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On the Theory and Methodology of Role:  
A contribution towards an Interactive  
Paradigm

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## Abstract

This thesis (i) presents a critique of structural and socialisation perspectives in role theory, (ii) argues for a philosophical and theoretical position of transindividualism in the explanation of behaviour, (iii) examines the compatibility of current psychological and sociological theories with such a position, (iv) reviews discontinuities between theory methodology and interpretation in studies of role, (v) develops a comprehensive theoretical model for the analysis of individual and social system interactions via the mediating concept of role, (vi) presents a methodology appropriate to the examination of the general model in respect to a small scale social system, (vii) reports the results of the empirical investigation, and (viii) summarises and discusses the relevance of these findings to the proposed theoretical and methodological issues. It is concluded that both theory and methodology, having been supported by the empirical investigation of a small scale social system, might usefully be further applied to larger and more complex social systems.

## Preface and Acknowledgements

This thesis is the result of a combination of theoretical interests in the contributions made by philosophy, sociology and psychology to the understanding of human behaviour. It is also an outcome of the belief that explanations of behaviour must, of necessity, incorporate insights from each of these areas rather than rely on the myopic and frequently deterministic assumption of the separate disciplines. However, attempts to integrate the perspectives of various disciplines inevitably involve the problem of opposing assumptions. This problem is well illustrated by the current debate over role theory, the efficacy of which is often the focal point of misgivings concerning the naive (but grandiose) claims of all disciplines save the author's own. As a consequence, the major purpose of this thesis is to provide a general theoretical model which offers a tentative integration of the various perspectives. The intention is to outline and evaluate an interactive paradigm for the analysis of individual-social system relations.

This is in itself an abstract and rather grand pursuit. The potential grandeur of the activity of theory construction is however, limited by another of the author's convictions: that the development of theory should be closely tied to such tests of the propositions as are available. Moreover, such tests should be, in the final resort, conducted in naturalistic, rather than experimental, settings as explanations confined to experimental conditions are unlikely to be acceptable if they fail to account for phenomena in the real world of social interaction. Thus, theory is seen to be an abstract guide which can be used to give form and meaning to otherwise miscellaneous data. At the same time, theory is seen to be justifiable only inasmuch as it is able to give form and meaning to empirical observations.

If a theory organises observations so as to produce contradictions and obvious absurdities then the theory itself must be questioned. This thesis argues that role theory is currently at the point of reformulation because of the contradictions and absurdities currently proposed in attempts to explain the empirical data provided by investigators into role.

The second purpose of this thesis is therefore to examine and clarify certain of the methodological problems associated with current investigations into role. These problems stem from two main confusions:

firstly, the theoretical confusion between levels of analysis which differ in their assumptions and in the kinds of relationships they propose, and secondly, the methodological confusion involved in the employment of statistical techniques based on assumptions at odds with the theoretical premisses. The methodological procedures employed in the current thesis are, therefore, justified by appeal to the requirements of the theory and by the limitations imposed by the research case.

The theoretical model itself cannot, however, be tested directly. The methodology is applied to a set of intermediary hypotheses which relate the theory in directional form to the data. This is not to say that the theory can be substantiated simply through the verification of the hypotheses. Indeed, many of the hypotheses fail to gain confirmation. The results of the analysis can however still be usefully and parsimoniously interpreted according to the proposed model.

The relations between the theoretical model and the empirical research are in this case, as in any other, intricate. In the first place the theoretical model both informs the formulation of hypotheses related to a particular context and determines the appropriateness of particular methodologies. However, the results of the analysis prepared on the basis of the theory may contradict the particular hypotheses and yet not contradict the theoretical model. Such an apparent paradox is explained by the fact that theoretical models are necessarily abstract, hypotheses and methodology necessarily concrete. Yet this paradoxical balance between the abstract and the concrete, the imaginative and the prosaic, is crucial to the progress of research.

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## Chapter One

### An Evaluation of the Bases of Role Theory

Role, we are told, is that point at which the personality of the individual and the structure of society intersect (Parsons, 1967). We are also told that role describes the actual performance of individuals holding specific social positions (Davis, 1949; Sarbin, 1954); that role describes the normal pattern of behaviour expected of individuals in particular social positions (Newcomb, 1951; Sarbin, 1968); that it prescribes what the behaviour of such position members should be (Biddle & Thomas, 1966; Banton, 1965). Clearly there is some confusion, for no single concept can adequately provide a description, anticipation and prescription at the same time. This is not to say that the descriptive, anticipatory and prescriptive elements of role cannot coincide in particular situations, indeed they often do, but only that they must be separated for the purposes of analysis.

It may well be argued that confusion or ambiguity of conceptual referents is a common problem in young sciences (Chinoy, 1954), or that given a more substantial body of literature a consensus of definition will emerge among both theorists and empiricists (Banton, 1965). Alternatively it may be argued that the ambiguous nature of concepts is a general characteristic and a basic deficiency of the social sciences as a whole (Blumer, 1969). However, what seems more likely with regard to the concept of role is that the problems of definition arise from its unique theoretical location between individual and social structures. This location at the intersection of personality system with social system poses what is a general problem in systems theory, that of the definition of boundaries between systems and subsystems and the nature of their interaction (Buckley, 1967). But it has also been treated as a unique problem in social sciences in the debate concerning methodological individualism and the question of whether groups and social systems can be said to be purposive in the way in which individuals are said to be purposive (Wisdom, 1970).

Against this background the current chapter reviews some major contributions to the development of role theory, sets them in the context of the debate concerning emergent group properties and advocates a

philosophical position of transindividualism on which a modest re-organisation of role theory might be based.

### Perspectives in the Analysis of Role

There appear to be three major perspectives in the analysis of role. Firstly, there is what may be called the structural perspective (Jackson, 1972). In this perspective the basic concern is that of explaining the content and articulation of roles in any given social system through analysis of i) the functional requirements of the system, and ii) the relationship between those functions and the structure of norms and obligations associated with particular positions in that system.

Secondly there is the socialisation perspective (Jackson, 1972) in which the emphasis has been placed on the processes of personality formation within social systems and the means by which social order is protected through the internalization of norms.

Thirdly, there is the perspective of the symbolic interactionists (Blumer, 1969) in which both structure and self are seen as constructed during the process of interaction. Because of the uniqueness of the perspectives and the overlapping nature of their subject matter, each needs to be discussed in turn.

#### The Structural Perspective

The structural perspective, in its attempt to answer the problem of social order has insisted on the stability of the forms of social relations over time. It is based on the premise that "while the actual structure (of social relations) changes... the general structural form may remain relatively constant over a larger or shorter period of time" (Radcliffe-Brown, 1952; 192). The general structural form is conceived at one level removed from the concrete reality of individual behaviour and the regularities of social action are abstracted into roles associated with positions in the social structure (Linton, 1936). The primary concerns of such a structural approach are therefore i) the elucidation of the content of roles and ii) explication of the manner in which roles and positions are articulated in the social structure.

The most sophisticated and influential elaboration of this approach to social order is that of Parsons who argues that interaction is organised about a system of roles which are in turn organised into inter-related

collectivities. Consistency of action between roles and collectivities is further argued to be the result of shared norms and values. The four components of social systems (role, collectivities, norms and values) are organised in a hierarchical fashion with shared values determining norms, which in turn determine collectivity relations which determine the content and performance of roles (Parsons, 1951, 1966).

Two basic problems surround this form of structural analysis. The first concerns the assumption of value consensus and the primacy of the value system. The second concerns the assumption of the "role embedded" nature of interaction. Historically the acceptance of these assumptions may well be due to the fact that the structural tradition "has been based, at least originally, on simple societies, or at least those in which social positions appeared relatively fixed and constant" (Jackson, 1972; 4). The attempt to apply such analysis to complex societies has raised objections to both assumptions.

Objections to the postulate of value consensus are of two kinds, both theoretical and empirical. The theoretical objection concerns the assertion of the primacy of the value system in determining both the orderly articulation of roles and the commitment of actors to their performance. In this respect Lockwood has argued persuasively that the sub stratum of social action must be considered as equally important in "the balance of forces working for stability and change" (Lockwood, 1956; 137). More especially Marx's fundamental insight into the dynamics of social systems, principally the factual organisation of production and the powers, interests, conflicts and groupings consequent on it must be considered as a third potent influence on stability and change which is analytically independent of the postulate of value consensus (Marx, 1964; 60).

Moreover the differentiation of the value system associated with a complex division of labour argued by Durkheim (1972) is explicit in the association of a particular normative orientation with distinctive types of collectivities. Thus even in the Parsonian schema where "two sets of roles and collectivities have become differentiated and their functions separated... there must also be some differentiation at the level of norms and some specification of common value patterns to the different situations" (Parsons, 1966; 22). Even more explicitly "the value orientation appropriate to a particular collectivity, role or norm-

complex is not the general pattern of the system but an adjusted, specialised 'application' of it" (Parsons, 1966: 23). If this is the case one could reasonably hypothesise that the greater the division of labour in a society, the greater the number of specialised applications, and therefore the greater the generality of the value orientation. It is this hypothesis which leads to further, empirical, criticisms of the postulate of value consensus.

In the first place, if the value system takes priority in the hierarchy of social action so that firstly norms, then collectivities and subsequently the content of social roles are "adjusted" in accordance with the dominant value consensus, then clearly role specifications are theoretically dependent on the particular form of values held in a specific social system. It should therefore be possible to derive an empirical model in which this relationship is demonstrable. However, Parsons also insists that the categories of value and role are "in the nature of the case, independently variable. Knowing the value pattern of a collectivity does not, for example, make it possible to deduce its role composition" (Parsons, 1966; 19). The relation between the value structure of a social system and its social structure is problematic in the Parsonian schema. If the value structure is 'adjusted' as a result of the division of labour it may well be argued that the division of labour is itself the determinant of the value structure and not vice versa. Hence Marx's famous dictum that "life is not determined by consciousness but consciousness by life" (Marx, 1964: 75).

In the second place, the increasing generality of values consensus presupposed by increases in the differentiation of roles leads to problems in establishing its function in the articulation of roles. If, for instance, the level of role differentiation is extreme so that the level of generality of values is so high as to become ambiguous as far as most role incumbents are concerned, then in what ways can value consensus be said to be an essential component in the articulation of roles? Even in cases where appeal to agreed generalised values such as "justice" and "freedom" is made by both parties to a conflict, it is the interpretation of these values by those with opposing interests which is likely to be the central factor in the articulation of roles, not simply the existence of an agreed superordinate value system. It is likely that the more powerful determining factors of this interpretation will be Lockwood's

"substratum" and Marx's "powers, interests and groupings". This is not necessarily to say that parallels between value subordination and role articulation do not exist, but simply that such relationships are variable and that hierarchical integration on the basis of values consensus cannot be assumed as the typical condition of social systems.

If there are significant objections to the a priori assumption of the primacy of the value system, then there are also objections to the notion of role structure and articulation implied in the functionalist conception of society.

Firstly it is clear from the work of Simmel (1950), Goffman (1961, 1964, 1969, 1970) and Aubert (1965) among others, that the structure and articulation of roles in society is not by any means fixed and precise; that there are relatively large areas of social interaction which are either loosely structured or unstructured, at least in the sense that the traditional role structure-role performance model suggests. Moreover, many such interactive social situations are transient. It is also possible to argue that such unfixed and transitory social interactions will multiply with the increase in the division of labour, and the resultant differentiation of social behaviour in complex societies (Blumer, 1969: 88).

Secondly, the careful and elaborate articulation of roles in structural versions of role theory is dependent on a consensus over role expectation and performance. Indeed apologists of the structural tradition insist on the necessity of the postulate of value consensus over role performance: "It is necessary to assume in the examination of particular roles that there is agreement among all the parties affected as to the definition of the role in question" (Banton, 1965: 36). Whether such a position can be maintained in view of, for example, the theoretical work of Merton (1957) and the empirical work of Gross (1958) is questionable: for the introduction of reference group theory has left open the possibility of not only differing but also incompatible definitions of the same role by reference groups holding alternative positions in the role set. Both Gross (1958) and Kahn (1964) have provided empirical evidence of such incompatible expectations and demonstrated some of their effects, thus suggesting that role consensus must be treated as a variable rather than as an a priori assumption. It has also been suggested (Bates, 1971) that differences of role conception held by various incumbents of the same position may well facilitate the effectiveness of certain social

systems rather than reduce the efficiency of the role set: the condition suggested by Merton (1957).

The structural perspective is therefore questioned on the twin bases of i) over-emphasis on the primacy of the value orientation of the collectivity, and ii) the impossibility of generalised value systems providing such careful role articulation as the structural tradition demands.

### The Socialisation Perspective

The second main perspective in the study of role is that surrounding study of the processes by which individuals are induced to behave in ways appropriate to their roles: the process of socialisation. In this tradition the existence of an organised framework of roles is presupposed and the key problem is seen as that of explaining the contemporaneous development of both physical and psychological states with social roles. In brief, the socialisation tradition refers to "the process by which individuals acquire the knowledge, skills and dispositions that enable them to participate as more or less effective members of groups and the society" (Brim, 1966:3). Such a process involves i) the development of a generalised role orientation which encompasses understanding of the variety of roles extant in a society and their articulation, and ii) an understanding and commitment to the performance of particular roles. According to this view the object of socialisation is "to arouse and to develop in the child a certain number of physical, intellectual and moral states which are demanded of him by both the political society as a whole and the special milieu for which he is specifically destined" (Durkheim, 1956: 71).

In its extreme form this view of socialisation implies an understanding of the child as tabula rasa on which social rules may be inscribed at will. Even where such an extreme position is rejected, the relation of individuals to societies implied by the socialisation tradition in role theory is that of "an essentially deterministic theory appropriate to the analysis of highly structured social systems where the goals of those systems are well elaborated" (Priess & Ehrlich, 1966: 168). This version of role theory implies a view of society as a highly integrated system of positions where "in entering a position, the incumbent finds that he must take on the whole array of action encompassed by the corresponding role" (Goffman, 1969: 41). It is this emphasis on

social determinism which has led to the criticisms by Wrong (1964), Dahrendorf (1968) and Coulson (1972) of the oversocialised conception of man in modern sociology.

These criticisms centre around the assumption of passivity on the part of the individual being socialised into the demands of the role and the association of internalisation with conformity on the part of the actor. What is under attack here is the contention that social roles do not merely regulate externally but enter directly into the constitution of the actors' ends themselves (cf. Parsons, 1937: 378 ff.) For Parsons this argument is fundamental, as "the problem of order... focuses on the integration of the motivation of actors with the normative cultural standards which integrate the cultural system" (Parsons, 1951: 36), or more explicitly "the integration of a set of common value patterns with the internalised need-disposition structure of the constituent personalities is the core phenomenon of social systems" (1955: 42).

In the Parsonian schema the integration of the social system is dependent on the internalisation of pre-existing social norms by individual actors. The socialisation process through which this internalisation is achieved is claimed by Parsons to represent a convergence of the Durkheimian view of social control through moral authority and the Freudian concept of the Superego:

"It may be stated as a fundamental theorem of social science that one measure of the integration of the social system is the co-incident in the patterns which are introjected in the average Superego of those occupying the relevant social statuses with the functional needs of the social system which has that particular structure."

(Parsons, 1964: 338)

Parsons' adaptation of Freud however minimises the tension originally hypothesised between the Superego and the Id. This minimisation of the tension between social and individual aspects of the personality misinterprets Freudian psychology. As a recent critic has argued,

"For Freud the internalisation of norms is achieved through repression of the instinctual man, and is, therefore, an imposition of external reality on the impulsive, pleasure seeking Id... Internalisation is a tension fraught process for Freud, for it is an eternal contradiction to the asocial component of man's nature."

(Beng-Haut Chua, 1974: 72/3)

The complexity of the Freudian concept becomes, in Parsons' schema, a matter of ensuring that an individual not only knows what is expected of him by society but also acts accordingly. A relationship considered

problematic from the Freudian perspective becomes a fundamental axiom of functionalist theory, where conformity to social norms

"becomes a need-disposition in the actors' personality structure relatively independently of any instrumentally significant consequences of that conformity."

(Parsons, 1952: 37)

Blake & Davis (1964) have labelled this position the fallacy of normative determinism, pointing out that there is no justification for taking "the fact that norms are meant to control behaviour as the basis for assuming that they do control it" (Blake & Davis, 1964: 461).

The above discussion of the socialisation perspective in role theory raises two issues of considerable importance: i) the nature of the assumptions made with regard to the active or passive involvement of individuals in their own socialisation, and ii) the problematic nature of the process of internalisation. Though not all work employing the socialisation perspective assumes passivity or commits the fallacy of normative determinism, they are sufficiently widespread assumptions for reservations to be held regarding the viability of the socialisation perspective in role theory.

### The Symbolic Interaction Perspective

From the third perspective, that of symbolic interaction, the argument over role is seen as essentially concerned with the relationships between objective social reality and subjective individual perception, or the degree to which subjective personal understandings correspond with the socially prescribed nature of reality. If the extreme position of social determinism implied by the above accounts of structural and socialisation perspectives in role theory is taken, then the subjective reality held by individuals should correspond to the role demands of their social position and also articulate clearly with the subjective reality of associated roles and positions, thus combining in an objective and agreed social reality (Shutz, 1972; Berger & Luckman, 1966). In practice this is unlikely as individuals are invariably faced with alternative, if not conflicting role models, expectations and behaviours. Subjective reality is therefore not a result of the passive acquisition of specific prescribed roles but of, at the least, active adjudication between alternatives and, at the most, positive contribution to both the social and personal construction of reality among actors.

Such a position agrees well with an alternative tradition in

socialisation theory: that initially developed by Cooley (1902) and Mead (1934). In this tradition it is the process of symbolic interaction which leads to the eventual negotiation of social and personal reality through constant and active modification of social and personal identities. Internalisation in this tradition is seen as:

"not merely the learning of roles, values and norms; it is also a constitutive process in the creation and maintenance of the individual's identity, not only as perceived by others but also by himself."

(Beng-Haut Chua, 1974: 74)

Socialisation is here an active process where the assumption of social roles is at once a confirmation of social order and its renewal; where roles as well as personalities are considered as social products and their acquisition is part of the process of the construction of the "common stock of knowledge" (Berger & Luckman, 1966).

It follows from this argument that if socialisation is an active process in the construction of both self and society, then it is also likely to be a two-way process where all parties are involved in constant modification of their own and others' behaviour. This is a somewhat different proposition to the role learning postulate of the structural and socialisation perspectives which see change as almost exclusively a characteristic of the individual being socialised, a position which has been reinforced by i) the emphasis of traditional experimental studies on changes of response of the learner brought about by a combination of stimulus and reward originating in the external environment (Goslin, 1969: 5), and ii) the essentially non-rational or behaviourist orientation of the psychological tradition in socialisation research.

Recently however, there has been an increasing emphasis in socialisation theory on the importance of symbolic or cognitive processes as mediators between the individual and his experiences (Baldwin, 1969; Kohlberg, 1969). Much of this work has been influenced from a psychological view by the importance of intermediary cognitive processes (Piaget, 1955), and from a sociological view by the emergence of a Phenomonological perspective based in particular on the work of Schutz (1972) and elaborated by Berger & Luckman (1966).

What such contemporary perspectives suggest is that far from role acquisition being a simple matter of learning appropriate behaviours in acquiescence to social expectations, the fundamental characteristic of socialisation may increasingly surround the issue of role negotiation.

As Goslin points out,

"Even the most highly institutionalised positions... permit some negotiation on the part of the individual occupant with respect to how he will play his role, vis-à-vis various positions in his role set."

(Goslin, 1966: 7)

The fundamental theoretical point is that the degree of negotiation associated with particular roles becomes under these constraints a matter of empirical variability, not simply one of theoretical assertion. The factors which might affect such variability are particularly important in considering the processes of role acquisition and role negotiation.

#### Factors Affecting Role Acquisition and Role Negotiation

It has been characteristic of the structural and socialisation perspective in role theory to view roles as the outcome of the functional requirements of social systems. Thus the major, if not the only determinant of role performance, has been seen as a more or less precise specification of behaviour determined by the characteristics of the particular social system. Thus:

"In essence, the role perspective assumes... that performance results from the social prescription and behaviour of others and that individual variations in performance to the extent that they do occur, are expressed within the framework created by these factors."

(Biddle & Thomas, 1966: 4)

Variability in the performance of actors is therefore determined by such characteristics of the social setting as social rigidity (Wheeler, 1966); the degree of institutionalisation of expectations (Parsons, 1951); the degree of consensus over expectations (Merton, 1957); and the distribution of power within the system (Blau, 1962). The dynamic of role performance is seen here as a direct result of social system demand. Role is in fact equated with performance as in Linton's scheme where it is "the dynamic aspects of a status" (Linton, 1936), a view reinforced by Newcomb's definition of role as "the ways of behaving which are expected of any individual who occupies a certain position" (Newcomb, 1950), and Parsons' view of role as a set of social obligations (Parsons, 1951).

Such a deterministic view cannot of itself explain social integration because of the variability in role expectations which may be inconsistent, incompatible or contradictory, thus demanding adjudication and selective commitment on the part of the incumbent. Moreover, the assumption of role consensus, essential to such a perspective (cf. Banton, 1965) has

been argued to be of dubious theoretical or empirical status (Bates, 1971; Gross, 1957; Kahn, 1964).

The necessity of adjudication and choice points directly to the second set of characteristics associated with role performance: those of the individual actors. For the manner in which conflicts in role definition are resolved is clearly dependent on the characteristics of incumbents as well as on the structural features of a particular social system (Merton, 1957). Here, three sets of characteristics are logically most significant: firstly, the biological and psychological characteristics of the individual; secondly, the personal biography of the actor and thirdly, the individual's concurrent performance of alternative roles in other social systems.

Differences in age, sex and personality may well be determinants of the particular form of demands for role performance, but they are also instrumental in determining the form of response. For instance, as Riesman (1950, 1954) suggests, though character structures may generally be associated with the social structures of a particular historical epoch, it appears that "tradition", "inner" and "other" directed individuals coincide in the same society and react differently to specific political, social and personal experiences. Riley, Riley & Moore (1961) have shown that such a classification is empirically useful in the analysis of adolescent conflicts. Moreover, as Merton (1957: 205) indicates, the question of "fit" between the structure of bureaucracy and the personal characteristics of its members, is considered crucial for effective operation. In the case where the functional demands of the bureaucracy are homologous with the personal characteristics of its members, all may be well. However, where through some malfunction of selection or socialisation mechanisms, the incumbents are antipathetic to the functional demands of the bureaucracy, problems will arise. In another setting, Stern (1970) has indicated a variety of effects of discrepancies in Person/Environment Congruence. Further, the homogeneity or heterogeneity of the incumbents may well be another major factor which influences the informal social structures which originate among members, which in turn influence the performance of roles (Bates, 1972).

The importance of biography in actors' performance of their roles was first emphasised by Mills (1959) but has been elaborated in a somewhat different form by Gordon (1972) who has outlined the sequential nature of socialisation through the life cycle as a series of transitions

between roles which are ordered in a general fashion for all members of society. Gordon's specification of roles is at a highly generalised level, but the principle of his schema applies to a central problem of social system theory referred to above: namely that of the simultaneous socialisation of individuals into both the generalised role structure of a social system and into the specialised role structure of a particular social milieu. Put another way, the sequences and patterns of role acquisition experienced within a particular society refer to both processes of integration and differentiation. As a result the process of integration through socialisation to a particular role (say soldier) may well need to take account of the processes of differentiation already built into the various actors by prior role experiences (education, occupation, residence etc.). Thus the range and nature of biographies of members of a social system may have a crucial bearing on interpretation and execution of their role, both individually and collectively.

The third major category of individual characteristics influencing role performance is that of concurrent performance of alternative roles. While similar in effects to the biography of individuals, the concurrent performance of alternative roles is different in one critical respect: that while some biographical roles are relinquished, thus reducing the possibility of incompatible behavioural demands coexisting (those of child versus adult for example) the concurrent performance of alternative roles may serve to exaggerate conflicts in expectations, behaviour and self concept (Goode, 1960). Such conflict can be resolved through a number of mechanisms, the two most important of which are i) withdrawal from one or other of the roles, and ii) negotiation of alternative role performance in one or more of the roles. This second alternative can be considered as a most important source of the modification of role performance.

It would seem therefore, that the characteristics of the social setting within which a role is performed, and the characteristics of the incumbents of roles can be considered as equally important in determining the processes of role acquisition, role negotiating and role performance.

The preceding discussion has argued, *inter alia*, the following points:

- (i) That the postulate of role consensus as *a priori* condition of social systems is not supported by empirical evidence except in

special limiting cases

- (ii) That the postulate of value consensus as the crucial determinant of role articulation in social systems is also unproven except again in special limiting cases.
- (iii) That the process of internalisation must be considered problematic, especially in situations where contrasting social norms are explicit in the individual's environment.
- (iv) That the existence of alternative role definitions and the assumptions of multiple roles imply that role acquisition is necessarily an active process through which the incumbent is involved in a simultaneous construction of his own personality, the role in question and its articulation with other roles.
- (v) That role consensus, value consensus and social structure are thus emergent properties of interaction.

Any comprehensive theory of role must take account of these issues but must also be capable of illuminating:

- (i) The relationship between values and social structure,
- (ii) The processes of integration and differentiation, and
- (iii) The method of analysis by which the theoretical assumptions may be verified.

Holistic approaches to social structure which have traditionally dominated role theory do not adequately answer these issues. They have failed mainly because of the reification implicit in that tradition represented in Comte's assumption of "spontaneous harmony", Durkheim's assumption of the "collective conscience" and Parsons' assumption of the primacy of the "generalised value system". These characteristic assumptions of holistic social theory have been accepted, for the most part uncritically, by role theorists.

#### The Holistic Foundation of Traditional Role Theory

Comte's holistic approach to the problem of social order is based upon an assumption which parallels close Adam Smith's economic postulate of the "invisible hand":

"The principle which lies at the heart of every scheme of social organisation (is) that there must always be a spontaneous harmony between the whole and the part of the social system, the elements of which must inevitably be, sooner or later, combined in a mode entirely conformable to their nature."

(Comte, 1896:221/222)

In other words, from the holistic point of view, society is inconceivable except under conditions of "spontaneous harmony". Explanations for the existence of such harmony were sought by Spencer in a biological (and therefore evolutionary) model:

"The parts carrying on alimentation in a living body and the parts carrying on productive industries in the body politic, constitute, in either case, a sustaining system... The distributing system in the social organism, as in the individual organism, has its development determined by the necessities of transfer among inter-dependent parts... The regulating and expending systems (nerve motor in one, and governmental-military in the other) are developed into fitness for dealing with surrounding organisms, individual or social."

(Spencer, 1888: 486 ff.)

Such arguments by analogy were replaced in Durkheim's theory by the substitution of a psychological premise as the basis of integration:

"The totality of beliefs and sentiments, common to average citizens in the same society, forms a determinate system which has its own life; one may call it the collective or common conscience. No doubt, it has not a specific organ as a substratum; it is, by definition, diffuse in every reach of society. Nevertheless it has its own specific characteristics which make it a distinct reality."

(Durkheim, 1947: 79/80)

Contemporary representatives of the holistic tradition continue this metaphysical assumption. For instance Edward Shils, one of Parsons' collaborators in the earliest formulation of the general theory of action, has this to say about the centrality of the unifying value system:

"Society has a centre. There is a central zone in the structure of society... The centre, or the central zone, is a phenomenon of the realm of values and beliefs. It is the centre of the order of symbols of values and beliefs, which govern the society. It is the centre because it is the ultimate and irreducible; and it is felt to be such by many who cannot give explicit articulation to its irreducibility... It is a structure of activities, of roles and persons, within the network of institutions. It is in these roles that the values and beliefs which are central are embodied and propounded."

(Shils, 1961: 117)

The difficulty of giving "explicit articulation" to the irreducibility of the value consensus, collective conscience, organismic wholeness, or spontaneous harmony, of society, is one of the major problems faced by the holists and one which they have yet to adequately answer. The problem may well be insuperable. Firstly because the unit of analysis is ambiguous, and secondly because such areas of empirical

investigation as have been undertaken appear to invalidate the hypothesis.

Apart from these theoretical questions the empirical analysis of social systems lends little support to the holistic theory. For instance, in the one area where major empirical analysis has been pursued, that of organisational research:

"The concept of the primacy of the whole and of the significance of the part as a subdivision of it, functioning to sustain the whole was apparently contradicted by (researchers') findings. Scientific management discovered the individual, not as the cheerful robot, happy to serve contemporary industry, but as a potentially intransigent fact, tending to become a law unto himself regardless of the plans of management."

(Martindale, 1974: 145)

This striving for autonomy on the part of sub-units of social systems has been emphasised by Katz (1968) as well as by the human relations theorists such as Bales (1950) and Homans (1950). Such autonomy contradicts the basic assumptions of holistic functional theory, especially those encapsulated in the structural and socialisation traditions of role. The argument resulting from this questioning of the major premise of holistic theory is crucial to the discussion of role.

#### Individual, Social System and the Theory of Role

Role theory, at least that originating in the structural and socialisation perspectives, argues that social structure determines the nature of individual behaviour. It is thus based upon holistic premisses. Opposing this view is that of the individualistic position which argues that on the contrary it is individual behaviour that determines the nature of social groups. Agassi has schematized the opposing views as follows:

- | a) Holism  | b) Individualism  |
|--|---|
| 1. Society is the "whole" which is more than its parts (holism)                                    | 1. Only individuals have aims and interests (individualism)   |
| 2. "Society" affects the individual's aims (collectivism)  | 2. The individual behaves in a way adequate to his aim, given his circumstances (rationality principle) |
| 3. The social set-up influences and constrains the individual's behaviour (Institutional analysis) | 3. The social set-up is changeable as a result of individuals' actions (Institutional reform)           |

(Agassi, 1960: 244)

While it is clear from this summary that a) and b) represent two different

positions, several of the assertions on each side are logically compatible in that, for instance, the acceptance of 1(a) does not of itself deny the acceptance of 1(b). In order to clarify the two positions and emphasise their logical antithesis as systems, Agassi introduces a fourth proposition:

4. If "Wholes" exist then they have distinct aims and interests of their own.

(Agassi, 1960: 245)

This proposition clarifies the situation by interpreting holism as "the view according to which the individual's interest is bound to the existing social interest" and individualism as "the view that only individuals exist and have interests" (Agassi, 1960: 245). Moreover, it makes the acceptance of 1(a) and 1(b) logically incompatible as long as 4 is accepted, thus distinguishing clearly between the two positions.

The contradictions between Holism and Individualism are paralleled by the contradictions between Institutionalism and Psychologism. Agassi summarises these positions in a similar way:

- | c) Institutionalism   | d) Psychologism  |
|---|--|
| 1. Society is the primary social entity (institutionalism)        | 1. The individual is the primary social entity (Psychologism)                        |
| 2. One's primary duty is to one's society (collectivist morality) | 2. Society is subject to the criticism of individual conscience (Autonomy of morals) |
| 3. Social conditions affect individual conditions (collectivism)  | 3. Individuals affect social conditions (institutional reform)                       |

(Agassi, 1975: 149)

These sets of propositions are also rendered incompatible as systems by a fifth proposition:

5. Either society is primary or the individual is primary but not both.

(Agassi, 1975: 149)

Propositions 4 and 5 go to the heart of the argument over role theory for the structural and socialisation traditions have asserted that i) wholes do exist and do have distinct aims of their own, and ii) society is primary, not the individual. If these propositions can be demonstrated as untenable then the socialisation and structural traditions in role theory are also untenable.

The argument that wholes exist which have distinct aims of their own has been attacked by Popper (1957) as an erroneous assumption of historicism. The fundamental thesis of historicism is

"that nothing men do makes a difference; all that will happen happens of necessity given the nature of history, or society,

or the dialectic, or the Weltgeist."  
 (cf. Goldstein, 1973)

Historicism is therefore a deterministic thesis and it is the element of determinism Popper rejects, arguing that institutions do not have aims, interests, needs, intentions or take decisions, only individuals do; and that what appear to be equivalent institutional forms are the result of the intended and unintended effects of individual action (Popper, 1945, 1957).

In denying the existence of supra-individual entities as determinants of individual behaviour, Popper rejects the ontological form of the holistic thesis. However, as Goldstein (1973) argues, such a rejection does not deal with the problems of methodological holism.

The issue in methodological terms is stated clearly by Simmel:

"No matter whether we consider the group that exists irrespective of its members a fiction or a reality, in order to understand certain facts we must treat it as if it actually did have its own life, and laws and other characteristics. And if we are to justify the sociological standpoint, it is precisely the difference between these characteristics that we must clarify.

(Simmel, 1950: 26)

The issue here is that though the holistic thesis of the determination of individual behaviour by supra-individual forces is rejected on ontological grounds, for the purpose of explanation it may be necessary to make the methodological assumption that groups have characteristics and powers which are independent of the powers and characteristics of the individual who comprise them; the thesis of methodological holism.

The position is, however, questioned on the grounds that explanations of the holistic kind are simply explanations which omit essential premisses of an individualistic kind. Homans (1970) for example, argues that all sociological propositions are reducible to psychological propositions of a general kind, an argument supported by Watkins (1973) and Hayek (1973). The argument proposed (methodological individualism) is not simply that ontological holism is an untenable position but that methodological holism is also, because of the reducibility of social propositions to psychological propositions in explanation.

Goldstein (1973) however, argues that such a position confuses the subjective with the objective, that while the experience of each person is subjective and can be explained in psychological terms, neither the content nor the occasion of the experience is. Therefore "while the individual subjectively experiences the norms of society and its accumulated knowledge and law... the social scientist deals with those contents in

their objective or social character" (Goldstein, 1973: 276).

The difference between the individualistic and collectivistic positions is argued to be that of difference in levels of explanation, one focussing on the subjective (psychological) level and the other on the objective (social).

Brodbeck (1973) however, puts forward another, and for this thesis crucial, argument: that compositional laws distinguish between psychological and sociological explanations. General psychological laws are said to state the characteristic responses of individuals to certain environmental conditions. Thus psychological explanations are generic in character applying to all individuals constituting a group, as individuals. However, groups of individuals may be constructed in different ways and the differences in composition may, at least to some extent, determine differences in behaviour:

"Compositional laws state what happens when several elementary situations are combined in specific ways. These combined situations are the macroscopic (molar) complexes referred to by the group terms... The definition of the group terms provide the common language necessary for the derivation of macroscopic statements from microscopic ones. The compositional laws, then, supply the empirical premisses from which the deduction is made."

(Brodbeck, 1973: 307)

According to this account, the explanation of social phenomena must include statements of the compositional properties which describe the structure of groups in order to avoid the claims of the psychological reductionists. This does not mean that the properties of individuals comprising the groups are unimportant. As Wisdom (1970) points out, both the holistic and individualistic theses are monistic in character and in order to arrive at explanations of social phenomena a bipolar or dualistic thesis may be needed. In such a theory it is argued, i) that groups have emergent properties which have the power to influence individual behaviour, ii) that such properties are not reducible to individual properties, iii) that in some cases group properties and in others individual properties will be the greater influence, and iv) there is no a priori way of knowing without investigation which factor is most significant in a given case. This position of "transindividualism"

"allows equal weight in principle, or any proportion of weights, to individuals or the social facts, in governing the course of individual life in a group or society."

(Wisdom, 1970: 295)

Such a position has interesting implications for the theory of role.

If role is that point at which individual and society intersect, then role can be considered an outcome of the interaction of individual and social characteristics. Role is in these terms an interpretation of the social structure to the individual and a key element in the construction of the social world by the individual.

### Conclusion

The preceding discussion has argued that the functionalist and essentially holistic bases of structural and socialisation perspectives on role presume a degree of social determinism and institutionalism which is unacceptable. Similarly the position of ontological holism has been rejected as has the individualistic character of psychological reductionism. Instead a position of transindividualism has been advocated which relates social phenomena to i) the characteristics, aims, attitudes, values and powers of individuals, and ii) the compositional characteristics of groups. Such a position is consistent with the previously discussed symbolic interactionist conception of role theory which argues that i) role definitions are an outcome of person/situation interaction, ii) role definitions are partly determined by the characteristics of the individuals providing that definition, iii) that role definitions are partly determined by the nature of the social structure of groups, and iv) the relative weights of individual and social characteristics in particular circumstances are variables.

The following chapter reviews contemporary evidence regarding the nature of the influence of individual and social characteristics on behaviour thus providing an empirical basis for the subsequent development of a theoretical and methodological model of role in terms consistent with the above argument.

## Chapter Two

### Psychological and Sociological Background

The preceding chapter has argued a position of transindividualism in the analysis of role. The establishment of such a position requires elucidation of the respective influence of i) individual characteristics, and ii) social structural characteristics. This chapter does not attempt an exhaustive account of all the relevant psychological and sociological literature. That is not required in order to establish the viability of such a position. What is required, however, is evidence that i) established psychological and sociological theories are compatible with the position, and that ii) there is a body of empirical literature which can be interpreted from the proposed viewpoint. This chapter therefore discusses i) pertinent psychological literature, and ii) pertinent sociological literature relevant to this purpose. It also points to the apparent convergence of certain positions in psychology and sociology within an interactive framework, a framework which is, moreover, compatible with the theory of role developed in Chapter Four, thus linking the philosophical position of transindividualism with the sociological concept of role.

#### Psychological Theories

Two extreme positions can be described with regard to psychological theories of behaviour; i) that behaviour is the result of characteristics inherent in the individual, such as genetic, physiological and general biological factors, and ii) that behaviour is the result of characteristics inherent in the individual's environment to which the individual responds. While few contemporary psychological theories undertake the reduction ad absurdum involved in either of these extreme positions, the debate over individual as against environmental determinants of behaviour underlies much current discussion. Two psychological theories will be discussed as illustrative of this debate; i) trait theory, and ii) stimulus response theory. Each of these theories is based on an essentially deterministic premise which is antithetical to the philosophical position adopted in Chapter One. In view of this a third theory, cognitive theory, will also be discussed, firstly as an attempt to overcome certain objections to trait and S-R theories and, secondly, in that it proposes an active and

essentially non-deterministic view of the individual fundamental to the conception of role presented in this thesis.

### Trait Theory

Trait theory is taken as an example of theories which assert the dominance of individual characteristics over the influence of environment. While agreeing that situations do make a difference, trait theorists have been mainly concerned with the identification of patterns of behaviour which are stable across situations and time and serve to discriminate between individuals.

Guilford (1959: 6) for instance, defines a trait as "any distinguishable, relatively enduring way in which one individual varies from others". Such a definition appears to open up the possibility of an enormous vocabulary of distinguishable traits. Indeed, Allport & Odbert (1936) counted some 17,953 trait names in English, though some were synonyms, some antonyms and some represented relatively transient rather than permanent states. Cattell (1945) attempted to produce some order from such variety by discriminating between "surface" and "source" traits. During this process, based on an exhaustive study of rating scales, he found a total of 131 "phenomenal clusters" of common traits. These were then grouped further into 50 "nuclear clusters" of related traits and finally into 20 and later 16 "sectors of the personality sphere". Guilford similarly attempted to reduce responses to several hundred questionnaire items through inter-correlation, eventually isolating 13 factors or traits.

The trait conception of personality provoked the development of a number of questionnaires and inventories which attempted to differentiate between individuals on the basis of the hypothesised traits. The two most widely used were the Minnesota Multiphasic Personality Inventory (MMPI) and the Sixteen Personality Factor (16PF) Questionnaire. Hathaway & McKinley (1940) in their construction of the MMPI provided a widely accepted series of subscales for clinical diagnosis which appear to discriminate consistently between individuals presumed to be extreme on particular personality traits. Cattell (1957) using his earlier factor analysis of surface traits devised the 16PF which similarly appears to discriminate between individuals displaying differing traits.

These and other similar instruments based upon the identification of traits raised the possibility of the classification of individuals on the basis of empirically describable types. Such a possibility had been

raised earlier by psychologists such as Jung (1923) whose particular classification depended on the distinction between extraverts and introverts. Eysenck (1953) attempted to relate such a typology to a variety of levels of observation and inference. In his theory specific responses become organised into habitual responses which lead to the development of traits which are clustered into introvert or extravert types of personality. In the Eysenck Personality Inventory (Eysenck & Eysenck, 1968) for instance, the extravert is outgoing, impulsive and uninhibited, needs people to talk to and craves excitement. The introvert on the other hand, is reserved, introspective and pessimistic, prefers books to people and plans ahead. Eysenck (1947) claims the extravert type is a summary of consistent relations between traits such as sociability, impulsiveness, activity, liveliness and excitability which are themselves built upon habitual response patterns of individuals to particular situations. Introversion, is constituted by the obverse of these traits and response patterns and represents a contrasting type of personality.

Trait theory, and the contingent theory of personality types argues for three main propositions:

- i) It is possible to discriminate between individuals on the basis of a limited range of consistent and relatively permanent differences in personality,
- ii) That because behaviour is determined by such personality traits or types, then the behaviour of individuals will be relatively consistent across situations according to the nature of their traits or type,
- iii) That for the same reason behaviour will also be relatively consistent over time.

The factor analytic techniques employed by Guilford, Cattell and Eysenck in attempts to provide a systematic approach to personality traits and types have already been referred to. Though the tests devised on the basis of such techniques do discriminate between individuals, the taxonomic problem of determining the main dimensions of personality difference remains unsolved. Factor analytic techniques which once offered hope of detecting relatively stable and homogeneous factors behind the apparently heterogeneous characteristics of individuals do not appear to have solved the problem. On the contrary, as Vernon points

out, "different factorists have arrived at very different conclusions" (Vernon, 1964: 15). However, though the taxonomic problems of trait theory persist and arguments over the basic factorial dimensions of personality characteristics continue, the trait approach has provided useful tools for both clinical and experimental work which provide discriminating guides for therapist and researcher if used with caution.

The evidence for stability across place and situation has been recently surveyed by Mischel (1968) who concludes that cross situational generality may well hold for cognitive and physiologically based traits such as intelligence, field dependence and reaction time, but that there does not appear to be such generality for traits such as conditionability, dependence, attitudes to authority, rigidity or moral behaviour. Argyle & Little (1972: 8) in a separate review of the literature, emphasise further that "the evidence for lack of generality of behaviour across situations is... striking in the fields of social performance". It would appear from such reviews that cross situational generality of behaviour is limited to a few, mainly cognitive or physiologically based traits.

As far as stability over time is concerned, the early studies of Birren (1944), Crook (1941), Kelly (1955), McKinnon (1944), and Neilon (1948) have been supported by more recent reviews (Anastasi, 1964; Bloom, 1964; Kagan & Moss, 1962; Mischel, 1968; Vernon, 1964) in their assertion that consistency is more marked than dramatic change, especially in those traits most clearly associated with cognition and intelligence. Evidence of stability over time in other areas of personality is offered by relatively few longitudinal studies conducted over prolonged periods. Haan & Day (1974) do however offer evidence based on data gathered over some thirty years in one study and forty years in another. Their conclusions point towards:

"The substantial, persisting sameness, particularly in self-presentation and socialisation; the moderate amount of individual sameness with transposition and the less frequent but emergent discontinuity, particularly in cognitively articulated, affective responses."

(Haan & Day, 1974: 38)

Most of the above evidence of trait discrimination and persistence is based on evidence derived from questionnaires rather than observation. This has led to the criticism that though the generality of traits is supported by reasonable correlations on the same test through time, and

by factor analyses of different tests administered at the same time, the observational studies of traits derived from such tests show a much lower set of correlations (Brown, 1965; Butler & Stokes, 1969). Such a discrepancy between stated and observed consistencies in behaviour leads to the suggestion that the stability of traits is an artifact of the methodology employed. For instance it is notable that the relative stability of traits derived from questionnaires is highest in intellectual and cognitive areas. As the answering of questionnaires can be considered as essentially a cognitive exercise, the stability demonstrated has been argued as an artifact of the questionnaire based strategy (Cambell & Fiske, 1969).

Despite such criticism there is some reason for believing that the trait approach to personality has been able to demonstrate in a limited manner the systematic differences that exist between individual personalities and the relative stability of some traits - especially those related to cognitive and intellectual behaviour - across time and place. However, there seems little evidence for the claim that behaviour is for most individuals an exclusive result of characteristics inherent in the individual.

### Stimulus - Response Theories

In contrast to the trait theorists' emphasis on personality traits as determinants of behaviour S-R theorists emphasise the importance of situational characteristics as determinants of behaviour. S-R theory dispenses with trait concepts entirely (Gewirtz, 1969), and views the individual as a large number of specific response patterns which are attached to particular situations and evoked by specific stimuli. Many early S-R theorists such as Dollard & Miller (1950) and Hull (1952) were content to demonstrate the conditions under which situationally specific responses are formed into chains or habits, which may be broken or replaced by variations in stimuli. As Hall & Lindzey (1957) point out, S-R theorists argue that:

"Although personality consists primarily of habits, their particular structure will depend upon the unique events to which the individual has been exposed. Further, this is only a temporary structure as the habits of today may be altered as a result of tomorrow's experience."

(Hall & Lindzey, 1957: 428)

More contemporary S-R theorists (Farber, 1964; Gewirtz, 1969) argue consistently that the environmental context is the major determinant

of behaviour from which the concept of personality is abstracted.

For instance:

"Concepts like ability, capacity, and level of functioning, have limited meaning independent of behaviour as it occurs and comes to be controlled within an environmental context... all involve the determination of sequential functional relations between stimulus input and behaviour output in the individual's experience."

(Gewirtz, 1969: 106)

Moreover, the apparent complexity of much behaviour can readily be explained by the complexity of the stimulus environment:

"... systematic increases in the complexity of behaviour... are primarily due to systematic increases in the complexity of the stimuli provided by the controlling environment."

(Gewirtz, 1960: 133)

The whole thrust of S-R theory is that behaviour is modified by alterations in the environment, therefore personality, if indeed one can talk of personality at all, is a direct function of the individual's confrontation with past, present and potential environmental stimuli. Such an approach "focuses on the environmental conditions by which (behaviour) can be acquired, maintained, extinguished, or otherwise modified" (Gewirtz, 1969: 113). As such, the S-R theorists support the proposition that environmental factors determine behaviour and in the long run individuality, and that it is the unique variety of the stimuli experienced by various individuals which determines the uniqueness of individual personality.

