PROFESSIONALS IN ORGANISATIONS:

A Case Study of Formal and Informal *Organisational Structures*

in a Super-specialities *Hospital*

Thesis submitted for the degree

of

DOCTOR OF PHILOSOPHY

in

SOCIOLOGY

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C E R T I F I C A T E

This is to certify that the thesis entitled **"Professionals in Organisations: A Case Study of Formal and Informal Organisational Structures in a Super-specialities Hospital"** submitted in fulfilment of the requirement for the degree of **Doctor of Philosophy in Sociology,** School of Social Sciences, University of Hyderabad is a record of the bonafide research work carried out by A.L. **Sharada** under my guidance and supervision. This is the original work of the candidate.

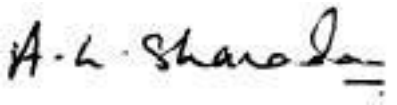
No part of this thesis has been submitted for any other degree or diploma of this or any other University or has been published. All the assistance and help received during the course of work is acknowledged in the declaration made by the candidate.

In my opinion, this work is suitable for submission for the degree of **Doctor of Philosophy** in **Sociology.**

G.S. AURORA

CANDIDATE'S DECLARATION

This thesis is submitted to the Department of Sociology, School of Social Sciences, University of Hyderabad for the award of the degree of ***Doctor of Philosophy in Sociology*** *and has not been submitted to any other university for any degree.*



A.L. SHARADA

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CONTENTS

CHAPTER - I

I N T R O D U C T I O N

The broad area of this doctoral thesis was identified while working in the department of health and population studies of a research institute. The nature of work called for active involvement in the study of the health system in one of the States of India. The working as well as the decision making process at the various levels - the village, primary health centre and the district medical office - were studied in detail. It was observed during the study that at every stage of health care, extraneous factors like personal preferences and prejudices, caste background, political and professional connections and personality traits, were influencing the functioning of the health system. At a later point of time, we had an opportunity to observe the personnel of a hospital involved in a particular decision making process. It was obvious to us that the informal structure played a significant role in the overall decision making process in these organisations. "How could one study these?" was the natural question which followed this insight.

1.1 *LITERATURE SURVEY:*

As the focus of our study is identified as the *analysis of informal structures in formal organisation, a hospital, the relevant literature has been scanned through. This included studies on formal and informal organisations both in the industrial and professional organisational settings. The major perspectives and certain important insights that emerged from the literature survey are presented below.*

The study of organisations, viz., social, formal and informal, has been an integral part of the sociological discipline since one of the key concerns of sociology has been to understand the process of the emergence of structured social relations, shared world views and beliefs. Found alongside the traditional social organisations which are emergent in nature, are the formal organisations deliberately established to achieve certain goals. The social relations as well as the goals and aims of formal organisations are designed to anticipate and guide interaction. Max Weber, one of the pioneers in the field of sociology, has provided significant theoretical insight into the emergence and functioning

of formal organisations which continues to serve as a reference point to most of the studies even today. According to Weber, a distinguishing feature of formal organisations is their rational - legal orientation. Rational here indicates the control determined by specialised knowledge, calculability and functional efficiency based on finer divisions of labour, hierarchy and affective neutrality in the performance of the tasks. The term legal is used in a narrow sense to denote allegiance to impersonal rules and written procedures. (Beetham: 1974). According to Blau and Scott (1977), formal organisations provide an immediate environment for the emergence of parallel social organisations called informal organisations. They explain the unique characteristics of informal organisations as:

> *" 'Informal organisation' does not refer to all types of emergent patterns of social life but only to those that evolve within the framework of a formally established organisation. Excluded from our purview are social institutions that have evolved without explicit design; included are the informally emerging as well as the formally instituted* patterns within *formally established organisations".*
>
> *(Blau and Scott :* 1977 .- *6-7)*

Sociologists view the emergence of informal organisation as an outcome of (a) the need of the indi-

vidual participants to gain rewards like prestige, social satisfaction, alleviation of boredom by interacting as complete individuals and not as segmented roles vis-a-vis the others, (b) the impossibility as well as inappropriateness of extending formalisation to each and every aspect of the organisation that leaves pockets of discretion where informal organisations appear and (c) employment of specialist professionals whose work cannot be straight jacketed into set rules, regulations and routines because they deal either with improperly defined tasks of providing new knowledge or deal with emergency services. The existing literature on informal organisation can thus be classified under the above three broad perspectives.

