1 the groups show a tendency for categories B and C to increase the "assessment" items relative to the pre-information they received. That is, category B increases assessment - physical items, while category C increases assessment - baby items.

Reduction in Items Relating to Establishing a Nurse-Patient Relation-
ship.

These items are reduced by all categories in all groups (with
the exception of category D in Group 1). This reduction is more
marked in categories B and C than in category D.

Co-ordinate Vector Image Lines

With the exception of group 3, the longest lines are those for
actions - physical items (6) and actions - baby items (7).

Statement on Hypothesis

These results support the hypothesis that the nature of the
pre-information the nurse receives regarding the patient will
influence the way in which the patient is perceived, and the
resulting nursing actions.

All three sub-hypotheses are also supported.

a. Subjects in category B receiving pre-information regarding
   the physical condition of the patient increased the
   percentage of items attributed to the patient's physical
   condition, and nursing actions specifically relevant to
   such a patient to a greater degree than subjects in
   category C or D.

b. Subjects in category C receiving pre-information regarding
   the baby's condition increased the percentage of items
   attributed to the baby's condition and nursing actions
   relevant to a patient with an ill infant. The support
   for this hypothesis is greater than for sub-hypothesis a.

c. Subjects in category D (the control group) tend to show
   either a very small increase or decrease in any of the above
   items. Any increase is only very slight in comparison to
   the increase in relevant items seen in either category
   B or C.

Individual Responses

Since subjects gave their responses in their own words as "open-ended" answers extracts from these will illustrate some of the differences that occurred between the response after the first viewing of the videotape and the response after additional pre-information and second viewing of the videotape.

"Describe What You Saw on the Video"

Subject A : "Perhaps she is worried about something"
        after pre-information C;
        "Obviously she is very worried about her baby"

Subject B : "Maybe she is anxious about her child"
        after pre-information B;
        "seems anxious - maybe it is her first child"

Subject C : "she looked quite sore and uncomfortable"
        after pre-information B;
        "she looks very uncomfortable and unwell"

Subject D : "patient looking uncomfortably positioned"
        after pre-information B;
        "a patient in need of pain relief"

Subject E : "has a sore perineum"
        after pre-information C;
        no mention of perineum or of any physical discomfort

Subject F : "appears a little anxious"
        after pre-information C;
        "obviously worried nearly out of her mind about her baby"

"Describe Your Response"

Subject G : "I would observe her for a few minutes then try to find
              out what is the matter"
           after pre-information B;
           "Immediate response would be to ask if she is feeling
           unwell - would she like a salt bath or pain-relief?"

Subject H : "I immediately wanted to go and talk to this woman"
           after pre-information C;
           "I immediately wanted to get all the information on the
           baby's condition"
           and, "I would reassure her that baby was in the best place".

Subject I : "encourage her to talk"
           after pre-information B;
           "offer analgesics, re-check temperature . . . explain
           why area is prone to infection"

Subject J : "ask her what is the problem . . . how can I help?"
           after pre-information C;
           "make arrangements for her to go and see her baby . . .
           tell her the baby is in the best hands".

Judges

The level of agreement between the researcher and the judges is as follows:

"Describe What You Saw on the Video"

    With the use of all original categories the agreement
with the researcher is : 82%, 84%, 86%

                              Average : 84%

    When "surroundings", "appearance" and "actions" items
are combined (as in the research), agreement increased
to: 92%, 94%, 96%

                              Average : 94%

There was agreement by all (judges and researcher) on 42 out of 50 items; only one item with agreement by two persons; and only one disagreement on weighting.

"Describe Your Response"

    Agreement with researcher: 88%, 90%, 96%

                          Average : 91.33%

There was agreement by all on 40 out of 50 items, and only one item with agreement by only two persons.

                combined agreement average :   92.67%

CHAPTER FIVE

DISCUSSION OF RESULTS

The purpose of this study is to examine the effects of pre-information on clinical inference and nursing actions.

Since the terms "clinical inference" and "inference" are not widely used in nursing in New Zealand at present, it was decided not to use these terms lest they cause misunderstanding or confusion. Instead, subjects were asked to describe in detail what they had viewed. It was anticipated, as Crowell (1968) found, that within this description would be included a number of assumptive statements about the patient that would be in the nature of clinical inference.

This is indeed the case as the majority of subjects made a number of assumptive statements both in the first and second trial. Following the second viewing a number of subjects attributed some of these assumptive items to the patient's physical condition, her concern about her baby's condition, or the fact that she had been transferred from a small country hospital. All these factors had been included in pre-information that some subjects had received. On examining the relationship between the increase in such assumptive items with the nature of the pre-information that subject had received it was found that the percentage of items relative to the pre-information increased for all groups, although not necessarily for all subjects. The same patterns are found in the "Describe Your Response" section. Here increases in "actions" items are markedly increased relevant to the pre-information received, and the "assessment" items show the same tendency overall although to a lesser extent.

There is a difference in the groups noted here however. Groups 1 and 2 (student midwives) show a tendency for less relevant "assessment" items than "actions" items (Tables 4.12, 41.7), while group 3 and the pre-test group (comprehensive nursing students) have an inverse tendency. Here there is a greater increase in "assessment" items relevant to the pre-information received than in the "actions" items (Tables 4.4., 4.22). Since the assessment items are generally to "check-out" with the patient whether a particular observation is accurate or such an action is desired, then as wide a range of such

items is desirable. It is not certain why this difference between the groups occurred. Perhaps it indicates a difference in the emphasis in the nursing programmes; in experience (subjects in Groups 1 and 2 have much more nursing experience); in age; or a combination of factors.

In consideration of the results of all subjects combined according to categories (All), the multivariate one way analysis of variance graphical displays (Figures 4.3, 4.4) show both the similarities and the differences between the categories very clearly. In Figure 4.3 the ellipse for category D (the control group who received no additional pre-information) is almost entirely contained within the ellipses for both category B and C indicating a "core" common to all three groups which contains the majority of the responses. The differences in the spread of remaining scores for both categories B and C is closely associated with the image line of the co-ordinate vector for items relevant to the pre-information that subjects in that particular category received. Thus showing the relationship between the nature of the pre-information and the subject's response.

For "Describe Your Response" (Figure 4.4) there are some similar tendencies, but also some differences. There is greater separation of category B and C and category D is closer in composition to a portion of category B than category C (seen by the location of the ellipse for category D within the ellipse for category B and only partially overlapping into category C's ellipse). The items influencing the spread of responses are again relevant to the nature of the pre-information the subjects received, although it is clearly demonstrated that some subjects are presumably more influenced than others by the pre-information they received.

Examination of the multi-variate one way analysis of variance graphical displays for the individual groups (figures 4.1, 4.2, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10) show these similarities and differences also. One of the most striking differences is that of group 3 "Describe Your Responses" (Figure 4.10). There is very little difference seen between the categories. Almost all the responses are clustered closely around the centre of the grid with only four responses (two in category B, and one in both category C and D) are located outside of the ellipse for another category. This is a different pattern to that for the pretest group (Figure 4.2).

These two groups are both composed of second year comprehensive nursing students and both groups took part in the research at a similar stage in their maternal and child health nursing experience. While there are some differences in the composition of these groups (which had been formed arbitrarily at the commencement of the course), I do nót believe that is sufficient to explain these results.   There are two other possible explanations.   Firstly, that subjects in Group 3 had been informed by the pre-test group concerning the nature of the research and this had influenced their responses.   This I consider is unlikely to be the case as there was over three months between the two events, and since I was actively involved with both groups it was hardly a momentous event that warranted being passed on to the other group and remembered in such detail.   Also, on later questioning several subjects in Group 3, they denied any "pre-information" on the nature of the research.

The other possible cause for the difference is the nature of the experience that Group 3 had had prior to their maternal and child health nursing experience that was not (at that stage) common to the pre-test group also.   While the pre-test group had been involved with maternal and child health nursing Group 3 had been undertaking an intensive term of psychiatric nursing experience.   During this time the importance of checking out what is seen and heard is emphasised. It seems from these resulults that the majority of subjects in Group 3 have learned that lesson well.   It would have been interesting to have retested the pre-test group at the completion of their block in psychiatric nursing experience to see if similar changes had occurred there also.

Nystedt's (1972) adaptation of Brunswik's (1956) lens model (Figure 1.2) is helpful in appreciating the nature of this change. Pre-information is but one factor that influences the individual's cognitive system.   Such factors can act as cues and so influence the individual in making judgements or interpretations.   It was awareness of the wide range of influencing factors that had resulted in the decision to obtain an individual baseline for each subject. Apparently in the case of Group 3 another factor, or combination of factors, have had a greater effect than pre-information on the subject's behaviour pattern overall.

The other noticeable difference in in Group 2's pattern of responses to "Describe Your Response" (Figure 4.8). Here the responses for each category are more closely clustered and the ellipses are widely separated from each other. This is a different pattern from any of the other groups. While Groups 1 and 2 have somewhat similar patterns for responses to "Describe What You Saw on the Video" (Figure 4.5, Figure 4.7) this pattern of Group 2 for "Describe Your Responses" (Figure 4.8) is considerably different from that for Group 1 (Figure 4.6).