S-R theorists are, however, criticised on four main counts:

- i) That the empirical rigour and demonstration of S-R relationships is only possible in highly controlled experimental situations far removed from the complex situations of human interaction. Therefore S-R theory is unhelpful in explaining human behaviour and personality in naturalistic settings. (Hall & Lindzey, 1957: 461)
- ii) That when attempts are made to generalise from specific conditions of S-R research, the conceptual clarity of S-R referents is reduced, and ambiguity markedly increases. (Hall & Lindzey, 1957: 461)
- iii) That S-R theory does not provide prior definitions of stimulus and response, so that in a natural situation, specification of the stimulus can only be derived following an understanding of the behaviour under question. Therefore the theoretical components can only be derived on a post-hoc basis. (Hall & Lindzey, 1957: 462)

- iv) That S-R theory is essentially deterministic and cannot account for deliberative action on the part of individuals. (Harré & Secord, 1972: 40).

### Cognitive Theory: An Interactive Paradigm

What is needed then is a theoretical position which avoids the main criticisms of both trait and S-R theories of personality and reconciles apparent contradictions between them. It is possible that cognitive theories of personality are able to combine insights from both of these areas into an integrated, active theory of personality. Cognitive theorists argue that neither the domination of traits nor the domination of unrelated social stimuli are adequate explanations of individual behaviour and personality. Psychologists such as Levy (1970) suggest that traits are not so much real attributes that are fundamental to individuals, but that they are typical cognitive structures by which individuals characterise both their own and others' behaviour. In other words:

"A cognitive theory of behaviour assumes that the first stage in the chain of events initiated by the stimulus situation and resulting in the behavioural act, is the construction of a cognitive representation... (which) thus acts as the effective environment which arouses motives, emotions, and guides overt behaviour towards its target or goal."

(Baldwin, 1969: 326)

This argument for the mediation of cognitive structures is based on the observation that perception is itself selective:

"A very large amount of perceptual data is potentially available in an interaction situation, but only a small proportion of it is actually used. Perception is highly selective and is focused on certain areas of information which are thought to be most useful."

(Argyle, 1969:153)

Kelly (1955) has argued that interpersonal behaviour is determined by the organisation of perception through personal constructs which lead the individual to react similarly when he has interpreted two or more situations as similar. Interaction, especially interpersonal interaction, can therefore be thought of as akin to a search process where the individual scans situations for their similarity to previously organised cognitive structures. These in turn provide a basis on which behaviour can be selected. According to Argyle:

"The initial purpose of person perception is to know how, or whether, to interact with the persons. This may lead to the

establishment of a cognitive model person, possibly described in verbal terms, and probably in terms of some implicit set of personality dimensions or types... For different observers, different dimensions will be salient. (Typically) men tend to use task and achievement oriented categories such as occupation and income: women use personality and behaviour traits. Such individual differences are probably closely related to the personality structure of the perceiver - he will make salient those dimensions of people which are most important to him and which result in him treating people differently."

(Argyle, 1969: 154/54)

One of the most ambitious schemes for the classification of such cognitive structures in a development sequences is that of Harvey, Hunt & Schroder (1961) who argue that concepts provide the individual with links between the situational and the personal or dispositional determinants of behaviour, and are the organised effects of past experiences which determine how the person perceives and acts. Moreover, these concepts are inextricably bound up in the personality of the individual:

"The development and functioning of a concept is assumed to be inseparable from the development and functioning of the self. We define the self as the intertwined totality of one's concepts; furthermore it is in terms of such a conceptual matrix that one defines his existence."

(Harvey, Hunt & Schroder, 1961: 6)

Such a view of the individual as an actively structuring, classifying, integrating, and responding organism leads to an interactive view of the conditions of behaviour where "the type of variability most consistent with the assumptions of cognitive personality research is that which stresses the minimum influence of either the stable aspects of the person or the situation." (Argyle, Little, 1972: 5). In other words, an active reciprocating model of person and situation interaction is required. In general, the growth in the influence of cognitive theory has led to a situation where:

"... the psychological view has moved from simple to complex association learning and finally to the apprehension of systems and structures... The latter, of course, involves a lot of association but is not wholly explicable in such terms. A seeking, creating, system building mind must be postulated.

(Goslin, 1969: 4)

Such a position does not deny the influence of environment on behaviour. Nor does it insist on the dominance of personality over environmental factors. It argues an interactive view of behaviour. In a somewhat different context Bandura has noted that:

"It is true that behaviour is regulated by contingencies, but the contingencies are partly of a person's making. By their actions, people play an active role in producing the contingencies that impinge upon them. Thus, behaviour partly creates the environment, and the environment influences the behaviour in a reciprocal fashion."

(Bandura, 1974: 866)

What cognitive theory appears to be arguing then, is that the cognitive structures developed by individuals as a result of experience and adaptation can be hypothesised as most strongly influenced, not by either those structures "inherent" in the individual, nor by those demanded by the environment, but by the interactive effects of one with the other.

As a consequence of such arguments the view of personality taken here argues that *personality is a dynamic, integrating system of cognitive representations and behavioural responses which both modifies and is modified by situational factors*. Such a view has the advantage that it is i) dynamic, ii) takes account of the internal states of the individual and the external state of the environment, and iii) avoids alike psychologistic, behaviouristic and sociologistic explanations of behaviour.

Such an interactive definition of personality is an essential prerequisite of a theory of role which eschews psychological and sociological determinism and views role as a product of person-environment interaction.

If there are psychological theories of personality compatible with the assumption of transindividualism made in Chapter One and appropriate as a basis for the theory of role presented in this thesis, what basis is there for such assumptions in sociological theory?

### Sociological Theories

The central sociological problem is that of explaining social order and the conditions of such order. Contemporary approaches to this issue can conveniently be dealt with in two groups, the first of which is concerned with theoretical explanations of social order and the second with phenomenological accounts of the orderly, everyday structures of interaction. In the first group three major theories are presented to account for social order which emphasise respectively the importance of i) Power, ii) Exchange, and iii) Value Consensus. In the second group two main accounts of interaction are offered: i) Dramaturgical, and ii) phenomenological.

### Theoretical Accounts

*Power.* According to the power theorists, order exists in society only, or largely as a result of the power which some men have to demand compliance from others (Etzioni, 1961). Men do what they do for fear of the sanctions that will be imposed if they do not. Such sanctions can be imposed either by the powerful acting in their own interests or by those who are acting in the name of all men (Hobbes, 1961). The forms these sanctions can take may be of different kinds, depending on the type of power involved. Etzioni has suggested a typology of power derived from Weber and based on distinctions between coercive, remunerative and normative power. This typology is matched by a typology of compliance based on distinction between alienative, calculative or moral involvement of the individual in the social system (Etzioni, 1961).

Such theories explain the existence of social order as a result of the restraining of individual interests and impulses by authorities who also control norms which determine the forms of social interactions. Persistence is assured because it is in the interest of those in authority to maintain the form of society, for as long as possible, for by doing so they coincidentally maintain their own privilege and prestige. Disorder and change is explained by this theory as resulting from (a) conflicts between those men who contend for positions of power, and (b) conflicts between the powerful and the powerless.

While there is good evidence for the ubiquity of power and coercion in social structures (Etzioni, 1961) it is arguable that the existence of such power is a sufficient condition for social order. For instance the existence of alternative sources of power in or between social structures, may be a source of social disorder, for the rise of rival claims to power in any social structure is likely to lead to the breakdown of social order (Cohen, 1968). Though the hypothesis that the weakening of any form of coercive power leads to increases in social disorder might attract considerable support, it must also be considered that such disorder is the result of existence of alternative sources of power. Power, therefore, might well be a necessary element in social order (Wolf, 1961) but it cannot be judged to be sufficient condition.

*Exchange.* The second theory of social order rests on the idea of mutual interest and exchange (Blau, 1964). Here it is assumed that social order rests on the contract men enter into in order to achieve their aims through co-operation. Cooperation is necessary in order to

reach certain ends, therefore rules are established which accord each party rights and obligations which benefit both. Change is argued to be a function of the appearance of new situations which are not covered by existing rules, thus demanding further negotiation and possibly re-negotiation of existing contracts. This version of the interest theory of social order is weakened by the criticism that such negotiation is itself a product of the conditions of social order, thus requiring an alternative explanation of the origins of social order (Cohen, 1968). Even where exchange is argued to be a means of adaptation, by which the individual interests of men are pursued independently and unintentionally result in social order, two objections are open. Firstly, that of the presupposition of social order and secondly, the presupposition that men are free from restraints (Parsons, 1949). Again the idea of exchange and negotiation appears to be a consistent and necessary factor in social order, but not a sufficient condition for such order.

*Value Consensus.* The third theoretical explanation of social order rests on the assumption of value consensus. The argument briefly is that if men are committed to the same values, they recognise common identity against others, accept common goals and agree on particular measures in gaining them (Parsons, 1949, 1951). Individual conduct is then guaranteed by the psychological satisfaction, as well as the extrinsic rewards, derived from conformity. Disorder is explained by the empirical fact that no man is completely socialised into the value of structure of society; or by the results of clashes of values due to contact with other social structures (Cohen, 1968: 28). This theory also posits a necessary condition of social order, i.e. that men agree to certain broad but highly generalised values which operate as the basis for everyday rules. However, there are two problems with such a theory. Firstly, though there may well be consensus over the broad values which should govern behaviour, there is no guarantee that incompatible behaviours cannot be justified by appeal to those values. For instance, though consensus on the desirability of higher living standards exists there may, nonetheless, be considerable conflict between those attempting to implement that idea through different methods. Again, there is also the problem that this theory is very nearly tautological in that if there is agreement on the nature of society so that no alternative conception can be considered, then it is essentially trivial to say that such a society is based in shared values. Nonetheless, such explanations of social structure have been powerfully argued (Durkheim,

1947; Parsons, 1951).

On the basis of the above theoretical explanations of social structures based on ideas of power, exchange and value consensus, each of these components can be argued as a necessary but insufficient condition for social order.

### Interactionist Accounts

The second group of accounts of social structure begin, not with assumed preconditions of social life, but rather from observation of the behaviour of individuals in interactive social situations. Unlike theories such as those of Etzioni, Blau or Parsons, these analysts begin with accounts of everyday activities or associations and attempt to elucidate the nature of the rules underlying social encounters. Two basic approaches can be distinguished, stemming from i) Goffman's dramaturgical model, and ii) the phenomenological model outlined in Schutz's analysis of Husserl (Schutz, 1967, 1972) and by the work of Berger & Luckman (1966) and Garfinkel (1964, 1967).

*Dramaturgical Models.* Goffman's analysis is based on the analysis of face to face interaction and upon the proprieties which govern such interaction (Goffman, 1961, 1964, 1969, 1971). Two key elements are deducible from his analysis. The first concerns the structure of the patterns of interaction and the second the management of individual identity. In the first place the social system is seen to contain a series of episodes sequentially ordered and collectively sufficient for its construction, maintenance and termination (Goffman, 1963). These are the definition of the situation, recognition, solidation, rules of irrelevance, shielding, rule directed rule, continuation norms and disengagement (Goffman, 1961, 1963). These rules specify the structure within which individuals interact and have been applied with effect by Goffman to transitory relations and by others to more institutionalised encounters (Young & Beardsley, 1968). The second element in Goffman's analysis is concerned with impression management by individuals, whereby they communicate to others their compliance (or non-compliance) with the conventions of interaction (Goffman, 1971).

Essential to this conception of interaction is the duality of meanings involved in ritual actions. In reference to territorial rituals for instance:

"In considering the minor situational and egocentric preserves of the self... we are led to deal with what is somehow central to

the subjective sense that the individual has of himself, his ego, the part of himself with which he identifies his positive feelings. And here the issue is... the role the individual is allowed in determining what happens to his claim... Thus, on the issue of will and self determination turns the whole possibility of using the territories of the self in a dual way, with coming-in-touch avoided as a means of maintaining respect, and engaged in as a means of establishing regard. And on this duality rests the possibility of according meaning...

Personal will or volition may be seen then not as something which territorial arrangements must come to terms with and make allowances for, but rather as a function which must be inserted into agents to make the dual role of preserves work."

(Goffman, 1971: 60/61)

Or put another way the duality of roles in social interaction can be interpreted as making possible "a meaningful set of non-adherences" (ibid.)

The dramaturgical model has been criticised on the basis that it may apply only to social interactions at the "interstices of social life and within the framework of dominant institutions" (Gouldner, 1970: 385/6).

It may very well be that the structures of social behaviour Goffman points to are currently analysed in limited situations and in an ahistorical manner, but the application of such analyses to larger interactions over extended periods of time is not prevented by the fact that it has not yet been systematically undertaken. Indeed Gans (1962)

has shown how a development of this type of analysis can be applied to larger, urban, social structures.

*Phenomonological Models.* If Goffman is interested in the structural episodes of interaction and the management of identity through ritual and propriety, Berger & Luckman (1966) are interested in the problem of knowledge in social relations, arguing that "the sociology of knowledge is concerned with the analysis of the social construction of reality" (1966: 3). In this analysis, conventions of face to face interaction and its guiding rituals are supplemented by the shared understanding not only of the situation but of each other implied by behaviour. Indeed the meaning we have for ourselves is determined by such interaction:

"Identity is objectively defined as location in a certain world and can be subjectively appropriated only along with that world."

(Berger & Luckman, 1966: 132)

This relationship between objective social reality and subjective individual awareness is based on the construction not only of shared behaviour but of shared understandings and definitions of situations.

Garfinkel (1964, 1967) insists on the power of "routine rounds of every day activities" as interpretive schema for social understanding

and that the common sense knowledge and common sense activities of actors are the means by which they "do sociology" (1964: 30). Thus the subjective interpretation of everyday reality and the objective analysis of social structure become, according to Garfinkel, one and the same process. The confusions implicit in this view have recently been pointed out (Best, 1975) as having little in common with Husserl's phenomenology or with Schutz's employment of ideal typical constructs in his philosophical analyses of the processes of understanding and communication (Schutz, 1967: Volume 1). What studies such as Goffman's, Berger & Luckman's and Garfinkel's do however, is to reassert Schutz's central postulate for social science: that the search for truth about social reality must take account of the subjective meanings of individual actors (cf. Best, 1975: 142).

Sociological accounts can be seen to be divided by arguments as to the relative importance of on the one hand, power interests and values and on the other, rituals, impression-management and the "routine grounds of everyday activities" in determining the nature and the structure of social behaviour. Essentially this debate concerns the relationship between objective social structure and the subjective nature of individual experience of that structure. The ethnomethodologists in particular have been criticised for "ignoring institutional factors in general, and the centrality of power in social interaction in particular" (Coser, 1975: 696). Such criticism attempts to reassert the primary focus of sociology on the exploration of the effects of latent social structures:

"By attempting to describe the manifest content of people's experiences, ethnomethodologists neglect the central area of sociological analysis which deals with latent structures."  
(Coser, 1975: 696)

The issue appears to centre on the apparently deterministic view of behaviour built in to the view of society advocated by sociologists interested in the analysis of structural effects. The argument of the analysts of face-to-face interaction is that men construct their own reality and the important feature of such activity is the management of identity in which the individual has an element of choice. On the one hand, social structure is seen as the determinant of identity and on the other, the construction and management of identity is seen as a determinant of social structure. What is needed is a theory that allows the explanation of the consequences of interaction of individual and structural effects.

### Sociological Theories and the Theory of Role

Role theory claims explanatory power in that the concept of role allows the interaction of individuals to be related to the structure of values, power and exchange in a society. The concept of role is based on two related social facts; i) social differentiation, in that the structure of society is differentiated into an interrelated system of positions, and ii) social normation, in that individuals occupying certain positions are expected to behave in particular ways. (Popitz, 1972).

While that fact of social differentiation is not contested, the idea of social normation raises certain problems. These derive from the possible variation of the relationship between expectation and behaviour. In the first place, when the relationship is stated as a causal one it is uncertain whether i) behaviour is constrained by particular expectations, or ii) whether particular expectations come to be held because of observed consistencies in behaviour. In the second place the assumption of consensus over expectations for a target position on the part of various related positions is demonstrably uncertain. Role theory has to take account of the fact that expectations differ among individuals. They not only differ among individuals holding differing positions (Gross, Mason & McEachern, 1958), they differ between individuals in the same position (Bates, 1971). If role is equated simply with expectations, the position originally advocated by Linton (1945), there can theoretically be as many roles as there are individuals who hold differing expectations. In this case role definition apparently becomes idiosyncratic and therefore of little use in analysing the structure of relations among expectations and their part in determining behaviour. This possibility has been emphasised by Coulson (1972).

But is the assumption that role definitions are idiosyncratic justified? There is clear evidence that it is not. In the first place the process of behavioural modification previously discussed as the outcome of cognitive psychology, indicates that individuals' cognitive maps (of which expectations for behaviour are a significant component) are modified via interaction. It is reasonable to assume on the basis of such a position that frequent interactions lead to increased clarity and consistency of the cognitive maps held of the interactive situation by the interacting individuals. In sociological terms, the closer the

two positions, the more consistency there will be in expectations. In support of this assertion Biddle (1966) for instance reports the main effects of increased social distance between positions as reduced agreement on role definition. Hamid (1967) also reports changes in role stereotypes of students as a function of social distance.

What such evidence seems to indicate is that a structural factor (social distance) is systematically related to behavioural expectations, role concept, or stereotypes for behaviour. Thus, apparently idiosyncratic definitions of role are in fact associated with a structural factor (social distance) which regulates the frequency and nature of interaction. Thus two apparently contradictory relationships are presented; i) that structural effects, such as social distance, are associated with systematic differences in role definition, and ii) that role definitions differ not only between positions but also within them.

#### Individual, Social System and Role

The resolution of this issue lies in the conception of the individual upon which role theory is based. It is almost a convention of role theory that the individual is excluded from analysis except for that segment of his personality involved in the role system under study. Despite Parsons' insistence that the "plural character of roles assumed by one personality is a major foundation of sociological theory" (Parsons, 1966), surprisingly little attention has been paid to its effects, by Parsons or by anyone else. If indeed the individual can be thought of as a collection of roles, then it is not unreasonable to argue that that collection will be to a greater or lesser degree articulated and integrated within the personality system of the individual. Thus it should be expected that differing collections of roles will lead to differing influences in individual role definition. One dimension of such difference might well be a hierarchy of involvement or "engrossment" (Goffman, 1961) in particular roles.

It is possible to explain differences among individual definitions of role given by incumbents of particular positions, on the basis of i) differing constellation of roles assumed by the incumbents, and ii) the differing degree of integration of roles within the personality system. It would thus be reasonable to argue that actors with similar constellations of roles would hold similar definitions of particular roles, though variation must still be anticipated due to the differential psychological factors which influence the integration of such role clusters.

Role, under the circumstances outlined above, becomes a product not only of social differentiation and social normation but also of the interactive effects within i) the social system, and ii) the personality system. Role is therefore considered as a dynamic contribution to and product of the interaction of individual with social system.

The definition of role employed subsequently in this thesis is therefore that of *a situationally related anticipation of behaviour held by an individual for incumbents of particular social positions.*

This definition locates role within the individual but insists also that two structural factors are determinants of role; i) the particular situation to which the anticipation of behaviour relates, and ii) the positional structure of that situation. By inference then any individual brings to a particular social situation a number of roles which correspond to the positional structure of the social setting. One such role will be his own. Through interaction within the social structure modifications of one, some or all roles may occur as behaviour at odds with role demands either the alteration of behaviour or the alteration of role. Which alternative occurs will depend upon specific features of the situation as will be shown in Chapter Four.

The advantages of such a definition are that it allows for i) the specification of relevant situational properties (such as the nature and location of actors), ii) the inclusion of the cognitive representations of individual actors in the definition, iii) the definition of relations between anticipated and actual behaviour as a variable rather than as an invariant relationship, and iv) the possibility that discontinuities between anticipation and situational performance lead to the modification of future anticipations.

## Chapter Three

### Interpretive and Methodological Issues

The position of transindividualism adopted in Chapter One and the evidence of increased emphasis on the interactive effects of individual and social system in both psychological and sociological research presented in Chapter Two direct attention to the area claimed by role theorists as the focus of their expertise: the point at which individual and social system intersect. This chapter devotes discussion to the examination of the claims of role theory to explain i) the relationship between role and social structure, ii) the relationship between role and individual. It also examines certain methodological problems associated with the investigation of role.

#### Assumptions of Role Theory

If, as Linton (1936, 1945) argued, society can be described as an interrelated set of statuses or positions whose articulation remains more or less constant then individuals can be thought of as playing roles associated with those positions in much the same way as actors play scripted and pre-determined roles on the stage. The problem of the relation between social structure and individuality can then be formulated precisely through the social definition of roles.

Unfortunately the original position proposed by Linton (1936) carried its own ambiguities:

"A status, as distinct from the individual who may occupy it, is simply a collection of rights and duties... A role represents the dynamic aspects of a status... When an individual puts the rights and duties into effect he is performing a role... status and role serve to reduce the ideal patterns of social life to individual terms. They become models for organising the attitudes and behaviour of the individual so that they will be congruous with those of other individuals participating in the expression of the pattern."

(Linton, 1936)

The basic problem with such a model is the status of the "ideal patterns of social life". In his later definition of role Linton (1945) attempts to deal with the problem by attributing the ideal patterns to society itself:

"The term role will be used to designate the sum total of the culture patterns associated with a particular status. It

thus includes the attitudes, values and behaviour described by the society to any and all persons occupying the status. It can even be extended to cover the legitimate expectations of such persons with respect to the behaviour towards them of persons in other statuses within the same system."

(Linton, 1945)

Such an attribution of the source of expectations has the convenient quality of diffuseness, but unfortunately also introduces both the theoretical problem of the reification of society and the methodological problem of establishing precisely what "attitudes, values and behaviour" society does ascribe to "any and all persons occupying the status". Indeed, Linton sows the seeds of the destruction of such a thesis in his next sentence by asserting that "it can even be extended to cover the legitimate expectations of such persons with respect to the behaviour towards them of persons in other statuses". Here there are the implicit assumptions that the expectations of other persons may i) differ from the attitudes, values and behaviour ascribed by society, and ii) be illegitimate. Now, in the first place, it is difficult to see how differences in the attitudes, values and behaviours expected could occur, unless the persons holding such discrepant expectations were not members of the same society. But, in such a case, where expectations originated outside the society, they would be a priori excluded from consideration. In the second place it is difficult to see how "illegitimate" expectations could possibly arise among individual actors in a situation where such expectations are determined by society of which they are constituent parts.

Further confusion arose from subsequent attempts to define role as i) the ways of behaving which are expected of any individual who occupies a certain position (Newcomb, 1951), ii) how an individual actually performs in a given position (Davis, 1949), iii) a patterned sequence of learned actions or deeds performed by a person in an interaction situation (Sarbin, 1954), iv) that organised sector of an actor's orientation which constitutes and defines his participation in an interactive process (Parsons, 1951), v) the set of prescriptions defining what the behaviour of a position member should be (Biddle & Thomas, 1966), vi) a set of norms and expectations applied to the incumbent of a particular position (Banton, 1968).

Most of these definitions and redefinitions are attempts to answer two fundamental questions: if role is an intermediate abstraction of the relation between individual and society; i) how are roles articulated in

the social system, and ii) how are roles related to individuals?

### Role and Social Structure

Popitz (1972) has suggested that the concept of role can be deduced from two more basic ideas in sociology; i) the idea of normation, and ii) the idea of differentiation. Normation refers to those regularities of action in social systems which come to be considered obligatory and binding (Popitz, 1972: 14). Differentiation refers to "the framework of dissimilar parts (which) are always related to one another and thus can be seen as a structure" (Popitz, 1972: 14).

The combination of these two concepts, Popitz argues, is fundamental to the idea of role. The importance of structural relations in the definitions of role lies in the observation that the "obligatory and binding" norms associated with a particular position are characteristically determined not only by the nature of the position for which expectations are held but also by the nature of the positions from which such expectations originate.

Early formulations of role theory implied that consensus over role definitions was fairly general within society and that the differentiated social structure was held together by such consensus. Since the nineteen fifties however, it has been obvious that those holding differing positions in the social structure hold differing conceptions of particular roles (cf. Merton, 1957), a contention which has been documented in a variety of studies (cf. Gross, Mason & McEachern, 1958; Kahn et al, 1964). Such evidence presents an obvious challenge to the consensus version of role theory. One reaction to the issue is exemplified by Biddle who argues that contrary definitions of role constitute "shared inaccuracies" (Biddle et al, 1966). Such an approach demands tortuous adaptation of both theory and evidence. For instance, Biddle argues that "shared inaccuracies" occur where:

- "i) subjects attributed to a position of which they were members norms for themselves (which were in error),
- ii) subjects attributed to a different position norms for themselves (which were in error), and
- iii) subjects attributed to a different object position norms for a third position" (which were presumably in error).

(Biddle et al, 1966: 612)

The data presented by Biddle and his associates is open to a much simpler interpretation than one depending on the attributing of degrees of

accuracy and inaccuracy, for if that course is taken the further question of accuracy in regard to what standard arises. The simple interpretation is that i) those holding differing positions in the social structure hold differing conceptions of (in this case, teacher) role, and ii) they are in a condition of pluralistic ignorance in respect to each others definitions. Both of these possibilities are well documented in the literature (Gross, Mason & McEachern, 1958; Kahn et al, 1964; Merton, 1957). The invention of the term "shared inaccuracies" can only be interpreted as residual insistence on the necessity for a singular definition of role. If the consensus of Linton's "society" is not demonstrated empirically then the alternative is offered of the classification of role definitions as "accurate" and "inaccurate". If consensus does not exist, Biddle suggests, one is forced to invent a corresponding substitute.

Biddle's difficulties are symptomatic of the problems of theorists following the Gross and Kahn studies, studies that have pointed to the problematic status of role definitions under established conditions of pluralistic viewpoints, whether ignorant or not. Interestingly enough, it is often the expectations of members of the target role which are taken as the criterion against which other definitions are labelled as accurate or inaccurate, or to use a less biased term, consensual or dissensual. Even where other members of the role set are asked their definitions of the target role and disagreement is found with the definitions held by role members themselves, the basic problem of whose expectations define role is left open. Indeed, Merton (1957: 373) argued that when differing definitions and powers of alternative members of the role set "neutralise" one another, "the status occupant has relative freedom to proceed as he intended in the first place". In this case, it appears that role is not defined by society's expectations, as Linton supposed, or by the occupants of complementary positions in the role set, but is defined solely by the individuals performing the particular role. This must surely be the final contradiction in role theory.

As escape from the contradictions implicit in the expectational definition of role an alternative source for the definition of role has been sought in behavioural analysis. The argument is that if one can describe what role players do, then a straightforward definition of role follows. This form of the argument also has its problems. For if

observable behaviour is taken as the basis of the definition of role, what can be concluded from a situation where the actual behaviour of role players contradicts (to use Linton's formulation) "the behaviour ascribed by society" For instance, is the teacher who teaches school children how to make and use Molotov Cocktails against the consensus of the society, not a teacher? Or not a proper teacher? Or an improper teacher? Or a teacher teaching improper behaviour? This attempt to avoid the confusion in the definition of role via expectation by substituting definitions based on behaviour, can be seen to lead to other confusions as well as to beg the vital question of social normation which is at the heart of role theory. For if the normative elements prescribing behaviour are abandoned, the idea of role is reduced to a classificatory concept and one might just as well talk simply of teacher behaviour rather than complicate description through the inclusion of a redundant concept; that of teacher role behaviour (cf. Coulson, 1972).

The answer to the problem of the definition and articulation of roles within social systems can be seen to be a complicated one. There seem, however, to be good reasons for supposing that such articulation as exists is associated with two more basic issues: i) that of social normation which specifies the obligatory or prescriptive element of expectation, and ii) that of social differentiation which determines the number and type of positions for which and from which they may originate. Thus the degree of specification, agreement, obligation and the closeness and salience of positions within the social system are all variable and thus subject to measurement and analysis.

### Role and Individual

The second issue of major importance is the converse of the one just discussed: that of the manner in which social role is related to individual characteristics. Plessner (1960) argues that role is "a structure through which every conception of the self can be realised" (Plessner, 1960: 107). This seems to suggest an infinite variety of individualisations of role. Yet this suggestion surely contradicts the basic role postulate that socialisation into a role or role performance shapes individual performance through expectations for performance. For instance Gordon (1972), following Parsons, insists that:

"value themes are so general and so solidly built into the role relationships of socialisation that every person being socialised... must in some fashion come to terms with the

value-symbolism and motivational orientations at issue."

(Gordon, 1972: 71/72)

For the most part however, the issue of the relationship between personality and role has been a matter of theoretical speculation rather than empirical examination. This is especially so with regard to the processual factors involved in personality change during role acquisition:

"First, the study of the acquisition of roles other than age and sex ones enacted through the course of the life cycle is virtually neglected. Second, many of the major theoretical and conceptual schemes of psychology do not account for a great deal of what occurs during the role-acquisition process."

(Thornton & Nardi, 1975: 871)

From a psychological point of view as well as the sociological it can be argued that:

"Learning theory has tended to deal with narrower and fragmented elements of behaviour; the level of analysis has been that of stimulus-response units which is not the most appropriate level for the analysis of the acquisition of social roles... In the usual laboratory studies of learning, the learner is viewed as a passive organism, in contrast with the active organism which acquires a social role in real-life situations."

(Sarbin & Allen, 1968:544)

Despite the lack of evidence relating to the processes of personality change associated with role acquisition and performance, it does appear that there is growing agreement that:

"any strong analysis of role performance has to include a psychological dimension. The individual cannot be ignored, for his personality, past experiences, unique abilities and skills, and culturally defined values and beliefs all affect how he acts his roles... Role acquisition thus comes to involve individuals imposing their own expectations and conceptions on roles and modifying role expectations according to their own unique personalities."

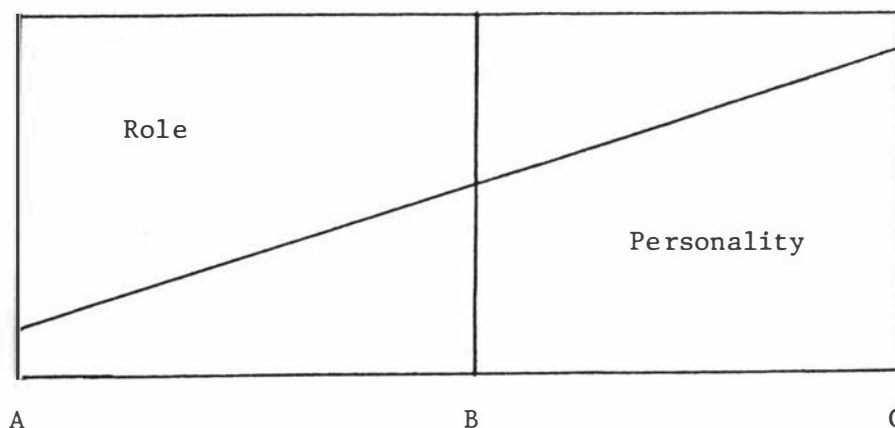
(Thornton & Nardi, 1975: 880)

Getzels & Guba (1957) present a model of the relationship between role and personality in which behaviour is seen as a function of their interaction, the equation  $B = f(P \times R)$  being a modification of Lewin's formulation of behaviour as a function of Person Environment interaction [ $B = f(P \times E)$ ]. Getzels, Lipham & Campbell (1968) argue that:

"the proportion of role and personality factors at least potentially determining behaviour will of course vary with the specific system, the specific role and the specific personality involved."

(Getzels, Lipham & Campbell, 1968: 81)

This variation they present schematically as follows:



(Getzels & Guba, 1957: 430)

In this representation at one pole (A) role is the greatest determinant of behaviour while at the other (C) personality prevails, the relative contributions being in balance at the midpoint (B).

Such a representation may serve to focus on the variability of the contributions of role and personality to behaviour and to the reciprocal effects of one on the other.

The previous discussion highlights several issues central to a dynamic account of role: i) the problem of normation, ii) the problem of differentiation, iii) the issue of personality change through role-acquisition, and iv) the issue of the individualisation of role. Each of these problems is directly involved in the examination of the linkage of individual with social structure. Little sense has been made of these problems because of two distracting characteristics of research into role: the first is the uncritical acceptance of the homology thesis, and the second the assumption of homogeneity in the analysis of group characteristics.

#### Methodological Issues

##### Levels of Analysis

One of the basic theoretical and methodological problems in social science is that of the relationship between the individual and the group, and of groups to social structure. This problem involves statements of the relationship between explanations of behaviour given at one level of analysis to alternative explanations given at another. Blalock noted in this respect:

"One of the most challenging problems that continually arise in almost all substantive fields within the social sciences is that of just how one translates back and forth between the macro level, where groups are the units of analysis, and the

micro level, where the focus is on individuals. The problems are both conceptual and empirical: there are questions of definition, aggregation, and the practical limitations of time-cost factors in gathering data on both levels."

(Blalock, 1967: 21)

It has been a convenient theoretical assumption in much sociological theory that "theoretical schemes worked out on the basis of macro-sociological considerations fit micro-sociological interpretations, and vice versa" (Wagner, 1964: 383), an assumption Wagner labels the homology thesis. In sociological analysis this insistence on basic consistency across levels is a particular temptation for holistic theorists. Parsons, for instance, claims that:

"The contrast between small scale partial systems and the large scale is not of the same order as the shift from personality or psychological to social system or from organism to psychological... There are continuities all the way from two person interaction to the United States as a social system... That is why I emphasise the theoretical continuity, for the primary group offers powerful research tools. If this theoretical continuity is genuine then you can generalise from levels where things are demonstrated most freely, to other levels."

(Parsons, 1956: 190/194)

Such a model of simple continuity is however, rejected by other theorists such as Blau and Homans. Homans, for example, argues that:

"In their private speculations, some sociologists were once inclined to think of the small informal group as a microcosm of society at large: they felt that the same phenomena appeared in the former as in the latter but on a vastly reduced scale - a scale that incidentally made detailed observation possible. And no doubt there are striking resemblances between the two... But to say that the two phenomena have points in common is not to say that one is a microcosm of the other, that the one is simply the other writ small... the reason lies... in the fact that in the institutions of society at large, the relations between the fundamental processes are more complex."

(Homans, 1961: 379/380)

In this argument a discontinuity thesis is presented which avoids what Wagner (1964: 583) has labelled the fallacy of displaced scope or what Galtung has argued as the fallacy of the wrong level:

"The fallacy of the wrong level consists not in making inferences from one level of analysis to another, but in making direct translation of properties or relations from one level to another, i.e. making too simple inferences. The fallacy can be committed working downwards by projecting from groups or categories to individuals, or upwards, by projecting from individuals to higher units."

(Galtung, 1967: 45)

The former problem is labelled by Robinson (1950) as the "ecological fallacy" and renamed by Riley (1963) as the "aggregative fallacy" in

contrast to the second problem which she labelled the "atomistic" fallacy.

### Data Aggregation

Role theorists have, on the whole, ignored these problems by adopting methodologies which ignore the structural differences between levels of analysis. The favourite technique has been the use of random, or even complete samples of particular populations, where data is collected from individuals, aggregated, and treated as group data. The problem with such methodologies is that they assume interaction within the statistical population to be random rather than structured, thus denying a basic tenet of sociological theory. As Coleman puts it:

"If individuals in groups behaved... so that no structure of relations evolved other than random interactions, then they too could be considered an "aggregate body" for the purpose of group level concepts and laws. But of course individuals do not act randomly with respect to one another. They form attachments to certain persons, they group together in cliques, they establish institutions which are essentially formalised sets of special relations. In short, the very essence of society is a non-random structure of some sort.

(Coleman, 1964: 88)

Indeed the basic tenet of role theory as a type of sociological theory is that expectations structure behaviour and interaction between actors in relatively consistent and predictable ways.

In view of the centrality of this thesis, it is curious to note that the methodology employed in most studies of role is one which implicitly accepts the homology thesis and moreover, is guilty of both atomistic and aggregative fallacies. For instance, the majority of role investigations have been based on random survey techniques (cf. Biddle, 1969; Sarbin, 1968; Turner, 1968). The employment of such techniques has emphasised not the structural relations between units, but the individualistic nature of the respondents where:

"The individual remained the unit of analysis. No matter how complex the analysis, how numerous the correlations, the studies focused on individuals, as separate and independent units. The very techniques mirrored this well: samples were random, never including (except by accident) two persons who were friends; interviews were with one individual as an atomistic entity."

(Coleman, 1959: 29)

Moreover, the use of these techniques, originally developed in order to achieve representative analysis in biological populations where random interaction could be assumed, led to a situation where:

"Individualism is further emphasised by building a probability model into the sampling procedure so that the individual is torn out of his context and made to appear in the sample as a society of one person to be compared with other societies of one person. In very heterogeneous societies... such samples quickly lose any meaning."

(Galtung, 1967: 150)

This argument of course does not imply that such random sampling techniques are in themselves unsatisfactory or unreliable. What it does mean is that their use for the analysis of role, which implies a structural analysis of heterogeneous individuals and groups is, by itself, inappropriate.

#### Problems of Theory and Interpretation

The widespread use of such sampling procedures does not depend solely on their easy availability and the difficulty of alternative forms of analysis. Implicit in many contemporary formulations of role theory is the desire for a satisfactory and unequivocal definition of expectations for particular roles. Biddle, for instance, after reviewing some seventy-four studies of teacher role from varying and contradicting perspectives, suggests the utility of a study based on a "random sample of public opinion concerning teacher role expectations" (1969: 1438). Such a position is clearly analogous to Linton's early reification of society as defining appropriate values and behaviours for particular roles.

Another problem is that the random survey method often leads to the assertion of relationships and interpretations which cannot be supported by the data. For instance, based on a recent survey on teacher role involving "12,000 respondents in four widely separated countries" (Adams, et al, 1970), Biddle reports the following conclusions:

"One striking characteristic of the British responses was the amount of role conflict revealed between teacher respondents and parents... Australian data showed a repeated pattern of role conflict between (teacher) respondents and school officials... New Zealand (teachers) exhibited the least conflict with parents."

(Biddle, 1970: 42/43)

This statement appears to mean that (i) this was an actual conflict of the expectations teachers held for their own behaviour and the expectations parent or school officials held for teacher behaviour, and (ii) such conflict might be exhibited in the actual behaviour of parents and teachers, and teachers and school officials towards each other.

In the first instance however, the data presented by Biddle does

not refer to the actual expectations of teachers and parents, but to the expectation teachers attributed to parents, despite the demonstrable inaccuracies of such attributions shown by Biddle's own previous research (Biddle, 1966; Rosencranz and Biddle, 1964). In the second instance no attempts were made to demonstrate the relationship between such attributed conflict and behavioural indicators of conflict, even to the extent of measures of frequency and salience of contact between the two roles involved. In other words, no analysis of the influence of structural variables on teacher role definition was attempted.

In this case, as in others, the form of the data and the methodology employed disallows the consideration of relationships between levels (individual to social structure) which are the very structural relationships in which the role theorist is interested. This type of analysis, despite its claims to illuminate structural discontinuities, reduces the concept of role to a simple class category, which makes role, as has been pointed out, a redundant concept (Coulson, 1972; Loudfoot, 1972).

If the employment of random sampling techniques leads to contraventions of the basic assumptions of role theory, problems also arise when groups are analysed as if all members of the group are similar. McFarland (1970) has identified this assumption as the "homogeneity assumption". This assumption is central to the employment, for instance, of stochastic models which attempt to deal with problems of change over time. Basically the stochastic model is "specified in terms of individual propensities" which leads to statistical attempts to "aggregate relative frequencies to arrive at propensities for categories of individuals and then impute the same propensity to each individual in the category" (Hannan, 1971: 8/9). While such a statistical assumption may be demanded by the mathematics involved in the stochastic model it misrepresents the nature of most groups within which there are variations in individual response. Coleman for instance, notes that the:

"stochastic process is specified for an individual. In most cases however, we will be dealing with aggregates of individuals, and except where otherwise indicated, we will assume that each individual is governed by the same transition rates. This means for  $n$  individuals there are  $n$  independent identical processes."

(Coleman, 1964: 108)

But the assumption of " $n$  independent identical processes for  $n$  individuals" is, for many groups, an unwarrantable assumption. Transition rates for individuals within the group may well vary according to any number of

characteristics, among them personality variables and position in the group.

The acceptance of the implicit statistical assumptions of such methods violates the theoretical and empirical accounts of the relationship between individual and group processes.

#### Levels and Interactions

It can be seen that two basic methodological problems confront researchers into role behaviour: i) the tendency to base analysis on aggregates of individuals, and ii) the tendency to assume homogeneity in what may well be heterogeneous populations. It has also been shown that the adoption of such methodologies can lead to theoretical confusion and claims that cannot be sustained on the basis of such procedures.

The central methodological problem underlying both of these issues in data aggregation is that of the compatibility of statistical organisation of data with the theoretical assessments of relationships between the individual and the group. This is essentially a problem of levels of analysis. The problem is crucial in sociological research as Riley indicates:

"... in order to understand the full nature of social systems, the sociologist must deal with the properties of two or more levels of the system - with constituent parts (at a lower level) as they combine to form the more inclusive (higher level) system. It is only through combined analysis of these levels that he is able to investigate the interactions and interdependence of the parts and to determine the ... consequences for the system as a whole."

(Riley, 1963: 701)

Problems can and do arise when hypotheses formed at one level of analysis are tested with data drawn from another level. Robinson (1950) for instance, demonstrated that measures of correlation for propositions can vary widely at different levels of aggregation and thus it is incorrect to make inferences from results on aggregate data to the individual level. This position has been supported by Schuech who notes that:

"The ecological fallacy (or group fallacy) has come under sufficient scrutiny that we can now consider most of the problems raised as intellectually settled, even though in practical research these errors continue nearly unabated.

(Scheuch, 1969: 138)

Interpretations reached at any single level of analysis may or may not therefore be consistent with interpretations made at other levels. The

relationship between levels and between theory and statistical models therefore needs careful scrutiny.

Riley (1963) suggests that basically four types of analysis can be distinguished in sociological theory which specify the theoretical relationships which exist between variables at differing levels of analysis. These are: i) Individual Analysis, where individuals are dealt with as individuals performing roles, irrespective of the structure of the group(s) to which they belong, ii) Group Analysis, which deals exclusively with the characteristics of groups disregarding the individuals who comprise the group, iii) Contextual Analysis, which relates the individual to the structure of the group to which he belongs, and iv) Structural Analysis, which compares groups on the basis of their compositional properties. A fifth type of analysis might well be argued for, that of Social System Analysis which focuses on the structural relations between groups within a social system. Thus basically two "pure" levels of analysis can be described: i) individual, and ii) group, while three relational types of analysis can be described: i) contextual, ii) structural, and iii) social system. These distinctions are employed as conventions in the following discussion.

The implications of such analysis may be outlined by an illustration. For instance, if teacher role were dichotomised according to the instrumental/expressive dichotomy, at the Individual level of analysis it might well be found that sixty per cent of teachers defined their role in expressive terms, while the Group level definition offered to other groups was in instrumental terms. This discrepancy between the outcomes of statements at Individual and Group levels could be accounted for by the Contextual Analysis of the relative positions in the group of those holding expressive and instrumental definitions. Moreover, at the Social System level the expressive emphasis may well dominate again because of the differing emphases of differing groups and their articulation. At each level of analysis a different definition might emerge as most significant because of i) the characteristics of individuals and groups, and ii) the structural relations of individuals in groups and groups within social systems. For examples of such differences with reference to a wide range of substantive issues see Riley (1963).

As far as the investigation of role is concerned it appears that several related problems must be dealt with: problems concerning the relation of individual and role, role and social system, and statistical

assumptions of homology and homogeneity. Each of these problems is subsumed under the general problem of interpretation between levels of analysis which is both a theoretical and a methodological problem. The resolution of these issues depends upon i) the demonstration of the compatibility of explanations of individual and group behaviour, and ii) demonstration of the compatibility of psychological and sociological approaches to behaviour, and iii) the demonstration of systematically related variation within and between levels of analysis. Chapter Four outlines a dynamic model which attempts a resolution of these issues.

## Chapter Four

### Towards a Theoretical Model

The three previous chapters have i) presented a critique of role theory, ii) advocated a philosophical position of transindividualism, iii) reviewed various positions in psychological and sociological theory that argue for an interactive paradigm in the explanation of human behaviour, and iv) argued the necessity of avoiding possible theoretical and methodological confusions arising from spurious interpretations of inter-relationships between differing levels of analysis. This chapter presents a model for the analysis of role which takes account of these factors.

The main tasks of a theoretical model are those of clarifying the units of analysis and stating predicted relationships between those units in order to provide a basis for the development of an appropriate empirical model and methodology. The theoretical model presented here is complicated by i) the levels of analysis involved, ii) the effects of interactions between levels, and iii) the possible effects of the overall social context. In order to clarify these complex issues, the levels of analysis are, following Riley (1963), separated into Individual and Group levels, and the interactions into Contextual and Structural types.

#### Levels of Analysis: Individual

The individual level of analysis concerns the relation between personality and role. The definition of personality adopted in this thesis is one based on cognitive theory and argued in Chapter Two. Specifically the definition adopted here is that:

Personality is a dynamic, integrating system of cognitive representations and behavioural responses which both modifies and is modified by situational characteristics.

Three components are integral to this definition of personality: i) the range and nature of the cognitive representations, ii) the process of integration into a systematic matrix, and iii) the behavioural outcomes of interaction between this matrix and the individual's environment. The inclusion of these three elements allows the definition of personality as an ongoing process of adjustment based on changes in the individual's environment and in the system of cognitive representations which govern and guide his responses.