Studies which take the social psychological perspective are more pragmatic in their orientation. The earliest works on informal organisations are of this nature. They emphasise the implications to conformity to group norms, productivity, worker morale, feelings of alienation and solidarity and emergence of leadership. These determine, to a considerable extent, the efficiency of organisational functioning. Some of the significant studies which could be classified under this category

are; Blau, *1960(b), 1960(c), Festinger* et al *(1950), Guetzkow &* William; *(1957), Guetzkow (I960), Homans (1950:1961), Mayo (1924:1933) Roethlisberger & Dickson (1947), Roy (1960), Sayles (1958), Seashore (1954), Stodgill (1972), Thibaut & Kelly (1959), Tichy (1973) Walter & Guest (1952),, Whitehead (1938), Zaleznik (1956: 1958), Znardecky (1939).*

The second category of studies relate to the structural functional implications of the emergence of informal organisations for the formal organisations. The focus of these studies is on the subversion and modification of the rules and structures of the formal organisations by the informal organisations. Following are some of the important studies done from this perspective: Bendix (1947), Blau (1956 : 1971), Crozier (1964), Downs (1967), Faunce (1958), Gouldner (1964), Litwak (1961), Merton (1936:1952:1969:1972), Selznick (1943:1948), Stinchcombe (1965). In addition to the above, a large number of studies which concentrage on the emergence of informal groups in total institutions are included in this category. Owing to the negotiations and understandings that develop between the custodians and the inmates, informal organisations are found to operate in total institutions also, where there is total deper-

serialisation and subjugation of the inmates by the organisation. Abel (1951), Bondy (1943), Clemmer (1958), Caudill et al (1952), Dunham & Weinberg (1960), Goffman (1961), Luchterhand (1967).

Finally, the studies which analyse informal organisations as a function of the predominance of certain specialist groups having strong group loyalties and being less amenable to routinisation and depersonalisation belong to the third category. Here, the focus is on professional organisations which pool various skills of the professionals as well as the technological and administrative capabilities of the non-professionals to provide comprehensive services to the clients. In terms of structure, professional service organisations are characterised by large pockets of discretion at various levels. Certain occupational groups as for instance the medical profession, receive a great deal of unquestioned compliance not only from the clients but also others such as nursing and the paramedical staff. In organisational contexts such as these, informal organisations come to play a significant role in the day to day functioning as well as in bringing about major changes in the goals, structure and functioning of the organisations.

The shifting power equations between the doctors and administrators, specialists and generalists, professionals and community leaders, etc., are perceived to be rooted in the informal organisation that exist in professional organisations. (Ben David (1958), Coe (1970:1978), Georgo-poulous & Mann (1962:1972), Gordon & Becker (1964), Goss (1961:1963), Kornhauser (1962), Rosenberg (1970), Strauss et al (1963:1978), Tuckett (1976), Hillocks (1967), Zola (1972:1975)). Characterising the hospitals as fluid systems, Strauss et al (1963) identify informal under-standings and 'negotiation' - "the process of give and take, of diplomacy and of bargain" - as the basis of social interaction. A structural basis is thus given for negotiation. They further proceed to state :

> *"There is a* patterned *variability of negotiation in the hospital pertaining to who contacts with whom, about what, as well as* where *these agreements are made. Influencing the variability are the hierarchic positions, ideological commit-ments as well as periodicity in the* structure *of ward relationship".*
>
> *(Strauss et al: 1963:148)*

In the Indian context, however, there are not many studies which look into the dynamics of formal and informal organisations in professional institutions. Some of the major studies on professional organisations in *India are: Aurora (1973:1976), Chitnis (1979), Dubey*

(1975), George (1981), Jayaram et al (1979), Madan (1969:1972:1980), Oomen (1978), Parvathamma & Venkata-ratnam (1979), Raghavaiah (1978), Rahman (1974), Rudolf and Rudolf (1972), Sarabai (1974), Srichandra (1979), Srivastava (1979), Timmappayya (1968), Venkataratnam (1979).