These two groups are both composed of student midwives, and while in two different hospitals undergoing differently constructed programmes both are leading to the same qualification. Apart from possible differences in programme, the main difference appears to be that Group 1 participated in the research in the fifth month of their six month course so had by that time covered much of the theoretical and clinical experience required, while Group 2 were at the end of their third month; or half way through their programme. This difference is even greater when it is remembered that Group 2's programme was constructed so that the bulk of their clinical experience is in the latter three months. This means that these subjects while having completed much of the theoretical component of their course will have had fewer opportunities to put it into practice than subjects in Group 1 will have had. This difference was unplanned, but may give a clue to another factor influencing the utilisation of pre-information.

It seems possible that limited experience in similar clinical situations may have caused an increase in anxiety or other emotional arousal which in turn influenced the manner in which subjects utilised either the pre-information or the other cues available to them. Admittedly it is not known that the subjects were feeling insecure in such a situation, but the fact that 66.6% of the subjects in Group 2 have had three months or less previous post-basic obstetrical experience (Table 4.13) in addition to their current limited clinical experience may support this possibility.

If this is so, then Easterbrook's (1959) findings of the reduction in the range of cues utilised as anxiety increases may offer an explanation for the similarities in response patterns for subjects within each category (especially categories C and D), and the wide

separation of the categories from each other.   In other words, the subjects may have based their actions on a limited number of cues which they considered to be the most important, and for this group the range of cues utilised appears to be noticeably less than for other groups.   Unfortunately it is not known what the "optimal cue utilisation range" (Easterbrook, 1959) is for such a task. Stricter adherence to Hammond's (1964b) clinical inference model in the design of this research may have provided for some such information. Although this model provided a useful framework for identifying the components of the clinical inferential process in a nursing situation and the possible effects that the nature of the pre-information received may have, it was not followed closely.   This was primarily on the grounds that it would involve a much greater area of research than was intended at this time.   However, in retrospect, if subjects had been asked to identify the cues they found most useful and to place them in order of priority in some way, perhaps in the manner used by Crowell (1968), then useful information on the cue utilisation range for this nursing task and the effects of pre-information on this range may have been obtained.

There are some changes that occur which are generally wide-spread in all categories of all groups, such as the reduction of items relating to establishing a nurse-patient relationship.   It can be assumed that at least part of that decrease is due to the repetition of the exercise, but in most instances (except Group 2) the reduction is much less for category D than for the other two categories.   Overall the reduction is similar for both categories B and C and may possibly be one consequence of additional pre-information (regardless of the specific content).   Another similar trend is seen in the reduction of general items.   Actions - general items tend overall to be reduced for categories B and C (to approximately the same extent) while they are increased for category D, perhaps indicating that categories B and C now concentrated on other cues, or interpreted them according to other criteria.

Assessment - general items are reduced generally by both categories B and C, but more markedly by category C (see Table 4.7). This seems to be an indication of a tendency that is demonstrated in the items that are relative to the nature of the pre-information they received also (see Tables 4.6, 4.7).

It is interesting to note that in all these instances the increase for category C is approximately double that for category B which would seem to indicate that the nature of the pre-information given to subjects in category C regarding the baby's condition has a much greater effect on subject's responses than the nature of the pre-information given to subjects in category B regarding the patient's physical condition.

It appears that the feelings that are evoked are important, and frequently subjects in category C showed marked changes in the potency of their assumptive statements.   This is illustrated in the examples quoted from subject A and subject F, where a previously tentative or general statement is now expressed much more definitely and frequently with much feeling (as subject F).   The weighting system was devised to take these changes into account.   The association of particular feelings and behaviour with a given event was identified by Jones et. al. (1972) as one of the basic assumptions of attribution theory.

On the first trial following very limited pre-information a number of subjects expressed some degree of frustration that the patient was not "making an effort to help herself" or that she seemed to be "feeling sorry for herself" with a hint that this was probably unjustified.   This tendency continues on the second trial in the control group, but is markedly less for subjects in category B and completely absent for category C subjects.   It appears that the additional information influenced the interpretation of the situation and, in Heider's (1958) terms the causal locus moved from being seen as being personal or within the patient to being external or impersonal and therefore outside of the control or responsibility of the patient. In other words it was seen as "appropriate" behaviour for a patient of an ill infant to be responding in such a way, less so as a response to such a physical condition, and as largely "unacceptable" if neither situation applied.

Another trend observed in the actions - physical items appeared to be more frequently in the nature of encouraging the patient to do things for herself, such as have a salt-sitz bath, or a shower (see subject G as one example of this).   On the other hand actions - baby items were more frequently in terms of what the nurse would do for

the patient, such as obtaining up to date information about the baby's condition, or "reassuring" her that baby was in the best place (see subject H and subject J). In terms of Heider's (1958) theories the differing perception of the patient may have led to different nurse behaviours and expectations, or alternatively this trend may be more of a reflection on current obstetrical practice for the nurse rather than the patient to obtain first-hand information regarding baby.

While subjects in category B tended to show a smaller (although still noticeable) increase in items relative to the nature of the pre-information they received than did category C subjects, a different trend emerged also. Along with the increase in items relative to the patient's physical condition, subjects in category B also tended to show a small increase in items relative to the baby's condition, and this increase was greater than the increase of category C for the items relative to the patient's physical condition. It appeared that information regarding the patient's physical condition evoked a much greater range of items than was the case with information regarding the baby's condition. This trend is present in Groups 1 and 2 (Tables 4.10, 4.12, 4.15, 4.17) but not in roup 3 (Table 4.20) or the pre-test group (Table 4.2) where the reverse is true. In these groups it is category C that has an increase in items attributed to the patient's physical condition while category B has a reduction in items attributed to the baby's condition. This difference would seem to reflect a different emphasis in the nursing programmes, although possible influence of other variables is acknowledged.

Throughout the subjects' responses emerged a variety of evidence to support the concept of a certain role-expectation of a post-natal patient. Perhaps the most striking example of this was that of all the subjects who made reference to the patient awaiting news of her baby only one gave any indication that it was possible the patient may have ambivalent feelings about her baby, or may be feeling guilty about such feelings. All the others assumed that "naturally" she was worried about her baby and missing contact with the infant. While this may be true for many patients it is not necessarily true for all.

Yet to assume that this is the case could surely increase any feelings of guilt that may be present. This trend, to see only the obvious traits and then fill in the rest of the picture as Lippman (1966) so graphically describes stereotyping, is not necessarily the consequence of the pre-information. However, it would seem to amplify a tendency that is already present.

Kraus (1976) suggested that pre-information would influence the organisation and direction of the nurse's observation, and interpretation of ambiguous cues, and there is evidence of both these findings in these results. There is such variation within the responses, both in regard to the description of the patient, and subsequent nursing actions that at times it was hard to believe that all subjects had viewed the same film. It was intended to produce a film containing a number of potentially ambiguous cues, and by the range of responses it appears that this was so. The nature of the pre-information may be an important factor in the meaning that was given to these cues.

This can be seen in the changes that occur in the examples given from individual responses. Subjects A and F move from expressing general worry or anxiety to interpreting it as "obviously" related to her baby's condition after information about baby's condition, but Subject B continues to make a similar interpretation concerning anxiety connected with baby when no pre-information regarding baby had been given. Subject C moves from describing the patient as "quite sore and uncomfortable" to "very uncomfortable and unwell" after information about her physical condition. However, Subject E who assumes that the patient "has a sore perineum" initially makes no mention of her physical condition after information regarding baby.

There are a number of other interesting aspects which arise out of this data which are outside the scope of this present study, for while they may provide some additional information about the effects of pre-information they are beyond the stated hypothesis. Also, the trends that occur are not clear and would require further investigation. Such factors include changes in the ratio of descriptive and assumptive items following pre-information, and any possible significance in the increase in items attributed to transfer. This information was

available to subjects in both categories B and C but was specifically mentioned by only a few in both categories. Another area, is that of items attributed to visitors where again no obvious trend emerges. Items attributed to visitors appear to have been evoked mainly by the background noise (the videotape was filmed during visiting time in the ward) and so may be connected with the utilisation of environmental cues.

Inevitably there are a number of limitations in this research. The apparent imbalance in the composition of the categories would be one of the most significant. Although this imbalance may not have been as significant a factor as access to the content of other subject's pre-information would have been, which seemed to be the alternative at the time, it is a pity that this was not avoided.

There are problems with adequately coding the content of subject's responses. The present system is satisfactory in many respects, and the reliability of the coding (92.67%) is satisfactory according to Fox's (1976) criteria of a minimum of 85-90%, but it does not distinguish between all important aspects as adequately as might be desired. For instance, in "Describe Your Response" it does not distinguish between "actions" items that were given before any "assessment" items and those that are subsequent to an assessment being made and checked with the patient. This is an important difference that is not shown in this categorisation. For by assessment the nurse is able to verify the accuracy and adequacy of inferences made. Nursing actions which follow assessment should be less likely to be inappropriately influenced by incomplete or inaccurate pre-information.

The emphasis in this discussion has necessarily concentrated on the differences that appear in the subject's responses, the possible relationships between these changes and the nature of the pre-information received, and consideration of other factors that may also influence this process. However, I believe that it is also important to comment on the overall high quality of the responses that were made by subjects. I was impressed with the ability of subjects to express clearly and in considerable detail both what they had seen and what they would do. Their responses showed sensitivity to the possible needs of such a patient and knowledge of a wide range of nursing actions that may be used in such a situation.