Role has been argued similarly to be a product of person/ environment interaction. However, instead of emphasising the importance of the internal integrative mechanisms characteristic of personality, role emphasises the structured and patterned nature of behaviour which results from observed regularities in the behaviour of individuals located at differing positions in the social structure. It is thus a result of two main factors: i) the differentiation of social positions, and ii) the relatively predictable behaviour of individuals occupying specific positions. Role was thus defined and justified in Chapter Two as:

A situationally related anticipation of behaviour held by an individual for incumbents of particular social positions.

This definition insists on the importance of the structural features of position and situation as powerful determinants of role. It also allows for the existence of variations in role definition on the part of individual actors whose anticipations of behaviour are influenced by personality differences. Role is, then, by this definition, not an abstract set of expectations held by "society" or by particular segments of society but an anticipation for behaviour held by individuals in social situations with regard to others within that social situation. Such a definition allows for the empirical description of degrees of consensus over role within particular groups.

The interaction of personality with role has two important aspects. Firstly, role as defined represents one class of the cognitive representations which constitute personality, i.e. representations of social behaviour. Secondly, the remaining, non-social, cognitive representations and behavioural responses of particular individuals are likely to influence subsequent anticipations of behaviour held for particular positions in particular social situations.

Role theorists have, on occasion, regarded personality as little more than a collection of roles. It is argued here that the manner and processes by which roles, as a sub-set of the individual's cognitive representations, are actively integrated is also a major determining factor of personality. Viewed from this perspective, personality is not thus a passive reflection of the role clusters prescribed by society. Nor need the uniqueness of personality depend solely on a unique combination of roles. As an alternative, the manner in which roles are integrated within the personality may be an idiosyncratic product of the individual concerned. Moreover, the

integration of roles within the personality may be considered a major source of social integration. For instance, the integration of roles within the personality system may lead to alterations in the organisation of the cognitive representations and behavioural responses of the individual which in turn affect the anticipations of behaviour of contiguous individuals. Thus the integration of a new role, say that of religious convert, into the personality system of a particular individual may serve to i) link the religious social system to other social systems in which the individual participates, and ii) to modify his behaviour and the behavioural anticipations of others within his original social groups.

The relation of personality to role can therefore be seen to be intimate and reciprocal as roles are organised, along with other cognitive representations, within the personality of the individual. The collection of roles concerned and the manner of their integration affect the behavioural responses of the individual in each of his social positions. Particular performance within a setting will either reinforce or modify other actors' anticipations for behaviour and thus their association of particular roles with particular positions.

Two postulates emerge from these considerations. The first is:

$$i) P = f(C_{1-n} \times I)$$

where Personality (P) is seen as a function of Cognitive representations ( $C_{1-n}$ ) of the individual and their Integration (I). This thesis is concerned however, only with those cognitive representations which are social in origin, i.e. the sub-set of representations which equate with roles as "anticipations of behaviour held for incumbents of particular social positions".

In this respect it may be helpful to think of the individual building up a library of "roles" as a result of his direct and vicarious experience of individuals holding particular social positions. Such a library would begin in the family, extend through contacts with friends, experiences at school, work and leisure pursuits, being influenced by contact with both common and uncommon individuals and positions. The cognitive representations which equate with roles thus form a restricted set of socially related "anticipations of behaviour". The first postulate can therefore, for the purposes of this thesis, be reformulated in a more restricted manner as the second postulate:

$$ii) P = f(R_{1-n} \times I)$$

where Personality (P) is seen as a function of Roles ( $R_{1-n}$ ) held by the individual and their Integration (I).

Integration of roles may well be dependent upon a number of psychological variables only implicitly related to the concerns of this thesis. However, one relevant psychological variable which must be considered is the value system of the individual which provides a basis on which roles may be ranked in order of priority, commitment or, to use Goffman's term, engrossment. The importance of the value system of the individual lies therefore in its effect on the varying degrees of commitment brought to participation in social groups. If the role through which the individual is linked to a particular group is accorded low priority in his scale of values, then the higher ranking roles may well influence his behaviour within the group. Changes in such a hierarchy of engrossment and their influence on role performance can be illustrated by the impact of the assumption of the new role of "religious convert" which allocates all previously held roles to subordinate status and intrudes on the performance of those roles in their appropriate contexts. This factor is of considerable importance for both individual and group as will be shown subsequently during the discussion of interactive effects between levels.

The third postulate at the individual level of analysis relates Role (R) to Personality (P) and Situation (S):

$$\text{iii) } R = f(P \times S)$$

where Role (R) is a function of the Personality (P) of the the individual and his Social location in a particular social system (S). Any single role is seen here to be a function of personality, which is defined by postulate (ii) as the individual's collection of Roles ( $R_{1-n}$ ) and their Integration (I), and the particular position held within a particular Social setting (S). Thus from postulates (ii) and (iii) postulate four is derived:

$$\text{iv) } R = f((R_{1-n} \times I) \times S)$$

Changes in any particular Role (R) may occur because of changes in the internal condition of the individual ( $R_{1-n} \times I$ ) due to alterations in either the Role Collection ( $R_{1-n}$ ) or the Integrative schema (I), or because of alterations in the individual's Social position (S). Where each of these elements is stable little or no change may occur in the particular Role (R). Conversely, where there are changes in any or all of these elements they will be associated with changes in particular Roles (R).

In this respect the particular role "teacher" held by an individual may be influenced by i) the assumption of a new role (mother), ii) alterations in personality integration arising from conflicts between teacher and mother roles, or iii) the alteration of the social position of the individual due to reorganisation of the school along say, open plan, lines.

Postulate four proposes a dynamic, interrelated system where any particular role is the result of effects of both internal and external factors.

That these anticipations affect individual behaviour is stated by the postulate of Getzels & Guba referred to in Chapter Three (p. 43) that Behaviour (B) is a function of the Interaction of Personality (P) with Role (R). This postulate is introduced as postulate five:

$$v) B = f(P \times R)$$

If this postulate is combined with postulate (iv) then the Behaviour of the individual (B) is seen as a function of the individual's Role collection ( $R_{1-n}$ ), its Integration within the personality system (I) and the Social position of the individual (S), hence the sixth postulate:

$$vi) B = f(R_{1-n} \times I \times S)$$

Following this postulate the behaviour of the teacher referred to above is a function of her ability to integrate her Role collection ( $R_{1-n}$ ) and her altered Social position (S). On the one hand, she may solve the problems of integration through adjustments of her anticipations for her own and others' behaviour. In this case she will probably maintain both roles in a modified form. On the other hand, she may be unable to adjust to the coincidence of changes in her role collection and her social position. As a result of the presumed incompatibility of her roles she may relinquish her position as teacher, thus eliminating the need to behave according to her (incompatible) anticipations for herself as teacher and mother.

It will be noted that the determinants of the individual's Role (R) presented in postulate (iv) are identical with the determinants of the individual's Behaviour (B) presented in postulate (vi). This appears to contradict the position adopted in Chapter Three where it was argued that role cannot simply be equated with behaviour on the logical grounds that such equation involves the confusion of two referents. What is being argued here however, is not that role and behaviour are to be equated but that they are determined by the same combinations and inter-

actions of elements and that there is a logical and psychological relationship between the anticipation an individual holds for his own behaviour (R) and the actual behaviour (B). Dislocation of this relationship between anticipated and actual behaviour may in many cases be a psychological issue and thus outside the scope of this thesis. Nevertheless, it is suggested that apparent discontinuities of this kind may also result from social conditions such as: i) initial ambiguity of the Social position (S) of the individual, or ii) problems of Integration (I) of a particular Role (R) with the previously acquired role collection of the individual ( $R_{1-n}$ ). Thus while Role (R) and Behaviour (B) are not to be equated as explanatory concepts or referents, their determinants may well be identical and except in ambiguous or pathological situations they may well have a direct relationship.

#### Levels of Analysis: Group

If at the individual level of analysis it is the interaction of role with personality which is of consequence then at the group level it is the nature and organisation of roles which can be taken as determinants of group character. Groups are composed of individuals. The contributions made by individuals to the group are therefore a major constituent of group character. Any individual will bring to the group a variety of roles, i.e. situationally related anticipations of behaviour. Moreover particular roles will be associated by particular individuals with particular social positions. Thus each individual will bring to the interaction within the group anticipations for his own behaviour and for the behaviour of other individuals defined by their occupancy of particular social positions. Two elements are therefore constitutive of the interactive process in groups: i) the range and nature of roles contributed by the individuals involved, and ii) the structural processes by which the roles are integrated. The first of these may be labelled Role Composition (C) and the second Integration (I).

Role Composition (C) is a result of two further components: i) the range of Roles contributed by individuals ( $R_{1-m}$ ), and ii) the Social positions within the group to which these roles relate ( $S_{1-n}$ ). Given that any individual has within his own role collection ( $R_{1-n}$ ) a greater range of roles than can be brought directly to bear on any particular situation, the selection of a sub-set of relevant roles from the total set is a function of the Social position (S) at which the individual is

located at a particular point in time. Thus the role Composition (C) of any group is a function of the total collection of roles contributed by individual members ( $R_{1-m}$ ) according to the social positions available in the group ( $S_{1-n}$ ). On the basis the first group level postulate is:

$$\text{vii) } C = f(R_{1-m} \times S_{1-n})$$

In practice the role Composition (C) of a school, for instance, would be constituted by the total set of roles ( $R_{1-m}$ ) brought by school members to the school situation as a result of the positions existing within the school structure ( $S_{1-n}$ ), i.e. pupils' roles for pupils, teachers, headteacher, caretaker etc., plus teachers' roles for teachers, pupils, headmaster, caretaker etc. and so on for each position.

Group Integration (I) is argued to be a function of the dimensions of social order set out in Chapter Two: values, power and exchange. Values (V) are defined as the hierarchy of priorities governing behaviour within the group. Though values can only be held by individuals, their expression within the group is influenced by the interaction of the value systems of members of the group. One significant dimension of the group which influences the emergence of a group value schema is therefore the relative consistency of the value systems of the individuals comprising the group. This consistency, while dependent on the characteristics of individuals, is a property of the group and is a structural and social characteristic. The degree of consistency of values is therefore an emergent property which may be employed in the characterisation of groups.

Several possibilities are open here: i) there may be consistency of members' values within and between positions, ii) there may be consistency within but inconsistency between positions, iii) there may be inconsistency within positions which involves some consistency between positions, and iv) there may be inconsistency both within and between positions.

As far as the hypothetical school is concerned these alternatives may be represented by four conditions:

- i) agreement among and between pupils, teachers and administrators on the value of intellectual excellence,
- ii) agreement among pupils on hedonistic values, among teachers on intellectual values and among administrators on pragmatic values but disagreement between positions,
- iii) inconsistency between pupils, some of whom support hedonistic, some intellectual and some pragmatic values, a situation paralleled among teachers and administrators so that some of the members of

each position agree with some of the members from each other position though not with all members of their own, and

iv) the extreme (and unlikely) possibility where the disagreements among pupils, among teachers and among administrators occur on quite independent dimensions within positions and none of the values are held in common between any individuals in differing positions.

It was argued in Chapter Two that the second and third components of social structure were those of power and exchange. These two components are not, however, mutually exclusive. For instance, exchange is to some degree dependent on the ability of individuals to gratify each other. Thus an element of power is involved in exchange relationships. In order to clarify the components of the model, a distinction will be made between power based on the formal exercise of authority derived from the official positional structure of the group and power based on the unofficial centrality of individuals within the group. The former will be designated Authority (A) and the latter Exchange (E).

Authority (A) is defined therefore, as power legitimated by the official order of positions within the group. Where positional differentiation exists within groups, the differentiation is invariably associated with prescriptions governing the authority relations between members. Authority may subsequently be distributed relatively evenly throughout the group or concentrated in relatively few positions. Authority is thus implicit in the structure of groups though the active exercise of authority is clearly possible only through individual action.

Exchange (E) is defined as power derived from the unofficial or non-legitimated order of positions within the group. This depends upon the centrality of individuals within the informal network of group contacts: the sociometric structure of the group. Such contacts may be widely spread throughout the group in which case exchange is diffuse, or they can, as with authority structures, be concentrated on relatively few individuals, in which case exchange is limited. Exchange is the third factor of the structural differentiation of groups.

Differences between authority and exchange structures may be clarified by reference to the hypothetical world of the school. The formal positional structure of most schools invests the headmaster with the greatest authority, heads of department ranking next, followed by teachers, senior pupils and junior pupils. Such ancillary personnel as

secretaries, caretakers, and groundsmen having very limited formal authority. However, because of the centrality of ancillary staff in the network of information and contacts in the school, their unofficial ability to deny gratification of the interests of teachers can make them dominant figures in the exchange structure of the school. Similarly teachers who are central figures in the sociometric structure of the school may have more influence than the headmaster in determining reaction to political decisions within the school.

Schools might also be considered to vary on each of these dimensions with authority in some schools vested almost solely in the headmaster (in the traditional British public school for instance) while other schools have a formal authority structure which includes nearly all members as equals (Summerhill for instance). Similarly, exchange might well be concentrated in the hands of relatively few permanent staff or pupils in a school where the majority of the staff and pupils were transitory, but widely spread in a small informal school where most occurrences and traditions are common knowledge within the school.

It may well be that the Value (V), Authority (A) and Exchange (E) structures of the group coincide or that they vary quite independently of each other. That is an empirical question. The important point however, is that these three dimensions of the Integration (I) of groups may be used as the basis for a profile of group structure. Thus the second group level postulate:

$$\text{viii) } I = f(V \times A \times E)$$

where Integration (I) is a function of the interaction of Value (V), Authority (A) and Exchange (E) structures of the group.

Group Character (G) was earlier argued to be a function of the interaction of group Composition (C) with group Integration structures (I). The third group level postulate relates these elements:

$$\text{ix) } G = f(C \times I)$$

and by substitution of postulates (vii) and (viii) which refer respectively to the constitution of (C) and (I) the tenth postulate is formulated:

$$\text{x) } G = f(R_{1-m} \times S_{1-n} \times V \times A \times E)$$

where Group character (G) is a function of the interactions between the total set of Roles contributed by all members of the group ( $R_{1-m}$ ) with the range of Social positions in the group ( $S_{1-n}$ ) and the Values (V), Authority (A) and Exchange (E) structures of the group.

Such a postulate incorporates elements formulated exclusively at

the group level in order to account for the characteristics of groups, thus separating out for the purposes of analysis, group from individual elements.

#### Interactions: Contextual

Contextual analysis is concerned, not with the relationship of variables within a particular level of analysis but with the effects of one level on another. It is concerned with the influence of group structure on the individuals comprising the group. The theoretical problem is therefore, that of relating behaviour explained at the individual level of analysis to the characteristics outlined at another, group, level. It thus demands the relating of two postulates, one specifying relationships between elements at the individual level and one specifying relationships between elements at the group level.

The determinants of individual role were summarised in the fourth postulate as

$$R = f(R_{1-n} \times I \times S)$$

while the determinants of group character were summarised in the tenth postulate:

$$G = f(R_{1-m} \times S_{1-n} \times V \times A \times E)$$

With a slight rearrangement certain similarities can be seen between the two postulates:

$$R = f(R_{1-n} \times S \quad \times I)$$

$$G = f(R_{1-m} \times S_{1-n} \times V \times A \times E)$$

For instance, when viewed vertically there is an apparent correspondance between the Role (R) components, Social positional components (S) and Integrative (I) and Value (V) components at individual and group levels. Given the emergent character of group level properties this is not simply coincidental. However, the question central to contextual analysis is that concerning the effects of groups on individuals. Thus the interactions looked for in this type of analysis are unidirectional - from group to individual. Three such interactive effects are proposed:

- i) that the interactions among the total set of Roles within any group ( $R_{1-m}$ ) will modify the sub-set of roles contributed by the individual and through such modification alter the structure of the particular Role collection ( $R_{1-n}$ ) integrated within the individual's personality.
- ii) that the positional Structure of the group ( $S_{1-n}$ ) will affect

the individual's behaviour as it structures the interaction of the individual with members playing other roles and thus influences the modification of the individual's Role collection ( $R_{1-n}$ ).

- iii) that the Value structure of the group (V) will affect the individual through its consonance or dissonance with the individual's Integrative schema.

Such interactive effects can be represented as follows:

$$\begin{array}{c} \text{xi) } R = f(R_{1-n} \times S \times I) \\ \quad \quad \quad \uparrow \quad \quad \uparrow \quad \quad \uparrow \\ G = f(R_{1-m} \times S_{1-n} \times V \times A \times E) \end{array}$$

These particular interactions are represented as direct effects of group characteristics on individuals. Indirect effects may also occur as when, for instance, the group value structure (V) impinges on the individual's integrative schema (I) in such a way as to bring about changes in priorities among the individual's role collection ( $R_{1-n}$ ). For the purposes of this thesis however, only the direct effects of groups on individuals will be considered.

#### Interactions: Structural

Structural analysis is concerned with the explanation of group characteristics on the basis, not of the compositional and integrative structures of the group alone, but on the basis of the influence of individuals' behaviour within them. Thus the concern of structural analysis is focussed on the effects of individuals on groups. The problem of structural analysis, as with the problem of contextual analysis, is that of relating characteristics identified at one level of analysis (Individual) to the characteristics present at another (Group).

The same basic parallel between postulates at individual and group level is retained:

$$\begin{array}{l} R = f(R_{1-n} \times S \times I) \\ G = f(R_{1-m} \times S_{1-n} \times V \times A \times E) \end{array}$$

However, in the case of structural analysis two alternative interactive effects are proposed:

- i) that the relevant Roles (a sub-set of  $R_{1-n}$ ) selected by the individual on the basis of his Social location in the group (S) will influence the composition of Roles within the group ( $R_{1-m}$ )

- ii) that the value schema of the individual represented in the Integrative component of personality (I) will affect the Value structure of the group (V).

These interactions can be represented as follows:

$$\begin{array}{c} \text{xii) } R = f(R_{1-n} \times S \times I) \\ \quad \quad \quad \downarrow \quad \quad \downarrow \quad \quad \downarrow \\ G = f(R_{1-m} \times S_{1-n} \times V \times A \times E) \end{array}$$

Thus the group is argued to be affected by i) the Role collection ( $R_{1-n}$ ) the individual brings to the group on the basis of his position, and ii) by the unique Integration of those roles within the individual's personality (I), including the priorities accorded various roles by the integrative schema of the individual which thus influences directly and indirectly the Value system (V) of the group. Hence another set of interactions is proposed which adds yet another source of dynamic change to the characteristics of the group.

#### Interactions: Composite

The overall model of relations within and between levels of analysis so far presented is derived from the amalgamation of the previously outlined postulates and represents the totality of interactions between individual and group variables considered in this thesis. The model is again represented diagrammatically:

$$\begin{array}{c} \text{xiii) } R = f(R_{1-n} \times S \times I) \\ \quad \quad \quad \updownarrow \quad \quad \updownarrow \quad \quad \updownarrow \\ G = f(R_{1-m} \times S_{1-n} \times V \times A \times E) \end{array}$$

Here, a particular Role at the individual level (R) is a function of the collection of Roles held by an individual ( $R_{1-n}$ ), the Social position of the individual (S) and the Integrative schema of the individual (I). Three variables originating at the group level of analysis have direct effects: i) the collection of Roles constituting the group ( $R_{1-m}$ ), ii) the positional differentiation of the group ( $S_{1-n}$ ) and the Value structure (V) of the group.

The characteristics of Groups (G) are a function of i) the collection of Roles originating in the Individuals comprising the Group ( $R_{1-m}$ ), ii) the positional structure of the Group ( $S_{1-n}$ ), and iii) the Value (V), Authority (A) and Exchange (E) structure of the Group. Two variables originating at the individual level directly influence two elements at the group level: i) Role structure, where the Roles contributed by each

Individual ( $R_{1-n}$ ) collectively comprise and therefore influence the Role structure of the group ( $R_{1-m}$ ), and ii) Value structure (V), where the value schema of the individual incorporated in his Integrative schema (I) has a direct effect via interaction on the nature of the Value structure (V) of the group.

Clearly the effects within and between levels are complex and the roles held by individuals and the characteristics of groups are likely to be constantly changing because of the interactive effects of the various components. At the same time, elements of stability are represented by the interactive structures operating at both individual and group levels. Thus the model represents a system whereby the individual components can be clarified and relationships within and between levels specified in theoretical terms.

#### Model and Application

This chapter has presented a theoretical model based on the isolation and definition of salient variables at both individual and group levels and a discussion of their possible interactions within and between levels. Reference has been made throughout to the dynamic nature of these interactions and the way in which change in one variable may affect not only contiguous variables at the same level of analysis but also variables at another level. The model presented therefore implies that changes at any point in the system may effect changes at other directly and indirectly related points. Moreover, it also implies that the conditions of individual and group are invariably ones of change and alteration rather than stasis.

The precise nature of the changes occurring cannot, however, be specified within the theoretical model as they depend on the empirical characteristics of the components. The application of the model depends therefore on the specification of the nature of these components as variables in a concrete situation. Indeed a number of differing alternatives are possible within the framework of the theoretical model which permits all of the conditions argued in Chapter One and

allows equal weight in principle, or any proportion of weights, to individuals or the social facts, in governing the course of individual life in a group or society.

(Chapter I, p. 18)

The utility of the model must therefore be tested by its ability to provide an interpretive framework for the explanation of alterations

in the conditions of individuals and groups, and the function of roles in such changes as occur.

What has been presented in the current chapter is a theoretical framework which isolates the major components on which attention might most usefully be focussed, sets them in relationship to each other within each level of analysis and suggests the types of interaction which might occur between levels. Role has been presented as an integral part of a series of complex relationships between individuals and social structures, rather than as an isolated element of a deterministic theory of social action. What the theoretical model provides is an abstract framework which encourages a particular perspective and approach to the explanation of behaviours. This reformulation of role theory is the major task of this thesis.

The acceptability of the theory presented above is dependent primarily on its ability in resolving the contradictions and incompatibilities contained in previous formulations of role theory which were discussed in previous chapters. This must be the major criterion against which any theoretical model is judged for, as Nuthall and Snook have noted:

"A feature of a major scientific model is that its assumptions are not subject to test within the discipline or area in which the model functions. The model suggests hypotheses and the way in which data should be collected to test these hypotheses. The research, then, does not verify the model; it verifies statements derived from the model."

(Nuthall & Snook, 1973: 70)

If scientific models are in themselves not subject to direct testing then the major criterion by which any model should be judged is its utility as an interpretive framework for the explanation of particular processes. Nuthall & Snook appear, however, to regard a 'scientific model' as the equivalent of what is described in this thesis as a theoretical paradigm. For instance, they insist that 'a model (sic) is, after all, an interpretive framework' (1973: 72), and that a model can be seen as 'a general and influential point of view with certain significant functions in guiding and structuring research' (1973: 48). The position taken in this thesis is that a distinction must be made between a theory and a model. Following Abel (1971) it is argued that there is a crucial and 'elementary distinction ... between (i) theoretical concepts, and (ii) observational concepts where observational concepts are 'given' in immediate sense experience, but theoretical concepts are not' (Abel, 1971: 27).

This crucial distinction insists on the separation of interpretive frameworks from empirical models, for interpretive frameworks (or theories)

are essentially systems of interrelated assumptions, while empirical models attempt the translation of these assumptions into sets of related propositions concerning observable phenomena. Consequently, theoretical paradigms may be translated into empirical models applicable to widely differing conditions and settings. While the relationships between the components of the models may well vary with the nature of the settings being observed, the assumptions built into the theory which informs the empirical model may well remain unaltered. If however, the data derived from the empirical model produce evidence that challenges the consistency of the theoretical assumptions which inform the empirical model itself, then the theory must come under scrutiny. It has been the contention of earlier chapters of this thesis that empirical evidence has accumulated which challenges the consistency of assumptions made in certain statements of role theory. The theoretical framework presented in this chapter is an attempt at the reorganisation of assumptions into a more consistent and acceptable interpretive framework.

However, a second evaluative criterion besides that of consistency may also be invoked, that of the ability of the theory to guide the development of empirical models devoted to the collection and organisation of data which might appropriately and parsimoniously be used to verify hypotheses which form their structure. This second criterion demands the linking of the abstract theory to the variety of concrete situations where data might be collected. In the present case the theory identifies a number of concepts and relates them in abstract form within and between levels of explanation. Any empirical model derived from this theory must therefore conform to the assumptions and structure of the theory. This is not to say that additional assumptions may not need to be made in order to take account of the complex nature of an empirical setting. Clearly such additional assumptions are invariably required, as any theory is in essence a simplification of elements and relationships which allows discrimination between central and peripheral issues in the interpretation of the real world. Such additional assumptions are likely to be required at at least three points in the development of the empirical model.

Firstly, each of the elements of the theory must be translated into the operational definitions of the research model. In this respect the operational definition of role, for instance, must not only be consistent with the stated theoretical definition of role, but must also be consistent with the typical understandings held by members of the research setting.

Such a requirement may involve a preliminary investigation into the 'definitions of the situation' held by members of a similar research setting or a content analysis of the statements about role implicit in the literature related to that setting.

Secondly, techniques of measurement must be devised which accurately reflect the operational definitions adopted. These may consist of observational schedules, questionnaires, structured interviews or rating techniques which are interpretable in quantitative or qualitative terms. In this respect the issues raised in Chapter Two with regard to the stability or changeability of role and personality characteristics are particularly relevant. Here the theoretical paradigm suggests that, contrary to the assumptions of some alternative theories, neither personality nor role definition are particularly stable features of real life situations. This particular assumption presents special problems with regard to the construction of instruments.

Thirdly, the relationships suggested by the theory must be translated into directional form which takes account of the particular characteristics of the research setting. A basic premise of this thesis is that the influence of various components will vary markedly between social settings according to their characteristic structure and the nature of the individuals involved. The particular direction of the relationship between components may also vary from setting to setting. This possibility suggests the eventual establishment of a typology of social situations based on the classification of differences in the weightings and effects of particular components. However, for the present thesis it is sufficient to demonstrate that the theory is capable of generating and guiding the analysis of a particular social system.

Chapter Five is directed, therefore, to the description of a selected social setting; the operational definition of the variables proposed in general form by the theory; the problems of measurement of these variables; the development of empirical hypotheses which translate the general propositions of the theory into specific directional relationships, and the development of appropriate techniques of data collection and analysis.

## Chapter Five

### Setting, Methodology and Analysis

This chapter is concerned with the operationalisation of the theoretical model presented in Chapter 4. As such it deals with:

- (i) The selection and description of the research setting,
- (ii) The operational definition of the variables proposed in the theoretical model,
- (iii) The selection, construction and validation of measures of these variables,
- (iv) The formulation of setting related hypotheses within the framework of the theoretical model, and
- (v) The techniques of data collection and analysis employed.

#### Research Setting

The theoretical model proposed in Chapter 4 outlines relationships between personality, roles and their integration at the individual level of analysis; role composition and social structures at the group level of analysis, and various interactions between levels. Clearly the research setting should facilitate study of as many of these elements as possible, while limiting the effects of extraneous factors. Since the social processes represented by the model are complex, it may well be difficult to meet this criterion. Two alternatives appear likely to offer the best hope of success. Either the construction of experimental groups where controls over extraneous variables may be established, or, alternatively, a naturalistic setting may be selected where extraneous factors are already limited.

In the last resort, choice between these alternatives is a matter of judgement. However, certain guidelines can be established to assist such judgement. For example, if the experimental situation excludes a large proportion of "normal" behaviour, or imposes abnormally severe constraints on subjects, it is likely to reduce the validity of the analysis. At the same time, if a complex naturalistic setting is chosen which includes a large number of uncontrolled factors, then the resulting intrusion of factors extraneous to the research model employed, may also confound the analysis.

The model proposed in this thesis implies the need for individual

and group measures over time in order to detect changes in individual and group conditions. The research setting must therefore be one in which extraneous variables are relatively stable, at least as far as individual influences and the general social context are concerned. The establishment of such conditions will allow the attribution of maximum amounts of variance to those factors included in the theoretical model.

The need for a longitudinal approach all but excludes the use of controlled experimental techniques, as the attempt to maintain controls over individuals and groups for prolonged periods may (i) be resented by the subjects, (ii) introduce significant confounding variables due to the experimental conditions themselves, and (iii) prevent any extrapolation of findings to non-experimental situations. Hence for the purposes of this research, a naturalistic setting appears most appropriate, provided it is one where the effects of extraneous variables can be minimised.

Given the emphasis of the model on alterations in personality and role definition as a result of their interaction and the effect of group and contextual variables, the most appropriate type of naturalistic setting is one associated with the process of deliberate socialisation. This approach can be justified in that the purpose of such contexts, accepted by the socialisers and the initiates alike, is the alteration of behaviour in response to planned programmes of activity. Under such conditions alterations in personality and role might well be maximised.

In order to further emphasise such alterations in personality and role, two further conditions are necessary: (i) the socialisation programme should be long enough to allow the detection of substantial rather than simply superficial or transitory changes, and (ii) the programme should be short enough to allow a fairly complete longitudinal examination.

In order to minimise the effects of extraneous variables it was decided to select socialisation programmes demanding as complete involvement as possible. Institutional, preferably residential programmes, were identified as most likely to meet this requirement. At the same time however, it was necessary to maximise the amounts of variance potentially attributable to individual differences. This involved the identification of socialisation programmes which recruited a relatively heterogeneous range of individuals as potential members of the institution.

Two socialisation programmes appeared to meet these requirements,

and yet be sufficiently typical to allow confidence that the study would reach representative and reproducible conclusions: (i) teacher training programmes, and (ii) nurse training programmes.

The teacher training programme proved, on examination, to involve a number of complicating factors which were difficult to overcome with the resources available. For instance, the training was conducted in a wide variety of contexts within the College, in schools of widely different character, and in various allied but distinct institutions such as the university. Further, though the size of cohorts was sufficiently large to allow for confidence in the application of statistical analysis, the organisation of groups within cohorts involves a constant process of reconstitution, few groups being readily identifiable for any length of time. Such instability was likely to confound the separation and measurement of structural and group effects.

The nurse training programme, while involving substantially smaller cohorts, was conducted within a single institution; all members of particular cohorts were subject to similar longitudinally organised experiences; the number of differential contexts to which they were exposed as part of their training was limited; transfer between cohorts and between groups within cohorts was minimal; variation within cohorts was initially considerable and, finally, many first year nurses were living in a controlled hostel environment which standardised a number of extraneous variables.

As a consequence of these characteristics the socialisation programme for nurses within the hospital context appeared to provide conditions quite close to those required by the theoretical model. Consequently requests for research facilities were made to the controlling authorities of two medium sized provincial hospitals. Two hospitals were required as it was necessary to run pilot tests of the instruments in one hospital in order to validate and standardise the measurement techniques employed in the main study. Both hospital authorities readily agreed to make research facilities available.

Each hospital had an initial intake of some fifty student nurses during January followed by another intake of approximately the same size during March or April. The programme for the first year nurses consisted of an initial three-month period in the tutorial school, with increasing experience of wards during that period. The rest of the first year programme consisted of block periods of three to six weeks' experience

in hospital wards, alternating with three to six week periods in tutorial school. Ward practice took place in groups of four to six nurses while all tutorial school work was conducted with complete cohorts. Ward experience was limited in the first year to medical, surgical and maternity wards with no experience of specialist units.

The student nurses were therefore being socialised into a particular position through a programme designed for that purpose. Their socialisation was a group process in which they were subject to collective experiences within the tutorial school and to a differentiated though limited, range of experience in the wards. Given the variability of the intakes, the experiences undergone during this socialisation process, might well be expected to have differential effects in regard to both individual and group characteristics, thus producing differential interactive effects between components of the model. For these reasons conditions within the nurse training programme were considered appropriate for the testing of the theoretical model.

#### Variable Definition

The definition of variables demands elaboration of the dimensions on which the components of the theoretical model may vary. It has been argued previously that this is possible only with reference to concrete situations. The research setting for this thesis has now been defined and attention may be directed to the translation of the theoretical model components into variables

#### Individual Level Variables

At the individual level of analysis three basic components are essential to the theoretical model: (i) social position, (ii) role and (iii) personality.

*Social Position.* Student nurses are preparing for registration. It might well be thought therefore that the social position into which student nurses are being socialised is the position nurse, more specifically that of registered nurse. The "position" registered nurse is, however, highly generalised or even hypothetical for strictly speaking there is no position "registered nurse" in the hospital social structure. Registration is a prerequisite for entry into positions such as staff nurse, staff sister, ward sister or tutorial sister. The category registered nurse is therefore not a positional referent. The positions which are associated with registration are more specifically related to

the organisational structure of the hospital and are sub-divisions of the general category.

The positions of student nurses involved in the hospital socialisation programme must therefore be defined in terms of their structural relationships with other members of the organisation, not simply in relation to the general category "registered nurse". Two positions are occupied by student nurses during the first year of their training; (i) the position of student nurse in the tutorial school, and (ii) the position of first year nurse in the ward. The first position, that within the tutorial school, is a position experienced collectively and simultaneously by all members of a particular cohort. The second position, that of first year nurse in the ward, is not however, a collectively shared position in that the cohort is broken up into groups of four to six nurses and is subject to different experiences within different wards. The positional variability of student nurses can therefore be considered as differentiated into the following discrete categories:

- (i) student nurse: an undifferentiated position with the tutorial school,
- (ii) first year nurse: a position differentiated further by type of ward:
  - (a) Medical
  - (b) Surgical
  - (c) Maternity

The variable of position is therefore discrete with two main categories, the second major category being subdivided into three further categories.

*Role.* Role is the second component of the theoretical model to be considered at the individual level of analysis. Role, as defined in this thesis, is an anticipation of behaviour held for occupants of particular social positions. The central position for which anticipations are held in this case is that of "nurse". Though nurses are qualified for work in a variety of settings, it is clear that "the present role (of the nurse) is enacted almost entirely within the hospital" (White, 1972:9). As a result behaviour in other settings will be excluded from this analysis. The role of the nurse must therefore be dimensionalised with respect to anticipations for behaviour in hospitals.

That hospitals are organisations is hardly in doubt. One source of the dimensionalisation of nursing role might therefore be found in the

literature on hospitals as organisations. This literature, in keeping with much sociological literature, describes organisations as concerned with (i) bureaucratic, (ii) professional, and (iii) service activities.

The bureaucratic/professional dichotomy is well established in organisational literature originating in the debate over Weber's analysis of bureaucracy (Weber, 1947), and subsequently emphasised in the critiques of Parsons (1947) and Gouldner (1954). Its relevance to the hospital is indicated, for instance, by the discussions of Smith (1958) and Friedson (1970). The service oriented basis of activities within the hospital is argued as a third dimension by, for example, Halmos (1970) and Lefton (1970) in their discussions of the growth of client or personal service institutions in complex societies. There would appear therefore, to be a basis in the organisational literature for dimensionalising role in the hospital setting according to the three major orientations of its personnel: bureaucratic, professional and service.

A similar threefold typology is also found in the literature on nursing. Currently the pursuit of professional status within nursing centres around the problem of translating the initial vocational motivation for entry into nursing into a series of professional norms. Three distinct emphases are advocated in the nursing literature which correspond to the typology outlined above. These emphases are on: (i) bureaucratic or managerial techniques, (ii) professional or paramedical techniques, and (iii) client oriented service or therapeutic techniques.

The bureaucratic or managerial emphasis is described by, for example, Alexander (1972), Leininger (1971) and Thorner (1955) and summarised by Mauksch (1966), who suggests that the:

"prevailing pattern of hospital based education prepares the ground for strong identification with the institution and its bureaucratic process."

(Mauksch, 1966: 144)

This position is further supported by Phillips (1970) who argues that:

"the increasing complexity of hospital organisation and acceleration of medical care technology require that nurses be educated in management techniques."

(Phillips, 1970: 94)

The professional or paramedical emphasis is a more recent phenomenon in nursing education as noted by Olesen & Whittaker (1968). Their position is supported in the literature, for example by Fritz & Murphy (1966), Kron (1971), and by Little & Carnevali (1969) who argue that the nurse is expected increasingly to:

- "(1) Assess individual reactions to disease and to therapy... (and)  
 (2) on this basis prescribe and give or direct nursing care."

(Little & Carnevali, 1969: 25)

White (1972) moreover, suggests that as "techniques formerly performed by doctors are delegated to nurses... the development of a clinical nurse specialist would seem to be a necessary consequence."

The service orientation arises from growth and impact of social and behavioural sciences on nursing as indicated by, for instance, the work of Gregg (1955), Henderson (1958), Johnson & Martin (1958), Orlando (1972) and Skipper, who argues that:

"The nurse functions not so much to cure the patient as to maintain the necessary motivational balance while the patient is undergoing the technical process designed to return him to health."

(Skipper, 1962: 43)

Similarly Godfrey argues that:

"The role of the nurse is to establish a therapeutic environment which includes not only the creation of physical comfort, but also such activities as explaining, reassuring, understanding, supporting, and accepting the patient. These actions symbolise direct gratification to the patient which assists in maintaining his emotional equilibrium."

(Godfrey, 1971)

The threefold typology based on bureaucratic/management, professional/medical and client/service orientations can be seen therefore, to derive support from both sociological theories of organisations and the literature on nursing. Further support for this dimensionalisation is provided by the similar, though not identical typologies prepared by Corwin (1961) and Habenstein and Christ (1955).

Three continuous variables are therefore proposed as the dimensions along which nurse role definitions may be differentiated. These variables are constituted by relative emphases on the (i) bureaucratic/management, (ii) professional/medical, and (iii) client/service aspects of nursing.

*Personality.* Personality is the third individual level component of the theoretical model. The basic issues in the detection of differences between traits and types of personality have already been discussed in Chapter 2. The approaches described were based almost exclusively on factor analytic techniques and were basically atheoretical. When instruments based on such techniques have been applied to nurses, they have proved notably unsuccessful in determining those personality factors associated with success. Studies employing the M.M.P.I. report consistently little discrimination between, for instance, under and over achievers (Langheim,

1966); drop-outs and perseverers (Bernfeld, 1967); failures and successes (Thurston, 1965). Similarly, the Semantic Differential (Girona, 1969), 16 PF, and Strong Vocational Interest Blank (Johnston & Leonard, 1970) and Stern Activities Index (Mauksch, 1960) also failed to discriminate between successful and unsuccessful nurses. Summarising two decades of research into personality and success in nursing, Litwack, Sakata & Wykle (1972) report that:

"Studies to date have failed to prove the effectiveness of personality tests as measures of traits necessary for success in nursing."

(Litwack, Sakata & Wykle, 1972).

Such lack of discrimination may be indicative either of the inappropriateness of the instruments employed or, possibly, of the wide range of individual differences demanded by the variety of settings within which the nurse conducts herself.

The general focus of the research reported above has been that of predicting success in nursing. That is not the focus of the present investigation. The main problem under investigation here is the relation of person to social context and the mutual influence via the interaction of roles. Thus the major aspect of the person which is of consequence here is the degree of dependence or independence of the individual from the social context. A number of measures of personality are based on dichotomies of this kind. For instance, Eysenck's (1947) Introvert/Extravert dichotomy; Riesman's (1950) Inner/Other directed types; Schachtel's Allocentric/Autocentric comparison; Rokeach's (1960) Open and Closed Mindedness and Rotter's (1966) Internal/External locus of control, all emphasise the variation of individuals in their susceptibility to environmental influences. Some confidence might therefore be placed on a polarisation of personality based on what might be called an Inner/Other directed dichotomy.

Various humanistic psychologists (Maslow, 1954, 1962; Perls, 1969; Rogers, 1951) have suggested that there is a third character type located between the Inner and Other directed types, that of the self-actualised individual who is free from excesses of inner or outer compulsions.

Most humanistic psychologists have seen the inner, self-actualised and other directed individuals as located along a continuum approximating a normal curve. Others, Maslow (1962) in particular, see the self-actualised individual in terms of one who has, through a series of developmental and environmental exigencies, progressed through a hierarchy

of stages as differing needs have been satisfied. Yet a third group of theorists have suggested that inner direction, other direction and self-actualisation represent independent, orthogonal dimensions of personality (Collins et al, 1973).

For the purposes of this thesis the issue of single or multiple dimensions is, however, of minor importance. What is important is that support exists for the conceptualisation and measurement of personality as variable along inner directed, other directed lines.

The inner/other directed dimension may be taken as a highly generalised dimension of personality. However, in Chapter 4 it was argued that one of the important factors influencing individuals was the varying degree of commitment to particular roles. It was further argued that the differing degrees of commitment serve to rank roles in order of priority. In order to arrive at a specific measure of individual commitment to the role nurse, two further measures were therefore employed: (i) a measure of generalised job satisfaction, and (ii) a measure of relative satisfaction or deprivation.

Variables at the individual level are defined on the basis of the preceding discussion as follows:

- (i) Position consists of two primary categories, student and first year nurse, the second of which is further sub-divided according to location in medical, surgical or maternity wards.
- (ii) Role is measured by relative emphasis on three orientations: professional/medical, bureaucratic/managerial and client/service.
- (iii) Personality is differentiated along an inner/other directed continuum.
- (iv) Commitment is measured by direct job satisfaction and relative vocational satisfaction.

#### Group Level Variables

At the group level of analysis two further components are introduced into the theoretical model, group composition and group integration. Group composition is based on two further factors, group role collection and group positional structure.

*Group Role Collection* is a measure derived from the role definitions of members of the group. As all members of the population included in this analysis were nurses then the dimensionalisation of role discussed above is also appropriate as the source of role definition at the group level. What distinguishes group role collection is however, the range

and variety of roles existing within the group. Role collection can therefore be measured by the homogeneity or heterogeneity of roles existing within the group.

*Group Positional Structure* is defined by the range of positions available within the group. As the research sample is confined to first year nurses within the tutorial school there is no official positional differentiation. Positional structure is therefore in this case a controlled factor. Positional structure can, however, be compared on the basis of positional differentiation during ward experience, the sub-groups experiencing different wards being defined as discrete categories. Group positional structure is therefore defined as undifferentiated within the tutorial school but differentiated during ward experience according to placement in medical, surgical and maternity wards.

#### Group Integration

Group Integration is constituted by three further, subsidiary factors: values, authority and exchange structures.

*Values* are the group level equivalent of integration components at the individual level. As argued in Chapter 4, one of the important indexes of group character is the distribution of values within the group. Perhaps the most central value involved in the group value schema is the commitment of individuals to their group role. Though role engrossment is an individual characteristic, groups can also be characterised by the degree to which members of the group as a whole are committed to their roles. Group means are taken as indices of the role commitment of groups.

*Authority* was defined in Chapter 4 as the official power structure of the group. In this case however, the power structure within the student or first year nurse groups is formally undifferentiated. Although the group is subject to the authority of the hospital during training, such authority does not differentiate members of the group in terms of the formal influence and power they might have over each other. The variable authority is therefore undifferentiated within this research case and the theoretical propositions involving this variable are untestable.

*Exchange* was defined in Chapter 4 as a consequence of the unofficial location of the individuals in the power structure of the group. Contacts and choices between locations within the group may be

centralised or diffuse. Exchange is at the group level defined by the degree of interconnectedness of the unofficial contacts within the group.

Group level variables are therefore defined as follows:

- (i) Role collection is measured by the homogeneity of role definitions held by members of the group.
- (ii) Positional structure is categorised according to location within the tutorial school and as first year nurse within surgical, medical and maternity ward contexts.
- (iii) Value structure is measured by the varying degrees of role commitment shown by the group as a whole.
- (iv) Authority structure is undifferentiated and therefore not included in the analysis.
- (v) Exchange is measured by the degree of interconnectedness existing within the group.

#### Instrumentation

The variables included in the current investigation can be grouped basically into three categories, those concerned with: (i) personality, (ii) role, and (iii) social structure. Three instruments were therefore employed corresponding to these general groupings. The format of instruments is, of necessity, determined by the conditions under which the research is conducted. As the study reported here was longitudinal and conducted within the normal instructional programme of the hospital tutorial school, it was considered important to keep the demands for nurses' time to a strict minimum in order to intrude as little as possible into the curriculum and organisation of the tutorial school. It was therefore decided to employ questionnaire formats in order to simplify administration and data collection. Three questionnaires were employed corresponding with the three theoretical concerns. They were: (i) the Personal Orientation Inventory, (ii) the Massey Role Concept Inventory, and (iii) the Massey Role Attachment Survey.

#### Personal Orientation Inventory

The Personal Orientation Inventory (POI) was selected as the instrument most closely representative of the theoretical position outlined in Chapters 3 and 4 and the specification of personality outlined in this chapter. Designed on the basis of the theoretical propositions of humanistic psychology, especially those of Maslow (1954, 1962), it is claimed to provide "a comprehensive measure of values and behaviour seen

to be of importance in the development of self-actualisation" (Shostrom, 1966: 5). The major sub-scale of the questionnaire is the Inner directed, Other directed scale which is derived initially from Riesman (1950). The operational definition of the inner directed person is presented by Shostrom as follows:

"The inner directed person appears to have incorporated a psychic 'gyroscope' which is started with parental influence and later on is further influenced by other authority figures. The inner directed man goes through life apparently independent but still obeying this internal piloting. The source of direction for the individual is inner in the sense that he is guided by internal motivations rather than external influences. This source of direction becomes generalised as an inner core of principles and character traits."

(Shostrom, 1966: 17)

The other directed person on the other hand;

"appears to have been motivated to develop a radar system to receive signals from a far wider circle than just his parents. The primary control feeling seems to be fear or anxiety of the fluctuating voices of school authorities or the peer group. Approval by others becomes the highest goal, thus, all power is invested in the actual or imaginary approving group."

(Shostrom, 1966: 17)

Shostrom (1966) introduces into this dichotomy the third type of individual based on Maslow's (1954, 1962) concept of the self-actualising individual whose position;

"tends to lie between that of the extreme other and the extreme inner directed person. He tends to be less dependency or deficiency oriented than either the extreme inner or the extreme other directed person. He can be characterised as having more of an autonomous self supportive or being orientation. Whereas he is other directed in that he must to a degree be sensitive to people's approval, affection and goodwill, the source of his actions is essentially inner directed."