The above studies deal with established profes-sionals working in predominantly professional organisations, i.e., organisations which are established to further the goals of professions as for example hospitals, research and development departments, universities, etc. The main emphasis of the various studies is on (i) the organisational structure and its influence on recruitment, role perception and performance (Madan: 1980, Oomen: 1978, Venkataratnam: 1979) (id) organisational structure and its influence on social-psychological satisfaction (Aurora:1974, Ceorge:1981, Srichandra:1979) and (iii) professional client relationships (Srivastava: 1979).

In all these studies, we find discussion on the bureaucratic and parochial influences that determine the functioning of the organisation such as over emphasis on rules and regulations, nepotism, favouristism, etc.

Passing references to inter-personal linkages are also made by some of the authors (Aurora: 1976, *Nagpaul & Pruthi: 1930) but no comprehensive analysis, as* such, *of the informal organisation has been done in the Indian context.*

Theoretically, sociologists belonging to various schools have contributed significantly to the understanding of patterned social interaction. While Simmel (1902) has abstracted the forms of sociation - dyads, triads and isolates; Cooley (1902:1909) and Mead (1934) have gone into the process of identification with a *group and emergence of 'self and 'we' feelings. Apart from such general theoretical understandings, there are various models presented by sociologists belonging to different schools such as structural-functional (Heinicke and Bales : 1953) symbolic interactionist (Bales 1950:1957: Luft: 1969) social exchange (Blau: 1964 : Homans: 1950, 1958) ethnomethodological (Weider: 1970) and communication networks. (Bavelas: 1948, Leavith: 1951, Newcombe: 1956, Shaw:1954).*

An emerging methodology which has great potential for the understanding of informal organisations is the

network analysis. Through the use of this analysis, it has become possible to understand informal networks which transcend the organisational boundaries, as for instance, invisible colleges (Crane: 1977) and diffusion of technologies (Coleman:1977) among a particular community of professionals. Network analysis is also being used in the evaluation of health education programmes (Roger: 1981) and therapeuatic counselling. (Gottlieb: 1981, Maguire:1983, Tolsdorf:1976, Walker et al ..:1977, and Warren: 1981) The discrepancy between the cognitive and behavioural aspects of network interactions, network analysis concepts and the role of descriptive categories in network analysis are some of the problem areas engaging the attention of network theorists. (Brieger: 1976, Burt:1983/ Davies:1970, Friedkin: 1981, Harary & Norman: 1965, Rapoport & Horvarth:1961, Sailer: 1978, Salzinger: 1982) Recently, following the developments in mathematical models, computer packages and ethnographic data analysis, all of which permit quantitative analysis, informal organisations arc also being studied in terms of social networks (Barney: 1982). Since, in our study network analysis is being adopted, a detailed discussion of the same is given in the following paragraphs.

The advantage of network analysis is that it demonstrates the process of structuring and relative significance of various factors being articulated in the process of that structuring. (Banck: 1973, Barnes: 1972, Barney: 1982, Earth: 1978, Boissivian: 1973, Bott: 1957, Fischer : 1977, Holland : 1979, Laumann : 1973, Mitchell:1969, Wolfe:1978) The distinctive analytical attributes of the network analysis are the following:

The units of network analysis are the 'social individuals' who have patterned social interaction with each other. A complex chain of interlinkages connect different social individuals, also called 'nodes' in network studies. Each mode is connected to some individuals and through them to many others. Thus a node has a far greater reachability than its immediate linkages. Those which are directly linked are called 'primary linkages' and those to which a node is linked indirectly are called 'secondary linkages'. To activate a network, a node need not necessarily have direct linkages with the other node but may establish contact through the secondary linkages. The positioning of a node in the network has great implications for its behaviour. Yet, it enjoys considerable degree of main-

pulability and is integrated into a complex network of relationships which can be activated or left inoperative depending on the situationally specific requirements of the node. (Banck:1973, Jain: 1987, Micardo: 1983)

Several network analysts have laid considerable emphasis on the factors that determine the selection of network members. Fischer's (1977) choice constraint model. Earth 's (1969) repertoire of interaction and Barney 's(1982) concept of bounded rationality emphasise one point, i.e., each individual is constrained in his behaviour by the social situation in which he is placed and the potential of the others to serve his needs. A social individual is seen as a 'rational' being always assessing the social relations in terms of their 'usefulness ' to him. This rationality does not limit itself to a particular instance at present but is retrospective as well as futuristic in its context.