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CHAPTER 6

IMPLICATIONS FOR NURSING

Hopefully the findings of this research will lead to increased awareness of the importance of the nature of the information that a nurse receives concerning a patient prior to meeting, in determining the way in which the nurse perceives the patient, assesses the situation, and subsequent nursing actions.

Pre-information concerning a patient can be very helpful, time-saving, and reassuring to the patient that there is some degree of continuity between the different nurses involved in the care of a particular patient. Such information may assist the nurse in determining priorities by directing attention to important cues, but it may also serve to restrict the range of cues utilised to an unhelpful degree so that an inadequate assessment of the present situation is made. It is also important for the nurse to realise that the content of the pre-information that is received may be incomplete, biased or even completely inaccurate, and so needs to be checked out. Perhaps it is possible to develop means of monitoring the nature of at least some of the pre-information that is received by a nurse in a clinical situation. This could be done by periodically systematically reviewing the contents of the nursing notes written on each duty, or by tape-recording the nurses "report time" and later analysing the content of the information communicated about each patient. If patients are more actively involved in the planning of their care then this may also be a means of reducing the effects of inaccurate or incomplete pre-infor-mation as the patient could challenge any erroneous assumption being made.

If research into the effects of pre-information was conducted in an actual nurse-patient situation, rather than by simulation as was the case here then it would be possible to include the patient's view of the adequacy or appropriateness of the nurse's responses. This would add another dimension to the study and also provide a further check on the researcher's interpretation of the responses.

A similar approach was used by Thomson, Kincross and Chick (1977) in their study of a surgical ward, when they included an account of how representatives of the groups observed viewed the findings. Alternatively, a study could concentrate on the subsequent patient behaviour following particular nurse behaviour.

Placing this research in an obstetric setting has limited the specific application of these findings to other areas of nursing. It is not known whether similar tendencies occur within other areas of nursing although it would seem likely that this may be so. It may be that other factors, such as the degree of autonomy that the nurse has in decision-making regarding nursing actions influences the effect of the pre-information. In some nursing situations, especially where life-threatening incidents frequently occur, such as in critical care units, once the nurse has decided that a particular cue (such as the absence of respiration or heart-beat) is present then the nurse is involved in little subsequent decision-making, but follows a prescribed set of actions until the emergency is over. Corry's (1976) hypothesis regarding the relationship between the health status of the patient and the range of cues utilised by the nurse could provide the basis for further research and could be adapted to include consideration of the effects of pre-information on such a relationship. The placement of similar studies in a variety of nursing situations including acute care, long stay and community areas would assist in identifying consistent trends and marked differences. It would also provide opportunities to examine the influence of other factors such as the socio-cultural background, age and diagnosis of the patient.

At the outset of this research it had not been intended to look at differences in nursing education although this aspect was explored by Crowell (1968) and Davis (1972, 1974). However, as already raised in the previous chapter, differing trends do emerge between the comprehensive nursing students and the mid-wifery students who had predominantly undertaken their basic nursing programme in a hospital based programme.

The trend for comprehensive nursing students who received pre-information about the baby's condition to increase their responses not only relative to that fact but also (admittedly to a lesser extent) in regard to items relative to the patient's physical condition, while for the midwifery students it was the group who received pre-information regarding the patient's physical condition who showed this tendency may reflect a variation in the orientation of these basic programmes. At this stage of their programme the comprehensive nurse students had not yet received detailed instruction in specific pathological conditions except in terms of broad concepts. They had however, undertaken a variety of experiences in many different settings both in the community and in institutions, and much time had been spent developing psycho-social skills. Is it not possible that the emphasis within the particular nursing education programme will influence the manner in which cues are utilised? If the nursing programme emphasises pathological processes then there may be a resultant emphasis by these nurses on physical indicators, whereas where the emphasis is broader the pattern changes.

The marked difference in the manner in which the patient is perceived by the two groups of comprehensive nursing students (Group 3 and the pre-test group) has already been discussed in detail. If in fact the different response pattern is due to the effect of the psychiatric nursing component of the course then this would support the argument for a basic course which contains psychiatric as well as medical and surgical components. It also demonstrates that knowledge learnt in one area is able to be readily transferred to another area.

The concept of clinical inference as demonstrated in Hammond's (1964) adaptation of Brunswik's (1956) lens model provides a useful framework for nursing education as it focuses on the key points and relationships in a nurse-patient situation. If used in conjunction with the nursing process it would provide another perspective to the application of nursing knowledge to a clinical situation. The model could also provide the basis for a relatively objective means of evaluating the student's ability to apply such knowledge. By providing a brief patient profile designed to contain specific cues, it would then be possible to measure the range of these used by the student, the priority given to different cues, the extent of assessment of the validity of the cues, and the subsequent actions considered relevant

to the situation.   This is but one possibility and no doubt there
are many other applications that could be made in a teaching situation.

The scope for further study into the whole area of clinical
inference in nursing situations is enormous and there are still many
unanswered questions relating to the process that occurs in every
nurse-patient situation that remain to be explored.   The effects
of pre-information on the clinical inferential process is a small but
pertinent aspect.   For with greater awareness of the factors involved
a nurse can make positive changes in the use of pre-information and in
turn this will benefit both the patient and the nurse.

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APPENDIX A

Pre-information A

You have just commenced afternoon duty on a post-natal ward.
Mrs Wilson is now 4 days post-partum. You are about to meet her
for the first time in a 5 minute video-taped sequence. Watch
it closely as after it is finished you are required to write a
detailed description of what you saw, and then to describe the
responses you would then make.

Keep this in mind as you watch the videotape.

Pre-information B

You have just commenced afternoon duty on a post-natal ward.
At the afternoon report the Charge Nurse tells you that Mrs Wilson
had been transferred from a country hospital in labour and after
a difficult delivery she was transferred to this ward. She is
now 4 days post-partum. This morning her temperature was $37.5^{\circ}C$
and her perineal suture line was slightly inflamed.
You are about to meet her for the first time in a 5 minute
video-tape sequence. Watch it closely as after it is finished
you are required to write a detailed account of what you saw,
and then to describe the responses you would then make.

Keep this in mind as you watch the videotape.

Pre-information C

You have just commenced afternoon duty on a post-natal ward.
At the afternoon report the Charge Nurse tells you that Mrs Wilson
had been transferred from a country hospital in labour and that
after a difficult delivery she was transferred to this ward and baby
was transferred to the Neonatal Unit.
She is now 4 days post-partum.
This morning her doctor told her that baby's condition had deteriorated
slightly, and no further information has been received.
You are about to meet her for the first time in a 5 minute video-
taped sequence. Watch it closely as after it is finished you are
required to write a detailed description of what you saw, and then to
describe the responses you would then make.

Keep this in mind as you watch the videotape.

Pre-information D

You are to be a member of the control group who receive no further information regarding Mrs Wilson - but have an opportunity to view the videotape again with the same instructions.

You have just commenced afternoon duty on a post-natal ward. Mrs Wilson is now 4 days post-partum. You are about to meet her for the first time in a 5 minute videotaped sequence. Watch it closely as after it is finished you are required to write a detailed description of what you saw, and then to describe the responses you would then make.

Keep this in mind as you watch the videotape.

APPENDIX   B

Personal Data Sheet

Identification No

Age (please tick)

20-24 years   25-29 years
30-34 years   35-39 years
40 years

General Education Qualifications (School Cert, U.E.etc).

Nursing Registrations

Date of Basic Registration

Years of Active Nursing Practice since basic registration

Length of Post-basic Obstetric Experience
 (prior to midwifery programme)

APPENDIX C

INSTRUCTIONS FOR SCORING THE CONTENT UNIT

The unit to be used is the statement or meaning unit.

Each statement is indicated by a dash:/

e.g.   À lady/ in a single room/ sitting up in bed/ not at all interested in what is going on around her./

It may take any of the following forms:

a) Complete simple sentence - which contains only one major thought. It contains a subject and predicate, usually with a verb and an object.   Adjectives and adverbs may be present.   It may be self-explanatory, or depend on the context to convey the meaning.

e.g.,   She looked at her watch./

b) Incomplete sentence - the statement may or may not be complete in itself in the form of a single word or combinations of words, and is not an integral part of the preceding or following statements. The statement may be incomplete, but providing the missing part is strongly implied it may be counted as a separate statement.

e.g.,   Bored/ listless/ apathetic/ flicking through magazines/
        lack of interest./

c) Conjunctival sentence - a conjunction may combine two or more sentences which are complete or nearly complete in themselves. These may be separate ideas, or the same idea repeated.   These units are then scored as two separate units.

e.g.,   She twisted her handkerchief between her fingers/ twiddled
        with her hair/ and seemed pre-occupied with time./

or   She is frustrated/ and becoming more frustrated,/ almost
        to the point of utter frustration.

(Adapted from Murray (1955))

APPENDIX D

Forms for Recording the Number of Items in Each Category for Individual Subjects

"Describe What You Saw on the Video"

	Surroundings					Appearance							Actions						weighting
		Assumptive					Assumptive							Assumptive					
D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O			
																			(1)
																			(2)
																			(3)

"Describe Your Response"

		Assessment			Actions			
	N – P	General	Physical	Baby	General	Physical	Baby	O

INSTRUCTIONS TO JUDGES CONCERNING CATEGORIES

General description of categories for coding "Describe What You Saw on the Videotape"

Descriptive Items

Factual (objective, actual) items which are present on the videotape. Lists of these were compiled from detailed viewing of the videotape.