(Shostrom, 1966: 17)

Shostrom (1966) argues that the POI 'significantly discriminates between clinically judged self-actualised and non-self-actualised groups' and that 'there is a consistent difference between the self-actualised and non self-actualised group on this test' (Shostrom, 1966: 25). On the basis of these differences Shostrom argues that three major groups can be distinguished through the use of the POI. Individuals with scores below 82 on the Inner Directedness scale are classified as non self-actualised; those with scores above 92 are classified as self-actualised, and those with scores between 82 and 92 are regarded as being within the normal range. The classifications provided by Shostrom are employed in subsequent analyses.

Knapp (1971) reports a number of correlational studies between POI variables and other personality constructs and scales including the Eysenck Personality Inventory (Knapp, 1965), the Guilford-Zimmerman Temperament Survey and the 16 PF (Meredith, 1967), and the Edwards Personal Preference Survey (Grossack, Armstrong & Lussiev, 1966; LeMay & Damm, 1969). Such studies suggest that those scoring highly on the POI inner direction scale, are low on the Eysenck neuroticism scale (Knapp, 1965); relatively more assertive, happy-go-lucky, expedient, venturesome and self-assured on the 16PF (Meredith, 1967); more active ascendent, sociable, emotionally stable and objective on the Guildford-Zimmerman scale (Meredith, 1967); and high on the autonomy and heterosexuality scales and low on the abasement and order scales on the Edwards Personal Preference Survey (Grossack, Armstrong & Lussiev, 1966). Knapp concludes that such studies indicate the ability of the POI to discriminate between individuals on a basis consistent with other personality scales, though the POI measures somewhat different aspects of personality (Knapp, 1971). This contention is supported by the comparisons of the POI with other established personality measures conducted by Collins et al (1973).

Various factorial studies of the POI have been conducted which "in general appear to have added little to an understanding of the inventory or of the concept of self-actualisation" (Knapp, 1971: 11). Knapp argues that these attempts have been confounded by persistent methodological difficulties commonly found when submitting instruments such as the POI to factor analysis. These problems are based on: (i) the forced choice nature of such scales, and (ii) the inclusion of items in more than one sub-scale. The decision of the current study to employ only the main scale (Inner/Other Directedness) is supported by the analysis of Damm (1969) who argued that the predictability and discrimination of the POI was a function of the major Inner/Other Directedness scale rather than of the sub-scales which displayed rather high intercorrelations.

Test-retest reliability scores are reported by Klavetter & Mogar (1967) to range between .52 and .82 over a one week interval, while the values reported by Ilardi & May (1968) range from .32 to .74 over a fifty week interval, the main scales of Inner/Other direction displaying high stability co-efficients of .72 and .77 respectively.

Overall the selection of the POI is justified on the grounds of

theoretical appropriateness, consistent and selective intercorrelation with other established personality tests, and satisfactory test-retest reliability. It is also appropriate to note that the POI has been employed in a number of studies of nursing, those for instance by Green (1967); Gunter (1969); Ilardi & May (1968); Mealy & Peterson (1974) and Shimmin (1969). A copy of the POI questionnaire and scale items is found in Appendix A.

### Massey Role Concept Inventory

It was argued earlier that the nurses role could be dimensionalised three ways according to professional/medical, bureaucratic/management, and client/service emphases. The Massey Role Concept Inventory (MRCI) was developed on the basis of these distinctions specifically for this research, there being no appropriate standardised instrument available.

For the purpose of this study each of the three dimensions is seen as composed of sets of normative prescriptions (values) and behavioural outcomes (skills). On this basis it is possible to derive a matrix from which questionnaire items can be generated. These are presented in Fig. 5.1

Figure 5.1

Components	Dimensions		
	Professional Medical	Bureaucratic Management	Client Service
Values	1.1	1.2	1.3
Skills	2.1	2.2	2.3

From this matrix seven initial items were derived for each cell. One general, global item and two items for each of three defining characteristics as follows:

- 1.1.. Professional/Medical Values. Professional values centre round
- a) specialism of learning and expertise, b) charismatic or "attributed" authority, and c) collegial orientation. The items associated with these values were:
    - a) i) It is most important for nurses to treat patients on the basis of their specialised knowledge.
    - ii) Nurses must be able to support their decisions by referring to nursing theory.
  - b) i) It is most important that nurses' actions and decisions

communicate a sense of confidence.

- ii) The essential quality of the nurse is her competence.
- c) i) It is most important that nurses' behaviour conforms to professional standards.
- ii) The support and encouragement of professional activities is an essential concern of the nurse.

and the global item

- i) The nurse, above all, must be dedicated to nursing.

1.2. Bureaucratic/Management Values. Bureaucratic values typically centre around a) impartiality, b) efficiency, and c) subordination to authority. The items associated with these values were:

- a) i) It is most important for the nurse to treat patients without fear or favour.
- ii) Nurses must ensure that all patients with the same condition receive the same treatment.
- b) i) The essential quality of the nurse is that she is efficient in carrying out her duties.
- ii) The most important thing about a nurse is the enthusiasm with which she tackles her job.
- c) i) Nurses must protect everyone's interests by observing hospital rules.
- ii) Nurses must rely on the judgement of those in authority.

Global: The nurse must be loyal to the hospital she works in.

1.3. Client/Service Values. Service values are typically associated with a) the importance of individuality, b) interpersonal effectiveness and c) client centred orientation. The corresponding items were:

- a) i) Nurses must have complete respect for the uniqueness of the patient.
- ii) It is essential that nurses concern themselves with the needs of the individual patient.
- b) i) The most important qualities of the nurse are her warmth and concern.
- ii) Nurses need to use their whole personality to help patients.
- c) i) Nurses must put patients' needs before their own.
- ii) The nurse needs, above all, to be dedicated to the patient.

Global: The most important thing about a nurse is the help she

gives her patients.

- 2.1. Professional/Medical Skills. Professional skills derive from
- a) the application of a corpus of (often esoteric) knowledge,
  - b) the making of judgements rather than the following of rules, and
  - c) the exploitation of a specific and often exclusive technology.

The items associated with these characteristics were:

- a)
  - i) A nurse's most important attribute is her ability to apply medical knowledge.
  - ii) The detection of signs indicating changes in patients' conditions is the nurses' most important job.
- b)
  - i) Basically a nurse's skill depends on knowing what treatment a patient should receive.
  - ii) It is the most important characteristic of the nurse that she can make decisions in difficult situations.
- c)
  - i) The most important aspects of the nurse's job are the administration of medical and surgical care.
  - ii) Mastery of nursing techniques is the most important aspect of the nurse's job.

Global: The most important job for the nurse is the use of her medical skills.

- 2.2. Bureaucratic/Organisation Skills. The chief skills of the bureaucrat lie in a) the collection and classification of information, b) the application of rules, and c) the organisation of subsequent action. The related items were therefore:

- a)
  - i) The accurate recording of clinical data is the nurse's most important task.
  - ii) It is essential that the nurse prepares accurate clinical reports.
- b)
  - i) It is most important that nurses follow instructions precisely.
  - ii) Only by applying the rules can a nurse be truly effective.
- c)
  - i) It is of the greatest importance that the nurse knows when to initiate appropriate routines.
  - ii) The nurse's major responsibility is the carrying out of specific procedures.

Global: The most important job of the nurse is to maintain the organisation of the ward.

2.3. Client/Service Skills. Service skills stem from the problem of "humanising scientific knowledge" and have three main elements, a) psychological support, b) physical support, and c) information management. The corresponding items were:

- a) i) The most important aspect of nursing is that of meeting human needs.
- ii) Helping patients cope with hospital life is the basic task of the nurse.
- b) i) Nurses should devote themselves to anticipating and meeting patients' physical needs.
- ii) It is the essential work of the nurse to create an environment which will support the patient.
- c) i) Basically the nurse's job is one of explaining and reassuring.
- ii) The nurse's most important skill is knowing just how much to tell the patient.

Global: The most important job for the nurse is to care for the patient.

Initially both Likert-type and forced-choice formats were considered. Likert-type format was rejected after substantial difficulties arose in the presentation of negative forms of each item. Forced choice format where each item was paired against all others was rejected on the grounds of a) length and b) tedium. The format finally employed is a derivative of both the Likert-type rating scale and a forced choice ranking technique. This consisted of presenting the 21 items in the Skills area and the Values area in random order within separate scales. Following each item a Likert-type scale with a seven point range was presented. Respondants were asked to a) check 1 - 7 to indicate strength of agreement, and b) limit their use of each response number to three, i.e. use only three 7's, three 6's etc.

In early trials of the format with university and teachers college students, the anticipated problems of complexity, possible test fatigue, and length were found to be minimal, 95% of the questionnaire data being complete and codable. This was considered satisfactory.

The items employed in the questionnaire were derived from the explicit theoretical bases presented above and checked against a content analysis of current nursing literature in both textbook and journal form. They were then subjected to evaluation by three independent judges who



For each of the theoretical factors within a scale the loadings were without exception positive. All items loaded negatively with other scales. An inter-scale correlation procedure (Table 5.1) displayed the same tendency: similar theoretical scales correlated positively, dissimilar scales displayed negative or in three cases positive but negligible correlations. The low correlations between scales representing values and skills indicates the probability that the scales are tapping different universes. Statistically it appears that the sub-scales are both consistent within scales and discrete between scales.

Reliability was established via a test-retest procedure using 110 subjects drawn from a nursing tutorial school. Retest was after a two week interval. Scale reliabilities were between .40 and .70 which in Guilford's terms indicates a "moderate correlation and substantial relationship". There are three good reasons for accepting correlations at this level, a) the scales are essentially measuring attitudes, b) the forced choice format exaggerates discrepancy in scores, and c) the situation in which the test was employed is designed to alter both skills and attitudes. It was considered however, that a degree of reliability had been attained which supported the employment of the MRCI in exploratory research. A copy of the questionnaire is contained in Appendix C.

#### Massey Role Attachment Survey (MRAS)

The third instrument employed was the Massey Role Attachment Survey which includes three sections. The first seeks to identify the respondent by position in the hospital and by the most recent location in the various wards and departments of the hospital, and seeks information on the three nurses with whom the respondent is most familiar. This latter information is the basis for the sociometric measures of interconnectedness. The second and third sections of the MRAS are concerned with the measurement of role commitment or engrossment. They are respectively the job satisfaction scale and a comparing vocations inventory. The job satisfaction scale is derived from one devised specifically for nurses by Bullock (1954). This is a ten item scale. The first nine items require the respondent to respond to one of the alternatives ranging from strongly agree to strongly disagree; alternative responses are arbitrarily assigned values from one to five with the highest value assigned to the response indicating greatest satisfaction. The tenth item requires the respondent to indicate on a five point scale her estimation of satisfaction or dissatisfaction with the job. The total

job satisfaction score for each individual is derived by summing individual responses.

The Comparing Vocations Inventory (CVQ) derives from a schedule reported in Taves, Corwin & Haas (1963) which was devised in order to measure the favourable or unfavourable image held of nursing compared with other occupations. Respondents are asked to indicate whether they think nursing, teaching or secretarial work is best in terms of certain rewards. The twenty statements included here consist of items concerning financial rewards, variety and initiative in the work situation, prestige and respect, education, intelligence and skill levels, opportunity for contact with others, the implementation of religious beliefs, levels of authority and responsibility. The inventory is scored by summing the total of times nursing is preferred to other occupations. The MRAS is reproduced in Appendix D.

### Hypotheses

The theoretical model setting out the general relations between components was presented in Chapter 4 and the components subsequently presented as variables which were defined operationally in the previous sections of this chapter. It is now possible to relate these variables in a number of causal propositions. Following the pattern of the previous discussion, hypotheses are presented for each level of analysis in turn

and then for the structural and contextual interactions.

### Individual Level Hypotheses

The three variables of the individual level of analysis are those of personality, role and position. The hypotheses presented in this section relate personality with role, position with role, position with personality and, finally, personality and position with role. Role is regarded as the dependent variable in each case, being influenced respectively by personality, position and their interaction.

It was argued previously that the anticipations held for behaviour of incumbents of particular positions (role) were a function of previous experiences integrated within the personality and of the positional reference of the individual to other positions in a social structure. ( $R = f(P \times S)$ ) Three sets of hypotheses are developed on the basis of this argument. Firstly those relating role to personality ( $R = f(P)$ ). Secondly, those relating role to position ( $R = f(S)$ ). Thirdly those relating role to the interaction of personality with position ( $R = f(P \times S)$ ).

The specific hypotheses are formed on the basis of the differentiation of personality in the three types: Inner directed, Self-actualised and Other directed, the differentiation of role according to emphasis on Service, Bureaucratic or Professional definitions, and the differentiation of position firstly by Tutorial school and Ward situations, and secondly by ward types: Surgical, Medical and Maternity.

### Person and Role

On the basis of the preceding discussion it is suggested that the self-actualised individual, who is characterised by greater inner directedness, independence and self-support, is most likely to emphasise service role definitions where patient support and interpersonal effectiveness are paramount considerations. The non self-actualised individual, characterised by dependence and submissiveness is argued to be most likely to emphasise a bureaucratic definition of role where the execution of rules and subordination to authority are characteristic. The normal individual who lies between these two groups is argued to have a conventional definition of nursing as a medical/professional occupation where the professional role definition is most strongly emphasised. The following three hypotheses therefore relate Personality to Role.

Hy 1.1. The more self-actualised the individual the greater the emphasis on service role definition.

Hy 1.2. The less self-actualised the individual the greater the

emphasis on bureaucratic role definition.

- Hy 1.3. The more normal the individual the greater the emphasis on professional role definition.

### Position and Role

The influence of position on role definition must be considered in terms firstly of the differences of position between student nurse in the tutorial school and first year nurse in the ward, and secondly of differences between first year nurses in medical, surgical and maternity wards. With respect to differences between wards and tutorial school it is argued here that wards are closer than tutorial school to a complex hierarchical organisational structure and that they are therefore more likely to emphasise bureaucratic role definitions, hence:

- Hy 1.4. First year nurses within the Ward context will emphasise Bureaucratic role definitions more than nurses within the Tutorial school.

Further positional differentiation between medical, surgical and maternity wards is also argued to lead to differing emphases on role. Medical wards containing patients for observation and patients with terminal illnesses are argued to produce orientations towards a patient centered, supportive environment where greater emphasis on service role definition is produced. Surgical wards, which offer greater scope for the use of para medical skills in the treatment of wounds and the provision of physical conditions conducive to rapid healing are argued to produce an emphasis on professional role definition. Maternity wards, where patients are, for the most part, undergoing predictable and in many cases routine physiological changes are considered likely to produce an emphasis on bureaucratic role definitions. The following hypotheses are therefore presented relating Position and Role:

- Hy 1.5. Positions in Medical wards will emphasise Service role definitions.
- Hy 1.6. Positions in Surgical wards will emphasise Professional role definitions.
- Hy 1.7. Positions in Maternity wards will emphasise Bureaucratic role definitions.

### Personality and Position

The effects of personality and position can be considered separately as in the previous two sections, or they can be considered as an interactive influence on role definition. Before considering such interactive effects on role definition it is appropriate to consider possible direct effects of position on personality. The initial positional distinction is that between Ward and Tutorial school. As wards are more complex situations depending a wide range of psychological skills and behaviour

it is argued that individuals located in wards will be more self-actualised than those in tutorial school. Hence Hypothesis 1.8.

Hy 1.8. Positions in wards will be associated with higher levels of self-actualisation than those in tutorial school.

It has already been suggested that different wards demand differing kinds of behaviour. It is suggested therefore that wards will differ in the aspects of personality emphasised. Medical wards are therefore argued to support the self-actualised, inner directed aspects of personality, while surgical wards are argued to support the conventional, normal aspects of personality and maternity wards the routinised, other directed and non self-actualised aspects of personality. The following hypotheses result from these arguments:

Hy 1.9. Individuals occupying positions in Medical wards will emphasise personality characteristics in the self-actualised range.

Hy 1.10. Individuals occupying positions in Surgical wards will emphasise personality characteristics in the normal range.

Hy 1.11. Individuals occupying positions in Maternity wards will emphasise personality characteristics in the non self-actualised range.

### Personality, Position and Role

The interactive effects of Personality and Position on Role definition can be suggested by the degree of support or conflict between the definitions of role emphasised by Personality and Position. Previous hypotheses have suggested the following emphases:

Self-actualised individuals emphasise Service Role.

Normal individuals emphasise Professional Role.

Non self-actualised individuals emphasise Bureaucratic Role.

Medical wards emphasise Service Role.

Surgical wards emphasise Professional Role.

Maternity wards emphasise Bureaucratic Role.

If these hypotheses are combined in matrix form, the agreements and disagreements between Personality and Position become clear. Such a matrix is presented in Figure 5.2.

Cells 1, 5 and 9 of the matrix represent situations where the Role definitions emphasised by both Personality and Position reinforce each other. On this basis the following hypothesis is presented:

Hy 1.12. Where Personality and Position both emphasise a particular role definition the individual's emphasis on that role definition will increase.

Figure 5.2.

Relationships between Personality and Position  
Emphases on Role Definition

		Personality Emphasis		
		Self- Actualised	Normal	Non Self- Actualised
Positional Emphasis	Medical	Serv 1 Serv	Prof 2 Serv	Bur 3 Serv
	Surgical	Serv 4 Prof	Prof 5 Prof	Bur 6 Prof
	Maternity	Serv 7 Bur	Prof 8 Bur	Bur 9 Bur

The remaining cells of the matrix can be grouped into pairs in which the influences of Position and Person are opposite e.g. cells 2 and 4, 3 and 7, 6 and 8. For instance, cell 2 represents a Personality emphasis on Professional Role and a Positional emphasis on Service Role while cell 4 represents the converse. Given the short term nature of the positions held in the ward situation it is argued that in cases where conflict occurs between Personality and Position over Role definitions, the definition emphasised by Personality will take precedence. Hypothesis 1.13 is based on this argument.

Hy 1.13. Where conflict over Role definition occurs between  
Personality and Position, the role definition  
emphasised will be that associated with Personality.

### Group Level Hypotheses

The two major components at the group level are group composition and group integration. Group composition is constituted by two variables, positional structure and role collection. Group Integration is constituted by three variables, value, authority and exchange. Groups can therefore be compared by their respective emphasis on each of these components. The relationships between these components within the group were summarised in Chapter 4 in the statement:

$$G = (f(R_{1-m} \times S_{1-n} \times V \times A \times E))$$

These various components may, in principle, vary independently of each other. In practice however, it is likely that they will co-vary

systematically and the following hypotheses are presented as predictions of such systematic relations.

In order to simplify the construction of the hypotheses the various components are brought together in matrix form in Figure 5.3.

Figure 5.3

Summary matrix of relationships between components at the group level of analysis

		Group Composition		Group Integration		
		Positional Structure	Role Collection	Values	Authority	Exchange
Group Composition	Positional Structure		1	2	3	4
	Role Collection			5	6	7
Group Integration	Values				8	9
	Authority					10
	Exchange					

Ten possible combinations of components can be seen to be possible, those labelled 1 to 10 in Figure 5.2. Each component is related to each of the other four components in all possible combinations. The first four cells of the matrix (1, 2, 3 and 4) relate positional structure to role collection, values, authority and exchange respectively.

In relating positional structure to role collection it is argued that as each position links members to other positions in the social structure in unique ways, the greater the number of positions the more likely it is that collectively the number of roles, i.e. anticipations for behaviour, in the group will increase. Hence hypothesis 2.1.

Hy 2.1. The more positional differences with the group  
the larger the role collection.

Subsequently, if particular positions are articulated differently so that differing norms and values are associated with each position then it follows that the greater the number of positions the greater the variety of values within the group, hence hypothesis 2.2.

Hy 2.2. The more positional differences within the group  
the less the agreement over values.

It has been argued previously that positional differentiation is invariably associated with a hierarchy of authority. Thus with a greater number of positions the range of authority within the group should increase, hence hypothesis 2.3.

Hy 2.3. The more positional differences within the group  
the greater the differences in authority.

Following this hypothesis it is reasonable to argue that increases in formal positional differentiation will reduce the level of unofficial liaison and exchange between group members, hence hypothesis 2.4.

Hy 2.4. The more positional differences within the group  
the lower the level of exchange.

Cells 1, 5, 6 and 7 relate role collection to positional structure, values, authority and exchange respectively. Role collection and positional structure are related in hypothesis 2.1 above. Role collection can be argued to affect values in that the greater the number of roles within the group the more chance there is of divergent values occurring within the group, hence hypothesis 2.5.

Hy 2.5. The larger the role collection  
the less the agreement over values.

Role collection can also be argued to affect authority in that differences in role within the group will lead to differences in authority between individuals, hence hypothesis 2.6.

Hy 2.6. The larger the role collection  
the greater the range of authority.

Role collection can finally be argued to affect exchange within the group, in that if a wide collection of roles exists then the group is likely to break up into sub-groups holding similar roles, thus reducing the interconnectedness and exchange of the group, hence hypothesis 2.7.

Hy 2.7. The larger the role collection  
the lower the exchange.

Cells 2, 5, 8 and 9 relate values to positional structure, role collection, authority, and exchange respectively. The relation of values to positional structure is specified in hypothesis 2.2 and to role collection in hypothesis 2.5. The relation of values to authority is argued to be one where agreement over values leads to less need for the exercise of authority, hence hypothesis 2.8.

Hy 2.8. The greater the agreement over values  
the less the authority.

The relation of values to exchange is similarly argued where agreement over values is assumed to lead to a much freer range of relationships within the group, hence hypothesis 2.9.

Hy 2.9. The greater the agreement over values  
the greater the exchange.

Cells 4, 7, 9 and 10 of Figure 5.2 relate exchange to positional structure, role collection, values and authority. Relations between positional structure, role collection and values with exchange are specified in hypotheses 2.4, 2.7 and 2.9 respectively.

The relation between exchange and authority is argued to be dependent on the idea that increases in the level of authority prevent or reduce the informal contacts between group members, hence hypothesis 2.10.

Hy 2.10. The greater the authority  
the lower the exchange.

#### Contextual Hypotheses

Contextual interactions are constituted by group effects on individuals. Chapter 4 suggested a variety of possible effects of group characteristics on individuals. Those considered here are those of (i) group role collection on individual role definition, (ii) group integration on individual personality, (iii) group values on individual integration, and (iv) group positional structure on individual role, personality and values.

The specific hypotheses presented here are based on two further assumptions. Firstly that the influence of the group on the individual is frequently towards conformity and secondly, that where differences between the individual and the group are extreme, the individual will be likely to leave the group.

*Role definitions and Role collection:* In Chapter 4 it was argued that the role collection of the group would affect the particular role definitions held by individuals within the group. Two conditions can be said to apply to this relationship. Firstly where the role definition held by the individual is consistent with that of the group as a whole the role definitions of both will be reinforced. Secondly, however, where the role definition of the individual is in conflict with that of the group it can be expected that group pressures will either (i) encourage the individual to modify his position towards that of the

group, or (ii) encourage the individual to leave the group. These assumptions are specified in hypotheses 3.1 and 3.2.

Hy 3.1. The further the individual's initial role definition from that of the group the greater the likelihood of alteration towards that of the group.

Hy 3.2. The further the individual's initial role definition from that of the group the greater the likelihood of the individual leaving the group.

*Personality and Integration:* It was further argued in Chapter 4 that the integrative components of the group would influence the integration of the individual personality, especially through the influence of value systems. One general measure of the value system of the group is contained in the collective personal orientations of the group members. It can be argued therefore that the individual personal orientation will be affected by the group orientation in much the same manner as individual role definition was previously hypothesised to be influenced by group role definition. Hypotheses 3.3 and 3.4 present the predicted influences of the group on individual personality:

Hy 3.3. The further the individual's personal orientation from that of the group the greater the likelihood of alteration towards that of the group.

Hy 3.4. The further the individual's personal orientation from that of the group the greater the likelihood of the individual leaving the group.

*Values and Integration:* While the previous section argued the influence of a generalised group orientation on the personal orientation of the individual, this section argues that the specific values of group job satisfaction and commitment will influence individual job satisfaction and commitment under the same assumptions of conformity towards group means or exit from the group. Hypotheses 3.5 and 3.6 specify the predicted relations.

Hy 3.5. The further the individual's level of job satisfaction from that of the group the greater the likelihood of alteration towards that of the group.

Hy 3.6. The further the individual's level of job satisfaction from that of the group the greater the likelihood of the individual leaving the group.

*Group Structure, Role, Personality and Values:* The fourth set of

contextual hypotheses relate the positional structure of the group to varying levels of influence on individuals. For instance, it is argued that the closer the individual's position is to the centre of the group structure, the closer his role definition, personality and values will approach those of the group as a whole. The following hypotheses specify these predicted relationships.

- Hy 3.7. The more central an individual's position in the structure of the group the greater the agreement with group role definitions.
- Hy 3.8. The more central an individual's position in the structure of the group, the greater the agreement with group personal orientation.
- Hy 3.9. The more central an individual's position in the structure of the group the greater the agreement with group values.

#### Structural Hypotheses

Structural interactions are constituted by the effects of individuals on groups. It was argued in Chapter 4 that three individual level components affect group level characteristics: (i) the role definition of the individual contributes to the collective role definition of the group, (ii) the personal orientation of the individual affects the general orientation of the group, and (iii) the values commitment of the individual affects the general value commitment of the group. These three associations are by themselves unexceptionable, if not truistic and consistent with the argument that the group is simply the sum of its parts. However, Chapter 1 argued that the group is more than simply the sum of its parts because of the structural relations between those parts. If the idea of structure is introduced to the relationships specified above, then it can be suggested that those holding central positions in the structure of the group may, if their role definition, personal orientation or values commitment differ from those of the group as a whole, bring about changes in the condition of the group. Three hypotheses are presented on the basis of this argument:

- Hy 4.1. Where the role definition of individuals central in the positional structure of the group differs from that of the group as a whole, the group code definition will alter towards those of the central individuals.

- Hy 4.2. Where the personal orientation of the individuals central in the positional structure of the group differs from that of the group as a whole, the personal orientation of the group will alter towards that of the central individuals.
- Hy 4.3. Where the value commitment of the individuals central in the positional structure of the group differs from that of the group as a whole, the value commitment of the group will alter towards that of the central individuals.

#### Data Collection

Data for the present study were collected by the author through the administration of the research instruments to first year student nurses while in tutorial school. Data were collected periodically at intervals during the first year of training. The initial administration was on the first day of attendance at the hospital. The second administration was at the end of twelve weeks in tutorial school. The third administration followed ten weeks ward experience and the fourth administration was conducted during the final tutorial school programme at the end of the first year of training.

The instruments are all amenable to group administration and were presented during normal class sessions. Instructions for answering each instrument were read by respondents, outlined by the administrator and clarified through discussion, following the completion of example items by the administrator on the blackboard. No significant problems arose during any administration session. Except that some 40% of the nurses failed to provide requested sociometric data during the administration at the end of initial tutorial school, thus invalidating the sociomatrix.

#### Data Analysis

Data analysis was facilitated by the use of a Burroughs 6700 series computer and simplified by the availability of version 5.08.320 of the Statistical Package for the Social Sciences (Nie et al, 1970, 1975) which contained most of the required procedures.

Two additional programmes were required and written by the author. The first was a scoring programme for the POI which was necessitated by

the unavailability of normal scoring services in New Zealand. A copy of this programme is contained in Appendix F.

The second programme was devised in order to provide a readily available and standardised method for the analysis of group sociometric structure. The mathematical basis of the procedures involved is outlined by Coleman (1964) from which the current programme is derived. The programme provides for the generation of (i) an initial choice matrix which summarises the choices made by individuals in the group, (ii) a series of choice chains which specify the individuals to which each target individual is linked both directly and indirectly, (iii) a total choice matrix, which summarises the inter linkage of all individuals on the basis of their choice chains, and (iv) an index of interconnectedness for the group as a whole. This programme which is reproduced in Appendix G formed the basis for the identification of sociometric centrality and group interconnectedness in this study.

## Chapter Six

### Findings

This chapter reports findings based on the examination of hypotheses presented in Chapter 5. In this respect they are only indirectly related to the theoretical position established in Chapter 4. Moreover, while the hypotheses are formulated in directional terms, the confirmation of particular directional relationships is not crucial to the theoretical model which demands only that differences be established.

It is also clear that the hypotheses provide only a partial basis for the evaluation of the theory and that the results presented here are restricted by their focus on a single small scale social system. The original intention of the investigation was to present an analysis of the total nursing population of the hospital as a complete social system. Such an undertaking proved well beyond the resources available to the investigator at this point in time. In order to promote as comprehensive analysis of the data as possible, including analyses at both individual and group levels and their interactions, the final data employed related to a single cohort within the tutorial school of the hospital. This particular selection of data allowed for a complete, rather than partial or segmental, analysis of a relatively well defined social system containing, initially, forty seven new entrants to the tutorial school. Fourteen of these respondents left during the period within which data was collected reducing the size of the group to a final thirty three. This attrition, combined with a small amount of missing data on various scales accounts for the fluctuating level of  $n$  within the tables.

For the first part of the analysis, that conducted at the individual level, the results from each administration were combined in a single file from which sub-groups were drawn according to specific variables. This procedure was employed because (i) certain sub-groups such as those drawn by position would in any case correspond to particular administrations of the tests, and (ii) it was considered that individual scores on any of the tests could alter sufficiently to transfer individuals from one group to another during the overall period of data collection. The total

n for the individual level of analysis is therefore one hundred and forty six.

Since the sample is small, two specific issues arise. Firstly, with regard to the limitations placed on statistical analysis, and secondly with regard to the representative character of the sample. In the first respect, it is clear that the results of the statistical analysis must be treated with caution. Consequently, despite the small size of the sample, levels of statistical significance are only accepted at better than .05 level. In the second respect, some comparison of the sample group with other similar but larger groups was called for.

As far as comparisons are concerned, all nurses in the sample were female and all but two under twenty years old and unmarried. All had School Certificate as their lowest academic qualification, 30% having University Entrance. The general personality orientation inventory profile of these nurses at entry is shown in Figure 6.1. Also shown is the profile for a comparable group of United States nurses in training (May & Ilardi, 1968). On the two major scales United States nurses were less Time Competent, both groups scoring similarly on the Inner/Other directedness scale. On the sub-scales New Zealand nurses scored more highly on Existentiality, Feeling, Reactivity, Spontaneity, Self Acceptance and Acceptance of Aggression, while United States nurses scored more highly on the Nature of Man sub-scale.

International comparisons may however, be misleading as cultural norms may differ, for instance Gatenby (1973) reports other New Zealand data which indicate the possibility of a cultural difference in the New Zealand norms for the Nature of Man scale which was consistently low in all New Zealand groups for which data were available. A more appropriate comparison group might therefore, be that of New Zealand young adults (high school and teachers' college students) reported by Webster (1973). Figure 6.2 presents the comparison. It can be seen that nurses scored marginally but consistently more highly than young adults on both major scales and all sub-scales. On this basis it may be reasonable to argue that as far as personal characteristics are concerned, the nurses in this study are marginally more self-actualising than groups of comparable age in high school or teachers' colleges. However, what may be reflected in these comparisons is the possible effect of sex differences in self-actualisation as the young adults sample included a high proportion of males.

Figure 6.1

Personal Orientation Inventory Profiles for  
New Zealand and United States Nurses in Training

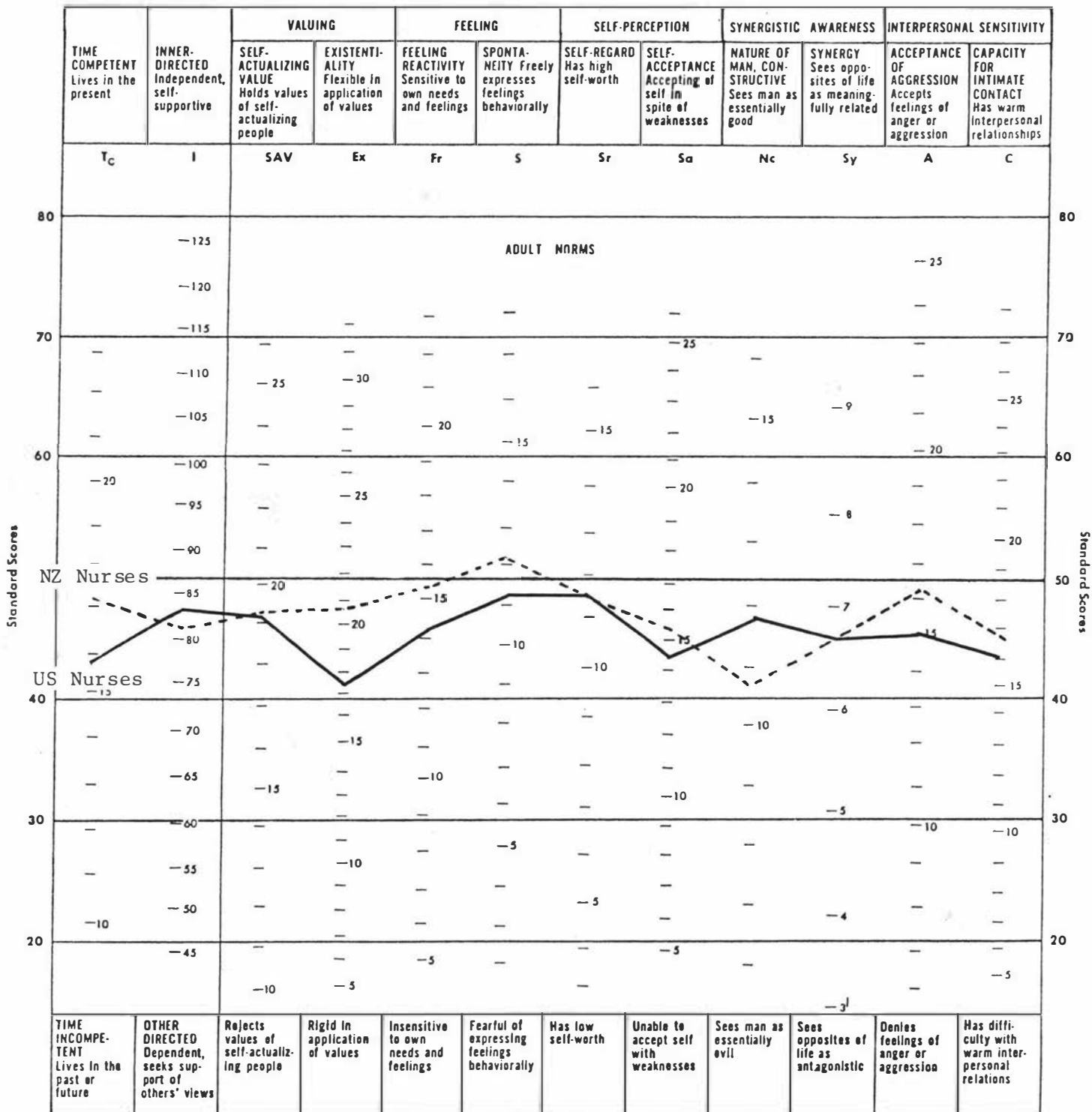
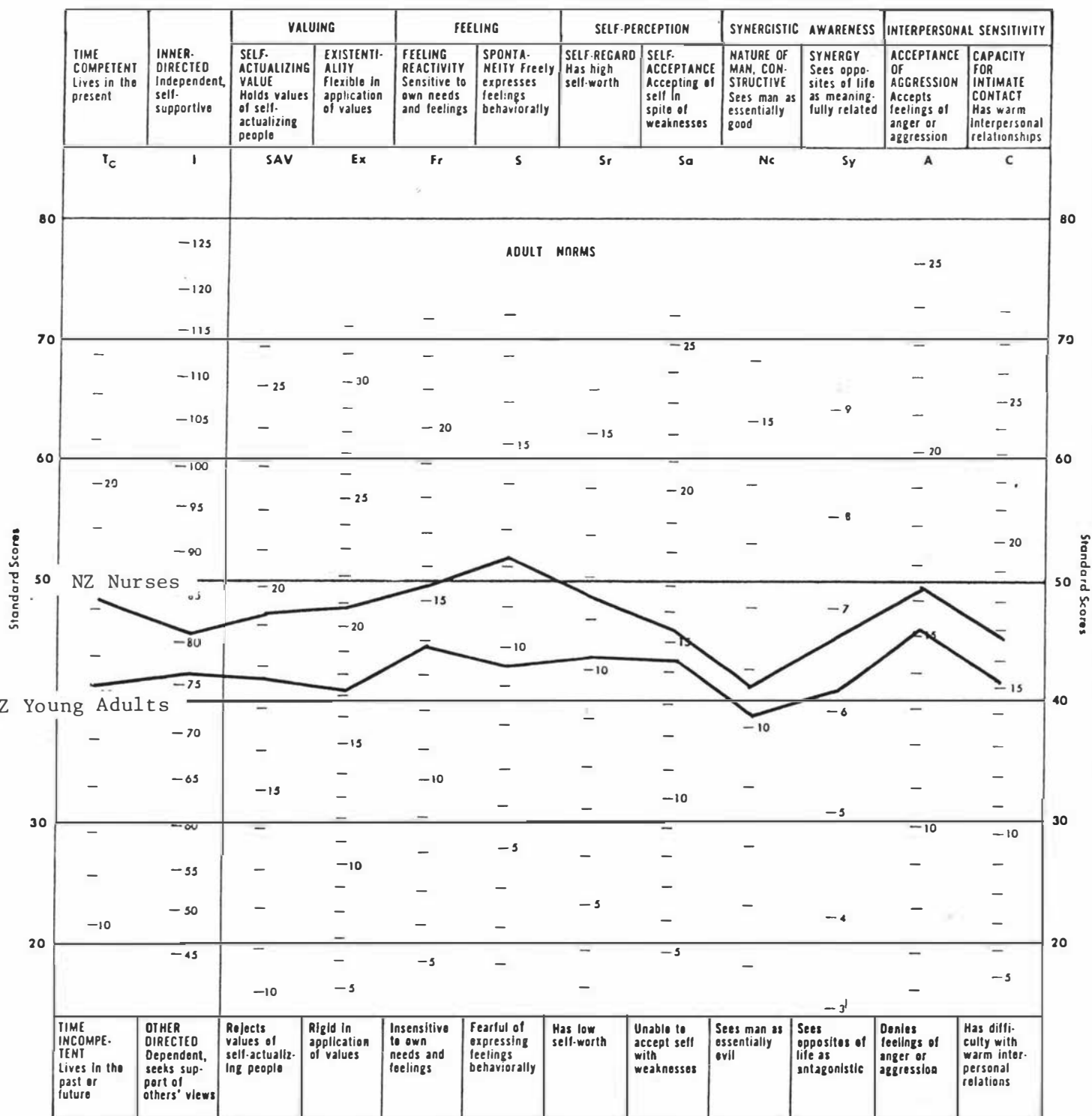


Figure 6.2

Personal Orientation Inventory Profile for New Zealand  
Nurses and New Zealand Young Adults



Two direct comparisons can be made with nurses at other hospitals in New Zealand. Stewart & Liddell (in press) report POI scores for 75 first, second and third year nurses at a small provincial hospital. Bates (1974) also reports data from 107 first, second and third year nurses from a medium sized provincial hospital. The comparisons between these three groups are presented in Figure 6.3. The Stewart & Liddell data lie below both Bates (1974) and Bates (1976) data except on the scale of time competence. The Bates (1974) and Bates (1976) data show considerable similarities except on the time competence scale. Scores for all three samples lie generally one standard deviation below the mean scores for United States adults.

As far as personality characteristics are concerned the nurses in the current sample do not appear to differ markedly from other young people in the New Zealand context or from other nurses in New Zealand or the United States, though scores are generally slightly higher than for other groups.

Against this background results are presented in the same order as hypotheses are formulated in Chapter 5. Firstly, for individual and group analyses and then for contextual and structural interactions.

#### Individual Level

##### Person and Role

The first three hypotheses at the individual level relate personality to role. They are:

- Hy 1.1. The more self-actualised the individual the greater the emphasis on service role definition.
- Hy 1.2. The less self-actualised the individual the greater the emphasis on bureaucratic role definition.
- Hy 1.3. The more normal the individual the greater the emphasis on professional role definition.

Initially a regression analysis was performed firstly on scores from each administration separately and then on pooled scores. The programme used was the REGRESSION programme from the STATISTICAL PACKAGE for the SOCIAL SCIENCES (SPSS). The results of the combined analysis are reported in Table 6.1.

No significant relationships were found between scores on the inner directedness scale for the POI and professional bureaucratic or service scores for the Massey Role Concept Inventory (MRCI).

Figure 6.3

Personal Orientation Inventory Profiles for Three Groups  
of New Zealand Nurses in Training

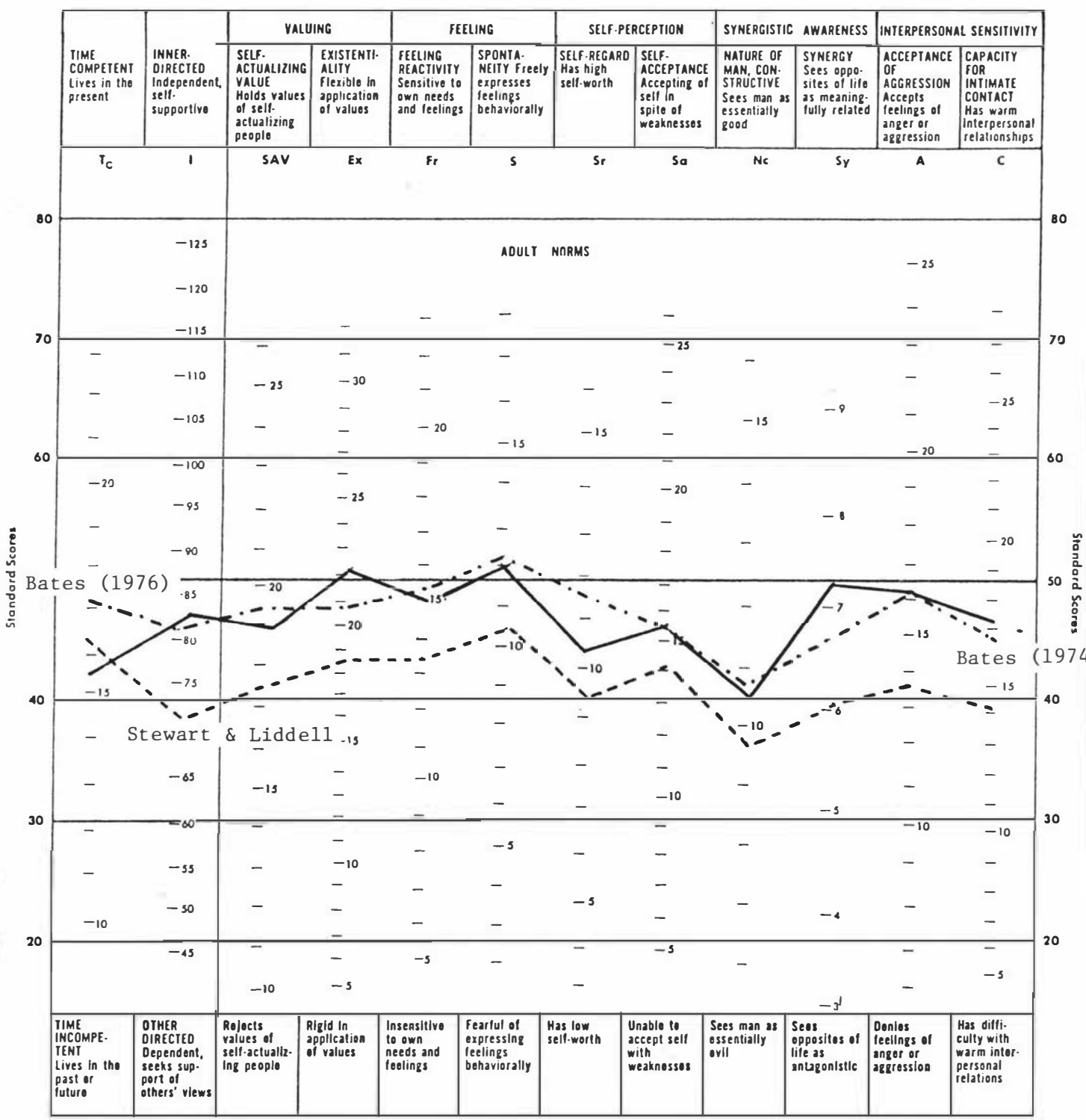


Table 6.1

Multiple Regression of MRCI Scores on POI  
Inner Directedness Scores

SUMMARY TABLE

	MULTIPLE R	R SQUARE	SIMPLE R	B	BETA	F
BUREACRATIC	0.19953	0.03981	-0.19953	-0.00740	-0.00612	0.000
PROFESSIONAL	0.20899	0.04368	0.10291	0.30002	0.23123	0.046
SERVICE TOTA	0.20960	0.04393	0.08633	0.22038	0.21909	0.025
				53.41060		

An alternative analysis was subsequently conducted during which individuals were grouped according to Shostrom's three-fold typology. This analysis was also conducted by time of test administration. The SPSS programme BREAKDOWN was employed and the results are presented in Tables 6.2.1 to 6.4.4 and in Figures 6.4.1 to 6.4.3.

Tables 6.2.4, 6.3.4 and 6.4.4. summarise the results of test administrations during initial tutorial school, at the end of ward experience and during final tutorial school. It can be seen that self-actualised individuals emphasised service role orientation consistently highly while non-self-actualised individuals also maintained a relatively stable emphasis on service role definition. Normal individuals however, emphasised service orientation much more highly during ward experience than during either initial or final tutorial schools where their emphasis was substantially lower than that of either self-actualised or non self-actualised individuals.

Emphases on professional role definitions were relatively consistent for all administrations, while on each occasion non self-actualised individuals tended to emphasise bureaucratic role definitions most and self-actualised individuals emphasised bureaucratic definitions least.

The hypotheses relating position to role were however, not supported during any of the three administrations by levels of statistical significance better than the .05 level. Consequently the results must be treated with extreme caution and cannot by themselves be said to establish the validity of the hypotheses.

#### Position and Role: Ward and Tutorial School

Hypothesis 1.4 related positional differences in tutorial school and ward to role definitions:

Hy 1.4 First year nurses within the ward context will emphasise bureaucratic role definitions more than student nurses within tutorial school.