Barney (1982) explains the process of networking using three concepts - bounded rationality, information inpactedness and selective attention. According to him, it is neurologically impossible for an individual to store information on a very large number of individuals

in any given social situation. Similarly, it would be extremely difficult to interact with every other individual in a situation. Hence, one has to limit one's interaction and information based on certain rationally thought out priorities. For this purpose, the network members are identified based on certain priorities, information collected about them, and selected attention paid to a few depending on the situation specific requirements. Consequently / each individual builds up a definite stock of members to whom he keeps turning to gain certain ends. This determines the social structure as it emerges in a context.

Following Barney, it may be seen that although each individual chooses the network members from his specific situational requirements, it is possible to identify certain trends and patterns in their selection. The terms 'homophily ' and 'heterophily ' which have been domin-ating the analysis of social structure point to the attrac-tion between 'like' individuals and association between the 'opposites' (Lazarsfeld : 1964, Tarde : 1906). It is argued that all things being constant, there would be preference for the 'like individuals' which requires lesser efforts to modify and adjust as well as more scope for sharing and understanding (Maguire : 1983).

However, such a simplistic conception does not explain the differentiation and stratification that characterise social organisations. Addressing himself to the above question, Blau (1977) identified the parameters of social structure. Parameters here may be defined as the aggregate attributes or distributional characteristics which influence social structures. Two types of parameters are identified by him; (a) nominal parameters which create heterogeneity in the organisation and are exclusive categories such as sex and religion and (b) graduated parameters which lead to stratification in social structures and have an intrinsic order as for example age and income. 'Strata' represent "classes of people who differ in the amounts they possess of 'a valued social resource'". About graduated parameters Blau says that "social associations are prevalent among persons in proximate than between those in distant social positions". (Blau: 1977:28) Central to his argument is the concept of 'salience' of a parameter or 'imbreeding bias' a more expressive term used by Mersden (1981) and Fararo (1981). It points to the tendency to associate with members belonging to the same category as one's own which has implications for social stratification, differentiation, mobility, integration and change. Inbreeding is more pronounced in emerging interactions

"wherein interpersonal sentiments are expressed in activities beyond those forming the institutional context requirements" (Fararo: 1981,157).

Blau's parameters of social structure are success-fully utilised by network analysts. (Fararo: 1981, Merden: 1981). The two questions which are raised by them relate to whether an attribute of individuals in a *population serves to organise their social relations and if so, the manner in which it does the* same. *Fararo (1981:142) says that social structure may be seen as a "distributive package of 'software' i.e.,* it is *a distributive set of images and programmes constituting types of knowledge internal to types of actors and activated in certain types of situations". Each actor recognizes these elements, sometimes 'lump-ing' them together as in the images of stratification. In a special situation where there are cross-cutting multiple identities and loyalties, it is essential to club the parameters. This leads to 'multiform ' heteroge-neity since total overlap of parameters and exclusive-ness* are not *possible.*

Certain important theorems are derived by Blau (1977) based on the differences in the sizes of

the groups, rates of discrimination in the formation of ingroup and outgroup relations and levels of consolidation of parameters. The following are some of the significant observations taken into consideration while analysing our data.

1. "Whereas heterogeneity creates barriers to social intercourse, much heterogeneity weakens these barriers" (Blau: 1977:79) In other words, the tendency for 'inbreeding' diminishes with increasing heterogeneity (Fararo:1981).

2. "The more the division of labour intersects with other nominal parameters, the greater is the probability that inter group relations strengthen the society's integration" (Blau: 1977: 203). This may be interpreted as indicating that in any situation characterised with finer divisions of labour, criss-crossing identities, and overlapping sets of attributes, it becomes absolutely necessary to identify the individuals in terms of the sets to which they belong. This is similar to Blau's (1977) concept of "multiform heterogeneity" i.e.,the heterogeneity computed over a cross-classificatinn of characteristics. Finally,

3. "Established role relations are resistant to disruption" (Blau:1977;281). What is sought to be conveyed here is that certain role relations which are established over a period of time do not change along with the mobility aspirations of the participants.