Assumptive Items

All items not within the descriptive list but which were used by the subjects to convey what they saw, or how they interpreted what they saw on the videotape.

Subcategories as follows -

1) Attributed to <u>Patient's Condition</u>

    Pre-information - difficult delivery

    (B)   that morning - temperature 37.5C

                                perineal suture - line inflamed.

    Items concerned with signs and symptoms of perineal infection

                                - painful perineum

                                fever

                                generalized malaise

2) Attributed to <u>Response to Baby's Condition</u>

    Pre-information - difficult delivery

    (C)   baby transferred to Neonatal Unit

                      that morning Dr told her baby's condition had

                        deteriorated slightly no further news

    Items concerned with - concern for baby

                          wanting news of / contact with baby.

3) Attributed to Waiting For (Expecting) <u>Visitors</u>.

4) Attributed to <u>Response to Transfer</u>

    Pre-information - transferred from a country hospital in labour.

        (B & C)

    Items concerned with - being in a large hospital

                          distance from family/friends

5) <u>General</u>

    Those assumptive items which are not attributed to any of the

    above categories.   They may be non-specific, general in nature, or

attributed to 'routine 4th day P/N conditions'- e.g.,

- P/N Blues, breast engorgement.

Detailed Description of:

- Categories for Response to 'Describe what you saw on the videotape'.

Patient Surroundings

Descriptive Items -

    Corridor - trolley with cups, saucers, teapots

              notice on wall (L) - just beyond door to room

              door to room open

    Back-ground noise - voices - male and female, 'milk and sugar'

              'Mary' whistling, footsteps, rattling of crockery,

              trolley (different sounds) (no-one came near her)

    Room - general - single room, oxygen fitting on wall behind bed.

          bed - 'modern', back raised

              bed-clothes - rumpled, 2 pillows, sheets, light

              coloured magazines on bed (at least 2) 'Woman's Weekly'

              cover on one.

              hankerchief on bed (under magazines initially)

          Locker - on right of bed. No flowers, box of tissues, glass,

              jug.

              3 cards.

          Curtains - drawn, floral - several shades on a dark back-ground.

          Chair - on right of bed, near curtains, dressing-gown over the

              back.

Assumptive Items - subdivided into 3 categories

    General - noises of - people drinking tea, some-one making tea.

              a lot of noise, lots of people, very noisy outside,

              everyone seems gay, happy, pre-occupied with what they

              are doing.

              Room very quiet, dull, dark room, nothing much to keep

              her occupied.

              Not many cards - may be new to the community.

              Windows appear to be closed.

      Attributed to Visitors (lack of, or waiting for)

              sounds of visitors, visiting time, lack of companionship.

      Attributed to Transfer

              coming from country hospital to city one must be strange.

Patient Appearance

Descriptive Items – female, sitting up in bed, not supported by pillows
under bed-clothes, wearing paterned nightdress with
frill around the neck

    Head – face – full face views and left profile
views of eyes, nose, mouth, teeth, forehead

    Hair – dark, straight, length below shoulders,
pinned to L. side.

    Arms – bare (uncovered), watch on left wrist.

    Hands – long finger-nails, nail polish,
rings on 4th fingers (L & R).

Assumptive Items – sub-divided into 5 categories.

    General – (non-specific) e.g.

        well-groomed, neat, clean, young

        looking washed out/tired/listless/unwell/sick

        uncomfortable/in pain/has head-ache/eye strain

        anxious/worried/dejected/miserable/depressed/bored/
distracted/uptight/unhappy/nervous/agitated/etc.

        lonely looking, look of utter aloneness

        almost in tears

        irritation increasing hates everyone

        has something on her mind/thinking about it too much

        oblivious to everything except what is on her mind

        not interested at all/unable to concentrate/almost
at screaming point

        not much hope in her her face/post-natal blues.

Attributed to visitors – appearance interpreted as response to waiting
for, or wanting visitors

Attributed to transfer – from a country hospital – appearance
interpreted in this light

Attributed to physical condition – response attributed specifically e.g.
discomfort from sutures, episiotomy is painful, very
sore behind, elevated temp.

Attributed to Response to Baby's condition

    afraid of what she might find/be told about baby's condition

    angry with Drs/herself about what has happened to baby

    frustrated at not being told more about baby

    worried about baby etc.

Patient Actions

Descriptive Items - body position - unsupported by pillows, moves self
                                     back in bed, movement of bedclothes,
                                     not up and walking round

        head   -   slightly forward, turns from left to right
                          lowers and raises head

        eyes   -   look down, up, to left, ahead
                          looks - at magazine, at watch (3 times), to
                          right move across page, open, blinks
                          (4 times), nearly closed at end

        lips   -   bites lower lip, movements of lips

        hands   -   both holding magazines, turns pages -
                          back to front & front to back
                          varying speed, tosses mags to end of bed
                          (4 times)
                          Left hand - wipes across L. eye, down
                          side of face, picks up mag. placed cupped
                          under chin, holds handkerchief

    right hand - to forehead, down R, side of face, cupped
                          under chin picks handkerchief off bed
                          Twists hair around fingers - both hands
                          pulls handkerchief between both hands
                          clasps hands together over bed-clothes -
                          3 times

        arms   -   uses both to move body back bed
                          places R. arm on bed-clothes - then left
                          places arms around mound in bed-clothes,
                          moves arms up mound places R. elbow on
                          top of mound, places R. elbow on L. fore-arm

    vocalisations - sighs (8 times) varying length and
                          depth)
                          says "Can't you do anything".

Assumptive Items - sub-divided into 5 categories

    General (non-specific)   - e.g.

        moves back - with difficulty/very carefully etc
        confined to bed (4 days p.p. - should be up)
        raises her knees, moves her legs, hugs her knees
        unable to perform any useful/stimulating task
        looks - into space, not focussing on anything in particular
        gave up looking: (at watch) - clock-watching, with impatience,
        time was dragging, wishing time to go faster

(at magazines) - flicking, flipping through, almost
ripped (hair, handkerchief) fiddles with, plays with,
wringing with worry as if wanting hair brushed
sighs - deeply/drawn-out
says - in not very hopeful way, as though she doesn't
really think you can help in forlorn voice, appealing
to some-one, expression of anger etc.

Attributed to Visitors - actions interpreted as waiting for visitors etc.

Attributed to Transfer - actions interpreted as response to transfer

Attributed to physical condition - actions attributed to response to
painful perineum or to fever.

Attributed to Response to Baby's Condition - actions interpreted as
relating to this.

WEIGHTING FOR POTENCY OF ASSUMPTIVE ITEMS

Considerable differences are apparent in the manner in which subjects express assumptive items.   To include these differences with the analysis it is proposed to weight all assumptive items for potency as follows :

1 - low potency

These are tentative statements - often prefixed with - maybe, perhaps or in the form of a question - Is there something the matter with baby? ;

2 - average potency

Usual expression - a statement with neither low or high potency;

3 - high potency

The statement is strongly expressed - may be conveyed by such words as - obviously, extremely, very.

There is no intention to weight the nature of the activity, emotion, etc., but rather the strength or certainty (potency) with which it is stated by the subject.

Describe Your Response - categorised as follows -

Establishing Nurse - patient Relationship

Includes all items specifically connected with the establishment of nurse-patient relationship such as -

- initiation of relationship by nurse
    - introduce self, move towards patient, sit down etc.
- identification/empathy with patient
    - find similarities with own experience
- facilitation of a trusting relationship
    - show genuine interest/concern
    - reflecting what has been said
    - encouraging further disclosure (non-specific)

Assessment of Patient

Inquiry of patient to -

- validate inferences nurse has formed of her condition/situation.
- clarify how patient sees her situation
    - the nature of the assistance desired
    - the range of problems/solutions
- seek additional information

Inquiry of staff or notes - to obtain additional information

Assessment items are sub-divided into -

General - those related to the general well-being of the patient both physical and emotional
    - including being alone, possible 4th day specific conditions such as those concerned with the establishment of lactation, or '4th day blues'

Physical - specific assessment in relation to possible perineal infection
    - pain/discomfort, temperature etc.

Baby - specific to response to baby's condition e.g. Is she worried about baby?
    Does she want additional information, or to see baby?

Actions - by the Nurse

Includes - assisting to meet physical needs
    - providing emotional support
    - giving additional information to patient
    - enlisting assistance from other resources - husband, professional experts

Actions items are sub-divided into -

General - actions relating to -

- the general comfort of the patient - room condition, hygiene, position (non-specific)
- 'routine' 4th day complications - e.g., breasts
- diversional activities - mixing with other patients, letter-writing, watching T.V.
- information about hospital routines

Physical - actions concerned with care of a painful/? infected perineum.

- pain relief
- bidet, salt-sitz bath, heat-lamp etc.
- inspecting suture-line, lochia, checking fundus.
- obtaining swabs for culture.

Baby - actions concerned with the care of a mother of a baby in Neonatal Unit.

- arranging/taking her to see baby, giving information about baby's condition/treatment.

APPENDIX F

EXPLANATION OF THE JUDGES' TASK

This exercise is to provide a means of checking the accuracy of the coding of subject's responses.