Though only one dimension of the MRCI was hypothesised as differing

Table 6.2

One Way Analysis of Variance of MRCI Service Total Score  
by Personality Type

A N A L Y S I S O F V A R I A N C E					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
OTHER DIRECTED	3584.000	66.370	8.017	3406.593	( 54
SELF ACTUALISED	4685.000	62.467	8.930	5900.667	( 75
INNER DIRECTED	1105.000	65.000	9.663	1494.000	( 17
-----					
TOTAL	9374.000	64.205	8.825	10801.259	( 146

A N O V A T A B L E			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	490.5764	( 2)	245.2882
WITHIN GROUPS	10801.2593	( 143)	75.5333
TOTAL	11291.8356	( 145)	

F = 3.2474

Level of Significance = .05

Table 6.2.1.

One Way Analysis of Variance of MRCI Service Score  
by Personality Type: Initial Tutorial School

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	1306.000	59.364	6.898	999.091	(	22)
NORMAL	1035.000	57.500	9.972	1690.500	(	18)
SELF-ACT	198.000	66.000	10.000	200.000	(	3)
-----						
TOTAL	2539.000	59.047	8.563	2889.591	(	43)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	190.3161	( 2)	95.1580
WITHIN GROUPS	2889.5909	( 40)	72.2398
TOTAL	3079.9070	( 42)	

$F = 1.3173$

Level of Significance = N.S.

Table 6.2.2.

One Way Analysis of Variance of MRCI Bureaucratic Score  
by Personality Type: Initial Tutorial School

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	1069.000	50.905	6.818	929.810	(	21)
NORMAL	904.000	50.222	7.796	1033.111	(	18)
SELF-ACT	126.000	42.000	7.000	98.000	(	3)
-----						
TOTAL	2099.000	49.976	7.442	2060.921	(	42)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	210.0556	( 2)	105.0278
WITHIN GROUPS	2060.9206	( 39)	52.8441
TOTAL	2270.9762	( 41)	

~~F = 1.9875~~

Level of Significance = N.S.

Table 6.2.3.

One Way Analysis of Variance of MRCI Professional Score  
by Personality Type: Initial Tutorial School

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	1225.000	58.333	8.193	1342.667	(	21)
NORMAL	1093.000	60.722	7.828	1041.611	(	18)
SELF-ACT	117.000	58.500	2.121	4.500	(	2)
-----						
TOTAL	2435.000	59.390	7.819	2388.778	(	41)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	56.9783	( 2)	28.4892
WITHIN GROUPS	2383.7778	( 38)	62.8626
TOTAL	2445.7561	( 40)	

$F = 0.4532$

Level of Significance = N.S.

Table 6.2.4.

Summary of MRCI Service, Bureaucratic and  
Professional Role Scores by Personality Type:  
Initial Tutorial School

MRCI Scale	Self-Actualised		Normal		Non-Self Act.		ANOVA Sig.
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Service	66.00	10.00	57.50	9.97	59.36	6.89	N.S.
Bureaucratic	42.00	7.00	50.22	7.79	50.90	6.81	N.S.
Professional	58.50	2.12	60.72	7.83	58.33	8.19	N.S.

Table 6.3

One Way Analysis of Variance of MRCI Bureaucratic Total Schore  
by Personality Type

A N A L Y S I S O F V A R I A N C E

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
OTHER DIRECTED	2623.000	46.839	8.355	3839.554	(	56)
SELF ACTUALISED	3512.000	48.110	7.025	3553.123	(	73)
INNER DIRECTED	714.000	44.625	6.820	697.750	(	16)
-----						
TOTAL	6849.000	47.234	7.576	8090.427	(	145)

A N O V A T A B L E

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	173.6007	( 2)	86.8004
WITHIN GROUPS	8090.4269	( 142)	56.9748
TOTAL	8264.0276	( 144)	

F = 1.5235

Level of Significance = N.S.

Table 6.3.1.

One Way Analysis of Variance of MRCI Service Score  
by Personality Type: End of Ward Experience

ANALYSIS OF VARIANCE					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
NON SELF-ACT	709.000	64.455	6.056	366.727	( 11)
NORMAL	941.000	67.214	7.610	754.357	( 14)
SELF-ACT	525.000	65.625	11.019	849.875	( 8)
-----					
TOTAL	2175.000	65.909	7.943	1970.959	( 33)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	47.7679	( 2)	23.8839
WITHIN GROUPS	1970.9594	( 30)	65.6986
TOTAL	2018.7273	( 32)	

F = 0.3635

Level of Significance = N.S.

Table 6.3.2.

One Way Analysis of Variance of MRCI Bureaucratic Score  
by Personality Type: End of Ward Experience

ANALYSIS OF VARIANCE

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	575.000	47.917	7.342	592.917	(	12)
NORMAL	635.000	45.357	5.826	441.214	(	14)
SELF-ACT	339.000	42.375	7.347	377.875	(	8)
-----						
TOTAL	1549.000	45.559	6.876	1412.006	(	34)

ANOVA TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	148.3754	( 2)	74.1882
WITHIN GROUPS	1412.0060	( 31)	45.5486
TOTAL	1560.3824	( 33)	

$$F = 1.6235$$

Level of Significance = N.S.

Table 6.3.3.

One Way Analysis of Variance of MRCI Professional Score  
by Personality Type: End of Ward Experience

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	677.000	56.417	4.166	190.917	(	12)
NORMAL	730.000	56.154	6.349	483.692	(	13)
SELF-ACT	480.000	60.000	5.682	226.000	(	8)
-----						
TOTAL	1887.000	57.182	5.548	900.609	(	33)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	84.3001	( 2)	42.1501
WITHIN GROUPS	900.6090	( 30)	30.0203
TOTAL	984.9091	( 32)	

$$F = 1.4041$$

Level of Significance = N.S.

Table 6.3.4.

Summary of MRCI Service, Bureaucratic and  
Professional Role Scores by Personality Type:  
End of Ward Experience

MRCI Scale	Self-Actualised		Normal		Non-Self Act.		ANOVA Sig.
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Service	65.62	11.04	67.21	7.62	64.45	6.06	N.S.
Bureaucratic	42.37	7.35	45.36	5.83	47.92	7.34	N.S.
Professional	60.00	5.68	56.15	6.35	56.42	4.17	N.S.

Table 6.4

One Way Analysis of Variance of MRCI Professional Total Score  
by Personality Type

A N A L Y S I S O F V A R I A N C E

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
OTHER DIRECTED	3038.000	55.236	6.067	1987.927	( 55)
SELF ACTUALISED	4209.000	57.658	6.886	3414.438	( 73)
INNER DIRECTED	921.000	57.563	6.532	639.938	( 16)
TOTAL	8168.000	56.722	6.605	6042.303	( 144)

A N O V A T A B L E

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	196.5858	( 2)	98.2929
WITHIN GROUPS	6042.3031	( 141)	42.8532
TOTAL	6238.8889	( 143)	

$F = 2.2937$

Level of Significance = N.S.

Table 6.4.1.

One Way Analysis of Variance of MRCI Service Score  
by Personality Type: Final Tutorial School

ANALYSIS OF VARIANCE					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
NON SELF-ACT	660.000	66.000	6.960	436.000	( 10)
NORMAL	599.000	66.556	7.732	478.222	( 9)
SELF-ACT	793.000	66.083	8.649	322.917	( 12)
-----					
TOTAL	2052.000	66.194	7.613	1737.139	( 31)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	1.5996	( 2)	0.8499
WITHIN GROUPS	1737.1339	( 28)	62.0407
TOTAL	1738.8337	( 30)	

$F = 0.0137$

Level of Significance = N.S.

Table 6.4.2.

One Way Analysis of Variance of MRCI Bureaucratic Score  
by Personality Type: Final Tutorial School

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
NON SELF-ACT	488.000	48.800	5.613	283.600	(	10)
NORMAL	419.000	46.556	6.126	528.222	(	9)
SELF-ACT	501.000	45.545	5.803	336.727	(	11)
-----						
TOTAL	1408.000	46.933	6.448	1148.549	(	30)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	57.3172	( 2)	28.6586
WITHIN GROUPS	1148.5495	( 27)	42.5389
TOTAL	1205.8667	( 29)	

$$F = 0.6731$$

Level of Significance = N.S.

Table 6.4.3.

One Way Analysis of Variance of MRCI Professional Score  
by Personality Type: Final Tutorial School

ANALYSIS OF VARIANCE					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
NON SELF-ACT	532.000	53.200	6.374	365.600	( 10)
NORMAL	494.000	54.889	5.395	232.889	( 9)
SELF-ACT	669.000	55.750	6.047	402.250	( 12)
TOTAL	1695.000	54.677	5.879	1000.739	( 31)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	36.0353	( 2)	18.0177
WITHIN GROUPS	1000.7339	( 28)	35.7407
TOTAL	1036.7742	( 30)	

$F = 0.5041$

Level of Significance = N.S.

Table 6.4.4.

Summary of MRCI Service, Bureaucratic and  
Professional Role Scores by Personality Type:  
Final Tutorial School

MRCI Scale	Self-Actualised		Normal		Non-Self Act.		ANOVA Sig.
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Service	66.88	8.65	56.66	7.73	66.00	6.96	N.S.
Bureaucratic	45.55	5.80	46.56	8.13	48.80	5.61	N.S.
Professional	55.75	6.05	54.89	5.39	53.70	6.37	N.S.

Figure 6.4.1.

Comparisons of MRCI Service, Bureaucratic and Professional Mean Role Scores by Personality Type: Initial Tutorial School

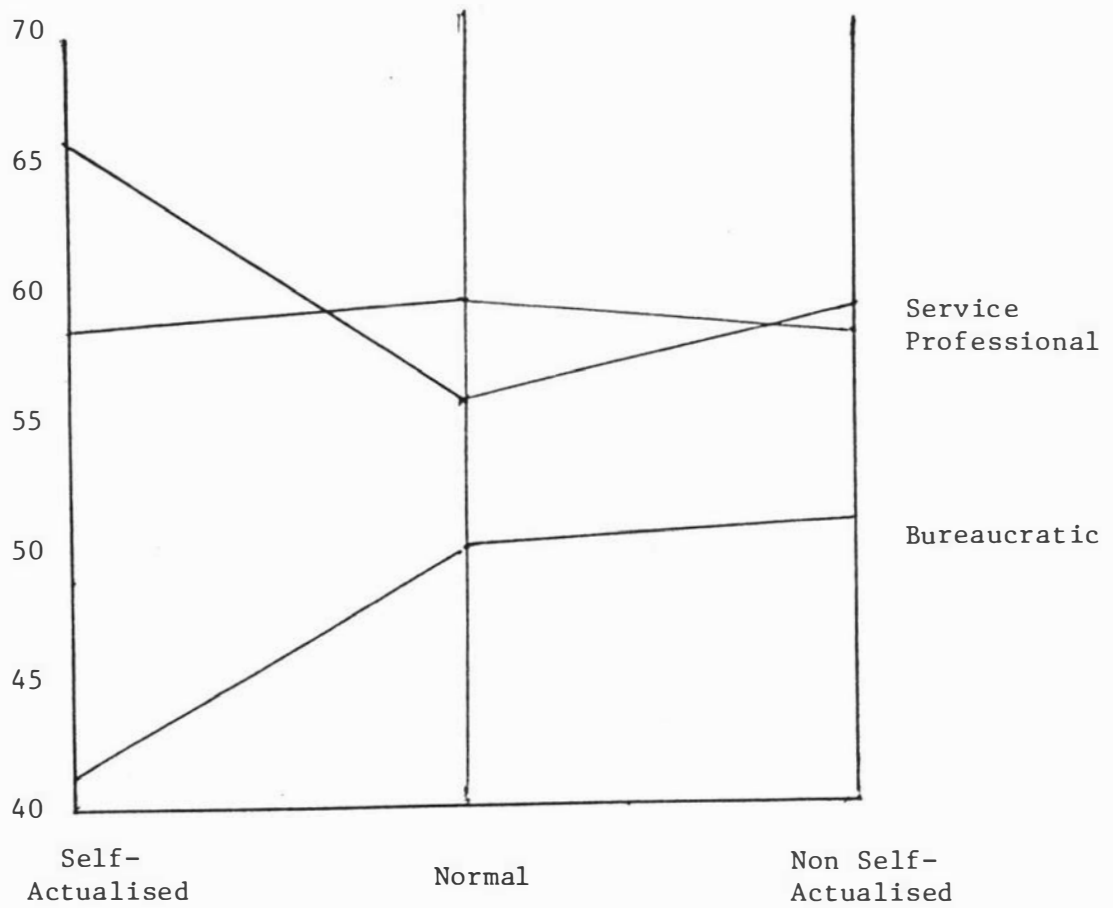


Figure 6.4.

Comparisons of MRCI Service, Bureaucratic and Professional Mean Role Scores by Personality Type

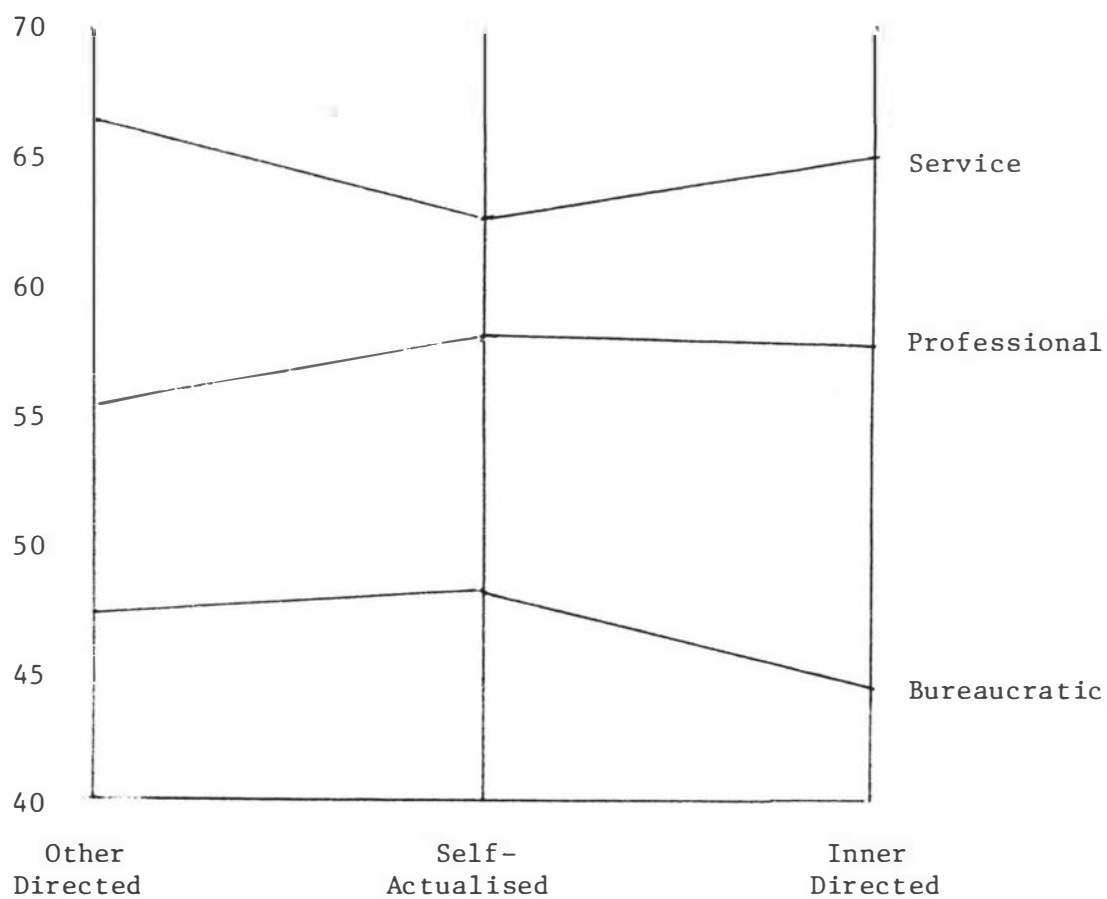


Figure 6.4.2.

Comparisons of MRCI Service, Bureaucratic and Professional Mean Role Scores by Personality Type:  
End of Ward Experience

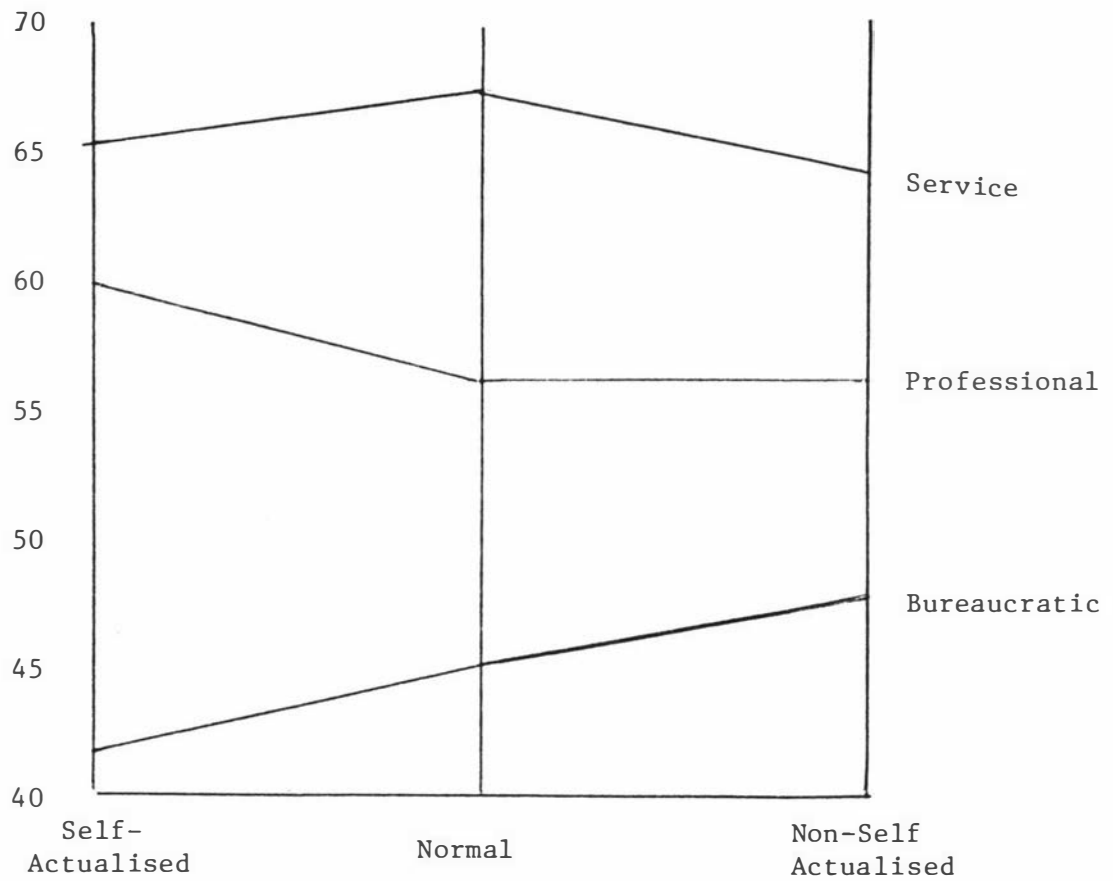
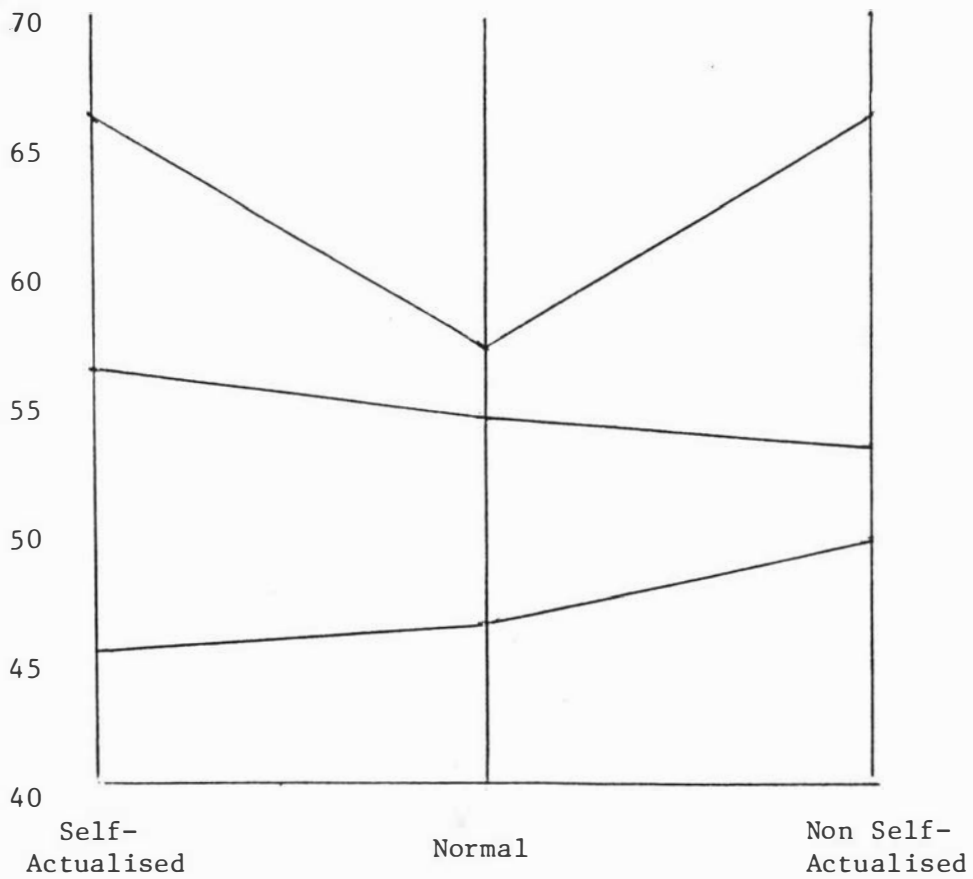


Figure 6.4.3.

Comparisons of MRCI Service, Bureaucratic and Professional Mean Role Scores by Personality Type:  
Final Tutorial School



by position all three were subjected to analysis of variance. Position was differentiated according to location at the following points in the training programme: (i) beginning initial tutorial school, (ii) end of tutorial school, (iii) end of ten weeks' ward experience, (iv) end of final tutorial school. The results of the analysis of variance are presented in Tables 6.6, 6.7 and 6.8 and summarised in Table 6.9 and Figure 6.5.

From Tables 6.6 and 6.9 and Figure 6.5 it can be seen that service role emphasis alters from a low point of 59.05 at entry to tutorial school, shifts to a higher point by the end of initial tutorial school (66.87), and remains at the higher level for positions in ward (65.91), and final tutorial school (66.19). The Anova was significant at .01 level. The differences between initial tutorial school position and later positions on the service role scores were therefore distinct and statistically significant.

From Tables 6.7 and 6.9 and Figure 6.5 it can be seen that bureaucratic role emphasis alters from a high point of 49.97 at entry to tutorial school to a lower point (45.97) at the end of tutorial school, remains at that level during ward position (45.56) and rises again slightly during final tutorial school (46.93). The differences between positions were according to the Anova significant at the .05 level. The greatest contribution to the Anova was clearly made by the fall in bureaucratic scores between beginning and end of initial tutorial school. No support was therefore offered for hypothesis 1.4 that bureaucratic emphasis would rise during positions on wards.

From Tables 6.8, 6.9 and Figure 6.5 it can be seen that professional role emphasis begins at a high point (59.39), falls during initial tutorial school (55.15), rises slightly during positions on wards (57.18), and falls again during final tutorial school (54.97). Differences were significant at the .01 level. It seems therefore, that positions in tutorial school de-emphasise professional role definition when compared to the emphases at entry and during ward experience.

In summary, while hypothesis 1.4 that ward positions will emphasise bureaucratic role definitions was not supported, the general theoretical proposition that differing positions lead to differing emphases on role definition is supported by the data. This is especially so in the increase of service emphases and the decrease in professional and bureaucratic emphases during initial tutorial school; the increase in professional

Table 6.6

One Way Analysis of Variance of MRCI Service Scores  
by Tutorial School and Ward Positions

A N A L Y S I S O F V A R I A N C E

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	(	N
BEGIN TUT SCHOOL	2539.000	59.047	8.563	3079.907	(	43)
END TUT SCHOOL	2608.000	66.872	8.606	2814.359	(	39)
END 10 WEEKS WARD	2175.000	65.909	7.943	2018.727	(	33)
FINAL TUT SCHOOL	2052.000	66.194	7.613	1738.839	(	31)
-----						
TOTAL	9374.000	64.205	8.825	9651.832	(	146)

A N O V A T A B L E

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	1640.0037	( 3)	546.6679
WITHIN GROUPS	9651.8319	( 142)	67.9706
TOTAL	11291.8356	( 145)	

F = 8.0427

Level of Significance = .0005

Table 6.7

One Way Analysis of Variance of MRCI Bureaucratic Scores  
by Tutorial School and Ward Positions

A N A L Y S I S O F V A R I A N C E						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
BEGIN TUT SCHOOL	2099.000	49.976	7.442	2270.976	(	42)
END TUT SCHOOL	1793.000	45.974	8.508	2750.974	(	39)
END 10 WEEKS WARD	1549.000	45.559	6.876	1560.382	(	34)
FINAL TUT SCHOOL	1408.000	46.933	6.448	1205.867	(	30)
-----						
TOTAL	6849.000	47.234	7.576	7788.200	(	145)

A N O V A T A B L E			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	475.8280	( 3)	158.6093
WITHIN GROUPS	7788.1996	( 141)	55.2355
TOTAL	8264.0276	( 144)	

F = 2.8715

Level of Significance = .05

Table 6.8

One Way Analysis of Variance of MRCI Professional Scores  
by Tutorial School and Ward Positions

A N A L Y S I S O F V A R I A N C E					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
BEGIN TUT SCHOOL	2435.000	59.390	7.819	2445.756	( 41)
END TUT SCHOOL	2151.000	55.154	5.729	1247.077	( 39)
END 10 WEEKS WARD	1887.000	57.182	5.548	984.909	( 33)
FINAL TUT SCHOOL	1695.000	54.677	5.879	1036.774	( 31)
-----					
TOTAL	8168.000	56.722	6.605	5714.516	( 144)

A N O V A T A B L E			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	524.3726	( 3)	174.7909
WITHIN GROUPS	5714.5163	( 140)	40.8180
TOTAL	6238.8889	( 143)	

F = 4.2822

Level of Significance = .01

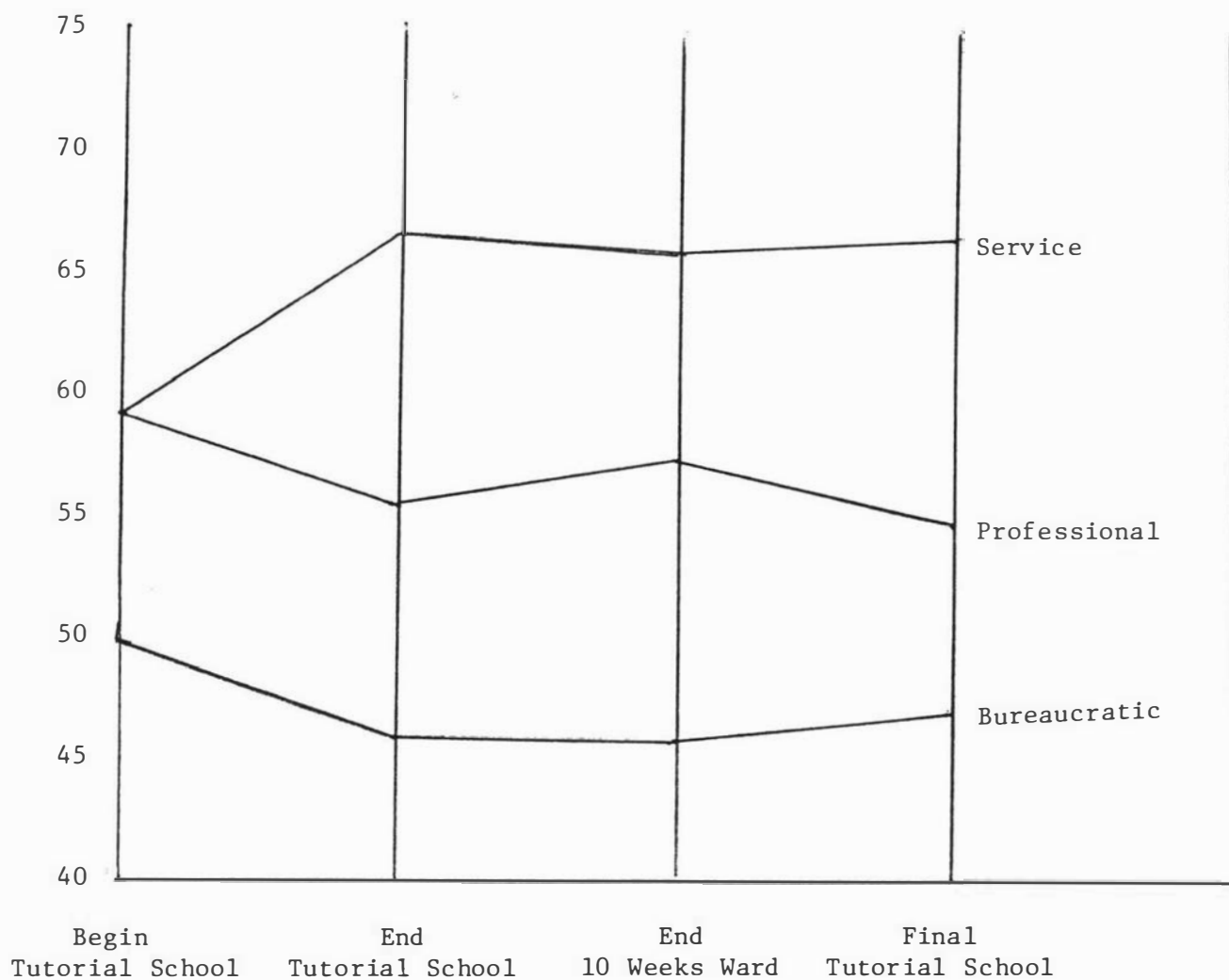
Table 6.9

Summary of MRCI Service, Bureaucratic and Professional Scores  
by Tutorial School and Ward Positions

MRCI Scale	Begin		End		End		Final		ANOVA Sig.
	Tutorial School Mean	S.D.	Tutorial School Mean	S.D.	10 Weeks Ward Mean	S.D.	Tutorial School Mean	S.D.	
Service	59.05	8.56	66.87	8.61	65.91	7.94	66.19	7.61	.01
Buraucratic	49.97	7.44	45.97	8.51	45.56	6.88	46.93	6.45	.05
Professional	59.39	7.82	55.15	5.73	57.18	5.55	54.97	5.88	.01

Figure 6.5

Comparisons of MRCI Service, Bureaucratic and Professional  
Mean Role Scores by Tutorial School and Ward Positions



emphasis during ward experience and the decrease in professional emphasis and increase in bureaucratic and service emphasis during final tutorial school.

#### Position and Role Between Wards

Hypotheses 1.5, 1.6 and 1.7 related positional differences between wards to differing emphases on role definition:

- Hy 1.5. Positions in medical wards will emphasise service role definitions.
- Hy 1.6. Positions in surgical wards will emphasise professional role definitions.
- Hy 1.7. Positions in maternity wards will emphasise bureaucratic role definitions.

Only three positions were differentiated in the formation of hypotheses as student nurses were officially placed only in medical, surgical or maternity wards. However, despite this official policy some ten per cent of nurses were placed in specialist wards such as accident and emergency, eye ward and intensive care units. Thus a fourth position, specialist ward, was entered into the analysis of variance. Results of the analysis of variance are presented in Tables 6.10, 6.11 and 6.12 and summarised in Table 6.13 and Figure 6.6.

It can be seen from Tables 6.10 and 6.13 and Figure 6.6 that service role scores were highest on Medical wards (69.15), followed by Maternity (65.80) and Surgical (62.87) wards with Specialist wards being substantially lower (57.50). The analysis of variance failed however to reach the .05 level of significance.

From Tables 6.11 and 6.13 and Figure 6.6 it can be seen that bureaucratic role scores were highest in Specialist wards (53.50), followed by Maternity (47.45), Surgical (44.87) and Medical (43.15) wards. Again the analysis of variance failed to reach the .05 level of significance.

From Tables 6.12 and 6.13 and Figure 6.6 it can be seen that professional role scores were highest in surgical wards (60.25), followed by Specialist (57.00), Maternity (56.27) and Medical (56.00) wards. As with the two previous analyses the analysis of variance failed to reach the .05 level of significance.

These results indicate that if specialist wards are discounted from the analysis (as no first year nurse was supposed to be on specialist wards and only two nurses had such experience), the highest score on

Table 6.10

One Way Analysis of Variance of MRCI Service Score  
by Ward Positions: End of Ward Experience

ANALYSIS OF VARIANCE					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SURGICAL	503.000	62.875	6.707	314.875	( 8)
MEDICAL	899.000	69.154	7.998	767.692	( 13)
MATERNITY	658.000	65.800	5.959	319.600	( 10)
SPECIALIST	115.000	57.500	10.263	264.500	( 2)
-----					
TOTAL	2175.000	65.909	7.943	1666.667	( 33)

ANOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	352.0600	( 3)	117.3533
WITHIN GROUPS	1666.6673	( 29)	57.4713
TOTAL	2018.7273	( 32)	

F = 2.0419

Level of Significance = N.S.

Table 6.11

One Way Analysis of Variance of MRCI Bureaucratic Score  
by Ward Positions: End of Ward Experience

## ANALYSIS OF VARIANCE

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	(	N
SURGICAL	359.000	44.875	6.244	272.875	(	8)
MEDICAL	561.000	43.154	5.625	379.692	(	13)
MATERNITY	522.000	47.455	7.891	622.727	(	11)
SPECIALIST	107.000	53.500	6.364	40.500	(	2)
<hr style="border-top: 1px dashed black;"/>						
TOTAL	1549.000	45.559	6.876	1315.795	(	34)

## ANOVA TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	244.5876	( 3)	81.5293
WITHIN GROUPS	1315.7946	( 30)	43.8598
TOTAL	1560.3824	( 33)	

F = 1.8537

Level of Significance = N.S.

Table 6.12

One Way Analysis of Variance of MRCI Professional Score  
by Ward Positions: End of Ward Experience

ANALYSIS OF VARIANCE					
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SURGICAL	482.000	60.250	6.519	297.500	( 8)
MEDICAL	672.000	56.000	4.390	212.000	( 12)
MATERNITY	619.000	56.273	5.255	276.182	( 11)
SPECIALIST	114.000	57.000	9.899	98.000	( 2)
-----					
TOTAL	1887.000	57.182	5.548	883.682	( 33)

ANNOVA TABLE			
	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	101.2273	( 3)	33.7424
WITHIN GROUPS	883.6813	( 29)	30.4718
TOTAL	984.9086	( 32)	

F = 1.1073

Level of Significance = N.S.

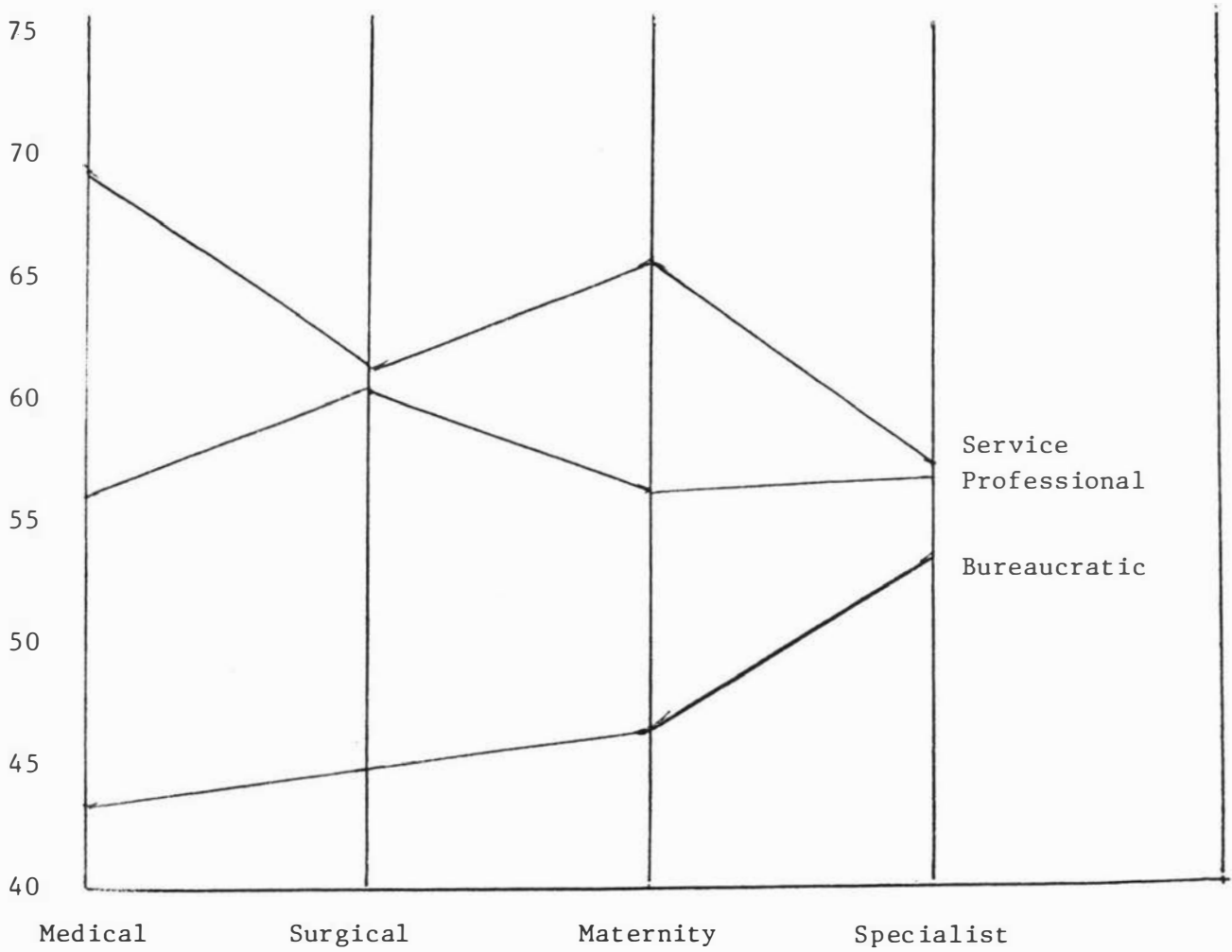
Table 6.13

Summary of MRCI Service, Bureaucratic and Professional  
Scores by Ward Positions: End of Ward Experience

MRCI Scales	Medical		Surgical		Maternity		Specialist		ANOVA Sig.
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Service	69.15	7.99	62.87	6.71	65.80	5.96	57.50	16.26	N.S.
Bureaucratic	43.15	5.62	44.87	6.24	47.45	7.89	53.50	6.36	N.S.
Professional	56.00	4.39	60.25	6.52	56.27	5.25	57.00	9.89	N.S.

Figure 6.6

Comparisons of MRCI Service, Bureaucratic and Professional  
Mean Role Scores by Ward Position



each of the role definitions occurred in the ward situation predicted by the hypotheses. Although the lack of statistical significance must again lead to the greatest caution in interpreting these results some limited support is therefore found for the hypothesised relationships.

#### Personality and Position

Hypothesis 1.8 related personality to positions in tutorial school and wards.

Hy 1.8. Positions in wards will be associated with higher levels of self-actualisation than those in tutorial school.

The data relating to this hypothesis is presented in Table 6.14. From Table 6.14 it can be seen that the scores rise from 81.17 during initial tutorial school to 84.5 during ward positions and to 87.39 during the final tutorial school. The progression is linear and the Anova significant at the .01 level. For Hypothesis 1.8 to be supported both tutorial schools scores would have to have been lower than those for ward positions. This is not the case and the hypothesis is therefore not supported. What the results suggest is that a continuing shift in personality occurs due perhaps to increasing familiarity, competence or maturation rather than to differences in position.

Further tests of relationships between personality and position are suggested in hypotheses 1.9, 1.10 and 1.11.

Hy 1.9. Individuals occupying positions in medical wards will emphasise personality characteristics in the self-actualised range.

Hy 1.10. Individuals occupying positions in surgical wards will emphasise personality characteristics in the normal range.

Hy 1.11. Individuals occupying positions in maternity wards will emphasise personality characteristics in the non self-actualised range.

Table 6.15 presents the relevant data. It can be seen that when specialist wards are discounted the order of the scores is as predicted, the highest score occurring among individuals in medical wards, the next highest among individuals in surgical wards and the lowest score among individuals in maternity wards. However, all scores fall within

Table 6.14

One Way Analysis of Variance of POI Inner Directedness  
by Tutorial School and Ward Positions

A N A L Y S I S O F V A R I A N C E

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
BEGIN TUT SCHOOL	3815.000	81.170	8.776	3542.638	(	47
END 10 WEEKS WARD	2873.000	84.500	8.666	2478.500	(	34
FINAL TUT SCHOOL	2884.000	87.394	7.583	1839.879	(	33
-----						
TOTAL	9572.000	83.965	8.737	7861.017	(	114

A N O V A T A B L E

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	764.8426	( 2)	382.4213
WITHIN GROUPS	7861.0171	( 111)	70.8200
TOTAL	8625.8597	( 113)	

$F = 5.3999$

Level of Significance = .01

the range described by Shostrom as normal and the analysis of variance fails to reach the .05 level of significance. The failure to discriminate between ward positions in any substantial or statistically significant manner means that hypotheses 1.9, 1.10 and 1.11 are not confirmed.

#### Personality, Position and Role

Chapter Five presented two hypotheses relating the interactive effects of personality and position to role definition. The first emphasised the reinforcement of particular role definitions where personality and positional emphases coincide:

Hy 1.12. Where personality and position both emphasise a particular role definition the individual's emphasis on that role definition will increase.

The second hypothesis emphasised the priority of personality over positions where differences in emphasis on role definition occur:

Hy 1.13. Where conflict over role definition occurs between personality and position the role definition emphasised will be that associated with personality.

The particular agreements and conflicts formed on the basis of preceding hypotheses were summarised in Figure 5.2. These predictions are reproduced in Figure 5.7.

Predictions of role emphasis on the basis of personality type are indicated in the top right hand corner of each cell. Predictions of role emphasis on the basis of position are indicated in the bottom left hand corner of each cell. Agreement between predicted emphases are capitalised and underlined (cells 1, 5 and 9). Where disagreement over predicted emphases occurs the personality emphasis is preferred (cells 2, 3, 4, 6, 7 and 8).

In order to test the hypotheses three analyses of variance were performed on each of the MRCI total scales. The results are presented in Tables 6.16, 6.17 and 6.18 and summarised in Table 6.19. Figure 6.8 presents the results in comparable form to the predictions in Figure 6.7.

From Table 6.16 it can be seen that service role definition was emphasised most highly by self-actualised individuals on medical wards (74.33) followed by self-actualised individuals on maternity wards (71.00) and normal individuals on medical wards (68.67). Thus two of the three predicted service orientations (those for self-actualised individuals on medical and maternity wards) were among the top three service scores,

Table 6.15

One Way Analysis of Variance of POI Inner Directedness Score  
by Ward Positions: End of Ward Experience

## ANALYSIS OF VARIANCE

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	(	N
SURGICAL	671.000	83.875	7.809	426.875	(	8)
MEDICAL	1098.000	84.462	10.333	1281.231	(	13)
WATERNITY	921.000	83.727	7.989	638.182	(	11)
SPECIALIST	183.000	91.500	4.950	24.500	(	2)
TOTAL	2873.000	84.500	8.666	2370.788	(	34)

## ANOV A TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	107.7124	( 3)	35.9041
WITHIN GROUPS	2370.7876	( 30)	79.0263
TOTAL	2478.5000	( 33)	

F = 0.4543

Level of Significance = N.S.

Figure 6.7

Predicted Role Definitions by Personality  
and Positional Emphases

Positional Types and Emphases	Personality Types and Emphases		
	Self- Actualised (Service)	Normal (Professional)	Non-Self Actualised (Bureaucratic)
Medical (Service)	1            Service  <u>      </u> SERVICE  <u>      </u> Service	2            Professional  PROFESSIONAL  Service	3            Bureaucratic  BUREAUCRATIC  Service
Surgical (Professional)	4            Service  SERVICE  Professional	5            Professional  <u>      </u> PROFESSIONAL  <u>      </u> Professional	6            Bureaucratic  BUREAUCRATIC  Professional
Maternity (Bureaucratic)	7            Service  SERVICE  Bureaucratic	8            Professional  PROFESSIONAL  Bureaucratic	9            Bureaucratic  <u>      </u> BUREAUCRATIC  <u>      </u> Bureaucratic

Table 6.16

One Way Analysis of Variance of MRCI Service Scores  
by Personality and Position: End of Ward Experience

## ANALYSIS OF VARIANCE

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ		N
MEDICAL SELF-ACT	115.000	57.500	16.263	264.500	(	2)
MEDICAL NORMAL	223.000	74.333	2.309	10.667	(	3)
MEDICAL NDV SELF-A	412.000	68.667	10.764	579.333	(	6)
MEDICAL NDV SELF-A	264.000	66.000	4.320	56.000	(	4)
SURGICAL SELF-ACT	114.000	57.000	1.414	2.000	(	2)
SURGICAL NORMAL	118.000	59.000	0.000	0.000	(	2)
SURGICAL NDV SELF-A	271.000	67.750	0.292	118.750	(	4)
MATERNITY SELF-ACT	142.000	71.000	4.243	18.000	(	2)
MATERNITY NORMAL	342.000	68.400	2.074	17.200	(	5)
MATERNITY NDV SELF-A	174.000	58.000	2.646	14.000	(	3)
TOTAL	2175.000	65.909	7.943	1080.450	(	33)

## ANOVA TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	938.2773	( 9)	104.2530
WITHIN GROUPS	1080.4500	( 23)	46.9761
TOTAL	2018.7273	( 32)	

F = 2.2195

Level of Significance = N.S.