With regard to the third observation, Fararo (1981) infers that there often occurs a situation where an individual tries to establish a relationship based on residual loyalties but is not reciprocated by the others. Thus, some interactions may not show any

definite tendency for either inbreeding or cross breeding bias in a conscious seeking of association with a member belonging to *another category; for instance, pair relationship in marriage. Here, it would be necessary to go a little further and identify the basis for the third type of association mentioned above. Similarity and complementarity are at the root of inbreeding and cross breeding biases. However, in a situation without any inbuilt bias, it may be possible to identify a few motivational factors that are likely to influence the association relationships. Blau explicitly states that social-psychological factors* are *not a part of his model as they are only deviations and are not significant as parameters of social structure. We argue that in certain situationally* specific *contexts, certain social-psychological factors may predominanted and need to be explicitated. Especially when Dlau's model is applied to network analysis, it becomes imperative to provide an explanation to those instances where an individual is motivated by social-psychological requirements. A complex web of network relationships may weave around him which could be of great significance in the analysis of structure over and above the distributional characteristics or parameters. Here, we identify two types of biases (a) reference group*

bias where an individual chooses an associate not for his similarity or complementarity on any social structural attribute but because he constitutes a reference point for his social, career or any other aspirations and (b) situation specific bias which is a residual category based on individual idiosyncracies. These are significant in network analysis though not in Blau's model.

A significant study on the informal networks in formal organisations has been conducted by Barney (1982) using the contingency model. According to him informal organisations, like the formal organisations, are influenced by the environment in which they emerge. The aggregate attributes of the participants, structural attributes of the network and the broader social structural factors are identified as determining influences on the informal structures. For the purpose of his study, Barney takes school children and identifies three variables - sex, size of the network and homogeneity and heterogeneity of the community background. It has been found in his analysis that boys with homogeneous background tend to have centralized hierarchic structures and also similar choice for school clubs. Girls coming from varied social backgrounds, on the other hand, are found to have hierarchically related symmetric groups and diverse choice of school clubs. Boys with divergent

social backgrounds and schools club preferences and girls with similar social backgrounds but different school club preferences are found to have multiple hierarchies. Regarding size, large groups are found to disintegrate into identical but independent groups, while smaller groups are close knit as compared to medium size networks which have a number of sub-groups connected with Liaison members. Barney observes that in formal organisations like production organi-sations, the formal structural variables are likely to be more pronounced than the Aggregate attributes or social structural variables. We would be reverting to these points later in our analytical discussions.

The adoption of network analysis in the study of informal organisations would shift the emphasis from informal organisations and groups to informal structures. An 'informal organisation' necessarily involves a shared base of identities, beliefs and attitudes which distinguishes its members from the others. Further, 'informal groups' involve a definite membership and clearly distinguishable boundaries. But, in the present day organisational context, where there are multiple loyalties, identities and cross-cutting interests of participants, it is likely that loose interaction structures are more dominant than close knit groups. There is a shift from 'primary group' type of

relationships to 'secondary group' relationships which are more efficient in the achievement of various goals based on certain commonly shared expectations and obligations rather than emotional identities. It is this acknowledgement of the shrinking space of intimate relationships and expanding space of situationally specific coalitions, which validates the use of networks in the analysis of informal structures.

Once again, scant attention appears to be paid by Indian sociologists to the use of network analysis as *a theoretical and methodological model. Certain anthropological studies have identified the patterns of social networks as they exist in the Indian villages and their integration with the overall social, economic and political systems (Cohn & Harriot: 1958, Hockings: 1977 ,McKim Marriott: 1959, Srinivas & Beteille: 1964). Network analysis is also being used in analysing the diffusion of innovations in the Indian villages, (Rao & Rogers: 1980, Rao & Singh: 1980, Rao et al: 1980) family planning programmes (Chaudhuri: 1962) and opinion leadership (Sen 1969). In recent times, the significance of network analysis to the study of 'ethnicity ' is being explored (Jain: 1987). It is interesting to note that there are no studies which provide a comprehensive analysis of informal networkings in professional organisations, in the Indian context.*

The above survey of existing literature highlights the need to understand the interface and interaction of formal and informal structures by Indian sociologists. Studies conducted so far are found to be rudimentary in nature and a need has been felt to pioneer an attempt to fill this lacuna by systematically describing and analysing informal structures in the Indian organisational context. A modest attempt in this direction is made in this work.