Subjects were given varied information about a post-natal patient. They then viewed a 5 minute videotape sequence of this patient, and were asked to "describe what you saw on the videotape" and to "describe your response" - as the nurse in the situation.

These responses were then divided into item or "statements" and coded into particular categories. On the following pages are 100 randomly selected items taken from the subjects' responses. Please read the following instructions and pages describing the different categories, and then indicate the category (and weighting where appropriate) of each item. (The attached form that was used may be of assistance to get a more complete picture.)

After reading the accompanying pages -

Start with Items from "Describe your response"

1. Read each item carefully

2. Decide which broad category it falls into - a) Establishing nurse-patient relationship

b) Assessment

c) Action

3. If b) or c) then which of the 3 subcategories it fits into

4. Record on the sheet beside the appropriate number for that item

    e.g. - Assessment/baby

        N - P

        Action/general

When all items have been completed - start on items from "Describe what you saw on the video"

There are more categories in this section and some of these are weighted also.

1. Read each item carefully

2. Decide which broad category it falls into - patient surroundings/
   appearance/actions

3. Then decide if a descriptive or assumptive item.

4. If an assumptive item, then which sub-category does it belong -
   general/visitors/transfer/physical etc.

5. Finally - indicate the relevant weighting (1, 2, 3) of assumptive
   items

6. Record on sheet beside the appropriate number for that item
   e.g., patient appearance/physical/2
       patient surroundings/descriptive

Thank you very much for your assistance.

Joan.

APPENDIX G

LISTS OF ITEMS FOR JUDGES

Selected items from "Describe What you Saw on the Videotape"

Please categorise each item following instruction sheets

1. she gave a large sigh
2. looked as if she was going to cry
3. the curtains were drawn
4. asked "Can't you do anything?"
5. she looked tired
6. angry at times
7. fidgeting with hair
8. looked miserable
9. waiting anxiously
10. appeared depressed
11. sitting in bed
12. (she) may be worried about something
13. she picks up a magazine
14. pulled herself back in bed
15. she was worried about her baby
16. she may have been waiting for visitors
17. appeared to be incredibly bored
18. obviously anxious
19. waiting for further news
20. picks up another magazine
21. frustrated at not being told more about baby's condition
22. appeared to be well-groomed
23. whistling in the back-ground
24. (she) needed more communication with the staff
25. perhaps it is visiting time
26. time is obviously passing very slowly
27. with a locker beside the bed
28. looking at watch
29. by her movements she seemed to have a painful perineum
30. she's lonely
31. has nothing to take her mind off herself
32. her perineum is obviously sore

33. has something on her mind

34. she appears to be waiting for someone

35. she is trying to fill in time

36. her perineum is sore

37. she twists her handkerchief around her fingers

38. (she) shifted position in bed

39. looks at watch

40. looking sad

41. aimlessly leafing through magazines

42. inability to concentrate

43. looked up

44. sighing

45. wanting to talk to someone

46. she pretended she was reading

47. maybe she was worrying about her baby

48. her perineum is sore

49. she appeared rather uncomfortable

50. looks at magazine

Selected items from "Describe your Responses"

Please categorise each item following the instruction sheets.

1. I would introduce myself to her
2. ·ask if she is feeling unwell
3. ask if her perineum is sore
4. let her know baby is O.K. - if this is so
5. encourage her to drink plenty of fluid
6. say "Hello Mrs Wilson, how are you today?"
7. try and find out what has caused the reaction she is having
8. encourage mobilisation
9. would she like a salt bath?
10. try and find out what is wrong with baby
11. ask her would she like some pain relief
12. try and get her to talk about her baby and what she thinks is wrong
13. make her comfortable physically
14. gently inquire if she is expecting any visitors
15. ask her would she like some pain relief
16. ensure she gets adequate sleep
17. carry out doctor's orders
18. (give) reassurance that baby was in the best place
19. encourage her to correspond with friends
20. inspect her perineum
21. help her to accept her baby's illness
22. elicit the cause of her anger or frustration
23. check on her medical wellbeing
24. approach her quietly
25. give (her an) air-ring
26. suggest she might like to go for a walk
27. speak quietly to her
28. reassure her that everything possible is being done for her baby
29. I would offer to ring her husband for her

30. give the appearance of having plenty of time

31. give pain relief as required

32. I would sit down beside her

33. find out how she was generally feeling

34. contact her doctor and inform him of her problem

35. .talk about her baby

36. ask her how she feels

37. explain what is being done for her

38. shut the door

39. encourage her to talk

40. give reassurance about the baby

41. ask what the problem was

42. I will take her to the nursery to see her baby

43. I will make her feel at ease with me

44. arrange to move her into a room with other ladies for company

45. help her to divert her attention

46. find out how her baby is

47. ensure she is not left on her own too much

48. is there anything she needs?

49. find out why patient is not with baby

50. give her ice-packs

APPENDIX   H

Raw Scores, Weighted Scores and Percentages

PRE-TEST

Table H.1. Raw Scores for Each Subject in Pre-test Group by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions							Total
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	
Category D	0	0	0	0	-3	0	0	0	0	0	-1	-1	0	0	0	0	0	-5
	-1	-2	0	0	-1	5	-2	0	0	0	1	0	0	0	0	0	0	0
	0	2	0	0	1	-7	-1	0	0	2	-2	-5	0	0	0	0	3	-7
Category B	1	0	0	0	0	-6	0	0	0	0	-3	-1	0	0	0	0	0	-9
	-2	-1	-1	0	1	1	0	0	2	0	1	-2	-2	0	0	0	0	-3
	0	0	0	0	0	0	0	0	0	0	-4	-4	0	0	0	0	0	-8
	1	2	0	0	-1	1	0	0	1	0	-3	-5	0	0	0	0	0	-4
Category C	-2	0	0	0	-1	-1	0	0	0	0	-3	-4	0	0	0	0	0	-11
	0	0	0	0	-1	-2	0	0	0	2	-1	-2	1	1	0	2	0	0
	-4	-3	0	0	-2	5	0	0	1	2	-11	-10	0	0	0	0	0	-22
	0	4	0	3	-1	-1	0	0	2	2	-5	-12	0	0	-1	2	0	-7

Key: D - descriptive items
G - general items
V - items attributed to visitors
T - items attributed to transfer
P - items attributed to patient's physical condition
B - items attributed to baby's condition
O - other items

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Table H.2 Weighted Scores for Each Subject in Pre-Test Group by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	0	0	0	0	0	-7	0	0	0	0	-1	-2	0	0	0	0	0	-5
	-1	-4	0	0	-1	7	-4	0	0	0	1	-2	0	0	0	0	0	0
	0	4	0	0	1	-18	-2	0	0	5	-2	-10	0	0	0	0	3	-7
Category B	0	2	0	0	0	-15	0	0	0	0	-3	-2	0	0	0	0	0	-9
	-2	-2	-2	0	1	0	0	0	4	0	1	-4	-4	0	0	0	0	-3
	0	0	0	0	0	0	0	0	0	0	-4	-6	0	0	0	0	0	-8
	1	4	0	0	-1	2	0	0	1	0	-3	-10	0	0	0	0	0	-4
Category C	-2	0	0	0	-1	-2	0	0	0	0	-3	-8	0	0	0	0	0	-11
	0	0	0	0	-1	-6	0	0	0	4	-1	-4	2	2	0	4	0	0
	-4	-6	0	0	-2	14	0	0	2	5	-11	-20	0	0	0	0	0	-22
	0	8	0	6	-1	-2	0	0	5	4	-5	-24	0	0	-3	4	0	-7

Key: D - descriptive items
      G - general items
      V - items attributed to visitors
      T - items attributed to transfer
      P - items attributed to patient's physical condition
      B - items attributed to baby's condition
      O - other items

Table H.3 Percentages for Each Subject in Pre-Test Group by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions					
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B
Category D	0.00	0.00	0.00	0.00	-1.00	- 6.20	0.00	0.00	0.00	0.00	- 2.00	3.50	0.00	0.00	0.00	0.00
	-5.90	-11.80	0.00	0.00	-5.90	14.80	-11.80	0.00	0.00	0.00	5.80	- 8.80	0.00	0.00	0.00	0.00
	0.00	-10.60	0.00	0.00	7.20	-15.80	- 3.40	0.00	0.00	14.20	- 6.90	-15.40	0.00	0.00	1.90	0.00
Category B	3.50	11.90	0.00	0.00	3.50	-31.40	0.00	0.00	0.00	0.00	-14.30	17.20	0.00	0.00	0.00	0.00
	-9.50	- 4.80	-4.80	0.00	5.60	2.00	0.00	0.00	11.10	0.00	7.90	- 5.50	-9.50	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	4.60	- 4.80	0.00	0.00	0.00	0.00	- 8.00	14.40	0.00	0.00	0.00	0.00
	5.30	10.50	0.00	0.00	-3.40	8.90	0.00	0.00	2.70	0.00	-11.30	-15.40	0.00	0.00	0.00	0.00
Category C	-3.90	18.30	0.00	0.00	1.10	19.40	0.00	0.00	0.00	0.00	-15.00	-20.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	-9.10	-36.40	0.00	0.00	0.00	18.20	- 9.10	-18.20	9.10	9.10	0.00	18.20
	12.90	- 9.70	0.00	0.00	1.40	99.90	0.00	0.00	11.10	33.30	-35.50	-32.20	0.00	0.00	0.00	0.00
	0.00	20.00	0.00	15.00	-3.70	4.10	0.00	0.00	15.00	10.00	-17.20	-44.40	0.00	0.00	-7.40	10.00