Table 6.17

One Way Analysis of Variance of MRCI Bureaucratic Scores  
by Personality and Position: End of Ward Experience

ANALYSIS OF VARIANCE						
VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N	
	107.000	53.500	6.364	40.500	2)	
MEDICAL SELF-ACT	116.000	38.667	2.309	10.667	3)	
MEDICAL NORMAL	258.000	43.000	5.177	134.000	6)	
MEDICAL NON SELF-A	187.000	46.750	6.397	122.750	4)	
SURGICAL SELF-ACT	90.000	45.000	2.828	8.000	2)	
SURGICAL NORMAL	100.000	50.000	11.314	128.000	2)	
SURGICAL NON SELF-A	169.000	42.250	4.349	56.750	4)	
MATERNITY SELF-ACT	75.000	37.500	3.536	12.500	2)	
MATERNITY NORMAL	228.000	45.000	4.722	89.200	5)	
MATERNITY NON SELF-A	219.000	54.750	5.560	92.750	4)	
TOTAL	1549.000	45.559	6.876	695.117	34)	

ANNOVA TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	865.2657	( 9)	96.1406
WITHIN GROUPS	695.1167	( 24)	28.9632
TOTAL	1560.3824	( 33)	

F = 3.3194

Level of Significance = .01

Table 6.18

One Way Analysis of Variance of MRCI Professional Scores  
by Personality and Position: End of Ward Experience

## ANALYSIS OF VARIANCE

VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
	114.000	57.000	9.899	98.000	2)
MEDICAL SELF-ACT	165.000	55.000	0.000	0.000	3)
MEDICAL NORMAL	286.000	57.200	6.648	176.800	5)
MEDICAL NIV SELF-A	221.000	55.250	2.754	22.750	4)
SURGICAL SELF-ACT	132.000	66.000	1.414	2.000	2)
SURGICAL NORMAL	118.000	59.000	11.314	128.000	2)
SURGICAL NIV SELF-A	232.000	58.000	5.099	78.000	4)
MATERNITY SELF-ACT	119.000	59.500	7.778	60.500	2)
MATERNITY NORMAL	276.000	55.200	5.357	114.800	5)
MATERNITY NIV SELF-A	224.000	56.000	4.967	74.000	4)
-----					
TOTAL	1887.000	57.182	5.548	754.850	33)

## ANOVA TABLE

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE
BETWEEN GROUPS	230.0591	( 9)	25.5621
WITHIN GROUPS	754.8500	( 23)	32.8196
TOTAL	984.9091	( 32)	

F = 0.7789

Level of Significance = N.S.

Table 6.19

Summary of MRCI Service, Bureaucratic and Professional  
Scores by Personality and Position:  
End of Ward Experience

Position	Role	Personality			
		Self-Actualised	Normal	Non-Self Actualised	Combined
Medical	Service	74.33	68.67	66.00	69.15
	Bureaucratic	38.67	43.00	46.75	43.15
	Professional	55.00	57.20	55.25	56.00
Surgical	Service	57.00	59.00	67.75	62.87
	Bureaucratic	45.00	50.00	42.25	44.87
	Professional	66.00	59.00	58.00	60.25
Maternity	Service	71.00	68.40	58.00	65.80
	Bureaucratic	37.50	45.60	54.75	47.45
	Professional	59.50	55.20	56.00	56.27
Total	Service	65.62	67.21	64.45	65.91
	Bureaucratic	42.37	45.36	47.92	45.56
	Professional	60.00	56.15	56.42	57.18

Figure 6.8

Actual Role Definitions by Personality  
and Positional Emphases

Position	Personality		
	Self-Actualised	Normal	Non-Self Actualised
Medical	1. Service <u>SERVICE</u> Service	2. Professional <u>SERVICE</u> Service	3. Bureaucratic <u>BUREAUCRATIC</u> Service
	4. Service <u>PROFESSIONAL</u> Professional	5. Professional <u>BUR/PROF</u> Professional	6. Bureaucratic <u>PROFESSIONAL</u> Professional
Maternity	7. Service <u>SERV/PROF</u> Bureaucratic	8. Professional <u>BUREAUCRATIC</u> Bureaucratic	9. Bureaucratic <u>BUREAUCRATIC</u> Bureaucratic

although the analysis of variance failed to reach the .05 level of significance.

From Table 6.17 it can be seen that bureaucratic role definition was emphasised most highly by non self-actualised individuals on maternity wards (54.75), followed by normal individuals on surgical wards (50.00) and non self-actualised individuals on medical wards (46.75). Again, two of the three predicted emphases (those for non self-actualised individuals on maternity and medical wards) were among the three highest scores. In this case moreover, the analysis of variance was significant at better than the .01 level.

From Table 6.18 it can be seen that professional role definitions were most highly emphasised by self-actualised individuals on surgical wards (66.00) followed by self-actualised individuals on maternity wards (59.50) and normal individuals on surgical wards (59.00). In this case only one of the predicted emphases (that for normal individuals on surgical wards) was confirmed. The analysis failed to reach the .05 level of statistical significance.

Table 6.19 presents the mean scores from Tables 6.16, 6.17 and 6.18 in summary form, while Figure 6.8 abstracts, in simplified form, the actual emphases predicted in Figure 6.7 and presented in Table 6.19.

From Table 6.19 and Figure 6.8 it becomes apparent that in each of the three cases where personality and positional emphases on role definition agreed (cells 1, 5 and 9) the predicted emphasis occurred though only one (cell 9) was supported by a statistically significant analysis of variance. In two cases (cells 3 and 7) personality emphasis prevailed; in two cases (cells 2 and 4) positional emphasis prevailed; in two cases (cells 5 and 7) non-predicted emphases were apparent and in two cases no emphasis was apparent (cells 6 and 8).

These results, while on the whole failing to find support through tests of statistical significance, offer some limited support for Hypothesis 1.12 that where personality and positional emphases on role definition coincide, the individual's emphasis on that role definition will increase. Hypothesis 1.13 was only supported in two cases (cells 3 and 7), neither of which were included in a statistically significant analysis of variance, and was contradicted in two cases (cells 2 and 4) neither of which, again, was included in a statistically significant analysis of variance. Overall however, the differences in emphasis, while not statistically significant, were, at least in terms of Hypothesis

1.12, systematic and in the predicted directions.

#### Individual Level Analysis: Summary

The theoretical propositions contained in Chapter Four suggested that personality and positions would be major determinants of role definition. Moreover, the influences of personality and position would be independent. In situations where their role definitions coincided the resultant role definition would be stronger than when personality and positional emphasis differed. The hypotheses formulated in Chapter Five suggested the anticipated directions of emphasis and influence.

As far as the influence of personality on role definition is concerned none of the specific hypotheses was confirmed during any administration at a statistically significant level better than .05. Despite the lack of statistical significance however, some limited indications were found that self-actualised individuals, as predicted, were likely to emphasise service role definitions consistently more than other groups. In a similar manner non self-actualised individuals tended to emphasise bureaucratic role definitions. The emphases of normal individuals tended to fluctuate throughout the test administrations.

The influence of position on role as stated in the hypotheses relating ward to tutorial school positions was contradicted by the findings. The theoretical proposition that positions would differ in their emphasis on role definitions was supported by the increase in service and the decrease in professional and bureaucratic emphases during the initial tutorial school; and by the decreases in professional and the increases in bureaucratic and service emphases during final tutorial school.

The second test of positional influence on role definitions was concerned with the differing role emphases occurring on differing wards. While the analysis was again statistically non-significant, highest emphasis on service role was found in medical wards; highest emphasis on professional role was found in surgical wards and highest emphasis on bureaucratic role was found in maternity wards. None of the predicted relationships were supported by statistical tests of significance; however, all were in the directions predicted.

The relationship between personality and position is more difficult to interpret. The first test which related personality to positions in tutorial school and ward shows a distinct linear trend. This trend

however, is more likely to be related to the increase of inner directedness scores as a result of maturation, experience and time. Differences between scores while in tutorial school and ward positions are not consistent with our hypothesis that wards and tutorial school encourage differing personality traits. No significant differences in personality were found between respondents occupying positions on differing wards. The data presented therefore offer little justification for regarding position as a significant influence on personality.

When the interactive effects of personality and position on role were examined however, in each of the three cases where coincidence of personality and positional role emphasis was predicted, such an emphasis was shown, though on only one occasion in a statistically significant analysis of variance. Of the six instances where personality and positional emphases were predicted to conflict, two cases showed personality emphasis to dominate; two cases showed positional emphasis to dominate and two cases showed no particular emphasis. Once again however, lack of statistically significant analyses of variance disallowed the placing of any great confidence in the results of the empirical investigation.

#### Group Level Results

Group level analysis can be approached in two distinct ways. Firstly, a number of different groups can be selected which vary systematically on each of the variables under consideration. Such an approach is likely to maximise the statistical significance of the differences between groups. It leads to problems in matching the composition of the groups. The second alternative is the examination of the same group at different times and under differing conditions. This approach may well result in lower levels of statistical significance, but it does have the advantage of standardising and therefore controlling group composition. The second alternative is employed in the examination

of group level hypotheses in the present study, the conditions by which the group is differentiated are based on the administration of the test instruments at (i) the beginning of the initial tutorial school (ii) end of initial tutorial school, (iii) end of ten weeks' ward experience, and (iv) end of final tutorial school.

#### Positional Variety and Role Collection

The first group level hypothesis relates positional difference to role collection:

Hy 2.1. The more positional difference within the group the larger the role collection.

Positional differences are limited in the present research group as all subjects occupy the same position in the tutorial school: that of student nurse. However, positional differentiation as first year nurses in various wards allows a comparison between a situation of limited positional difference in tutorial school with one of rather greater difference in the wards. The increase in positional difference in the ward situation should, according to hypothesis 2.1, lead to increases in the range of role definitions in the group. This hypothesis was tested by comparing the variance of MRCI role scores during the beginning and end of initial tutorial school, at the end of ten weeks' ward experience and at the end of final tutorial school. Table 6.20 presents mean, variance and range of scores for the group under these conditions.

It can be seen from Table 6.20 that with the exception of bureaucratic scores that the end of initial tutorial there is a consistent trend towards reductions in both variance and range of scores as the group moves from entry to initial tutorial school to final tutorial school. In order to support hypothesis 2.1 a marked increase in variance during ward experience was necessary. Such an increase did not occur.

Homogeneity of variance was tested between group conditions and the results are presented in Table 6.21. It can be seen that only three results, those for professional role scores between beginning of initial tutorial school and end of initial tutorial school, beginning of initial tutorial school and end of ten weeks' ward and beginning of initial tutorial school and final tutorial school reached the .05 level of significance; only one, that for bureaucratic role scores between the end of initial tutorial school and final tutorial school reached

Table 6.20

Mean, Variance and Range of MRCI Service, Bureaucratic  
and Professional Scores by Position  
in Tutorial School and Ward

	n	Service			Bureaucratic			Professional		
		Mean	Var.	Range	Mean	Var.	Range	Mean	Var.	Range
1. Begin Tut. School	43	59.05	73.33	46	49.97	55.39	33	59.39	61.14	30
2. End Init. Tut. School	39	66.87	74.06	40	45.97	72.39	39	55.15	32.82	24
3. End 10 Weeks Ward	33	65.91	63.08	34	45.56	47.28	25	57.18	30.77	21
4. Final Tut. School	31	66.19	57.96	32	46.93	41.58	23	54.97	34.55	22

Table 6.21

Homogeneity of Variance for MRCI Service, Bureaucratic  
and Professional Scores by Positions in  
Tutorial School and Ward

Comparison	MRCI Scores					
	Service		Bureaucratic		Professional	
	F	Sig	F	Sig	F	Sig
Begin Initial Tutorial School by End Initial Tutorial School	1.01	.50	1.307	.25	1.863	.05
Begin Initial Tutorial School by End 10 Weeks Ward	1.163	.50	1.172	.50	1.987	.05
Begin Initial Tutorial School by Final Tutorial School	1.278	.25	1.333	.25	1.770	.05
End Initial Tutorial School by End 10 Weeks Ward	1.174	.50	1.531	.25	1.067	.50
End Initial Tutorial School by Final Tutorial School	1.278	.25	1.741	.10	1.053	.50
End 10 Weeks Ward by Final Tutorial School	1.089	.50	1.137	.50	1.123	.50

the .10 level of significance; and that all other levels of significance were lower than .25, most being below .50. These low levels of significance mean that the results should be treated with caution, however, it is clear that hypotheses 2.1, that greater positional differentiation leads to greater role diversity, is not supported in the contrast between tutorial school and ward positions. It is also clear that the degree of positional differentiation under the various conditions is very limited thus preventing any conclusive test of the hypothesis. Despite these reservations it is also apparent that there is a general decrease in the variance and range of scores within the group through time.

This general decrease might however be argued to be a result of the decreasing size of the group as various individuals leave during the training. In order to check this possibility the same tests were applied to the group consisting of only those nurses who were present during final tutorial school. The mean, variance and range of this adjusted group's scores under the same conditions are presented in Table 6.22. It can be seen that the differences between the results presented in Table 6.20 and 6.22 are slight. Comparisons of the homogeneity of variance between groups presented in Tables 6.21 and 6.23 also show little difference. It is therefore unnecessary to re-assess the conclusions reached above. Alternative explanations must be found for the increases in homogeneity of role definition that do occur over time.

#### Positional Variety and Values

The second group level hypothesis relates positional differentiation to agreement over values:

Hy 2.2. The more positional differences within the group  
the less the agreement over values.

This hypothesis is tested firstly by examination of several general value scores derived from the POI: the summary scale of Inner Directedness and the two value sub-scales of existentiality (flexibility in the application of values) and the nature of man (positive views of man's nature). Mean, variance and range of these scores at beginning of initial tutorial school, end of ten week's ward experience and end of final tutorial school are presented in Table 6.24.

From Table 6.24 it can be seen that the variance on inner directedness and existentiality reduces progressively from initial to

Table 6.22

Mean, Variance and Range of MRCI Service, Bureaucratic  
and Professional Scores by Positions in Tutorial School  
and Ward Adjusted to Exclude Leavers (n = 31)

	MRCI Scores								
	Service			Bureaucratic			Professional		
	Mean	Var.	Range	Mean	Var.	Range	Mean	Var.	Range
Begin Initial Tutorial School	60.76	68.43	44	49.74	59.05	32	58.38	63.28	28
End Initial Tutorial School	66.43	69.27	40	46.46	72.99	37	55.11	39.06	24
End 10 Weeks Ward	64.63	65.55	34	46.14	49.49	25	57.78	33.14	21
End Final Tutorial School	66.19	57.96	32	46.93	41.58	23	54.67	34.55	22

Table 6.23

Homogeneity of Variance for MRCI Service, Bureaucratic  
and Professional Scores by Positions in Tutorial School  
and Ward Adjusted to Exclude Leavers

Comparison	MRCI Scores					
	Service		Bureaucratic		Professional	
	F	Sig	F	Sig	F	Sig
Begin Initial Tutorial School by End Initial Tutorial School	1.012	.50	1.236	.50	1.620	.10
Begin Initial Tutorial School by End 10 Weeks Ward	1.044	.50	1.193	.50	1.909	.05
Begin Initial Tutorial School by Final Tutorial School	1.181	.50	1.420	.25	1.832	.10
End Initial Tutorial School by End 10 Weeks Ward	1.057	.50	1.475	.25	1.179	.50
End Initial Tutorial School by Final Tutorial School	1.195	.50	1.924	.05	1.131	.50
End 10 Weeks Ward by Final Tutorial School	1.131	.50	1.190	.50	1.043	.50

Table 6.24

Mean, Variance and Range of POI Inner Directed,  
Existentiality and Nature of Man Scores by  
Positions in Tutorial School and Ward

	n	Inner Directed			Existentiality			Nature of Man		
		Mean	Var.	Range	Mean	Var.	Range	Mean	Var.	Range
Begin Initial Tutorial School	47	81.17	77.01	37	20.81	17.67	18	10.70	3.08	8
End 10 Weeks Ward	34	84.50	75.11	38	22.62	12.73	13	10.71	7.12	11
End Final Tutorial School	33	87.39	57.50	24	23.44	10.07	13	10.45	4.75	8

final tutorial school positions, while the variance for the nature of man scale increased during ward positions. Table 6.25 reports homogeneity of variance tests between conditions, only one of which reaches even the .10 of significance. Statistically therefore the results must be treated with great caution. Despite this need for caution there is still a distinct trend for a reduction in variance especially on the inner directedness scale even though means alter. A similar pattern exists for the existentiality scale. The nature of man scale is the only scale that supports hypothesis 2.2 through an increase in variance associated with the increase in positional differentiation during ward experience. The adjusted group results presented in Tables 6.26 and 6.27 are comparable to those in Tables 6.24 and 6.25 and produce no more support for the hypothesis.

The results from the major scale of inner directedness and the sub-scale of existentiality do not therefore support the association of greater diversity of values with greater positional differentiation presented in hypothesis 2.2. The scores for the nature of man scale do offer some support, though this is limited by the low levels of statistical significance of the tests of homogeneity of variance between conditions.

A second test of hypothesis 2.2 was carried out by comparing scores on the specific values of job satisfaction and vocational comparison under the same conditions as above. The results are presented in Table 6.28. From Table 6.28 it can be seen that there is a distinct reduction in the variance of job satisfaction scores though the mean scores remain similar. No such considerable reduction occurs for vocational comparison scores. The homogeneity of variance tests between group conditions are presented in Table 6.29. For comparisons of variance on job satisfaction scores, statistical significance ranges from .10 to .0005, four comparisons are better than the .025 level, three better than the .005 level and two better than the .0005 level. None of the vocational comparison tests reached levels better than .05.

The substantial alteration in variance of job satisfaction scores might well be interpreted as being a result of the reduction in group size due to those nurses with low job satisfaction scores leaving, however, two factors argue against this. Firstly the mean scores do not rise substantially as might be expected if those who were dissatisfied with the job left and secondly, neither the mean nor the variance of the

Table 6.25

Homogeneity of Variance for POI Inner Directed,  
Existentiality and Nature of Man Scores by  
Positions in Tutorial School and Ward

Comparison	Inner Directed		Existentiality		Nature of Man	
	F	Sig	F	Sig	F	Sig
Begin Initial Tutorial School by End 10 Weeks Ward	1.026	.50	1.388	.25	1.001	.50
Begin Initial Tutorial School by Final Tutorial School	1.340	.25	1.755	.10	1.024	.50
End 10 Weeks Ward by Final Tutorial School	1.307	.25	1.265	.50	1.025	.50

Table 6.26

Mean, Variance and Range of POI Inner Directed, Existentiality and Nature of Man Scores by Positions in Tutorial School and Ward Adjusted to Exclude Leavers (n = 31)

	Inner Directed			Existentiality			Nature of Man		
	Mean	Var.	Range	Mean	Var.	Range	Mean	Var.	Range
Begin Initial Tutorial School	81.69	77.97	32	20.76	16.81	18	10.58	3.31	8
End 10 Weeks Ward	84.45	76.12	38	22.67	13.09	13	10.58	7.38	11
End Final Tutorial School	87.39	57.49	24	23.45	10.07	13	10.45	4.75	8

Table 6.27

Homogeneity of Variance for POI Inner Directed, Existentiality  
and Nature of Man Scores by Positions in Tutorial School and  
Ward Adjusted to Exclude Leavers

Comparison	Inner Directed		Existentiality		Nature of Man	
	F	Sig	F	Sig	F	Sig
Begin Initial Tutorial School by End 10 Weeks Ward	1.025	.50	1.285	.25	2.230	.05
Begin Initial Tutorial School by Final Tutorial School	1.357	.25	1.670	.10	1.435	.25
End 10 Weeks Ward by Final Tutorial School	1.324	.25	1.300	.25	1.554	.25

Table 6.28

Mean, Variance and Range of Job Satisfaction and Vocational Comparison Scores by Position in Ward and Tutorial School

	n	Job Satisfaction			Vocational Comparison		
		Mean	Var.	Range	Mean	Var.	Range
Begin Initial Tutorial School	47	40.97	29.40	20	9.56	10.01	15
End Initial Tutorial School	39	41.46	16.15	14	10.21	9.17	13
End 10 Weeks Ward	34	41.07	14.07	16	10.12	7.44	14
End Final Tutorial School	33	40.40	4.62	10	10.00	8.09	12

Table 6.29

Homogeneity of Variance for Job Satisfaction and Vocational  
Comparison Scores by Position in Tutorial School and Ward

Comparison	Job Satisfaction		Vocational Comparison	
	F	Sig	F	Sig
Begin Initial Tutorial School by End Initial Tutorial School	1.820	.10	1.092	.50
Begin Initial Tutorial School by End 10 Weeks Ward	2.090	.025	1.345	.25
Begin Initial Tutorial School by Final Tutorial School	6.364	.0005	1.237	.50
End Initial Tutorial School by End 10 Weeks Ward	1.148	.25	1.233	.50
End Initial Tutorial School by Final Tutorial School	3.496	.0005	1.133	.50
End 10 Weeks Ward by Final Tutorial School	3.045	.005	1.087	.50

vocational comparison scores alters greatly. In order to test the comparisons when the influence of leavers was removed, the adjusted scores were computed and are presented in Table 6.30. Homogeneity of variance between conditions is reported in Table 6.31.

It can be seen from comparison of Table 6.28 with 6.30 and Table 6.29 with Table 6.31 that although differences do occur, the same trends are apparent within the adjusted group as within the group as a whole. Little evidence is found in the data in support of hypothesis 2.2. What is apparent is that there is a substantial reduction in variance over both general and specific values not between positions but over time.

#### Positional Variety and Authority

The third hypothesis at the group level relates positional differences within the group to differences in authority.

Hy 2.3. The more positional differences within the group the greater the differences in authority.

Authority was argued in Chapter 4 to be legitimated by the official order of positions within the group. In this group however, there is no official order differentiating positions on the basis of authority either in the tutorial school or the ward. Hypothesis 2.3 is therefore untestable within this particular research case.

#### Positional Variety and Exchange

The fourth hypothesis at the group level relates positional difference to exchange within the group:

Hy 2.4. The more positional differences within the group the lower the level of exchange.

Exchange was defined in Chapter 4 as the non-legitimated order of positions in the group and it was argued that groups varied in the degree of interconnectedness of the non-legitimated order of positions, some groups having diffuse exchange structures and some centralised or discrete structures. The interconnectedness of the group was measured through the sociometric programme described in Chapter 5 and listed in Appendix G.

Sociomatrices of ultimate connectedness for the group at beginning of tutorial school, end of ten weeks' ward experiences and final tutorial school are presented in Figures 6.9, 6.10 and 6.11 respectively. Unfortunately sociometric data is incomplete, some nurses declining to identify others with whom they had the highest contact. Sociometric data

Table 6.30

Mean, Variance and Range of Job Satisfaction and Vocational Comparison Scores by Position in Ward and Tutorial School Adjusted to Exclude Leavers (n = 33)

Comparison	Job Satisfaction			Vocational Comparison		
	Mean	Var.	Range	Mean	Var.	Range
Begin Initial Tutorial School	41.32	19.30	20	9.75	8.76	15
End Initial Tutorial School	41.03	13.49	13	10.64	10.23	13
End 10 Weeks Ward	41.07	11.72	13	10.42	7.93	14
End Final Tutorial School	40.40	4.62	10	10.00	8.09	12

Table 6.31

Homogeneity of Variance for Job Satisfaction and Vocational  
Comparison Scores by Position in Tutorial School and Ward  
Adjusted to Exclude Leavers (n = 33)

Comparison	Job Satisfaction		Vocational Comparison	
	F	Sig	F	Sig
Begin Initial Tutorial School by End Initial Tutorial School	1.431	.25	1.168	.50
Begin Initial Tutorial School by End 10 Weeks Ward	1.647	.10	1.105	.50
Begin Initial Tutorial School by End Tutorial School	4.178	.0005	1.083	.50
End Initial Tutorial School by End 10 Weeks Ward	1.151	.25	1.290	.25
End Initial Tutorial School by Final Tutorial School	2.920	.005	1.265	.50
End 10 Weeks Ward by Final Tutorial School	2.537	.01	1.021	.50

Figure 6.9

Matrix of Ultimate Connectedness for Group at  
Beginning of Initial Tutorial School

	ROW=CHOOSE																COLUMN=CHOSEN																	
	FIRST COLUMN ON RIGHT=NO OF PERSONS CHOICES LEAD TO																																	
	LAST COLUMN ON RIGHT=NO OF PERSONS FROM WHOM CHOICES LEAD																																	
1	110000101111111000101011011011110110111011111111	33	8																															
2	110000101111111000101011011011110110111011111111	33	7																															
3	001100000000000010010000000000000000000000000000	5	5																															
4	001100000000000010010000000000000000000000000000	5	5																															
5	00001000	2	3																															
6	000001000100010000000001100101111000000101111100	17	1																															
7	00000100100011000001011001011110110111011111110	24	15																															
8	00000001000000000010010000000000100000000000000	5	5																															
9	110000101111111000101011011011110110111011111111	33	8																															
10	00000000010000000000000000000000000000000000000	1	29																															
11	110000101111111000101011011011110110111011111111	33	8																															
12	00000010010101100010101100101111011011101111110	26	8																															
13	110000101111111000101011011011110110111011111111	33	8																															
14	00000000000000100000000100000000000000000000100111000	7	30																															
15	000000100100011000001011001011110110111011111110	24	17																															
16	001100000000000010010000000000000000000000000000	5	5																															
17	00000000000000000110000000000000000000000000110000000	5	3																															
18	000000000000000001100000000000000000000000000110000000	5	3																															
19	000000000000000000001000000000000000000000000000000	1	19																															
20	000000000000000000000001000000000000000000000000000	1	1																															
21	000000000000000000000000100000000000000000000000000	1	16																															
22	000000010000000000010010000000000100000000000000000	5	5																															
23	000000000000000000000000100000000000000000000000000	1	29																															
24	000000000000000000000000000000100000000000000000000	1	25																															
25	000000000000000000000000000000010000000000000000000	1	1																															
26	000000100100011000001011011011110110111011111111	26	10																															
27	000000000100010000000011001011110000001011111100	16	26																															
28	0000100	2	3																															
29	000000000100010000000011001011110000001011111100	16	23																															
30	000000000100010000000011001011110000001011111100	16	25																															
31	000000000100010000000011001011110000001011111100	16	24																															
32	000000000100010000000011001011110000001011111100	16	24																															
33	00000001000000000010010000000000100000000000000000	5	5																															
34	000000000100010000000011001011110100001011111100	17	16																															
35	000000100100011000001011001011110110111011111110	24	19																															
36	110000101111111000101011011011110111111011111111	34	1																															
37	00100000000	1	16																															
38	000000100100011000001011001011110110111011111110	24	15																															
39	00100000000	1	32																															
40	00010000000	1	5																															
41	000	1	25																															
42	00000000000001000000001000000000000000000000000100111000	7	28																															
43	00000000000000100000000100000000000000000000000100111000	7	29																															
44	00000000000000100000000100000000000000000000000100111000	7	29																															
45	000000000100010000000011001011110000001011111100	16	26																															
46	000000100100011000001011001011110110111011111110	24	19																															
47	0000001001000110000010110110111101101110111111111	26	10																															





at the end of the initial tutorial school is also not reported as the number of nurses declining to provide the required information on that occasion was close to 40%. The absence of such a significant proportion of data would make conclusions drawn thoroughly suspect.

The sociomatrices presented in Figures 6.9, 6.10 and 6.11 can be used to calculate the total number of direct and indirect connections between individuals within the group. The first column on the right of the matrix indicates the total number of persons to whom each individual's choices lead. The second column on the right indicates the total number of persons from whom the choices lead to each individual. By summing these choice chains for each individual, the measure of group interconnectedness can be devised. For instance, in Figure 6.9 the total number of direct and indirect choices is 755. The actual number of individuals is 36. The theoretically possible level of direct and indirect choices is therefore  $36(36-1)$  i.e. all the entries in the matrix except the diagonal. This hypothetical total is 1260. The index or ratio of interconnectedness within the group is therefore  $755/1260 = .600$ . Similarly, interconnectedness ratios can be calculated for the group at the end of ten weeks' ward experience from Figure 6.10. The total possible number of choices is  $28(28-1) = 756$ . The actual number of choices is 467, giving an interconnectedness ratio of  $467/756 = .618$ . For the group at the end of tutorial school the ratio can be calculated from Figure 6.11 where the total possible choices is  $21(21-1) = 420$  and the actual number of choices 333, giving a ratio  $333/420 = .793$ . The results for each group are summarised in Table 6.32 which shows an increase of the interconnectedness ratio from .600 at the beginning of initial tutorial school to .618 at the end of ten weeks' ward experience and a further increase to .793 at the end of final tutorial school.

In order to support hypothesis 2.4 there would need to have been a markedly lower ratio during ward experience than during either tutorial school period. Though this is the case with respect to the final tutorial school, the ratio for the initial tutorial school (.600) is very close to that of the ward situation (.618). Contradictory evidence is presented as regards to hypothesis 2.4 and it is therefore unclear whether increases in positional differentiation are associated with decreases in interconnectedness. What the data show is an increase in the interconnectedness ratio through time.

Table 6.32

Actual Choices, Possible Choices and Interconnectedness Ratios for Group by Position in Tutorial School and Ward

	Actual Choices	Possible Choices	Interconnectedness Ratio
Begin Initial Tutorial School	755	1260	.600
End 10 Weeks Ward	467	756	.618
Final Tutorial School	333	420	.793

### Role Collection and Values

Hypothesis 2.5 relates role collection to agreement over values.

Hy 2.5. The larger the role collection  
the less the agreement over values.

This hypothesis was tested by comparing the variance and range of MRCI role scores (Table 6.20) with the variance and range of the POI value scores (Table 6.24) and the job satisfaction and vocational comparison value scores (Table 6.28). The comparisons are summarised in Table 6.33.

From Table 6.33 it can be seen that there are consistent reductions of variance and range of role scores (MRCI), general value scores (POI) and specific value scores (job satisfaction and comparing vocations between initial and final tutorial scores. The bottom row of the table indicates the percentage of reduction of the final tutorial school variance measured against the initial tutorial school variance. The percentage reductions ranged from 19.18% (vocational comparison) to 84.3% (job satisfaction).

The reductions in role variance (MRCI) were greatest for professional scores (43.50%) and least for service scores (20.96%) with bureaucratic scores (24.94% reducing slightly more than service scores. The percentage reductions in variance for general values (POI) were highest for existantiality (43.01%) and lowest for inner directedness (25.34%). The reductions in variance and range are consistent for role scores and for both general and specific value scores. The consistency of these reductions in variance indicate that decreases in role collection are associated with decreases in the range of values within the group. Hypothesis 2.5 is therefore supported by these results.

### Role Collection and Authority

Hypothesis 2.6 relates role collection to authority:

Hy 2.6. The larger the role collection  
the greater the range of authority.

As with hypothesis 2.3 the authority component in the research sample is undifferentiated and therefore hypothesis 2.6 is untestable.

### Role Collection and Exchange

Hypothesis 2.7 relates role collection to exchange:

Hy 2.7. The larger the role collection  
the lower the exchange.

This hypothesis is tested by comparing the variance and range of

Table 6.33

Variance and Range of MRCI Role Scores, POI Value Scores and Job Satisfaction  
and Vocational Comparison Scores by Position in Tutorial School and Ward

	MRCI Role Scores						POI Value Scores				Job Satisfaction		Vocational Comparison	
	Service		Bureaucratic		Professional		Inner Directedness		Existentiality					
	Var.	Range	Var.	Range	Var.	Range	Var.	Range	Var.	Range	Var.	Range	Var.	Range
Initial Tutorial School	73.33	46	55.39	33	61.14	30	77.01	37	17.67	18	29.40	20	10.01	15
End Initial Tutorial School	74.06	40	72.39	39	32.82	24					16.51	14	9.17	13
End 10 Weeks Ward	63.08	34	47.28	25	30.77	21	75.11	38	12.73	13	14.07	16	7.44	14
End Final Tutorial School	57.96	32	41.58	23	34.55	22	57.50	24	10.07	13	4.62	10	8.09	12
% Reduction of Initial - Final Tutorial School	20.96		24.94		43.50		25.34		43.01		84.30		19.18	

MRCI role scores with the interconnectedness ratio at entry to initial tutorial school, and of ten weeks' ward and end of final tutorial school. Results are presented in Table 6.34.

It can be seen from Table 6.34 that the downward trend of the various service, bureaucratic and professional role scores is matched by a rise in interconnectedness ratios from .600 at entry to tutorial school to .618 at end of ten weeks' ward to .793 during final tutorial school. This trend is consistent with the increases in interconnectedness (exchange) and decreases in role collection predicted by hypothesis 2.7. Hypothesis 2.7 is therefore supported by the data.

#### Values and Authority

Hypothesis 2.8 relates agreement over values to authority.

Hy 2.8. The greater the agreement over values  
the less the range of authority.

As with hypotheses 2.3 and 2.6 the lack of differentiation of authority in the research sample makes this hypothesis untestable.

#### Values and Exchange

Hypothesis 2.9 relates agreement over values to exchange:

Hy 2.9. The greater the agreement over values  
the greater the exchange.

This hypothesis is tested by comparing the variance and range of POI value scores with the interconnectedness ratios of the group at beginning of initial tutorial school, end of ten weeks' ward experience and during final tutorial school. The results are presented in Table 6.35.

From Table 6.35 it can be seen that the reductions in variance for the POI scales of inner directedness and existentiality are paralleled by the increases of interconnectedness ratio. The increase of variance on the nature of man scale during ward experience is matched by the increase in interconnectedness ratios from .600 to .618 between initial tutorial school and end of ten weeks' ward but the relationship is reversed by the subsequent decline in variance of the nature of man scale and the increase in the interconnectedness ratio between end of ward experience and final tutorial school. Changes in variance for the major scale of inner directedness and the sub-scale of existentiality when compared with changes in the interconnectedness ratio therefore support the prediction of hypothesis 2.9 that increases in agreement over values are associated with increases in exchange.

Table 6.34

Variance and Range of MRCI Role Scores and Interconnectedness  
Ratios by Position in Tutorial School and Ward

	Service Var. Range	Bureaucratic Var. Range	Professional Var. Range	Interconnectedness Ratio
Begin Initial Tutorial School	73.33 46	55.39 33	61.14 30	.600
End 10 Weeks Ward	63.08 34	47.28 25	30.77 21	.618
Final Tutorial School	57.96 32	41.58 23	34.55 22	.793

Table 6.35

Variance and Range of POI Value Scores and Interconnectedness  
Ratios by Position in Tutorial School and Ward

	Inner Directed Var.          Range	Existentiality Var.          Range	Nature of Man Var.          Range	Interconnect. Ratio
Begin Initial Tutorial School	77.01          37	17.67          18	3.08          8	.600
End 10 Weeks Ward	75.11          38	12.73          13	7.12          11	.618
Final Tutorial School	57.50          24	10.07          13	4.75          8	.793

A second test of hypothesis 2.9 was carried out in relation to the specific values of job satisfaction and vocational comparison under the same conditions as the test of general values. The results are presented in Table 6.36.

Table 6.36 shows the reduction in variance and range of scores on both job satisfaction and vocational comparison scales to the associated with increases in the interconnectedness ratio. These results are similar to those of the general value scales reported above and lend further support to hypothesis 2.9.

#### Authority and Exchange

Hypothesis 2.10 relates authority to exchange:

Hy 2.10. The greater the range of authority  
the lower the exchange.

As in the case of hypotheses 2.3, 2.6 and 2.8 this hypothesis is untestable in the context of the current research case as authority is undifferentiated.

#### Group Level Results: Summary

Ten hypotheses were formulated at the group level. Four of the hypotheses (2.3, 2.6, 2.8 and 2.10) were untestable with the current research case as levels of authority were undifferentiated and comparisons therefore impossible. Of the remaining six hypotheses, four were partially supported by the data.

Positional differences were shown to be associated with role collection in only a minimal manner. The limited support for hypothesis 2.1 is argued however to be a probable result of the very limited positional differentiation of nurses and the limited duration of their experience on wards.

Positional difference and values agreement was similarly supported only in minimal fashion by the data. Again the very limited degree of positional difference due to group conditions may well be a factor mitigating against the detection of significant differences.

Positional difference and exchange were shown to be associated in the respect that the ratio of interconnectedness altered markedly with different group conditions. The specific hypothesis that interconnectedness would be greater under conditions of low positional difference was supported by one of the comparisons although not by the other.

Role collection and values were shown to be associated in that

Table 6.36

Variance and Range of Job Satisfaction and Vocational Comparison  
Scores and Interconnectedness Ratios by Position  
in Tutorial School and Ward

	Job Satisfaction		Vocational Comparison		Interconnect. Ratio
	Var.	Range	Var.	Range	
Begin Initial Tutorial School	29.40	20	10.01	15	.600
End 10 Weeks Ward	14.07	16	7.44	14	.618
Final Tutorial School	4.62	10	8.09	12	.793

decreases in role collection were matched by increases in the interconnectedness ratio drawn from the sociomatrices.

Values and exchange were also shown to be associated in that decreases in the variance of both general and specific value scores were matched by increases in the interconnectedness ratio.

Overall results tended therefore to support the group level hypotheses proposed on the basis of the theoretical model in Chapter 4. None of the results presented here provides evidence that would invalidate the group level propositions contained in the theoretical model.

### Contextual Analysis

Contextual analysis is concerned with the effects of groups on individuals. Four sets of effects were outlined in Chapter 5, those of: (i) group role definition on individual role definition, (ii) group orientation on individual personality, (iii) group values on individual values, and (iv) group positional structure on individual role, personality and values.

#### Group and Individual Role Definition

The first hypothesis relating group role definition to individual role definition predicts alteration of individual definition towards that of the group:

Hy 3.1. The further the individual's initial role definition from that of the group the greater the likelihood of alteration towards that of the group.

This hypothesis was tested by identifying those individuals in the highest and lowest quartiles on role scores at entry to tutorial school, and comparing their scores with those of the overall group at entry to initial tutorial school and during final tutorial school. In order to support hypothesis 3.1 the mean scores of both quartiles would have to be closer to the overall group mean during final tutorial school than on entry. Tables 6.37, 6.38 and 6.39 present results for Service, Bureaucratic and Professional role scores respectively.

From Table 6.37 it can be seen that the mean service score for the overall group rose from 59.05 at entry to a final mean of 66.19, while the mean of the lowest quartile rose from 47.55 to 61.57 and that for the highest quartile rose from 67.91 to 73.10. The general convergence of initial quartile scores towards the group mean is indicated by the difference between lowest quartile and overall means on entry being 11.50,

Table 6.37

Comparisons of Mean Service Role Scores of Highest and Lowest Quartiles  
and Overall Group at Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	59.05	66.19
Standard Deviation	8.56	7.61
Lowest Quartile at Entry		
Mean	47.55	61.57
Difference from Overall Mean	11.50	4.62
Highest Quartile at Entry		
Mean	67.91	73.10
Difference from Overall Mean	8.86	6.91

Table 6.38

Comparison of Mean Bureaucratic Role Scores for Highest  
and Lowest Quartiles and Overall Group at  
Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	49.97	46.93
Standard Deviation	7.42	6.45
Lowest Quartile at Entry		
Mean	41.00	45.00
Difference from Overall Mean	8.97	1.93
Highest Quartile at Entry		
Mean	59.09	52.75
Difference from Overall Mean	9.12	5.82

Table 6.39

Comparison of Mean Professional Role Scores for Highest  
and Lowest Quartiles and Overall Group at  
Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	59.39	54.68
Standard Deviation	7.81	5.88
Lowest Quartile at Entry		
Mean	49.92	50.91
Difference from Overall Mean	9.47	3.77
Highest Quartile at Entry		
Mean	69.18	58.83
Difference from Overall Mean	9.79	4.15

well outside the overall standard deviation of 8.56, while the final mean difference was 4.62, well within the overall standard deviation of 7.61. Similarly, the mean difference between the highest quartile and overall group was 8.86 on entry, just outside the overall standard deviation of 8.56, while the final difference was 6.91, slightly below the overall mean of 7.61. While none of these differences was statistically significant there is a clear and consistent convergence of extreme scores towards the mean.

From Table 6.38 it can be seen that the mean bureaucratic role score for the overall group dropped from 49.97 to 46.93 while that for the lowest quartile rose from 41.00 to 45.00 and that for the highest quartile dropped from 59.09 to 52.75. The general convergence of initial quartile scores towards the group mean is again indicated by the differences between overall mean and lowest quartile mean (8.97) and highest quartile mean (9.12) at entry being outside the overall standard deviation of 7.42, while the final differences (1.93 and 5.82 respectively) were well within the overall standard deviation of 6.45. Again, while none of the differences was statistically significant there were consistent convergences towards the group mean for both quartiles.

From Table 6.39 it can be seen that the mean professional role score for the overall group dropped from 59.39 to 54.68, unlike that for the lowest quartile which rose from 49.92 to 50.91, while that for the highest quartile dropped from 69.18 to 58.83. The general convergence of highest and lowest quartile scores towards the group mean is again indicated by differences between overall mean and lowest (9.47) and highest (9.79) quartile scores being outside the standard deviation of the overall group at entry (7.81), while final differences (3.77 and 4.15 respectively) were both inside the overall standard deviation of the overall group (5.88).

For each of the dimensions of role definition there was consistent convergence of upper and lower quartile scores at entry towards the overall group mean during final tutorial school. That none of the differences was statistically significant may well be due to the small size of the overall group, and the fact that the scores for the upper and lower quartiles contributed substantially to the variance of the overall group, thus violating most of the assumptions necessary for tests of statistical significance. Furthermore, it is also necessary to view the results with some caution as one could expect some degree of regression

towards the mean irrespective of general group effects. Nonetheless the trends for both highest and lowest quartiles on all dimensions were consistent, those for lower quartiles showing somewhat greater convergence than those for upper quartiles.

The consistency of results lends some support to hypothesis 3.1 that extreme role definitions converge towards the group mean.

Hypothesis 3.2 related extreme role definitions to exit from the group.

Hy 3.2. The further the individual's initial role definition from that of the group the greater the likelihood of the individual leaving the group.

This hypothesis was tested by comparing the observed with the expected frequency of leaving for those in the upper quartile, between 25th and 75th percentiles and the lower quartile on service, bureaucratic and professional role dimensions. The chi square results are presented in Table 6.40.

It can be seen from Table 6.40 that the chi square results for service and bureaucratic role dimensions failed to reach the .05 level of significance. The significance level for professional comparisons reached the .01 level however. The major contribution to this significant difference was the relative imbalance of upper and lower quartile leavers, those with scores in the upper quartile being much more likely to leave than those in the lower quartile.

The results for service and bureaucratic role scores fail to support hypothesis 3.2. The results for professional role scores however, support hypothesis 3.2 in the case of those in the upper quartile but contradict the hypothesis in the case of the lower quartile. The conclusion is therefore that the hypothesis is only supported in relation to the likelihood of those nurses holding high professional role definition scores leaving more frequently than those in either categories.

#### Group Orientation and Individual Personality

The first hypothesis relating group orientation to individual orientation was hypothesis 3.3:

Hy 3.3. The further the individual's personal orientation from that of the group the greater the likelihood of alteration towards that of the group.

This hypothesis was tested by identifying individuals in the highest and lowest quartiles on inner directedness at entry to initial tutorial school and comparing their scores with those for the overall group at entry to initial tutorial school and during final tutorial school.

Table 6.40

Observed and Expected Frequencies for Leavers in Upper Quartile,  
 between 25th and 75th Percentiles and Lower Quartiles for  
 Service, Bureaucratic and Professional Role Scores

	Expected Frequency	Observed Frequency	$\chi^2$	sig
Service Role				
Upper Quartile	4	2		
25-75 Percentile	8	10		
Lower Quartile	4	4	4.00	.20
Bureaucratic Role				
Upper Quartile	4	3		
25-75 Percentile	8	10		
Lower Quartile	4	3	1.12	.70
Professional Role				
Upper Quartile	4	5		
25-75 Percentile	8	10		
Lower Quartile	4	1	9.86	.01

For hypothesis 3.3 to be supported the scores of highest and lowest quartiles should converge on the overall group mean. Table 6.41 presents the appropriate results.

From Table 6.41 it can be seen that the mean inner directedness score for the overall group rose from 81.17 to 87.39 while that for the lowest quartile rose from 69.58 to 80.10, and those for the highest quartile rose marginally from 91.67 to 92.50. The general convergence of initial quartile scores towards the group mean is indicated by the differences between overall mean and lowest quartile at entry being 11.57, well outside the overall standard deviation of 8.77, while the final mean difference was 7.29, just within the overall standard deviation of 7.58. For the highest quartile mean difference altered from 10.50 at entry, well outside the standard deviation of 8.77, to a final mean difference of 5.11, well within the overall standard deviation of 7.58. In the case of both highest and lowest quartiles the mean scores converged on the overall mean during final tutorial school, thus supporting hypothesis 3.3.

Hypothesis 3.4 related extreme personal orientation to the likelihood of leaving the group:

Hy 3.4. The further the individual's personal orientation from that of the group the greater the likelihood of the individual leaving the group.

This hypothesis was tested by comparing observed and expected frequencies of leaving among those in the highest quartile, between the 25th and 75th quartiles and in the lowest quartile on the inner directedness scale. Results are presented in Table 6.42.

From Table 6.42 it can be seen that the chi square test was significant at the .01 level. The greatest contribution to the significant difference was clearly made by the unexpectedly low frequency of leaving within both upper and lower quartiles. Hypothesis 3.4 is contradicted by these results which indicate that those with scores in the central range are most likely to leave, not those with extreme scores. When the argument of Maslow & Shostrom that self-actualised individuals are those balanced between extremes of inner and other directedness is taken into account it appears that an unexpectedly high rate of leaving occurs within the group falling within the self-actualising range of the inner directedness scale.