1.2 RESEARCH PROBLEM .

Central to the functioning of an organisation is the structuring of relationships, formal and informal, which determine its work culture. Formal structures arc based on relationships determined by rules, regulations, job requirements and hierarchy. Informal structures, on the other hand, emerge out of the mutual expectations and obligations, personal preferences, common identities and interests. In an organisational context, both formal and informal structures are mutually interdependent and complementary. Thus, while formal structures determine the overall context in which informal structures come into existence and function, the? working of informal structures determines the change and continuance of formal structures.

Studies conducted abroad have raised the level of understanding of organisational phenomenon. The presence of informal groups is considered inevitable in all situations and types of formal organisations. It is *recognized that informal structures balance the straight jacketing influence of the formal structure and modify, subvert and improve upon it. Network analysts, however, contend that studies on informal structures, as compared to those on formal structures, are inadequate. This is partly because the models developed for explanation of formal structuring and functioning are not applicable to the informal structures, which are considerably less conspicuous and less clearly defined. Informal structures, which are based on interpersonal interaction, also pose problems of size. Inclusion of every new member results in an exponential growth in the number of relationships. Though use of block models, distance matrices and concept of structural equivalence arc enabling some meaningful inferences to be drawn from the data, the alternative statistical models are still inchoate. Thus, there is a felt need to conduct more research on informal structures in formal organisations developing useful theoreti-cal and methodological models.*

It is widely recognised that all informal structur have the principle of interaction among the members

their basis. The underlying patterns of interaction are uncovered by network analysis, which highlight the patterns of existing relationships among different individuals. Though networks reveal the process of structuring, they should not be confused with social structures. While social networks are based on the actual articulation of a relationship or linkage which may be transitory, social structure is the conceptual model based on enduring relationships. Through the networking of the individuals, the social categories are integrated into wider social structures. Thus, whenever networks are used to analyse the social structure, one necessarily refers to the operative structure and not the potential or ideal structure. If, however, one 'desires to understand the operation of informal structures, network analysis provides an appropriate theoretical as well as a methodological framework for the same.

An interesting sociological setting for the analysis of informal structures is found in the professional service organisations which pool the skills and services of a professional group to provide services to a clientele. These organisations are characterised by pockets of discretion which determine the day-to-day functioning. This is particularly so in the hospital context which allows its personnel multiple loyalties to their professional group, specialist group,

functional unit and the organisation. It also permits exercise of professional, bureaucratic and charismatic authority. Besides, like most other organisations, the hospital is open to extra organisational and parochial influences. The functioning of a hospital is greatly influenced by informal power structures, personal equations and negotiations, where the formal structure is often subverted or modified to various degrees to suit the particular interests of the professionals.

An analysis of the informal structures in a hospital set-up in India is significant for various reasons. Firstly, no studies on this particular aspect of a hospital organisation have so far been conducted. Secondly, in the Indian situation, even superspecialities hospitals are not autonomous and are run more on the lines of government bureaucracies. They are characterised by considerable resource constraints as well as routinisation of behaviour. Given this set up, it would be interesting to know the extent to which the doctors are able to evolve alternative social networks to counter resource constraints as well as routines. Thirdly, it is generally believed that Indian professionals are mate vulnuerable to the influence of extra organisational and parochial influences, at times to the detriment of the organisational goals and professional ethics. The veracity of this statement in the context of a superspecialities institute

which has in its ranks personnel who are supposedly better qualified and motivated needs to be examined. Further, the extent to which informal groupings exercise their influence on such an organisation requires to be probed. Finally, it is a worthwhile exercise to gauge the influence of the organisational context and the social situation of' the individuals on the informal structuring in a hospital, as it has implications for organisational efficiency, spread of professionalism and the growth and pervasiveness of these organisational forms in India.

Consequent upon the above discussion, the aim of the study is identified as that of providing a systematic description and analysis of the informal structures and their interaction with formal structural and extra-organisational variables in the context of a superspecialities medical institution.