Key: D - descriptive items
G - general items
V - items attributed to visitors
T - items attributed to transfer
P - items attributed to patient's physical condition
B - items attributed to baby's condition

Table H.4. Raw Scores for Each Subject in Pre-Test Group by Category to "Describe Your Response"

	N – P	Assessment			Actions				Total
		General	Physical	Baby	General	Physical	Baby	Other	
Category D	– 5	1	0	0	0	0	0	0	– 4
	– 1	0	0	2	0	0	0	0	1
	– 3	– 3	0	0	0	0	0	0	– 6
Category B	– 6	2	2	0	0	0	0	0	– 2
	– 1	0	2	0	5	1	0	0	– 7
	– 3	– 2	4	0	0	0	0	0	– 1
	– 2	– 1	2	0	1	0	0	0	0
Category C	– 2	4	0	3	1	0	0	0	6
	– 2	0	0	0	0	0	4	0	2
	0	– 1	0	2	0	0	0	2	3
	– 2	– 2	0	2	– 1	0	0	0	– 3

Table H.5. Raw Scores for each Subject in Group 1 by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	- 1	- 5	0	0	- 1	0	0	0	0	0	0	- 2	1	0	0	0	0	- 8
	2	1	0	0	- 1	- 4	0	0	0	0	2	- 3	0	0	0	0	0	- 3
	0	0	0	0	- 1	0	0	0	0	0	0	- 3	0	0	0	0	0	- 4
	1	0	0	0	0	- 1	0	0	0	2	0	3	0	0	0	0	0	5
	0	- 1	0	0	- 1	0	0	0	0	0	0	1	0	0	0	0	0	- 1
	0	- 4	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	1
	- 9	- 2	0	0	- 1	- 3	0	0	0	0	1	5	0	0	0	0	0	- 9
	0	0	0	0	0	0	0	0	0	0	- 1	0	0	0	0	0	0	- 1
	0	2	- 1	0	- 1	- 1	0	0	1	0	1	3	0	0	0	0	0	4
	0	0	0	0	0	2	0	0	0	0	0	- 1	0	0	0	0	0	1
Category B	0	0	1	0	- 1	- 1	1	0	1	1	- 1	- 4	- 1	0	- 1	- 1	0	- 6
	0	- 2	0	0	1	- 1	0	0	0	0	3	9	0	0	3	0	0	13
	2	- 2	0	1	1	0	0	1	1	0	0	- 4	0	0	0	0	0	0
	- 3	- 3	0	0	1	1	1	0	0	1	0	1	0	0	0	0	0	- 1
	0	0	2	0	1	0	3	0	0	0	- 1	- 2	0	0	1	0	0	4
	0	- 1	0	0	- 1	- 4	0	0	0	0	2	- 3	0	0	0	0	0	- 7
	- 2	- 3	0	0	- 1	- 2	0	0	0	0	- 2	- 4	0	0	0	0	0	-14
	- 1	- 3	0	0	0	- 5	0	0	1	0	1	4	0	0	0	0	0	- 3
Category C	0	0	0	0	0	- 1	0	0	0	0	- 1	- 1	0	0	0	0	0	- 3
	- 1	0	0	0	- 1	- 2	0	0	0	0	3	1	0	0	0	0	0	0
	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3
	1	0	0	0	- 1	2	0	0	0	0	3	1	0	0	0	0	0	6
	0	- 3	0	0	0	- 4	0	0	0	1	0	- 2	0	0	0	0	0	- 8
	0	- 1	- 1	0	0	- 3	0	0	0	1	- 4	- 5	0	0	- 1	0	0	-14
	0	0	0	0	1	- 2	0	0	0	0	- 1	- 1	0	0	0	0	0	- 3
	2	- 1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
	- 2	1	0	0	0	0	0	0	0	0	- 1	- 6	0	0	0	0	0	- 8
	- 2	2	0	5	0	0	0	·0	0	- 1	2	- 1	0	0	0	4	0	9

Key: D - descriptive items
        G - general items
        V - items attributed to visitors
        T - items attributed to transfer
        P - items attributed to patient's physical condition
        B - items attributed to baby's condition
        O - other items

Table H. 6. Weighted Scores for Each Subject in Group 1 by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	-1	-10	0	0	-1	0	0	0	0	0	0	-4	2	0	0	0	0	-8
	2	2	0	0	-1	-8	0	0	0	0	2	-6	0	0	0	0	0	-3
	0	0	0	0	0	0	0	0	0.	0	0	-7	0	0	0	0	0	-4
	1	0	0	0	0	-3	0	0	0	2	0	6	0	0	0	0	0	5
	0	-2	0	0	-1	0	0	0	0	0	0	2	0	0	0	0	0	-1
	0	-8	0	0	7	0	0	0	0	0	0	4	0	0	0	0	0	1
	-9	-4	0	0	-1	-5	0	0	0	0	1	10	0	0	0	0	0	-9
	0	0	0	0	-1	0	0	0	0	0	-1	0	0	0	0	0	0	-1
	0	6	-1	0	-1	-3	0	0	1	0	1	6	0	0	0	0	0	4
	0	0	0	0	0	5	0	0	0	0	0	-3	0	0	0	0	0	1
Category B	0	0	1	0	-1	-4	2	0	2	1	-1	-9	-2	0	-2	-2	0	-6
	0	-4	0	0	1	-3	0	0	0	0	3	18	0	0	6	0	0	13
	2	-4	0	2	1	-2	0	1	2	0	0	-8	0	0	0	0	0	0
	-3	-6	0	0	1	-1	1	0	0	2	0	3	0	0	0	0	0	-1
	0	0	4	0	1	0	6	0	0	0	-1	-4	0	0	2	0	0	4
	0	-2	0	0	-1	-11	0	0	0	0	2	-1	0	0	0	0	0	-7
	-2	-7	0	0	-1	-4	0	0	0	0	-2	-8	0	0	0	0	0	-14
	-1	-6	0	0	0	-10	0	0	2	0	1	8	0	0	0	0	0	-3
Category C	0	0	0	0	0	-2	0	0	0	0	-1	-3	0	0	0	0	0	-3
	-1	0	0	0	-1	-7	0	0	0	0	3	2	0	0	0	0	0	0
	0	0	0	0	2	0	0	0	0	4	0	0	0	0	0	0	0	3
	1	0	0	0	-1	4	0	0	0	0	3	2	0	0	0	0	0	6
	0	-6	0	0	0	-8	0	0	0	2	0	4	0	0	0	0	0	-8
	0	-2	-1	0	0	-5	0	0	0	2	-4	-9	0	0	-1	0	0	-14
	0	0	0	0	1	-5	0	0	0	0	-1	-2	0	0	0	0	0	-3
	2	-2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
	-2	2	0	0	0	0	0	0	0	0	-1	-12	0	0	0	0	0	-8
	-2	4	0	10	0	0	0	0	0	-2	2	-2	0	0	0	8	0	9

Key: D - descriptive items
        G - general items
        V - items attributed to visitors
        T - items attributed to transfer
        P - items attributed to patient's physical condition
        B - items attributed to baby's condition
        O - other items