Table 6.41

Comparison of Inner Directedness Scores for Highest  
and Lowest Quartiles and Overall Group at  
Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	81.17	87.39
Standard Deviation	8.77	7.58
Lowest Quartile at Entry		
Mean	69.58	80.10
Difference from Overall Mean	11.57	7.29
Highest Quartile at Entry		
Mean	91.67	92.50
Difference from Overall Mean	10.50	5.11

Table 6.42

Observed and Expected Frequencies for Leavers in Upper Quartile,  
 between 25th and 75th Percentiles and in Lower Quartile  
 for Inner Directedness Scores

	Expected Frequency	Observed Frequency	$\chi^2$	sig
Inner Directedness				
Upper Quartile	4	1		
25-75 Percentile	8	13		
Lower Quartile	4	2	13.28	.01

### Group Values and Individual Values

Hypothesis 3.5. relates group and individual on the specific value of job satisfaction:

Hy 3.5. The further the individual's level of job satisfaction from that of the group the greater the likelihood of alteration towards that of the group.

This hypothesis was tested by identifying individuals in the highest and lowest quartiles on job satisfaction and vocation comparison scales at entry to initial tutorial school and comparing their scores with those for the overall group at entry and during final tutorial school. The results are presented in Tables 6.43 and 6.44.

It can be seen from Table 6.43 that the overall group mean dropped from 38.73 at entry to a final mean of 31.26, while the mean of the lowest quartile dropped from 32.17 to 30.89 and that for the highest quartile dropped from 45.17 to 31.37. The general convergence of scores is indicated by upper and lower quartile differences from the overall group mean at entry of 6.56 and 6.44 respectively, both of which are outside the overall standard deviation of 5.42. Final mean differences were 0.37 for the lower quartile and 0.11 for the upper quartile, well within the standard deviation of 2.15. Again, the scores of both upper and lower quartiles are shown to converge on the mean of the group as a whole.

From Table 6.44 it can be seen that the overall group mean for vocational comparison dropped from 8.80 to 8.18, while that of the lowest quartile rose from 5.67 to 6.75, and that of the highest quartile dropped from 12.50 to 9.71. Convergence of scores on the overall mean is indicated by upper and lower quartile differences from the overall group mean of 3.70 and 3.13 respectively at entry, neither of which differ much from the overall standard deviation while the final mean differences are 1.53 and 1.43 respectively compared with an overall standard deviation of 2.84. Thus the results for both job satisfaction and vocational comparison scales offer support for hypothesis 3.5 that individuals with extreme scores on job satisfaction will converge towards the mean of the group.

Hypothesis 3.6 related extreme scores to the likelihood of leaving the group:

Hy 3.6. The further the individual's level of job satisfaction from that of the group the greater the likelihood of the individual leaving the group.

Table 6.43

Comparison of Job Satisfaction Scores for Highest  
and Lowest Quartiles and Overall Group at  
Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	38.73	31.26
Standard Deviation	5.42	2.15
Lowest Quartile at Entry		
Mean	32.17	30.89
Difference from Overall Mean	6.56	0.37
Highest Quartile at Entry		
Mean	45.17	31.37
Difference from Overall Mean	6.44	0.11

Table 6.44

Comparison of Vocational Comparison Scores for Highest  
and Lowest Quartiles and Overall Group at  
Initial Entry and Final Tutorial School

	Initial	Final
Overall Group		
Mean	8.80	8.18
Standard Deviation	3.16	2.84
Lowest Quartile at Entry		
Mean	5.67	6.75
Difference from Overall Mean	3.13	1.43
Highest Quartile at Entry		
Mean	12.50	9.71
Difference from Overall Mean	3.70	1.53

This hypothesis was tested by comparing the expected and observed frequencies of leaving among those scoring in the highest quartile, between the 25th and 75th percentiles, and the lowest quartile on the job satisfaction and vocational comparison scales. Results are presented in Table 6.45.

It can be seen from Table 6.45 that no significant differences were found between the rates of leaving of those with high and low job satisfaction and vocational comparison scores. Hypothesis 3.6 was therefore not confirmed.

#### Positional Structure, Individual Role, Personal Orientation and Values

Hypotheses 3.7, 3.8 and 3.9 related the structural location of individuals within groups to their role definition, personal orientation and values and to those of the group as a whole.

Hy 3.7. The more central an individual's position in the structure of the group the greater the agreement with group role definition.

Hy 3.8. The more central an individual's position in the structure of the group the greater the agreement with group personal orientation.

Hy 3.9. The more central an individual's position in the structure of the group the greater the agreement with group values.

These hypotheses were tested by comparing the mean scores of the most central individuals in the group sociometric structure with the mean scores of the group as a whole. Centrality was derived from the matrices presented in Figures 6.9 and 6.11. Those individuals falling above the 75th percentile on number of choices leading from other individuals (the last column on the right) were considered as central to the group. As far as the initial matrix (Figure 6.9) was concerned, this included individuals with sociometric choices of 23 or higher. For the final matrix (Figure 6.11) this included individuals with sociometric choices of 16 or higher. The results of comparisons between central individuals and overall group means on all measures are presented in Table 6.46.

Differences of the scores of central individuals from overall group means were not only non-significant in all cases but were also, by inspection of Table 6.46, negligible compared to the standard deviation of the overall group. As individuals central in the sociometric

Table 6.45

Observed and Expected Frequencies for Leavers in Upper Quartile,  
 between 25th and 75th Percentiles and in the Lower Quartile  
 for Job Satisfaction and Vocational Comparison

	Expected Frequency	Observed Frequency	$\chi^2$	sig
Job Satisfaction				
Upper Quartile	4	2		
25-75 Percentile	8	11		
Lower Quartile	4	3	4.05	.20
Vocational Comparison				
Upper Quartile	4	5		
25-75 Percentile	8	9		
Lower Quartile	4	2	2.38	.50

Table 6.46

Comparison of Role, Inner Directedness, Job Satisfaction and Vocational Comparison Scores  
for Central Individuals with Overall Group at Entry  
and During Final Tutorial School

	Service	Bureaucratic	Professional	Inner Directedness	Job Satisfaction	Vocational Comparison
At Entry :						
Central Individ. $\bar{x}$	61.00	48.17	58.33	87.16	36.14	7.25
Overall Group $\bar{x}$	59.05	49.97	59.39	81.17	38.73	8.80
Overall Group S.D.	7.81	7.42	7.81	8.77	5.42	3.16
Final Tutorial School						
Central Individ. $\bar{x}$	68.12	42.63	57.25	89.75	31.13	8.13
Overall Group $\bar{x}$	66.19	46.93	54.67	87.39	31.26	8.17
Overall Group S.D.	5.88	6.45	5.88	7.56	2.15	2.84

structure approximate the overall group means so closely on all measures of difference, hypotheses 3.7, 3.8 and 3.9 are all confirmed.

#### Contextual Results: Summary

Nine hypotheses were formulated at the group level. Six of the hypotheses (3.1, 3.3, 3.5, 3.7, 3.8 and 3.9) were supported by the data analysis. Two were partially supported (3.2 and 3.4) and one (3.6) received no support

That group role definition affected individual definition in cases of service, bureaucratic and professional roles was shown by the convergence of members with extreme scores towards the mean.

That group personal orientation also affected individual orientation was shown by a similar convergence of extreme individual scores towards the overall group mean.

Extreme individual scores on job satisfaction and vocational comparison showed similar patterns of convergence towards group means.

Group role definition was seen to affect the probability of leaving only on the professional dimension where those with high scores showed a markedly higher tendency to leave.

Group personal orientation affected the probability of leaving, not for those with extreme scores, as predicted, but for those within the middle range of inner directedness scores who would be classed by Maslow & Shostrom as self-actualised.

Group job satisfaction levels were shown to have little effect on the probability of individuals leaving.

Positional structure of the individual in the group was shown to be positively related to the scores of those individuals when compared with the mean scores of the overall group. Central individuals agreed closely with overall group means in all cases of role definition, personal orientation and values. Overall, considerable support was found for the contextual hypotheses.

#### Structural Analyses

Three hypotheses were presented relating the role definition, personal orientation and values of individuals who are central in group sociometric structure to those of the group as a whole:

Hy 4.1. Where the role definition of individuals central in the positional structure of the group differs from that of the group as a whole, the group definitions

will alter towards those of the central individuals.

Hy 4.2. Where the personal orientations of individuals central in the positional structure of the group differ from those of the group as a whole, the group orientation will alter towards those of the central individuals.

Hy 4.3. Where the value commitment of individuals central in the positional structure of the group differ from those of the group as a whole, the group value commitment will alter towards that of the central individuals.

From the sociomatrices presented in Figures 6.9 and 6.11 four individuals were identified as being central to the sociometric structure of the group both at entry and during final tutorial school. They were individuals 42, 43, 44 and 14 who were also closely related to each other by reciprocal choices and formed a group chosen into by other members of the group. They formed a definite central cluster. The mean scores of these individuals were compared with the mean scores for the overall group in order to determine whether their scores were sufficiently different from the group mean to allow a test of hypotheses 4.1, 4.2 and 4.3. The results of this comparison are presented in Table 6.47. Clearly the differences between the central individuals and the overall group are negligible on each and every measure. It proved therefore impossible to test hypotheses 4.1, 4.2 and 4.3 with data from the current research case.

#### Summary

Findings relevant to the hypotheses formed at individual and group level and regarding contextual and structural interactions have been presented and brief comment made on the degrees of support offered for specific hypotheses by data drawn from a single, small scale social group. The implications of these findings for the theoretical model which informed these hypotheses and for the assumptions underlying that model are discussed in the following chapter.

Table 6.47

Comparison of Role, Inner Directedness, Job Satisfaction and Vocational Comparison Scores  
of Those Individuals Central in Sociometric Structure at Both Entry and During  
Final Tutorial School with Those of the Overall Group Scores

	Service	Bureaucratic	Professional	Inner Directedness	Job Satisfaction	Vocational Comparison
At Entry						
Central Individ. $\bar{x}$	59.50	49.25	59.25	91.50	34.50	6.75
Overall Group $\bar{x}$	59.00	49.97	59.39	81.17	38.73	8.80
Overall Group S.D.	7.81	7.42	7.81	8.77	5.42	3.16
Final Tutorial School						
Central Individ. $\bar{x}$	66.50	42.25	59.25	95.50	29.75	6.00
Overall Group $\bar{x}$	66.19	46.93	54.68	87.39	31.26	8.18
Overall Group S.D.	5.88	6.45	5.88	7.56	2.15	2.84

## Chapter Seven

### Discussion and Conclusions

Role theory seeks to explain the nature of interactions between the personality of the individual and the structure of social systems. As a consequence one of the main objectives of role theory has been the integration of psychological theories of personality with sociological theories of social structure. Unfortunately these differing perspectives are based on differing sets of premisses. As a result many of the propositions in role theory appear unnecessarily ambiguous, contradictory or deterministic. If role theory is to promote a better understanding of the interactions of individual and social system, some attempt must therefore be made to overcome these problems. Such an attempt involves considerable modification of the two dominant perspectives of role theory: the structural and socialisation perspectives.

The structural perspective is in need of modification because of (i) its overemphasis on the primacy of the value systems of social groups in determining individual behaviour, and (ii) its assertion of a degree of coordination and articulation of roles which is not supported by the empirical evidence. The socialisation perspective is likewise open to question because of (i) its conceptualisation of the individual as inherently passive, and (ii) its overemphasis on the power of normative determinism.

What has been proposed in this present thesis is a model of individual-social system interaction which avoids exclusive emphasis on holistic or individualistic, institutional or psychologistic premisses. This position has been labelled not altogether elegantly, 'transindividualism' and is an attempt to provide a theoretical framework for the analysis of the interactions of individual and social system which provides a greater flexibility in the relations between the various determinants of behaviour at both individual and group levels. It is also an attempt to avoid deterministic, a priori explanations of the mutual interaction of individual and group.

This flexibility is introduced by matching a general theoretical structure with empirical analyses of the relative weightings of particular components of the model under specific conditions. By this argument any

account of individual-social system interaction must be consistent with the empirically verified knowledge available concerning the nature of individuals and social systems and with the current theoretical accounts of the major features of both.

Explanations of individual behaviour have, understandably, been sought in psychological theory which has recently shown increasing convergence on a cognitively based interactive paradigm which is quite compatible with transindividualism. Sociological theory is also displaying increasing interest in interactionist and phenomenological accounts of social action which relate objective social system characteristics to the subjective nature of individual awareness. Basically however, psychological theories still insist on the relative importance of the structural features of social situations.

Much role theory, mostly because of its strong reliance on the holistic premisses of functional theory, has insisted that role, and therefore behaviour, is determined by social structure, with obligations and rights being parcelled out according to relatively fixed statuses and positions within that structure. Such an account can certainly explain one aspect of the empirical evidence, that structural effects such as social distance between positions are associated with systematic differences in role definition. What it cannot readily explain is the equally well documented finding that role definitions vary between individuals holding the same status and occupying the same social position.

In order to explain this latter phenomenon it is necessary to incorporate certain psychological premisses into the overall paradigm.

The present thesis argues that the concept of role presented in sociological accounts depends upon a reification of society, and that this leads to certain theoretical contortions as a result of the clear lack of consensus over the definition of roles, particularly occupational roles such as teacher or nurse. Even where the reification of society is not emphasised to an extreme degree, attempts to label certain definitions as 'accurate' and others as 'inaccurate' raises more theoretical problems than it solves. One solution of this problem seems to lie in the proposition that role be located within the personality of the individual and be regarded as one set of socially related cognitive representations held by the individual about the anticipated behaviour of individuals occupying particular positions in the social structure. By this re-location of the concept of role, various theoretical issues

are simplified. Firstly, consensus over role becomes not an a priori assumption of role theory, but an emergent property of groups and social systems which can be variable according to both the nature of the individuals concerned and the nature of the particular social structure of the group. Secondly, the deterministic visions of behavioural conformity implied by the socialisation perspective are modified in that personality is seen as a major influence in the determination of role, both with regard to anticipation and performance. Furthermore, this position offers some prospect of rationalising the often used but frequently undefined concept of expectation. Thus when the influence of individual and structural features are seen as variable contributions to the determination of behaviour, three of the major theoretical problems of role theory become more tractable.

Curiously however, despite the emphasis on the importance of structural features in both the structural and socialisation traditions in role theory, the methodology employed in many analyses has served to obscure these central assumptions. The homology thesis, the fallacy of displaced scope in both aggregative and atomistic forms, the employment of random data collection and statistical techniques such as those of stochastic models in the analysis of change, all serve to obscure the effects of structure and structural differences on role definition. For the most part, while role theory has depended on sociological premisses, it has also relied on statistical and methodological procedures developed for the analysis of biological and psychological phenomena. Such procedures have frequently been developed in response to theoretical premisses which either regard structural effects as unimportant or assume that the effects of social structure on the populations under study are random. Clearly, the employment of such techniques has been inappropriate to the analysis of models based on quite different suppositions.

The paradigm proposed in this thesis attempts to deal with these discontinuities by structuring the methodology employed according to the nature of the level of analysis in question and according to the interactions under scrutiny. Basically it attempts to employ statistical techniques based on similar premisses to the theoretical propositions under examination. For instance, the employment of regression analysis, and analysis of variance is appropriate to propositions formulated at the individual level of analysis. Similarly, sociometric techniques and measures of comparative dispersion such as tests for homogeneity of

variance are appropriate when comparing the structure and condition of groups. Regrettably few appropriate techniques are currently available for the analysis of interaction effects of individuals and groups but some relatively straightforward statistics such as the chi square test can be employed to give some indication of difference between predicted and actual effects.

The application of the methodology has been, in the current research case, a direct outcome of certain parallels and differences in the theoretical propositions considered at individual and group levels of analysis and in terms of structural and contextual interactions. This is not to say however, that the empirical analysis relates directly to the theoretical paradigm. In the study, the interposition of hypothetical suppositions between the theory and the data was used to give direction to the analysis of the actual social system observed. The directions postulated were not an inherent property of the theory but were a product of speculations concerning the particular characteristics of the social system investigated. Thus the analysis tests of the veridicality of the hypotheses, not the utility of the theoretical paradigm. Indeed many of the results of the analysis reversed the hypothesised predictions, while remaining interpretable via the theoretical model.

The major thrusts of this thesis therefore are that: (i) reformulation of role theory along the lines of a transindividual model assists the resolution of certain implicit theoretical problems, (ii) that appropriate methodological principles for the analysis of role can be devised which avoid the fallacies and discontinuities of much previous research into role. In order to illustrate these contentions the analysis of a small scale social system was undertaken, the results of which offer some interesting insights into the viability of the above argument. The discussion that follows is directed towards an examination of the relationship between hypotheses, theoretical model and the findings of the empirical investigation.

### Salient results

#### Individual level

At the individual level of the model three interrelated components were argued to exert reciprocating influences on role definition and behaviour: personality; position; and role. In order to separate out the possible interrelationships four sets of interactions were

investigated, those between (i) role and personality, (ii) role and position, (iii) personality and position, and (iv) personality, position and role.

As far as role and personality were concerned, the results indicated that self-actualised individuals emphasised service roles more than either normal or non self-actualised individuals; that non self-actualised individuals emphasised bureaucratic roles more than either self-actualised or normal individuals, while professional emphasis was relatively stable across groups. Normal individuals were shown to emphasise service role definition highly during ward experience though not during tutorial school. Despite the lack of any statistical significance the results tended in the directions predicted.

The results of the two analyses of role and position interactions indicated that positions in tutorial school tended to increase service role and decrease professional role for the group as a whole, while the converse appeared to be the case during ward experience. The specific directional hypotheses concerning differences in positions between wards were not supported by statistically significant analyses.

The relationship between personality and position was also difficult to interpret. The differences between wards and tutorial school were inconsistent and those between wards of different kinds statistically non-significant. The main conclusion to be derived from the analysis was that a progressive, linear trend towards increasing self-actualisation occurred during the research period. The extent of this trend probably obscured any differences attributable to relatively minor alterations of position within the hospital setting.

Analyses of the interactive effects of personality and position on role definition showed that in each of the three cases where personality and positional emphases were predicted to coincide, the individual's role definition was as predicted. In the remaining six cases two showed the dominance of personality, two showed position to be dominant and two showed no particular emphasis. Statistical significance was limited to the analysis of variance concerning bureaucratic emphasis, the other two analyses being non-significant.

In summary, at the individual level little statistically significant support was given to any of the proposed relationships between personality, role and position though several of the predicted relationships were given tentative support by the raw data.

### Group Level

The theoretical model suggested that five major components at the group level account for the particular characteristics of the group. Variation in one or more of these components, it was argued, effect changes in the group as a whole and subsequently in its relations with other groups. The components proposed were: positional difference, role collection, value, authority and exchange structures. Because no formal differentiation of authority existed within the group, hypotheses relating to this component were untestable.

Positional differences within the group were minimal. Those that existed could therefore be expected to show only limited effects on other components of the model. This in fact proved to be the case. Positional differences were associated with role collection in only minor and statistically non-significant ways, as were positional differences and values. Positional difference and exchange were shown to be related however, in that the ratio of interconnectedness was markedly higher under conditions of limited positional difference.

Role collection and values were shown to be associated in that reduction in the variance of role scores on all dimensions was associated with reductions in variance of both general and specific values scores.

Role collection and exchange were shown to be related in that decreases in role collection were matched by increases in the interconnectedness ratio within the group. Similar results were found between value and exchange.

The overall results at the group level confirm the independent and interactive effects of positional difference, role collection and values and exchange structures predicted by the theoretical model.

### Contextual Interactions

The central theoretical argument concerning contextual interactions was that variations in group conditions affected alterations in

individual conditions within the group. Four sets of effects were proposed: (i) group role definition on individual role definition, (ii) group orientation on individual personality, group values on individual values and group positional structure on individual role, personality and values.

Examination of alterations in role definition, personal orientation and values indicated that individuals with scores in the highest and lowest quartiles at the beginning of the initial tutorial school invariably showed a marked convergence towards the group mean by the end of the final tutorial school. These findings support the proposition that group conditions affect the conditions of individuals within the group. The second proposition, that those with extreme scores would be more likely to leave the group was borne out in only two specific instances viz. (i) for those with high scores on professional role definitions, and (ii) for those with scores inside the self-actualised range.

Finally the results of the analysis of exchange structures indicated that individuals central to the sociometric structure of the group approximated closely the mean scores of the group on all measures. The only tendency running in any way counter to this was that sociometrically central individuals tended to score slightly more highly on the inner directedness scale.

Overall effects for contextual interactions confirmed the independent direct effects of a variety of components at the group level on components at the individual level of analysis.

#### Structural Interaction

The final set of propositions contained in the theoretical model related changes in individual conditions to effects on group conditions. The hypotheses relied on the proposition that the influence of individuals on the group could be verified only in situations where individuals central in the sociometric structure of the group held role definitions, personal orientations or values which were markedly divergent from those of the mean group scores. In the present research case no such individuals were identifiable. In their absence it may be assumed that the coincidence of the scores of central individuals with the mean scores of the group provided a situation of mutual reinforcement for both group and individuals.

#### Methodological Issues

If a full examination of the theoretical model were to be undertaken,

it would demand the assembly of a large variety of data from a carefully constituted set of research cases where individual and group conditions were systematically varied. Against such a criterion the results of the present study can offer only a partial contribution to the development of the theory. The conditions under which the current analysis was conducted however, presented a series of stringent limitations. For instance, the research case was confined to a relatively small scale social system where variability of both group and individual conditions was strictly limited. Even so, the predicted relations between components proved significant in a majority of instances. Consequently, considerable confidence is warranted that under situations of greater variability the effects would be shown to be more, rather than less marked. For these reasons the findings reported here provide a good indication of the possibilities of both theory and methodology.

It must be recognised however, that the employment of naturalistic settings for research involves certain hazards. For instance, a full analysis of the theoretical model required several components missing from the research setting. Because of the absence of any formal division of authority within the group and because of the coincidence between the scores of individuals central to the sociometric structure and the overall group mean scores, certain key hypotheses could not be tested. Nonetheless, the fact that the current research model provided an incomplete test of the universe of propositions included in the theory in no way prevents the examination of the majority of propositions for which relevant data were available.

## Discussion

The conceptualisation of role presented in this thesis argues that at the individual level both personality and position affect role definition; that they affect role definition independently and that the relative weighting given to each differs with the nature of the individual, the role and the social setting. These theoretical propositions were translated via an empirical model into a series of hypotheses relating to a specific context, that of a hospital, and more particularly to a group of individuals participating in both tutorial school and ward settings within the hospital. While it was hoped that the range of personality, positional and role differences would be considerable, the empirical analysis showed variation on each of the critical variables to be limited. It is not surprising, therefore, that at the individual level of analysis the findings are generally statistically non-significant. While the lack of statistical significance of many of the findings is clearly a limiting factor in the current research, general and apparently systematic interactions between personality, role and position have been detected which warrant further study. Indeed it may well be that with larger and more variable samples the predicted effects might well increase to statistically significant levels, thus providing a more conclusive test of the hypotheses and empirical model.

At the group level of analysis, even though results were restricted to the comparison of differing conditions of the same group through time, differences found clearly related role composition, and group integration to each other, with increasing homogeneity on each of the measures being related to increasing structural interconnectedness.

Increases in homogeneity and interconnectedness may however, be characteristics specific to particular groups and structures. In the present case, the socialisation setting was voluntary and the purpose of socialisation was to bring about convergence on a particular set of attitudes and a particular set of skills. Socialisation settings devoted to stratification and selection of incumbents may have quite different outcomes. Similar analyses of differing groups would be needed in order to predict the precise conditions under which particular outcomes will eventuate.

In the 'current group increased homogeneity of personality, role and value characteristics was associated with increasing interconnectedness. Both homogeneity and structure focussed on individuals who most closely approximated the mean group scores. Such convergence need not be considered as a universal **process** in social groups. Indeed it may be that quite different interactive effects occur under differing group conditions. A more comprehensive test of this aspect of the theoretical model at the group level might well be based on examination of groups differing from the current example in both purpose and structure.

In the present study the effects of group characteristics on individuals were shown by the convergence of individuals with initially extreme scores towards the mean scores of the group. Such convergence was marked, with final scores being well within one standard deviation of the mean. One marked effect of incompatibility between individual and group definitions was the high leaving rates of students with professional role definitions and those falling within the self-actualising range of personality scores. These results illustrate two relatively independent effects, both of which lead to different behaviour on the part of individuals with particular differences. They also support the general theoretical proposition that contextual effects are likely to be differentiated according to the particular combinations of individual and group characteristics involved.

Structural effects were not clearly demonstrated in the current research. While individuals central to the sociometric structure may have had an influence on the shift of the group towards their own values, orientation and attitudes, the original scores for the group coincided so closely with those of sociometrically central individuals that it is impossible to distinguish between general group effects and those of central individuals. The effect of centrality on group conditions might best be tested where sociometrically central individuals are found initially to be at variance with the overall group conditions.

### Conclusions

The main concern of this thesis has been the construction of a paradigm for the exploration of reciprocal effects of individuals and social systems which is less deterministic than those currently available within conventional role theory. Moreover, the paradigm is intended to provide a framework sufficiently flexible to allow a wide variety of weightings of particular elements at both individual and group level in determining behaviour.

As the theoretical model specifies the interrelations of components within and between individual and group levels of analysis, the general methodological principles which might guide such analysis follow directly from the theory. They involve the employment of statistical and evaluative techniques appropriate to specific individual, group and interactive hypotheses. In social science the theoretical

concerned with discontinuities in levels of analysis are now well established and the development of statistical techniques, appropriate for the evaluation of inter level comparisons has become recognised as an urgent necessity. However, little progress has yet been made in solving the series of complex statistical problems involved. Even so, this present study has shown that the appropriate use of such common techniques as regression analysis, analysis of variance, homogeneity of variance and chi square tests can yield useful and interpretable information both between and within levels of analysis.

In addition, the work done here in the development of a computer based programme for the analysis of sociometric structure and interconnectedness has opened up the prospect of sociometric analysis of larger scale social systems than have hitherto been customary.

Clearly the current thesis has focussed on interrelated theoretical and methodological problems rather than on the specific character of the social system of the nursing school. What has been established is that the theoretical model proposed is capable of guiding the development of an appropriate empirically based analysis and that the methodological techniques employed are capable of providing useful information while avoiding the methodological fallacies of some previous research. Having established the viability of the theory and methodology with respect to a small scale social system, its application to larger and more diverse social systems is possible. Indeed, such application is necessary as a further step towards a fuller understanding of the reciprocal effects of individuals and social systems and the mediating effects of role.

The basic outline of such an application is implicit in the theoretical model. At the individual level of analysis examination of the effects of differing role collections on personality integration and social position, the effects of differing social position on personality integration of those with similar role collections, and the problems posed for personality integration by diverse sets of discordant positions and roles, all offer promising areas for research. At the group level systematic analyses of the effects of differences in role collections, positional structures and value, authority and exchange structures on the characteristic behaviour of groups are likewise amenable to interpretation within the proposed paradigm. Indeed, much research has already been conducted which might be interpreted according

to the proposed theoretical structure. The power of the theory to organise and interpret such available data, and to guide research in areas where data is currently unavailable, will be the only long term test of its viability. The current study has shown that such developments might well prove a fruitful contribution to the extension of role theory and the avoidance of current contradictions and ambiguities.

## Appendix A

## Personal Orientation Inventory

## PERSONAL ORIENTATION INVENTORY.

EVERETT L. SHOSTROM, Ph.D.

## DIRECTIONS

This inventory consists of pairs of numbered statements. Read each statement and decide which of the two paired statements most consistently applies to you.

You are to mark your answers on the answer sheet you have. Look at the example of the answer sheet shown at the right. If the first statement of the pair is TRUE or MOSTLY TRUE as applied to you, blacken between the lines in the column headed "a". (See Example Item 1 at right.) If the second statement of the pair is TRUE or MOSTLY TRUE as applied to you, blacken between the lines in the column headed "b". (See Example Item 2 at right.) If neither statement applies to you, or if they refer to something you don't know about, make no answer on the answer sheet. Remember to give YOUR OWN opinion of yourself and do not leave any blank spaces if you can avoid it.

Section of Answer Column Correctly Marked	
	a      b
1.	<input checked="" type="checkbox"/> <input type="checkbox"/>
2.	<input type="checkbox"/> <input checked="" type="checkbox"/>

In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet. Make your marks heavy and black. Erase completely any answer you wish to change. Do not make any marks in this booklet.

Remember, try to make some answer to every statement.

Before you begin the inventory, be sure you put your name, your sex, your age, and the other information called for in the space provided on the answer sheet.

NOW OPEN THE BOOKLET AND START WITH QUESTION 1.

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1. a. I am bound by the principle of fairness.  
b. I am not absolutely bound by the principle of fairness.
2. a. When a friend does me a favor, I feel that I must return it.  
b. When a friend does me a favor, I do not feel that I must return it.
3. a. I feel I must always tell the truth.  
b. I do not always tell the truth.
4. a. No matter how hard I try, my feelings are often hurt.  
b. If I manage the situation right, I can avoid being hurt.
5. a. I feel that I must strive for perfection in everything that I undertake.  
b. I do not feel that I must strive for perfection in everything that I undertake.
6. a. I often make my decisions spontaneously.  
b. I seldom make my decisions spontaneously.
7. a. I am afraid to be myself.  
b. I am not afraid to be myself.
8. a. I feel obligated when a stranger does me a favor.  
b. I do not feel obligated when a stranger does me a favor.
9. a. I feel that I have a right to expect others to do what I want of them.  
b. I do not feel that I have a right to expect others to do what I want of them.
10. a. I live by values which are in agreement with others.  
b. I live by values which are primarily based on my own feelings.
11. a. I am concerned with self-improvement at all times.  
b. I am not concerned with self-improvement at all times.
12. a. I feel guilty when I am selfish.  
b. I don't feel guilty when I am selfish.
13. a. I have no objection to getting angry.  
b. Anger is something I try to avoid.
14. a. For me, anything is possible if I believe in myself.  
b. I have a lot of natural limitations even though I believe in myself.
15. a. I put others' interests before my own.  
b. I do not put others' interests before my own.
16. a. I sometimes feel embarrassed by compliments.  
b. I am not embarrassed by compliments.
17. a. I believe it is important to accept others as they are.  
b. I believe it is important to understand why others are as they are.
18. a. I can put off until tomorrow what I ought to do today.  
b. I don't put off until tomorrow what I ought to do today.
19. a. I can give without requiring the other person to appreciate what I give.  
b. I have a right to expect the other person to appreciate what I give.
20. a. My moral values are dictated by society.  
b. My moral values are self-determined.
21. a. I do what others expect of me.  
b. I feel free to not do what others expect of me.
22. a. I accept my weaknesses.  
b. I don't accept my weaknesses.
23. a. In order to grow emotionally, it is necessary to know why I act as I do.  
b. In order to grow emotionally, it is not necessary to know why I act as I do.
24. a. Sometimes I am cross when I am not feeling well.  
b. I am hardly ever cross.

25. a. It is necessary that others approve of what I do.  
b. It is not always necessary that others approve of what I do.
26. a. I am afraid of making mistakes.  
b. I am not afraid of making mistakes.
27. a. I trust the decisions I make spontaneously.  
b. I do not trust the decisions I make spontaneously.
28. a. My feelings of self-worth depend on how much I accomplish.  
b. My feelings of self-worth do not depend on how much I accomplish.
29. a. I fear failure.  
b. I don't fear failure.
30. a. My moral values are determined, for the most part, by the thoughts, feelings and decisions of others.  
b. My moral values are not determined, for the most part, by the thoughts, feelings and decisions of others.
31. a. It is possible to live life in terms of what I want to do.  
b. It is not possible to live life in terms of what I want to do.
32. a. I can cope with the ups and downs of life.  
b. I cannot cope with the ups and downs of life.
33. a. I believe in saying what I feel in dealing with others.  
b. I do not believe in saying what I feel in dealing with others.
34. a. Children should realize that they do not have the same rights and privileges as adults.  
b. It is not important to make an issue of rights and privileges.
35. a. I can "stick my neck out" in my relations with others.  
b. I avoid "sticking my neck out" in my relations with others.
36. a. I believe the pursuit of self-interest is opposed to interest in others.  
b. I believe the pursuit of self-interest is not opposed to interest in others.
37. a. I find that I have rejected many of the moral values I was taught.  
b. I have not rejected any of the moral values I was taught.
38. a. I live in terms of my wants, likes, dislikes and values.  
b. I do not live in terms of my wants, likes, dislikes and values.
39. a. I trust my ability to size up a situation.  
b. I do not trust my ability to size up a situation.
40. a. I believe I have an innate capacity to cope with life.  
b. I do not believe I have an innate capacity to cope with life.
41. a. I must justify my actions in the pursuit of my own interests.  
b. I need not justify my actions in the pursuit of my own interests.
42. a. I am bothered by fears of being inadequate.  
b. I am not bothered by fears of being inadequate.
43. a. I believe that man is essentially good and can be trusted.  
b. I believe that man is essentially evil and cannot be trusted.
44. a. I live by the rules and standards of society.  
b. I do not always need to live by the rules and standards of society.
45. a. I am bound by my duties and obligations to others.  
b. I am not bound by my duties and obligations to others.
46. a. Reasons are needed to justify my feelings.  
b. Reasons are not needed to justify my feelings.

47. a. There are times when just being silent is the best way I can express my feelings.  
b. I find it difficult to express my feelings by just being silent.
48. a. I often feel it necessary to defend my past actions.  
b. I do not feel it necessary to defend my past actions.
49. a. I like everyone I know.  
b. I do not like everyone I know.
50. a. Criticism threatens my self-esteem.  
b. Criticism does not threaten my self-esteem.
51. a. I believe that knowledge of what is right makes people act right.  
b. I do not believe that knowledge of what is right necessarily makes people act right.
52. a. I am afraid to be angry at those I love.  
b. I feel free to be angry at those I love.
53. a. My basic responsibility is to be aware of my own needs.  
b. My basic responsibility is to be aware of others' needs.
54. a. Impressing others is most important.  
b. Expressing myself is most important.
55. a. To feel right, I need always to please others.  
b. I can feel right without always having to please others.
56. a. I will risk a friendship in order to say or do what I believe is right.  
b. I will not risk a friendship just to say or do what is right.
57. a. I feel bound to keep the promises I make.  
b. I do not always feel bound to keep the promises I make.
58. a. I must avoid sorrow at all costs.  
b. It is not necessary for me to avoid sorrow.
59. a. I strive always to predict what will happen in the future.  
b. I do not feel it necessary always to predict what will happen in the future.
60. a. It is important that others accept my point of view.  
b. It is not necessary for others to accept my point of view.
61. a. I only feel free to express warm feelings to my friends.  
b. I feel free to express both warm and hostile feelings to my friends.
62. a. There are many times when it is more important to express feelings than to carefully evaluate the situation.  
b. There are very few times when it is more important to express feelings than to carefully evaluate the situation.
63. a. I welcome criticism as an opportunity for growth.  
b. I do not welcome criticism as an opportunity for growth.
64. a. Appearances are all-important.  
b. Appearances are not terribly important.
65. a. I hardly ever gossip.  
b. I gossip a little at times.
66. a. I feel free to reveal my weaknesses among friends.  
b. I do not feel free to reveal my weaknesses among friends.
67. a. I should always assume responsibility for other people's feelings.  
b. I need not always assume responsibility for other people's feelings.
68. a. I feel free to be myself and bear the consequences.  
b. I do not feel free to be myself and bear the consequences.

69. a. I already know all I need to know about my feelings.  
b. As life goes on, I continue to know more and more about my feelings.
70. a. I hesitate to show my weaknesses among strangers.  
b. I do not hesitate to show my weaknesses among strangers.
71. a. I will continue to grow only by setting my sights on a high-level, socially approved goal.  
b. I will continue to grow best by being myself.
72. a. I accept inconsistencies within myself.  
b. I cannot accept inconsistencies within myself.
73. a. Man is naturally cooperative.  
b. Man is naturally antagonistic.
74. a. I don't mind laughing at a dirty joke.  
b. I hardly ever laugh at a dirty joke.
75. a. Happiness is a by-product in human relationships.  
b. Happiness is an end in human relationships.
76. a. I only feel free to show friendly feelings to strangers.  
b. I feel free to show both friendly and unfriendly feelings to strangers.
77. a. I try to be sincere but I sometimes fail.  
b. I try to be sincere and I am sincere.
78. a. Self-interest is natural.  
b. Self-interest is unnatural.
79. a. A neutral party can measure a happy relationship by observation.  
b. A neutral party cannot measure a happy relationship by observation.
80. a. For me, work and play are the same.  
b. For me, work and play are opposites.
81. a. Two people will get along best if each concentrates on pleasing the other.  
b. Two people can get along best if each person feels free to express himself.
82. a. I have feelings of resentment about things that are past.  
b. I do not have feelings of resentment about things that are past.
83. a. I like only masculine men and feminine women.  
b. I like men and women who show masculinity as well as femininity.
84. a. I actively attempt to avoid embarrassment whenever I can.  
b. I do not actively attempt to avoid embarrassment.
85. a. I blame my parents for a lot of my troubles.  
b. I do not blame my parents for my troubles.
86. a. I feel that a person should be silly only at the right time and place.  
b. I can be silly when I feel like it.
87. a. People should always repent their wrongdoings.  
b. People need not always repent their wrongdoings.
88. a. I worry about the future.  
b. I do not worry about the future.
89. a. Kindness and ruthlessness must be opposites.  
b. Kindness and ruthlessness need not be opposites.
90. a. I prefer to save good things for future use.  
b. I prefer to use good things now.
91. a. People should always control their anger.  
b. People should express honestly-felt anger.

92. a. The truly spiritual man is sometimes sensual.  
b. The truly spiritual man is never sensual.
93. a. I am able to express my feelings even when they sometimes result in undesirable consequences.  
b. I am unable to express my feelings if they are likely to result in undesirable consequences.
94. a. I am often ashamed of some of the emotions that I feel bubbling up within me.  
b. I do not feel ashamed of my emotions.
95. a. I have had mysterious or ecstatic experiences.  
b. I have never had mysterious or ecstatic experiences.
96. a. I am orthodoxly religious.  
b. I am not orthodoxly religious.
97. a. I am completely free of guilt.  
b. I am not free of guilt.
98. a. I have a problem in fusing sex and love.  
b. I have no problem in fusing sex and love.
99. a. I enjoy detachment and privacy.  
b. I do not enjoy detachment and privacy.
100. a. I feel dedicated to my work.  
b. I do not feel dedicated to my work.
101. a. I can express affection regardless of whether it is returned.  
b. I cannot express affection unless I am sure it will be returned.
102. a. Living for the future is as important as living for the moment.  
b. Only living for the moment is important.
103. a. It is better to be yourself.  
b. It is better to be popular.
104. a. Wishing and imagining can be bad.  
b. Wishing and imagining are always good.
105. a. I spend more time preparing to live.  
b. I spend more time actually living.
106. a. I am loved because I give love.  
b. I am loved because I am lovable.
107. a. When I really love myself, everybody will love me.  
b. When I really love myself, there will still be those who won't love me.
108. a. I can let other people control me.  
b. I can let other people control me if I am sure they will not continue to control me.
109. a. As they are, people sometimes annoy me.  
b. As they are, people do not annoy me.
110. a. Living for the future gives my life its primary meaning.  
b. Only when living for the future ties into living for the present does my life have meaning.
111. a. I follow diligently the motto, "Don't waste your time."  
b. I do not feel bound by the motto, "Don't waste your time."
112. a. What I have been in the past dictates the kind of person I will be.  
b. What I have been in the past does not necessarily dictate the kind of person I will be.
113. a. It is important to me how I live in the here and now.  
b. It is of little importance to me how I live in the here and now.
114. a. I have had an experience where life seemed just perfect.  
b. I have never had an experience where life seemed just perfect.
115. a. Evil is the result of frustration in trying to be good.  
b. Evil is an intrinsic part of human nature which fights good.

116. a. A person can completely change his essential nature.  
b. A person can never change his essential nature.
117. a. I am afraid to be tender.  
b. I am not afraid to be tender.
118. a. I am assertive and affirming.  
b. I am not assertive and affirming.
119. a. Women should be trusting and yielding.  
b. Women should not be trusting and yielding.
120. a. I see myself as others see me.  
b. I do not see myself as others see me.
121. a. It is a good idea to think about your greatest potential.  
b. A person who thinks about his greatest potential gets conceited.
122. a. Men should be assertive and affirming.  
b. Men should not be assertive and affirming.
123. a. I am able to risk being myself.  
b. I am not able to risk being myself.
124. a. I feel the need to be doing something significant all of the time.  
b. I do not feel the need to be doing something significant all of the time.
125. a. I suffer from memories.  
b. I do not suffer from memories.
126. a. Men and women must be both yielding and assertive.  
b. Men and women must not be both yielding and assertive.
127. a. I like to participate actively in intense discussions.  
b. I do not like to participate actively in intense discussions.
128. a. I am self-sufficient.  
b. I am not self-sufficient.
129. a. I like to withdraw from others for extended periods of time.  
b. I do not like to withdraw from others for extended periods of time.
130. a. I always play fair.  
b. Sometimes I cheat a little.
131. a. Sometimes I feel so angry I want to destroy or hurt others.  
b. I never feel so angry that I want to destroy or hurt others.
132. a. I feel certain and secure in my relationships with others.  
b. I feel uncertain and insecure in my relationships with others.
133. a. I like to withdraw temporarily from others.  
b. I do not like to withdraw temporarily from others.
134. a. I can accept my mistakes.  
b. I cannot accept my mistakes.
135. a. I find some people who are stupid and uninteresting.  
b. I never find any people who are stupid and uninteresting.
136. a. I regret my past.  
b. I do not regret my past.
137. a. Being myself is helpful to others.  
b. Just being myself is not helpful to others.
138. a. I have had moments of intense happiness when I felt like I was experiencing a kind of ecstasy or bliss.  
b. I have not had moments of intense happiness when I felt like I was experiencing a kind of bliss.

139. a. People have an instinct for evil.  
b. People do not have an instinct for evil.
140. a. For me, the future usually seems hopeful.  
b. For me, the future often seems hopeless.
141. a. People are both good and evil.  
b. People are not both good and evil.
142. a. My past is a stepping stone for the future.  
b. My past is a handicap to my future.
143. a. "Killing time" is a problem for me.  
b. "Killing time" is not a problem for me.
144. a. For me, past, present and future is in meaningful continuity.  
b. For me, the present is an island, unrelated to the past and future.
145. a. My hope for the future depends on having friends.  
b. My hope for the future does not depend on having friends.
146. a. I can like people without having to approve of them.  
b. I cannot like people unless I also approve of them.
147. a. People are basically good.  
b. People are not basically good.
148. a. Honesty is always the best policy.  
b. There are times when honesty is not the best policy.
149. a. I can feel comfortable with less than a perfect performance.  
b. I feel uncomfortable with anything less than a perfect performance.
150. a. I can overcome any obstacles as long as I believe in myself.  
b. I cannot overcome every obstacle even if I believe in myself.

## Appendix B

## Item/Scale Correlations for Massey Role Concept Inventory

N = 110 subjects drawn from nursing tutorial school

## Part A

Items	Scales		
	Bureaucratic	Professional	Service
Bureaucratic			
2	.319	-.095	-.180
6	.444	-.230	-.149
9	.398	-.144	-.195
10	.349	-.078	-.214
12	.313	-.173	-.088
15	.160	-.038	-.096
19	.371	-.121	-.189
Professional			
3	-.139	.447	-.313
5	-.108	.234	-.135
7	-.263	.313	-.073
13	-.017	.184	-.166
14	-.124	.377	-.257
18	-.170	.451	-.286
21	-.120	.526	-.399
Service			
1	-.190	-.018	.174
4	-.216	-.542	.698
8	-.159	-.036	.164
11	-.263	-.371	.572
16	-.114	-.307	.392
17	-.265	-.189	.404
20	-.082	-.138	.201

## Part B

Items	Scales		
	Bureaucratic	Professional	Service
Bureaucratic			
2	.258	-.009	-.222
3	.595	-.280	-.313
7	.049	-.123	.051
9	.425	-.083	-.313
14	.377	-.149	-.220
19	.344	-.066	-.254
20	.338	-.111	-.387
Professional			
1	-.146	.372	-.157
8	-.170	.403	-.159
10	.016	.403	-.326
12	-.173	.357	-.121
16	-.109	.267	-.109
17	.014	.308	-.250
21	-.096	.253	-.109
Service			
3	-.336	-.277	.512
5	-.337	-.284	.519
6	-.467	-.029	.438
11	-.214	-.128	.289
13	-.310	-.160	.399
15	-.058	-.250	.245
18	-.207	-.310	.424

## Appendix C



## MASSEY ROLE CONCEPT INVENTORY : NURSING

This is a questionnaire to find out what you think about nursing. There are many important aspects of nursing and the statements included in this questionnaire all represent positive aspects of the nurse's role. We are interested in finding out which aspects are most important to you.

What you are asked to do is to say how strongly you agree with each statement. At the same time you are asked to take into account how strongly you agree with the other statements. In order to decide how strongly you feel about a particular statement when compared with the others, you will need to read through the whole list of statements a couple of times to begin with, just to get the feel of the list as a whole. You do not need to spend a great deal of time over this. We do not want you to agonize over minor differences.

You will notice that opposite each statement is a series of numbers from 1 to 7. These numbers are used to indicate how strongly you agree with the statement. 1 stands for least agreement and 7 for strongest agreement. You are asked to cross out the number which best represents how strongly you agree with each statement but you are allowed to cross out only three of each number (three 7's, three 6's etc).

When you have read through the items in Part A please go back and find the three statements with which you agree most strongly. Cross out the 7's opposite these statements. Now go back and find the three statements with which you agree only a little less strongly. Cross out the 6's opposite these statements. Continue with the 5's, 4's, 3's, 2's and 1's. The 1's represent the three statements with which you agree least strongly.

## REMEMBER:

1. The statements with which you feel least agreement should be marked 1
2. the statements with which you feel most agreement should be marked 7
3. cross out only three of each number (three 1's, 2's, 3's etc).