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Table H. 7 Percentages for Each Subject in Group 1 by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions					
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B
Category D	7.70	-26.20	0.00	0.00	- 7.70	24.60	0.00	0.00	0.00	0.00	0.00	- 3.10	20.00	0.00	0.00	0.00
	14.50	8.30	0.00	0.00	- 5.30	-20.00	0.00	0.00	0.00	0.00	12.50	- 9.90	0.00	0.00	0.00	0.00
	0.00	1.20	0.00	0.00	- 2.90	1.20	0.00	0.00	0.00	0.00	3.60	- 6.60	0.00	0.00	0.00	0.00
	4.80	- 1.50	0.00	0.00	- 1.50	-16.10	0.00	0.00	0.00	4.80	0.00	2.40	0.00	0.00	0.00	0.00
	0.20	- 3.50	0.00	0.00	- 3.50	0.00	0.00	0.00	0.00	0.00	1.10	5.80	0.00	0.00	0.00	0.00
	0.90	-31.40	0.00	0.00	0.00	25.30	0.00	0.00	0.00	0.00	0.00	13.70	0.00	0.00	0.00	0.00
	-50.00	-11.10	0.00	0.00	- 5.60	- 8.40	0.00	0.00	0.00	0.00	11.10	66.70	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	- 2.70	0.00	0.00	0.00	0.00	- 7.10	2.80	0.00	0.00	0.00	0.00
	0.00	19.70	- 4.60	0.00	-11.50	-25.50	0.00	0.00	3.40	0.00	6.70	15.10	0.00	0.00	0.00	0.00
	0.00	- 1.40	0.00	0.00	- 1.40	15.30	0.00	0.00	0.00	0.00	0.00	-25.00	0.00	0.00	0.00	0.00
Category B	1.40	1.40	3.00	0.00	- 3.20	7.00	5.90	0.00	5.90	3.00	- 4.50	-14.40	-4.50	0.00	- 4.50	-4.50
	0.00	-50.00	0.00	0.00	5.90	-50.00	0.00	0.00	0.00	0.00	17.60	33.90	0.00	0.00	20.70	0.00
	12.50	-12.50	0.00	6.30	6.20	- 3.30	0.90	3.20	6.30	0.00	0.00	-25.00	0.00	0.00	0.00	0.00
	-27.30	-27.30	0.00	0.00	10.00	9.00	5.00	0.00	0.00	10.00	0.00	20.90	0.00	0.00	0.00	0.00
	0.00	0.00	11.80	0.00	5.90	- 9.10	17.60	0.00	0.00	0.00	- 9.50	-24.50	0.00	0.00	5.90	0.00
	0.00	- 3.70	0.00	0.00	- 3.70	-23.30	0.00	0.00	0.00	0.00	17.80	6.90	0.00	0.00	0.00	0.00
	- 9.50	- 9.60	19.10	0.00	- 4.80	9.60	0.00	0.00	0.00	0.00	9.60	-19.00	0.00	0.00	0.00	0.00
	-10.00	-30.00	0.00	0.00	0.00	-45.70	0.00	0.00	14.30	0.00	14.30	57.10	0.00	0.00	0.00	0.00
Category C	0.00	0.00	0.00	0.00	- 2.50	1.70	0.00	0.00	0.00	0.00	- 5.90	- 0.60	0.00	0.00	0.00	0.00
	- 9.10	0.00	0.00	0.00	- 9.10	-45.50	0.00	0.00	0.00	0.00	27.30	9.10	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	-11.40	0.00	0.00	0.00	18.20	0.00	- 6.80	0.00	0.00	0.00	0.00
	4.00	0.00	0.00	0.00	- 5.30	8.00	0.00	0.00	0.00	0.00	5.70	10.00	0.00	0.00	0.00	0.00
	0.00	-27.30	0.00	0.00	0.00	12.10	0.00	0.00	0.00	33.30	0.00	18.20	0.00	0.00	0.00	0.00
	0.00	0.60	- 1.90	0.00	9.00	1.20	0.00	0.00	0.00	8.30	-15.40	25.20	0.00	0.00	- 1.90	0.00
	0.00	0.00	0.00	0.00	16.90	-20.80	0.00	0.00	0.00	0.00	- 5.40	1.50	0.00	0.00	0.00	0.00
	25.00	-16.70	0.00	0.00	- 8.30	- 6.30	0.00	0.00	0.00	0.00	0.00	- 4.20	0.00	0.00	0.00	0.00
	- 6.50	12.30	0.00	0.00	5.20	5.60	0.00	0.00	0.00	0.00	- 2.00	-16.60	0.00	0.00	0.00	0.00
	-17.10	3.10	0.00	21.70	- 2.80	- 5.60	0.00	0.00	0.00	- 7.10	8.70	-18.30	0.00	0.00	0.00	0.00

Key: D - descriptive items
      G - general items
      V - items attributed to visitors
      T - items attributed to transfer
      P - items attributed to patient's physical condition
      B - items attributed to baby's condition

Table H. 8   Raw Scores for Each Subject in Group 1 by Category to "Describe Your Response"

		Assessment			Action				
	N – P	General	Physical	Baby	General	Physical	Baby	Other	Total
Category D	-2	-2	0	0	4	0	0	0	0
	-1	2	0	4	-3	0	-1	0	1
	1	0	0	0	-5	0	0	0	-4
	1	-1	0	-2	0	0	0	0	-2
	0	0	0	0	-1	0	0	0	-1
	1	0	0	-3	1	0	0	0	-1
	1	1	0	0	-1	0	0	0	1
	-2	0	0	0	0	0	0	0	-2
	2	-1	1	0	0	0	0	0	2
	0	4	1	-1	-1	-1	0	0	2
Category B	-2	-4	0	-1	2	2	0	0	-3
	-2	0	0	0	-3	3	0	0	-2
	-1	0	0	1	-1	3	1	0	3
	-2	1	0	1	-3	2	1	0	0
	-2	-3	2	0	2	2	0	0	-3
	0	0	1	1	0	0	0	0	2
	2	-1	0	0	0	1	2	0	0
	-2	-4	2	0	2	6	0	0	0
Category C	-3	-1	0	0	3	0	3	0	2
	-2	-1	0	1	0	0	5	-1	2
	-1	-2	0	-1	0	0	8	0	4
	0	-5	0	-1	-1	0	8	0	1
	0	1	0	0	-5	0	3	0	-1
	-2	-4	0	0	4	0	4	0	2
	-3	-3	0	0	1	0	6	0	1
	-1	-1	0	-1	-2	0	3	0	-2
	-1	-2	0	1	1	0	5	0	4
	-4	-1	0	0	0	0	3	0	-2

Table H.9   Raw Scores for Each Subject in Group 2 by Category to "Describe What You Saw on the Video"

| | Surroundings | | | | Appearance | | | | | | Actions | | | | | | | |
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	1	1	0	0	1	1	0	0	0	0	− 1	− 2	0	0	0	0	0	1
	− 1	− 1	0	0	0	− 1	0	0	− 1	0	1	2	0	0	0	0	0	− 1
	0	2	0	0	0	− 3	0	0	0	0	1	2	0	0	1	0	0	3
	2	− 3	0	0	− 1	2	0	0	0	0	− 3	− 1	0	0	− 1	0	0	− 9
Category B	− 5	0	2	0	− 1	0	0	0	2	1	− 1	− 6	1	0	2	1	0	− 4
	0	1	0	0	0	− 1	0	0	0	0	− 1	− 5	− 2	0	1	0	0	− 7
	− 1	− 5	− 3	0	0	− 3	2	4	6	− 1	0	0	0	0	0	0	0	− 1
	2	1	0	0	− 1	− 1	0	0	0	0	0	− 2	0	0	0	0	0	− 1
Category C	0	1	0	0	− 1	− 1	0	0	0	1	0	− 3	0	0	0	0	0	− 3
	− 2	− 3	0	0	0	− 1	1	0	− 1	2	0	− 3	0	0	0	1	0	− 6
	− 1	− 8	0	0	− 2	− 2	0	0	− 1	4	0	1	0	0	0	2	0	− 7
	0	− 1	0	0	− 1	− 4	0	0	0	1	0	0	0	0	1	2	0	− 2

Key :   D – descriptive items
G – general items
V – items attributed to transfer
P – items attributed to patient's physical condition
B – items attributed to baby's condition
O – other items

Table H. 10 Weighted Scores for Each Subject in Group 2 by Category to "Describe What you Saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	1	2	0	0	1	0	0	0	0	0	1	− 6	0	0	0	0	0	1
	− 1	− 2	0	0	0	− 1	0	0	− 1	0	1	5	0	0	0	0	0	− 1
	0	4	0	0	0	− 8	0	0	0	0	1	1	0	0	2	0	0	3
	− 2	− 6	0	0	1	2	0	0	0	0	3	− 2	0	0	− 1	0	0	− 9
Category B	− 5	0	3	0	− 1	0	0	0	4	1	− 1	−12	1	0	3	1	0	− 4
	0	2	0	0	0	− 3	0	0	0	0	− 1	−11	− 4	0	2	0	0	− 7
	− 1	− 9	− 6	0	0	− 3	4	8	12	0	0	0	0	0	0	0	0	− 1
	2	2	0	0	1	− 3	0	0	0	0	0	0	0	0	0	0	0	− 1
Category C	0	2	0	0	− 1	− 1	0	0	0	3	0	− 6	0	0	0	0	0	− 3
	− 2	− 6	0	0	0	− 1	3	0	− 1	5	0	− 6	0	0	0	4	0	− 6
	− 1	−14	0	0	− 2	− 2	0	0	− 2	9	0	1	0	0	0	6	0	− 7
	0	− 2	0	0	− 1	− 8	0	0	0	3	0	1	0	0	3	4	0	− 2

Key: D − descriptive items
G − general items
V − items attributed to visitors
T − items attributed to transfer
P − items attributed to patient's physical condition
B − items attributed to baby's condition
0 − other items

Table H.11 Percentages for Each Subject in Group 2 by Category to "Describe What You Saw on the Video"

		Surroundings				Appearance						Actions					
		D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B
Category D		4.30	3.90	0.00	0.00	3.90	- 6.40	0.00	0.00	0.00	0.00	- 4.50	-20.00	0.00	0.00	- 0.20	0.00
		- 3.40	- 3.40	0.00	0.00	0.40	- 1.50	0.00	0.00	- 3.60	0.00	4.10	11.70	0.00	0.00	0.00	0.00
		- 0.60	7.70	0.00	0.00	-1.20	-27.70	0.00	0.00	0.00	0.00	4.20	-11.90	0.00	0.00	4.20	0.00
		- 6.30	- 9.40	0.00	0.00	-0.70	14.60	0.00	0.00	0.00	0.00	- 9.40	7.80	0.00	0.00	- 1.60	0.00
Category B		-17.90	0.60	6.50	0.00	-3.10	2.60	0.00	0.00	8.70	2.20	- 1.80	-20.30	2.20	0.00	5.00	2.20
		2.10	4.30	0.00	0.00	2.10	- 1.20	0.00	0.00	0.00	0.00	3.70	-11.80	- 6.60	0.00	4.30	0.00
		- 3.00	-13.60	-9.00	0.00	0.00	4.50	6.40	12.50	18.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		9.50	4.90	0.00	0.00	-4.30	- 8.00	0.00	0.00	0.00	0.00	0.40	4.30	0.00	0.00	0.00	0.00
Category C		0.00	3.80	0.00	0.00	-2.60	2.70	0.00	0.00	0.00	7.60	2.80	- 7.00	0.00	0.00	0.00	0.00
		-12.50	-18.80	0.00	0.00	0.00	18.60	20.50	0.00	- 6.30	30.00	0.00	-18.80	0.00	0.00	0.00	16.80
		- 4.30	-24.40	0.00	0.00	-8.70	9.20	0.00	0.00	- 4.30	31.40	0.00	5.90	0.00	0.00	0.00	25.00
		0.00	- 4.80	0.00	0.00	-4.80	-31.30	0.00	0.00	0.00	10.60	0.50	2.60	0.00	0.00	10.60	10.50

Key: D – descriptive items
       G – general items
       V – items attributed to visitors
       T – items attributed to transfer
       P – items attributed to patient's physical condition
       B – items attributed to baby's condition

Table H. 12   Raw Scores for Each Subject in Group 2 by Category to "Describe Your Response"

		Assessment			Action				
	N – P	General	Physical	Baby	General	Physical	Baby	Other	Total
Category D	-2	-1	0	1	4	1	0	0	2
	-3	-1	0	0	1	0	0	0	-3
	0	1	1	0	3	0	0	0	5
	2	1	0	0	3	0	0	0	2
Category B	-4	-3	4	0	2	2	1	0	2
	-2	-4	5	1	-2	4	0	0	2
	-3	2	0	0	3	6	1	0	9
	-2	-3	3	-1	-2	7	1	0	3
Category C	-1	-1	2	5	0	0	5	1	9
	0	-5	-3	-1	2	0	7	0	0
	-2	-1	0	1	-4	0	6	0	0
	-2	-2	0	0	-1	1	7	0	3

GROUP 3

Table H. 13   Raw Scores for Each Subject in Group 3 by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	0	0	0	0	− 1	3	0	0	0	0	2	0	0	0	0	0	0	4
	− 1	− 1	3	0	− 1	− 2	0	0	0	0	− 2	− 6	0	0	0	0	0	−10
	1	− 1	0	0	0	− 2	0	0	0	0	2	− 1	0	0	0	0	0	− 1
	1	1	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	6
	0	0	0	0	− 2	− 2	0	0	0	0	− 3	− 6	0	0	0	0	0	−13
Category B	0	− 1	1	0	− 1	− 5	1	1	0	− 1	0	− 2	0	0	0	0	0	− 7
	0	0	0	0	1	− 1	0	0	0	0	4	2	0	0	1	0	0	7
	1	0	1	0	1	− 2	0	0	0	0	0	0	0	0	1	0	0	2
	− 3	2	0	0	0	0	0	0	1	0	− 1	− 1	1	0	0	0	0	− 1
	1	− 3	− 1	0	0	2	1	0	0	0	0	− 6	− 1	0	0	0	0	− 7
Category C	0	0	0	0	− 1	0	0	0	0	0	− 2	3	0	0	0	0	0	0
	0	− 3	0	0	0	3	0	0	0	0	1	− 1	0	0	0	0	0	0
	− 2	− 2	0	0	− 1	3	0	0	0	0	0	1	0	0	0	0	0	− 1
	− 1	− 4	0	0	0	5	0	0	0	0	0	4	0	0	1	0	0	5
	0	0	− 1	1	0	0	0	0	1	3	− 1	− 6	− 1	0	0	0	0	− 4

Key: D − descriptive items
G − general items
V − items attributed to visitors
T − items attributed to transfer
P − items attributed to patient's physical condition
B − items attributed to baby's condition
O − other items

Table H. 14   Weighted Scores for Each Subject in Group 3 by Category to "Describe What you saw on the Video"

	Surroundings				Appearance						Actions							
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B	O	Total
Category D	0	0	0	0	-1	-5	0	0	0	0	2	-1	0	0	0	0	0	4
	-1	-2	6	0	-1	-4	0	0	0	0	-2	-12	0	0	0	0	0	-10
	1	-2	0	0	0	-4	0	0	0	0	2	-2	0	0	0	0	0	-1
	1	2	0	0	0	3	0	0	0	0	1	4	0	0	0	0	0	6
	0	0	0	0	2	-3	0	0	0	0	3	-11	0	0	0	0	0	-13
Category B	0	-2	1	0	1	-6	2	3	0	1	0	-4	0	0	0	0	0	-7
	0	0	0	0	1	-2	0	0	0	0	4	3	0	0	1	0	0	7
	1	1	2	0	1	-4	0	0	0	0	0	0	0	0	2	0	0	2
	3	4	0	0	0	1	0	0	2	0	-1	-2	1	0	0	0	0	-1
	1	-6	-1	0	0	4	2	0	0	0	0	-12	-1	0	0	0	0	-7
Category C	0	0	0	0	-1	1	0	0	0	0	2	6	0	0	0	0	0	0
	0	6	0	0	0	6	0	0	0	0	1	-2	0	0	0	0	0	0
	-2	-4	0	0	-1	5	0	0	0	0	0	2	0	0	0	0	0	-1
	-1	-8	0	0	0	10	0	0	0	0	0	8	0	0	2	0	0	5
	0	0	-2	2	0	0	0	0	1	6	-1	-12	1	0	0	0	0	-4

Key: D – descriptive items
         G – general items
         V – items attributed to visitors
         T – items attributed to transfer
         P – items attributed to patient's physical condition
         B – items attributed to baby's condition
         O – other items

Table H.15 Percentages for Each Subject in Group 3 by Category to "Describe What You Saw on the Video"

	Surroundings				Appearance						Actions					
	D	G	V	T	D	G	V	T	P	B	D	G	V	T	P	B
Category D	0.00	0.00	0.00	0.00	- 5.90	6.50	0.00	0.00	0.00	0.00	8.40	-11.30	0.00	0.00	0.00	0.00
	- 5.90	2.50	42.90	0.00	13.50	0.00	0.00	0.00	0.00	0.00	-11.80	-35.30	0.00	0.00	0.00	0.00
	4.20	- 4.00	0.00	0.00	0.20	- 7.80	0.00	0.00	0.00	0.00	9.30	- 1.80	0.00	0.00	0.00	0.00
	3.60	3.60	0.00	0.00	- 0.90	2.70	0.00	0.00	0.00	0.00	- 0.70	- 5.60	0.00	0.00	0.00	0.00
	7.70	0.00	0.00	0.00	- 9.50	23.80	0.00	0.00	0.00	0.00	-14.30	- 3.00	0.00	0.00	0.00	0.00
Category B	0.00	- 5.90	10.00	0.00	- 5.90	29.40	10.00	20.00	6.00	- 3.00	0.00	-11.80	0.00	0.00	0.00	0.00
	0.00	- 4.60	0.00	0.00	2.40	-10.20	0.00	0.00	0.00	0.00	16.00	-13.20	0.00	0.00	2.00	0.00
	3.30	1.30	3.00	0.00	2.80	- 7.70	0.00	0.00	0.00	0.00	- 1.90	- 1.50	0.00	0.00	3.10	0.00
	-20.00	14.30	0.00	0.00	0.40	9.00	0.00	0.00	7.10	0.20	- 6.20	- 5.30	3.60	0.00	0.00	0.00
	7.70	- 4.20	- 2.30	0.00	5.40	25.80	7.70	0.00	0.00	0.00	0.00	-27.30	- 5.00	0.00	0.00	0.00
Category C	0.00	0.00	0.00	0.00	- 5.00	2.50	0.00	0.00	0.00	0.00	-10.00	15.00	0.00	0.00	0.00	0.00
	0.00	-13.00	0.00	0.00	0.00	13.10	0.00	0.00	0.00	0.00	4.30	- 4.30	0.00	0.00	0.00	0.00
	-20.00	-20.00	0.00	0.00	-10.00	31.00	0.00	0.00	0.00	0.00	0.00	13.30	0.00	0.00	0.00	0.00
	- 4.30	-17.40	0.00	0.00	- 1.60	16.50	0.00	0.00	0.00	0.00	- 3.80	6.50	0.00	0.00	3.60	0.00
	0.00	0.00	- 9.10	14.30	0.00	10.40	0.00	0.00	7.20	42.90	- 9.10	-54.90	0.00	0.00	0.00	0.00

Key : D - descriptive items
G - general items
V - items attributed to visitors
T - items attributed to transfer
P - items attributed to patient's physical condition
B - items attributed to baby's condition.

Table H.16   Raw Scores for Each Subject by Category to "Describe Your Response"

	N - P	Assessment			Action			Other	Total
		General	Physical	Baby	General	Physical	Baby		
Category D	0	-2	0	0	-1	0	0	0	-3
	-3	1	0	0	0	0	0	0	-2
	-5	-1	-1	0	0	0	0	0	-7
	1	0	0	0	0	0	0	0	1
	0	1	0	0	0	0	0	0	1
Category B	-6	2	2	0	2	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	-2	1	0	2	1	0	0	2
	0	0	-1	-3	0	0	0	0	-4
	1	3	2	0	0	0	0	0	6
Category C	1	-2	0	1	0	0	0	0	0
	-2	-1	0	3	0	0	0	0	0
	1	1	-1	2	-2	0	0	0	1
	0	1	0	0	-1	0	1	0	1
	-2	-2	0	3	-3	0	5	0	1