You are now ready to answer the questionnaire. Please read through all the items in Part A before going back and marking your preferences. Then do the same for Part B. This will probably take you about ten to fifteen minutes to complete.

## PART A

- |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. It is most important that the nurse care for the whole patient   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 2. The accurate recording of clinical data is the nurse's most important task                                   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 3. The nurse's most important attribute is her ability to apply medical knowledge .....                         | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 4. Helping patients cope with hospital life is the basic task of the nurse                                      | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 5. The detection of signs indicating changes in patients' condition is the nurse's most important job .....     | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 6. The preparation of accurate clinical reports is the most essential part of the nurse's job .....             | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 7. Basically a nurse's skill depends on knowing what treatment a patient should receive .....                   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 8. Nurses should devote their attention to meeting patients' physical needs                                     | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 9. It is most important that nurses follow instructions precisely .....   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 10. Only by applying routines can the nurse be truly effective .....  | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 11. It is an essential part of the nurse's work to create an environment which will support the patient .....   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 12. It is of the greatest importance that a nurse knows when to carry out appropriate routines .....            | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 13. The most important characteristic of the nurse is that she can make decisions in difficult situations ..... | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 14. The most important aspect of the nurse's job is the giving of medication and surgical care .....            | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 15. The nurse's essential responsibility is the carrying out of specific routine procedures .....               | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 16. Basically the nurse's job is one of explaining hospital activities in order to reassure patients .....      | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 17. The nurse's most important job is to care for the patient .....   | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 18. Mastery of nursing technology is the most important aspect of the nurse's job .....                         | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 19. The most important job for the nurse is to maintain the organisation of the ward .....                      | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 20. The nurse's most important skill is knowing just how much to tell a patient .....                           | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |
| 21. The most important element of the nurse's job is the use of her medical skills .....                        | 1 | : | 2 | : | 3 | : | 4 | : | 5 | : | 6 | : | 7 |

## PART B

1. It is most important for the nurse to treat patients on the basis of her specialised knowledge ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
2. The nurse needs, above all, to be loyal to the hospital she works in ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
3. Nurses need to use their whole personality in order to help patients ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
4. It is most important for the nurse to treat patients impartially ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
5. The nurse needs, above all, to be dedicated to the patient ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
6. It is essential that nurses have complete respect for the uniqueness of the patient ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
7. The most important thing about a nurse is the carefulness with which she tackles her job ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
8. The essential quality of the nurse is her competence ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
9. Nurses must ensure that all patients with the same condition receive the same treatment ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
10. Nurses must be able to support their decisions by referring to nursing theory ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
11. The most important thing about a nurse is the help she gives her patients ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
12. Confidence in her ability is the essential characteristic of the nurse ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
13. Nurses must always put the patients' needs before their own ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
14. Nurses must carry out the decisions of those in authority without question ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
15. It is essential that nurses concern themselves with the needs of the individual patient ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
16. The nurse needs, above all, to be dedicated to nursing ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
17. It is most important that nurses' behaviour conforms to professional standards ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
18. The most important qualities of the nurse are her warmth and concern ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
19. It is essential that nurses should observe hospital rules ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
20. Nurses must be precise and efficient in carrying out their duties ..... 1 : 2 : 3 : 4 : 5 : 6 : 7
21. It is most important that nurses fully support their profession ..... 1 : 2 : 3 : 4 : 5 : 6 : 7

Please check that you have crossed out only three of each number.

Thank you. You have finished this questionnaire.

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## JOB SATISFACTION SCALE

The following statements show some of the ways people feel about the work they do. In each item, please put a tick in front of the statement which most accurately and honestly tells how you feel about your job.

1. Please place a tick in front of the statement which best tells how good a job you have.
  - A. The job is an excellent one, very much above the average.
  - B. The job is a fairly good one.
  - C. The job is only average.
  - D. The job is not as good as average in this kind of work.
  - E. The job is a very poor one, very much below the average in this kind of work.
  
2. Please place a tick in front of the statement which best describes your feelings about your job.
  - A. I am very happy and satisfied on this job.
  - B. I am fairly well satisfied on this job.
  - C. I am neither satisfied nor dissatisfied – it is just an average job.
  - D. I am a little dissatisfied on this job.
  - E. I am very dissatisfied and unhappy on this job.
  
3. Tick one of the following which best describes any general conditions which affect your work or comfort on this job.
  - A. General working conditions are very bad.
  - B. General working conditions are poor – not so good as the average for this kind of job.
  - C. General working conditions are about average – neither good nor bad.
  - D. In general, working conditions are good – better than average.
  - E. General working conditions are very good – much better than the average for this kind of job.
  
4. Please place a tick in front of the statement which best tells how good an organization it is to work for.
  - A. It is an excellent organization to work for – one of the best organizations I know of.
  - B. It is a good organization to work for but not one of the best.
  - C. It is only an average organization to work for. Many others are just as good.
  - D. It is below average as an organization to work for. Many others are better.
  - E. It is probably one of the poorest organizations to work for I know of.
  
5. Please place a tick in front of the statement which best tells how your feelings compare with those of other people you know.
  - A. I dislike my job **much more** than most people dislike theirs.
  - B. I dislike my job **more** than most people dislike theirs.
  - C. I like my job about as well as most people like theirs.
  - D. I like my job **better** than most people like theirs.
  - E. I like my job **much better** than most people like theirs.

6. Please place a tick in front of the statement which best tells how you feel about the work you do on your job.
- A. The work I do is very unpleasant. I dislike it.
- B. The work I do is not pleasant.
- C. The work is "just about average". I don't have any particular feeling about whether it is pleasant or not.
- D. The work is pleasant and enjoyable.
- E. The work is very enjoyable. I very much like to do the work called for on this job.
7. Tick one of the following statements to show how much of the time you are satisfied with your job.
- A. Most of the time.
- B. A good deal of the time.
- C. About half of the time.
- D. Occasionally.
- E. Seldom.
8. Tick one of the following statements which best tells how you feel about changing **your job**.
- A. I would quit this job if I had anything else to do.
- B. I would take almost any other job in which I could earn as much as I am earning here.
- C. This job is as good as the average and I would just as soon have it as any other for the same money.
- D. I am not eager to change jobs but would do so if I could make more money.
- E. I do not want to change jobs even for more money because this is a good one.
9. Suppose you had a very good friend who is looking for a job in your line of work and you know of a vacancy in this organization which your friend is well qualified for. Would you:
- A. Recommend this job as a good one to apply for.
- B. Recommend this job but caution your friend about its shortcomings.
- C. Tell your friend about the vacancy but not anything else, then let her decide whether to apply or not.
- D. Tell your friend about the vacancy but suggest that she look for other vacancies elsewhere before applying.
- E. Try to discourage your friend from applying by telling the bad things about the job.
10. Tick one of the following statements to show how well satisfied you are with your job.
- A. Completely dissatisfied.
- B. More dissatisfied than Satisfied
- C. About half and half.
- D. More Satisfied than not.
- E. Completely Satisfied.

## COMPARING VOCATIONS QUESTIONNAIRE

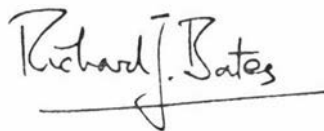
Nursing (N) Teaching (T), and Secretarial work (S) are probably the occupations most open to women. In the following section, please compare these vocations. Indicate which vocation you think is best in each case by putting a circle around the appropriate abbreviation. If you can't decide, circle "U" for "undecided". Give only one answer to each question, but don't skip any.

### Which occupation do you believe:

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. Gives one the best chance for security? .....  | N | T | S | U |
| 2. Provides the greatest opportunity for planning one's own work on the job? .....        | N | T | S | U |
| 3. Provides the greatest financial rewards? .....   | N | T | S | U |
| 4. Provides the greatest variety of work activity on the job? .....                       | N | T | S | U |
| 5. Is best as preparation for marriage and family living? .....                           | N | T | S | U |
| 6. Provides the best opportunities for meeting a potential husband? .....                 | N | T | S | U |
| 7. Gives one the greatest amount of prestige? .....                                       | N | T | S | U |
| 8. Provides the best opportunity for putting one's religious beliefs into practice? ..... | N | T | S | U |
| 9. Offers the largest number of occasions to meet new and interesting people? .....       | N | T | S | U |
| 10. Gives the best opportunity to hold positions of authority? .....                      | N | T | S | U |
| 11. Requires the greatest amount of educational preparation? .....                        | N | T | S | U |
| 12. Gives best opportunity for a woman to supplement her husband's income? .....          | N | T | S | U |
| 13. Is most highly respected by the public? .....   | N | T | S | U |
| 14. Gives one the most opportunities to serve humanity? .....                             | N | T | S | U |
| 15. Is most scientific in knowledge required or skills used? .....                        | N | T | S | U |
| 16. Requires the greatest amount of intelligence? .....                                   | N | T | S | U |
| 17. Provides the greatest opportunity to have responsibility? .....                       | N | T | S | U |
| 18. Offers a service most needed by society? .....  | N | T | S | U |
| 19. Gives one the greatest opportunity to experience the gratitude of others? .....       | N | T | S | U |
| 20. Involves the largest number of pleasant tasks? .....                                  | N | T | S | U |

You have now finished this questionnaire

Thank you for your help.



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## Appendix E

## Personal Orientation Inventory Scoring Programme

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BATES SCORING PROGRAMME FOR POI
CARD PUNCHING FORMATS   POI ITEMS CODED A=1, P=2.
CARD 1  COL 1=1, COLS2/5= RESPONDENT IDENTITY NO, COLS6/80=POI ITEMS 1/75
CARD 2  COL 1=2, COLS2/5= RESPONDENT IDENTITY NO, COLS6/80=POI ITEMS 76/150
INSERT HEADING CARD (901) UP TO 60 CHARACTERS
READ 901-
PRINT 901
901 FORMAT (60H
1      )
PRINT 902
902 FORMAT ('                                PERSONAL ORIENTAT
TION INVENTORY')
PRINT 903
903 FORMAT ('          RATIO SCORES   PROFILE SCORES')
PRINT 904
904 FORMAT (' WESP      TIME  SUPPORT')
PRINT 905
905 FORMAT (' NO.      RATIO RATIO   TI      TC   O   I   SAV   EX   FR   S
1 SR  SA  KC  BY  A   C ')
DIMENSION VAR(150)
19 FORMAT (52,75I1)
20 FORMAT (12,14,75I1)
INITIALIZE ARRAYS
10 XTI=0
XTC=0
XCD=0
XID=0
XSV=0
XEX=0
XSP=0
XSC=0
XSY=0
XAA=0
XIC=0
TIVR=0
SUPR=0
READ CARDS
20 READ(2,20,END=5) (VAR(I),I=1,75)
READ(2,20) (VAR(I),I=76,150)
ACCELERATE DATA
23 IF (VAR(1)-1) 32,31,32
21 XOD=XOD+1
GO TO 33
22 XID=XID+1
XEX=XEX+1
XSP=XSP+1
XIC=XIC+1
23 IF (VAR(2)-1) 36,34,35
24 XOD=XOD+1
GO TO 36
25 XID=XID+1
XEX=XEX+1
XIC=XIC+1

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36 IF (VAR(3)-1)39,37,38
37 XOD=XOD+1
   GO TO 39
38 XID=XID+1
   XEX=XEX+1
   XSA=XSA+1
39 IF (VAR(4)-1)42,40,41
40 XID=XID+1
   XFR=XFR+1
   GO TO 42
41 XOD=XOD+1
42 IF (VAR(5)-1)45,43,44
43 XOD=XOD+1
   GO TO 45
44 XID=XID+1
   XEX=XEX+1
   XSA=XSA+1
45 IF (VAR(6)-1)48,46,47
46 XID=XID+1
   XSV=XSV+1
   XSP=XSP+1
   GO TO 48
47 XOD=XOD+1
48 IF (VAR(7)-1)51,49,50
49 XOD=XOD+1
   GO TO 51
50 XID=XID+1
   XSR=XSR+1
51 IF (VAR(8)-1)54,52,53
52 XOD=XOD+1
   GO TO 54
53 XID=XID+1
   XEX=XEX+1
   XIC=XIC+1
54 IF (VAR(9)-1)57,55,56
55 XOD=XOD+1
   GO TO 57
56 XID=XID+1
   XEX=XEX+1
57 IF (VAR(10)-1)60,58,59
58 XOD=XOD+1
   GO TO 60
59 XID=XID+1
   XSV=XSV+1
   XFR=XFR+1
60 IF (VAR(11)-1)63,61,62
61 XOD=XOD+1
   XEX=XEX+1
   GO TO 63
62 XID=XID+1
63 IF (VAR(12)-1)66,64,65
64 XOD=XOD+1
   GO TO 66
65 XID=XID+1
   XSA=XSA+1
66 IF (VAR(13)-1)69,67,68
67 XID=XID+1
   XFR=XFR+1
   XAA=XAA+1
   XSY=XSY+1
   GO TO 69
68 XOD=XOD+1
69 IF (VAR(14)-1)72,70,71
70 XOD=XOD+1

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GO TO 72
71 XID=XID+1
   XSA=XSA+1

72 IF (VAR(15)-1)75,73,74
73 XOD=XOD+1
   GO TO 75
74 XID=XID+1
   XFR=XFR+1
75 IF (VAR(16)-1)78,76,77
76 XOD=XOD+1
   XFR=XFR+1
   GO TO 78
77 XID=XID+1
   XSR=XSR+1
78 IF (VAR(17)-1)81,79,80
79 XID=XID+1
   GO TO 81
80 XOD=XOD+1
81 IF (VAR(18)-1)84,82,83
82 XID=XID+1
   XEX=XEX+1
   GO TO 84
83 XOD=XOD+1
84 IF (VAR(19)-1)87,85,86
85 XID=XID+1
   XEX=XEX+1
   XIC=XIC+1
   GO TO 87
86 XOD=XOD+1
87 IF (VAR(20)-1)90,88,89
88 XOD=XOD+1
   GO TO 90
89 XID=XID+1
   XSV=XSV+1
90 IF (VAR(21)-1)93,91,92
91 XOD=XOD+1
   GO TO 93
92 XID=XID+1
   XEX=XEX+1
   XIC=XIC+1
93 IF (VAR(22)-1)96,94,95
94 XID=XID+1
   XSA=XSA+1
   GO TO 96
95 XOD=XOD+1
96 IF (VAR(23)-1)99,97,98
97 XOD=XOD+1
   GO TO 99
98 XID=XID+1
99 IF (VAR(24)-1)102,100,101
100 XID=XID+1
   XSA=XSA+1
   XAA=XAA+1
   GO TO 102
101 XOD=XOD+1
102 IF (VAR(25)-1)105,103,104
103 XOD=XOD+1
   GO TO 105
104 XID=XID+1
   XIC=XIC+1
105 IF (VAR(26)-1)108,106,107
106 XOD=XOD+1
   GO TO 108
107 XID=XID+1

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XSA=XSA+1
108 IF (VAR(27)-1)111,109,110
109 XID=XID+1
XSV=XSV+1
XSP=XSP+1
GO TO 111
110 XOD=XOD+1
111 IF (VAR(28)-1)114,112,113
112 XOD=XOD+1
GO TO 114
113 XID=XID+1
XSA=XSA+1
114 IF (VAR(29)-1)117,115,116
115 XOD=XOD+1
GO TO 117
116 XID=XID+1
117 IF (VAR(30)-1)120,118,119
118 XOD=XOD+1
XSA=XSA+1
GO TO 120
119 XID=XID+1
120 IF (VAR(31)-1)123,121,122
121 XID=XID+1
XEX=XEX+1
XSR=XSR+1
GO TO 123
122 XOD=XOD+1
123 IF (VAR(32)-1)126,124,125
124 XID=XID+1
XSR=XSR+1
GO TO 126
125 XOD=XOD+1
126 IF (VAR(33)-1)129,127,128
127 XID=XID+1
XFR=XFR+1
XAA=XAA+1
XIC=XIC+1
GO TO 129
128 XOD=XOD+1
129 IF (VAR(34)-1)132,130,131
130 XOD=XOD+1
GO TO 132
131 XID=XID+1
132 IF (VAR(35)-1)135,133,134
133 XID=XID+1
XSP=XSP+1
GO TO 135
134 XOD=XOD+1
135 IF (VAR(36)-1)138,136,137
136 XOD=XOD+1
GO TO 138
137 XID=XID+1
XSV=XSV+1
XFX=XFX+1
XNC=XNC+1
XIC=XIC+1
138 IF (VAR(37)-1)141,139,140
139 XID=XID+1
XSA=XSA+1
GO TO 141
140 XOD=XOD+1
141 IF (VAR(38)-1)144,142,143

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142 XID=XID+1
    XSV=XSV+1
    XFR=XFR+1
    XSR=XSR+1
    GO TO 144
143 XOD=XOD+1
144 IF (VAR(39)-1)147,145,146
145 XID=XID+1
    XSR=XSR+1
    GO TO 147
146 XOD=XOD+1
147 IF (VAR(40)-1)150,148,149
148 XID=XID+1
    XSR=XSR+1
    XRC=XRC+1
    GO TO 150
149 XOD=XOD+1
150 IF (VAR(41)-1)153,151,152
151 XOD=XOD+1
    GO TO 153
152 XID=XID+1
    XSP=XSP+1
    XSA=XSA+1
153 IF (VAR(42)-1)156,154,155
154 XOD=XOD+1
    GO TO 156
155 XID=XID+1
    XSA=XSA+1
156 IF (VAR(43)-1)159,157,158
157 XID=XID+1
    XSV=XSV+1
    XRC=XRC+1
    GO TO 159
158 XOD=XOD+1
159 IF (VAR(44)-1)162,160,161
160 XOD=XOD+1
    GO TO 162
161 XID=XID+1
    XEX=XEX+1
    XIC=XIC+1
162 IF (VAR(45)-1)165,163,164
163 XOD=XOD+1
    GO TO 165
164 XID=XID+1
    XEX=XEX+1
    XIC=XIC+1
165 IF (VAR(46)-1)168,166,167
166 XOD=XOD+1
    GO TO 168
167 XID=XID+1
168 IF (VAR(47)-1)171,169,170
169 XID=XID+1
    XFR=XFR+1
    GO TO 171
170 XOD=XOD+1
171 IF (VAR(48)-1)174,172,173
172 XTI=XTI+1
    GO TO 174
173 XTC=XTC+1
    XSR=XSR+1
    XSA=XSA+1
174 IF (VAR(49)-1)177,175,176
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175 XQE=XQE+1
    GO TO 177
176 XID=XID+1
    XIC=XIC+1
177 IF (VAR(50)-1)180,178,179
178 XOD=XOD+1
    GO TO 180
179 XID=XID+1
    XSA=XSA+1
    XAA=XAA+1
180 IF (VAR(51)-1)183,181,182
181 XOD=XOD+1
    GO TO 183
182 XID=XID+1
183 IF (VAR(52)-1)186,184,185
184 XOD=XOD+1
    GO TO 186
185 XIL=XID+1
    XFR=XFR+1
    XSP=XSP+1
    XAA=XAA+1
    XIC=XIC+1
186 IF (VAR(53)-1)189,187,188
187 XID=XID+1
    XFR=XFR+1
    XIC=XIC+1
    GO TO 189
188 XOD=XOD+1
189 IF (VAR(54)-1)192,190,191
190 XOD=XOD+1
    GO TO 192
191 XIL=XID+1
    XEA=XEA+1
    XSP=XSP+1
    XIC=XIC+1
192 IF (VAR(55)-1)195,193,194
193 XOD=XOD+1
    GO TO 195
194 XID=XID+1
    XFR=XFR+1
    XIC=XIC+1
195 IF (VAR(56)-1)198,196,197
196 XID=XID+1
    XEA=XEA+1
    XAA=XAA+1
    GO TO 198
197 XOD=XOD+1
198 IF (VAR(57)-1)201,199,200
199 XOD=XOD+1
    GO TO 201
200 XID=XID+1
    XEA=XEA+1
    XIC=XIC+1
201 IF (VAR(58)-1)204,202,203
202 XOD=XOD+1
    GO TO 204
203 XID=XID+1
    XFR=XFR+1
204 IF (VAR(59)-1)207,205,206
205 XTI=XTI+1
    GO TO 207
```

```

206 XTC=XTC+1
207 IF (VAR(60)-1)210,208,209
208 XOD=XOD+1
    GO TO 210
209 XID=XID+1
    XSR=XSR+1
    XIC=XIC+1
210 IF (VAR(61)-1)213,211,212
211 XOD=XOD+1
    GO TO 213
212 XID=XID+1
    XFR=XFR+1
    XAA=XAA+1
    XIC=XIC+1
213 IF (VAR(62)-1)216,214,215
214 XID=XID+1
    XFR=XFR+1
    XSP=XSP+1
    GO TO 216
215 XOD=XOD+1
216 IF (VAR(63)-1)219,217,218
217 XID=XID+1
    XSA=XSA+1
    XAA=XAA+1
    GO TO 219
218 XOD=XOD+1
219 IF (VAR(64)-1)222,220,221
220 XOD=XOD+1
    GO TO 222
221 XID=XID+1
    XEA=XEA+1
222 IF (VAR(65)-1)225,223,224
223 XOD=XOD+1
    GO TO 225
224 XID=XID+1
    XSA=XSA+1
225 IF (VAR(66)-1)228,226,227
226 XID=XID+1
    XSA=XSA+1
    GO TO 228
227 XOD=XOD+1
228 IF (VAR(67)-1)231,229,230
229 XOD=XOD+1
    GO TO 231
230 XID=XID+1
    XFA=XFA+1
    XIC=XIC+1
231 IF (VAR(68)-1)234,232,233
232 XID=XID+1
    XSV=XSV+1
    XSP=XSP+1
    XSR=XSR+1
    GO TO 234
233 XOD=XOD+1
234 IF (VAR(69)-1)237,235,236
235 XOD=XOD+1
    GO TO 237
236 XID=XID+1
    XFR=XFR+1
237 IF (VAR(70)-1)240,238,239
238 XOD=XOD+1
    GO TO 240
239 XID=XID+1

```

```

XSA=XSA+1
XAA=XAA+1
XIC=XIC+1
240 IF (VAR(71)-1)243,241,242
241 XOD=XOD+1
GO TO 243
242 XID=XID+1
XSA=XSA+1
243 IF (VAR(72)-1)246,244,245
244 XID=XID+1
XSA=XSA+1
GO TO 246
245 XOD=XOD+1
246 IF (VAR(73)-1)249,247,248
247 XID=XID+1
XNC=XNC+1
GO TO 249
248 XOD=XOD+1
XAA=XAA+1
249 IF (VAR(74)-1)252,250,251
250 XID=XID+1
XEX=XEX+1
XSF=XSF+1
GO TO 252
251 XOD=XOD+1
252 IF (VAR(75)-1)255,253,254
253 XID=XID+1
GO TO 255
254 XOD=XOD+1
255 IF (VAR(76)-1)258,256,257
256 XOD=XOD+1
GO TO 258
257 XID=XID+1
XFR=XFR+1
XAA=XAA+1
XIC=XIC+1
258 IF (VAR(77)-1)261,259,260
259 XID=XID+1
XSA=XSA+1
GO TO 261
260 XOD=XOD+1
261 IF (VAR(78)-1)264,262,263
262 XID=XID+1
XSK=XSK+1
XLC=XLC+1
GO TO 264
263 XOD=XOD+1
264 IF (VAR(79)-1)267,265,266
265 XOD=XOD+1
GO TO 267
266 XID=XID+1
XAA=XAA+1
GO TO 268
267 IF (VAR(80)-1)270,268,269
268 XSV=XSV+1
XEX=XEX+1
XSY=XSY+1
XID=XID+1
GO TO 270
269 XOD=XOD+1

```

```
270 IF (VAR(81)-1)273,271,272
271 XOD=XOD+1
    GO TO 273
272 XID=XID+1
    XSP=XSP+1
    XIC=XIC+1
273 IF (VAR(82)-1)276,274,275
274 XTI=XTI+1
    GO TO 276
275 XTC=XTC+1
276 IF (VAR(83)-1)279,277,278
277 XOD=XOD+1
    GO TO 279
278 XID=XID+1
    XNC=XNC+1
279 IF (VAR(84)-1)282,280,281
280 XOD=XOD+1
    GO TO 282
281 XID=XID+1
    XSP=XSP+1
    XAA=XAA+1
282 IF (VAR(85)-1)285,283,284
283 XOD=XOD+1
    GO TO 285
284 XID=XID+1
    XSP=XSP+1
285 IF (VAR(86)-1)288,286,287
286 XOD=XOD+1
    GO TO 288
287 XID=XID+1
    XEX=XEX+1
    XSP=XSP+1
288 IF (VAR(87)-1)291,289,290
289 XTI=XTI+1
    GO TO 291
290 XTC=XTC+1
    XSA=XSA+1
291 IF (VAR(88)-1)294,292,293
292 XTI=XTI+1
    GO TO 294
293 XTC=XTC+1
294 IF (VAR(89)-1)297,295,296
295 XOD=XOD+1
    GO TO 297
296 XID=XID+1
    XSV=XSV+1
    XEX=XEX+1
    XSY=XSY+1
    XAA=XAA+1
297 IF (VAR(90)-1)300,298,299
298 XTI=XTI+1
    GO TO 300
299 XTC=XTC+1
300 IF (VAR(91)-1)303,301,302
301 XOD=XOD+1
    GO TO 303
302 XID=XID+1
    XFR=XFR+1
    XAA=XAA+1
303 IF (VAR(92)-1)306,304,305
304 XID=XID+1
    XSV=XSV+1
    XEX=XEX+1
```

```
XNC=XNC+1
XSY=XSY+1
GO TO 306
305 XOD=XOD+1
306 IF (VAR(93)-1)309,307,308
307 XID=XID+1
XFR=XFR+1
XAA=XAA+1
GO TO 309
308 XOD=XOD+1
309 IF (VAR(94)-1)312,310,311
310 XOD=XOD+1
GO TO 312
311 XID=XID+1
XFR=XFR+1
312 IF (VAR(95)-1)315,313,314
313 XID=XID+1
XFR=XFR+1
GO TO 315
314 XOD=XOD+1
315 IF (VAR(96)-1)318,316,317
316 XOD=XOD+1
GO TO 318
317 XID=XID+1
XEX=XEX+1
318 IF (VAR(97)-1)321,319,320
319 XOD=XOD+1
GO TO 321
320 XID=XID+1
321 IF (VAR(98)-1)324,322,323
322 XOD=XOD+1
GO TO 324
323 XID=XID+1
XSV=XSV+1
XEX=XEX+1
XNC=XNC+1
XSY=XSY+1
324 IF (VAR(99)-1)327,325,326
325 XID=XID+1
XSV=XSV+1
GO TO 327
326 XOD=XOD+1
327 IF (VAR(100)-1)330,328,329
328 XID=XID+1
XSV=XSV+1
GO TO 330
329 XOD=XOD+1
330 IF (VAR(101)-1)333,331,332
331 XID=XID+1
XFR=XFR+1
XSP=XSP+1
GO TO 333
332 XOD=XOD+1
333 IF (VAR(102)-1)336,334,335
334 XTC=XTC+1
GO TO 336
335 XTI=XTI+1
336 IF (VAR(103)-1)339,337,338
337 XID=XID+1
XSV=XSV+1
```

```
      XIC=XIC+1
      GO TO 339
338 XOD=XOD+1
339 IF (VAR(104)-1)342,340,341
340 XTC=XTC+1
      GO TO 342
341 XTI=XTI+1
342 IF (VAR(105)-1)345,343,344
343 XTI=XTI+1
      GO TO 345
344 XTC=XTC+1
345 IF (VAR(106)-1)348,346,347
346 XOD=XOD+1
      GO TO 348
347 XID=XID+1
      XIC=XIC+1
348 IF (VAR(107)-1)351,349,350
349 XOD=XOD+1
      GO TO 351
350 XID=XID+1
      XSA=XSA+1
      XIC=XIC+1
351 IF (VAR(108)-1)354,352,353
352 XID=XID+1
      XIC=XIC+1
      GO TO 354
353 XOD=XOD+1
354 IF (VAR(109)-1)357,355,356
355 XID=XID+1
      XAA=XAA+1
      GO TO 357
356 XOD=XOD+1
357 IF (VAR(110)-1)360,358,359
358 XTI=XTI+1
      GO TO 360
359 XTC=XTC+1
360 IF (VAR(111)-1)363,361,362
361 XTI=XTI+1
      GO TO 363
362 XTC=XTC+1
      XEX=XEX+1
363 IF (VAR(112)-1)366,364,365
364 XTI=XTI+1
      GO TO 366
365 XTC=XTC+1
366 IF (VAR(113)-1)369,367,368
367 XTC=XTC+1
      GO TO 369
368 XTI=XTI+1
369 IF (VAR(114)-1)372,370,371
370 XID=XID+1
      XSV=XSV+1
      GO TO 372
371 XOD=XOD+1
372 IF (VAR(115)-1)375,373,374
373 XID=XID+1
      XNC=XNC+1
      GO TO 375
374 XOD=XOD+1
      XAA=XAA+1
375 IF (VAR(116)-1)378,376,377
```

```
376 XOD=XOD+1
GO TO 378
377 XID=XID+1
XNC=XNC+1
378 IF (VAR(117)-1)381,379,380
379 XOD=XOD+1
GO TO 381
380 XID=XID+1
XFR=XFR+1
XIC=XIC+1
381 IF (VAR(118)-1)384,382,383
382 XID=XID+1
XSV=XSV+1
XSR=XSR+1
XAA=XAA+1
GO TO 384
383 XOD=XOD+1
384 IF (VAR(119)-1)387,385,386
385 XID=XID+1
XRC=XRC+1
GO TO 387
386 XOD=XOD+1
387 IF (VAR(120)-1)390,388,389
388 XID=XID+1
GO TO 390
389 XOD=XOD+1
390 IF (VAR(121)-1)393,391,392
391 XID=XID+1
XSV=XSV+1
XSR=XSR+1
GO TO 393
392 XOD=XOD+1
393 IF (VAR(122)-1)396,394,395
394 XID=XID+1
XRC=XRC+1
XAA=XAA+1
GO TO 396
395 XOD=XOD+1
396 IF (VAR(123)-1)399,397,398
397 XID=XID+1
XSV=XSV+1
XSR=XSR+1
XAA=XAA+1
GO TO 399
398 XOD=XOD+1
399 IF (VAR(124)-1)402,400,401
400 XTI=XTI+1
GO TO 402
401 XTC=XTC+1
XEA=XEA+1
402 IF (VAR(125)-1)405,403,404
403 XTI=XTI+1
GO TO 405
404 XTC=XTC+1
405 IF (VAR(126)-1)408,406,407
406 XID=XID+1
XNC=XNC+1
GO TO 408
407 XOD=XOD+1
408 IF (VAR(127)-1)411,409,410
409 XID=XID+1
XIC=XIC+1
```

```

GO TO 411
410 XOD=XOD+1
411 IF (VAR(128)-1)414,412,413
412 XID=XID+1
    XSV=XSV+1
    XSR=XSR+1
    GO TO 414
413 XOD=XOD+1
    XSA=XSA+1
414 IF (VAR(129)-1)417,415,416
415 XTI=XTI+1
    GO TO 417
416 XTC=XTC+1
417 IF (VAR(130)-1)420,418,419
418 XOD=XOD+1
    GO TO 420
419 XID=XID+1
    XEX=XEX+1
    XAA=XAA+1
420 IF (VAR(131)-1)423,421,422
421 XID=XID+1
    XFR=XFR+1
    XAA=XAA+1
    GO TO 423
422 XOD=XOD+1
423 IF (VAR(132)-1)426,424,425
424 XID=XID+1
    XSR=XSR+1
    GO TO 426
425 XOD=XOD+1
426 IF (VAR(133)-1)429,427,428
427 XTC=XTC+1
    XSV=XSV+1
    GO TO 429
428 XTI=XTI+1
429 IF (VAR(134)-1)432,430,431
430 XID=XID+1
    XSA=XSA+1
    GO TO 432
431 XOD=XOD+1
432 IF (VAR(135)-1)435,433,434
433 XID=XID+1
    XSV=XSV+1
    XAA=XAA+1
    GO TO 435
434 XOD=XOD+1
435 IF (VAR(136)-1)438,436,437
436 XTI=XTI+1
    GO TO 438
437 XTC=XTC+1
438 IF (VAR(137)-1)441,439,440
439 XID=XID+1
    XSP=XSP+1
    XSY=XSY+1
    GO TO 441
440 XOD=XOD+1
441 IF (VAR(138)-1)444,442,443
442 XID=XID+1
    XSV=XSV+1
    XSP=XSP+1
    GO TO 444
443 XOD=XOD+1

```

```
444 IF (VAR(139)-1)447,445,446
445 XOD=XOD+1
GO TO 447
446 XID=XID+1
XNC=XNC+1
447 IF (VAR(140)-1)450,448,449
448 XTC=XTC+1
GO TO 450
449 XTI=XTI+1
450 IF (VAR(141)-1)453,451,452
451 XID=XID+1
XSV=XSV+1
XNC=XNC+1
XSY=XSY+1
GO TO 453
452 XOD=XOD+1
453 IF (VAR(142)-1)456,454,455
454 XTC=XTC+1
GO TO 456
455 XTI=XTI+1

456 IF (VAR(143)-1)459,457,458
457 XTI=XTI+1
GO TO 459
458 XTC=XTC+1
XEX=XEX+1
459 IF (VAR(144)-1)462,460,461
460 XTC=XTC+1
XSY=XSY+1
GO TO 462
461 XTI=XTI+1
462 IF (VAR(145)-1)465,463,464
463 XTI=XTI+1
GO TO 465
464 XTC=XTC+1
465 IF (VAR(146)-1)468,466,467
466 XID=XID+1
XSV=XSV+1
XSY=XSY+1
XAA=XAA+1
GO TO 468
467 XOD=XOD+1
468 IF (VAR(147)-1)471,469,470
469 XID=XID+1
XSV=XSV+1
XNC=XNC+1
GO TO 471
470 XOD=XOD+1
471 IF (VAR(148)-1)474,472,473
472 XOD=XOD+1
GO TO 474
473 XID=XID+1
XEX=XEX+1
474 IF (VAR(149)-1)477,475,476
475 XID=XID+1
XEX=XEX+1
XSR=XSR+1
GO TO 477
476 XOD=XOD+1
477 IF (VAR(150)-1)480,478,479
478 XOD=XOD+1
GO TO 481
```

479 XID=XID+1

XSA=XSA+1

C CALCULATE TIME AND SUPPORT RATIOS

480 IF(XTI)483,483,481

481 TIMR=XTC/XTI

483 IF(XOD)485,485,484

484 SUPR=XID/XOD

906 FORMAT (2X,I4,2X,2F6.1,2I6,12I4)

485 PRINT 906,IDNO,TIMR,SUPR,XTI,XTC,XOD,XID,XSV,XEX,XFR,XSP,XSR,XSA,X  
INC,XSY,XAA,XIC

GO TO 10

5 CALL EXIT

END

DATA INPUT

## Appendix F

## Programme for Generation of Sociomatrix of Ultimate Connectedness

```

PROGRAM TO FIND ULTIMATE CONNECTEDNESS OF SOCIOMATRIX
DATA DECK MUST BE COMPILED AS FOLLOWS
FIRST CARD STATES NUMBER OF SEPERATE PROBLEMS IN COLS 1-3
RAW DATA FOR EACH PROBLEM MUST BE PRECEDED BY FOLLOWING CARDS
1 HEADING CARD OF UP TO 60 CHARACTERS
SPECIFICATION CARD WITH NUMBER OF CASES IN COLS 1-4
NUMBER OF CHOICES UP TO TEN IN COLUMNS 5-8
IDENTITY NUMBER OF FIRST RDATA CASE IN COLUMNS 9-12
ATTENUATION CONSTANT IN COLUMNS 13-22
DATA CARDS FOLLOW IN SEQUENCE BY IDENTITY OF RESPONDENT
FORMAT SPECIFICATION 108 MUST BE ALTERED TO READ IDENTITY
NUMBERS OF CHOICES FROM DATA CARDS IN I3 FORMAT
FORMAT SPECIFICATION 106 MUST BE ALTERED TO NUMBER IN GROUP
IN ORDER TO SPECIFY SIZE OF SOCIOMATRIX
  DIMENSION NMAT(1000), NMAL(1000), NCYCL(1000)
500 FORMAT (1H1,10A6)
  DIMENSION CT(1000),SST(1000),HEAD(10)
  DIMENSION NFR(1000,10), NCT(1000), ST(1000), NEW(1000), NTST(1000)
  1, NEW2(1000), NOUT(1000)
  DIMENSION NMATL (100,100)
  READ (5,105)NPROB
105 FORMAT (I3)
  DO 70 IP= 1,NPROB
READ HEADING CARD UP TO 60 CHARACTERS
  READ (5,500)HEAD
  WRITE (6,500)HEAD
  READ NUMBER IN GROUP (N)(COLS 1-4),FORMAT (1X13)
  NUMBER OF CHOICES UP TO 10 (NC)(COLS 5-8),FORMAT (1X13)
  IDENTITY NUMBER OF FIRST INDIVIDUAL (ISTART)(COLS9-12)FORMAT 1X13)
  ATTENUATION CONSTANT (AS)(COLS 11-20) FORMAT (10.5)
  READ (5,100) N,NC,ISTART,AS
  IST=ISTART-1
  NP =N+1
  PRINT OUT HEADING CARD FOR INITIAL CHOICE DATA SUMMARY
  WRITE (6,501)
501 FORMAT ('0INITIAL CHOICE DATA SUMMARY')
  WRITE (6,502)
502 FORMAT ('1 CHOOSEK CHOICES 1 2 3 4 5 6 7 8 9
1 10')
  DO 10 I=1,N
  NMAL(I)=0
  CT(I)=0.
  ST(I)=0.
  SST(I)=0.
  NCYCL(I)=0
  READ CHOICE DATA INTO NFR(I,J)
  READ(5,108)(NFR(I,J),J=1,NC)
  PRINT INITIAL CHOICE DATA SUMMARY
  WRITE (6,101)I+IST,(NFR(I,J),J=1,NC)
101 FORMAT (2X,I3,12X,10(1X13))
  DO 777 I9=1,NC
  NFR(I,I9)=NFR(I,I9)-IST
777 CONTINUE
  10 CONTINUE
  NMAL(NP)=0

```

```

    FIND NUMBER OF CHOICES OF I AND STORE IN NCT(I)
    DO 21 I=1,N
    DO 22 J=1,NC
    IF (NFR(I,J)) 23,23,55
55 CONTINUE
    IF (NFR(I,J)-N) 25,25,23
23 NCT(I)=J-1
    GO TO 21
25 CONTINUE
    INCREMENT FORWARD AND BACKWARD CONNECTEDNESS MEASURES
    L=NFR(I,J)
    CT(I)=CT(I)+AS
    ST(L)=ST(L)+AS
22 CONTINUE
    NCT(I)=NC
21 CONTINUE
    WRITE INPUT DATA AS MATRIX
    WRITE (6,500)HEAD
    WRITE (6,504)
,04 FORMAT (' SOCIOMETRIC CHOICE MATRIX')
    WRITE (6,505)
,05 FORMAT (' ROW=CHOOSEER COLUMN=CHOSEN COLUMN ON RIGHT= NO OF CHOI
ICES MADE')
    DO 97 I=1,N
    NTT=NCT(I)+1
    DO 99 L=1,NP
    NMAT(L)=0
99 CONTINUE
    DO 98 M=1,NTT
    L=NFR(I,M)
    IF (NFR(I,M)) 98,98,77
77 NMAT(L)=1
    NMAL(L)=NMAL(L)+1
98 CONTINUE
    NMAT(NP)=NTT
    NMAL(NP)=NMAL(NP)+NTT
    WRITE (6,106)I + 1ST,(NMAT(L),L=1,NP)
97 CONTINUE
    WRITE (6,506)
506 FORMAT (' TOTAL NUMBER OF PERSONS FROM WHOM CHOICES LEAD BY IND
IVIDUAL')
    WRITE (6,107)(NMAL(I),I=1,NP)
    CONSTRUCT EACH INDIVIDUALS CHAIN
    WRITE (6,500)HEAD
    WRITE (6,510)
510 FORMAT (' CHOICE CHAINS BY INDIVIDUAL')
    DO 11 I=1,N
    WRITE (6,103)
    DO 19 J=1,N
    NEW(J)=0
    NTOT(J)=0
19 CONTINUE
    NTT=NCT(I)+1
    NT=NCT(I)
    NTOT(NTT)=1
    IF (NCT(I)) 56,56,57
56 CONTINUE
    WRITE (6,103)
    WRITE(6,102)I+1ST
    WRITE (6,103)
    GO TO 37
57 CONTINUE

```

```

DO 18 J=1,NT
NEW(J)= NFR(I,J)
NTOT(J)= NFR(I,J)
18 CONTINUE
A=AS
DO 17 NCY=1,N
FORM ATTENUATION CONSTANT FOR THIS CYCLE

A= A*AS
IJ=0
IK=0
FOR EACH NEW CYCLE, FIND NEW PERSONS CHOSEN BY PREVIOUS NEW
PERSONS AND ADD TO TOTAL CHAIN
DO 12 J=1,NT
K=NEW(J)
IF (K.LE.0) GO TO 12
NTK=NCT(K)
PICK UP EACH CHOICE OF NEW CHOICES, AND ADD THEM
DO 13 KJ=1,NTK
L=NFR(K,KJ)
DO 14 JJ=1,NTT
IF (NTOT(JJ)-L) 14,15,14
14 CONTINUE
IJ=IJ+1
NTT=NTT+1
ADD TO TOTAL CHOICE CHAIN
NTOT(NTT)=L
NEW2(IJ)=L
15 IK=IK+1
ADD TO NTH CYCLE OUTPUT
NOUT(IK)=L
INCREMENT CONNECTEDNESS MEASURES
CT(I)=CT(I)+A
IF (L.EQ.0) GO TO 13
ST(L)=ST(L)+A
13 CONTINUE
12 CONTINUE
WRITE OUT CURRENT STATUS OF TOTAL CHOICE CHAIN
WRITE (6,102)NCY,I+1ST,(NTOT(I),I=1,NTT)
WRITE OUT NTH CYCLE CHOICES
WRITE (6,102)NCY,I+1ST,(NOUT(I),I=1,IK)
IF (IJ) 40,40,41
40 CONTINUE
WRITE (6,102)I+1ST
GO TO 30
41 CONTINUE
WRITE OUT NEW ADDITIONS TO CHAIN
WRITE (6,102)NCY,I+1ST,(NEW2(M),M=1,IJ)
31 CONTINUE
DO 32 IP=1,IJ
NEW(IP)=NEW2(IP)
32 CONTINUE
NCYCL(I)=NCYCL(I)+1
NT=IJ
17 CONTINUE
30 CONTINUE
37 CONTINUE
WRITE OUT ITH ROW OF CONNECTEDNESS MATRIC
WRITE (6,104)N,(ST(IQ),IQ=1,N)
DO 35 IQ=1,N
INCREMENT TOTAL STATUS MEASURES
SST(IQ)=SST(IQ)+ST(IQ)

```

```

      ST(IQ)=0.
35  CONTINUE
      STORE TOTAL CHOICE CHAIN ON TAPE
      WRITE (10)NTT
      WRITE (10)I,(NTOT(M),M=1,NTT)
      WRITE(6,103)
11  CONTINUE
      REWIND 10
      WRITE (6,500)HEAD
      WRITE (6,507)
507  FORMAT ('MATRIX OF ULTIMATE CONNECTEDNESS')
      WRITE (6,103)
      WRITE (6,508)
508  FORMAT (' ROW=CHOOSE      COLUMN=CHOSEN')
      WRITE (6,512)
512  FORMAT (' FIRST COLUMN ON RIGHT=NO OF PERSONS CHOICES LEAD TO')
      WRITE (6,511)
511  FORMAT (' LAST COLUMN ON RIGHT=NO OF PERSONS FROM WHOM CHOICES LEA
1D')
      WRITE (6,103)
      WRITE (6,103)
      DO 34 I=1,N
      READ (10)NTT
      READ (10)I,(NTOT(M),M=1,NTT)
      WRITE OUT TOTAL CHOICE MATRIX
      DO 72 L=1,N
      NMAT(L)=0
72  CONTINUE

      DO 71 M=1,NTT
      L=NTOT(M)
      IF (L.EQ.0) GO TO 71
      NMAT(L)=1
      NMAL(L)=NMAL(L)+1
71  CONTINUE
      NMAT(NP)=NTT
      NMAL(NP)=NMAL(NP)+NTT
      DO 134 L=1,NP
      NMATL(I,L)=NMAT(L)
134  CONTINUE
34  CONTINUE
      DO 234 I=1,N
      WRITE (6,106) I+1ST,(NMATL(I,L),L=1,NP),NMAL(I)
234  CONTINUE
      REWIND 10
      WRITE OUT TOTAL PERSONS CHOOSING INTO I
      WRITE (6,509)
509  FORMAT ('0      TOTAL NUMBER OF PERSONS FROM WHOM CHOICES LEAD BY
1 INDIVIDUAL')
      WRITE (6,107)(NMAL(I),I=1,NP)
      WRITE OUT FORWARD AND BACKWARD CONNECTEDNESS
      WRITE (6,104)N,(CT(IQ),IQ=1,N)
      WRITE (6,104)N,(SST(IQ),IQ=1,N)
70  CONTINUE
      CALL EXIT
100  FORMAT (3(1X13) ,F10.5)
102  FORMAT (23(1X14),/(10X21(1X14)))
103  FORMAT (/)
104  FORMAT (1X14,15F8.2,/(5X15F8.2))
106  FORMAT (1X13,1X47I1,1X13,1X13)

```

```
107 FORMAT (// (5X1518))
108 FORMAT (60X,3(1X,I3)/)
      SAMPLE DATA
      END
      DATA
3      APRCE
1 SOCIOMATRIX NURS13 NURSES AFTER TEN WEEKS WARD
47      3 001      .5
END JOB
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