1.3 OBJECTIVES OF THE STUDY:

The main objectives of the study are the following :

1. *To understand the influence of the professional, functional and specialist networks on the working of the hospital organisation.*
2. *TO bring out the relationship between hierarchic position, professional and organisational requirements and patterns of networkings.*

3. ***' To highlight the relationship between the informal structures and the formal structures on the one hand and the extra-organisational variables on the other hand which are expected to miniaturise the broader social structures in the formal organisations.***

4. *To relate the empirical reality to the theoretical models presented by Barney (1982) and Blau (1977).*

Thus, this study deals with three sets of variables, viz., informal structural, formal structural and extra organisational variables which include (a) social demographic variables and (b) institutional background variables. While the informal structure is represented by social networks which are analysed in terms of friendship linkages, and to some extent by consultation on organisational, professional and familial matters, formal structural variables include the hierarchic relationships, functional linkages and departmentalisation. Participation in organisational committees is also included as it constitutes an important aspect of the reward system in the organisation. Under extra-organisational variables, we have included professional institutional background and professional productivity of an individual in terms of the number of journals subscribed, conferences attended, publications, participation in research projects, membership in social service organisations, clubs and professional associations. Economic and occupational background of the family, and sex *and caste of the member, are the social demographic factors included under extra-organisational*

variables. All these together, it is *expected, would place individuals in their overall professional and social contexts and determine the common identities and affinities which make up the informal structures.*

1.4 SCOPE AND LIMITATIONS:

This study deals with the structured relationships based on the expressed linkages and does not go into the shared beliefs, values and attitudes. Hence, the degree of intimacy as well as frequency of interaction are not taken into account. This is because our interest is in gaining an insight into the pattern of linkages and the factors that go into it rather than the actual interaction patterns in the organisation. Besides, only the formal structural and extra-organisational variables are included in our analysis while psychological factors are not elaborated upon as our interest is not on the idiosyncratic behaviour of individuals and groups but their social structural bases. Finally, the study includes only doctors and not the other groups, because they are the main service providers, and constitute a clearly distinguishable occupational group, which plays a decisive role in the organisational functioning.

1. 5 UNIVERSE SELECTION:

The Institute Of Superspecialities (IOS)* has been chosen for conducting the study for two reasons. Firstly, though the IOS has all the characteristics of a government hospital in terms of personnel and financial policies, it has on its rolls a limited number of doctors which made an indepth and comprehensive study viable. Secondly, the specialisation orientation suggests a culture which is in contrast to its bureaucratic framework and provides an interesting backdrop for the analysis of informal structures. The profile of the institute is given below.

1.6 A PROFILE OF THE INSTITUTE OF SUPERSPECIALITIES:

A profile of the institute's structure and functioning should precede a discussion on its informal structures. This would provide an understanding of the milieu and the boundaries within which the process of networking takes place.

The IOS was originally established in the mid-sixties as an orthopaedic hospital by a philanthropist.*

* IOS is a pseudonym which is given to protect the identity of the institution. Individuals are also given pseudonyms to maintain their confidentiality.

In the late seventies, he leased it to the government owing to the huge financial commitments involved. Even under government control, it retained and improved its identity as a *centre for specialities, with six more specialities, viz., cardiology, cardiothorasic surgery, neurology neurosurgery, clinical pharmacology and medical research (CPMR) and gastro enterology being included in its services. At the time of the research, the IOS was being transformed into an autonomous medical research institute.*

Unlike the other government general hospitals, the IOS has always been providing specialist services instead of the general medical care. Trauma cases are not treated in the hospital. It is known for cold surgery and neurological and cardiac electives. Owing to its reputation as a specialities institution, it has been attracting the best talent in the above areas of medical care and is able to perform some rare surgical procedures, viz., (a) separation of twins (b) implanting a *pace maker in the heart of a sixteen month old baby (c) treating paralysis of the heart (d) surgical operation on a blue baby (e) micro-vascular surgery of the brain (f) total hip replacement and (g) total knee joint replacement.*

It may be stated that a superspecialities hospital requires infra structural *facilities and organisation of work*

which facilitate greater specialisation and expert care. But, being a government hospital, the IOS is similar to any other government hospital as far as its linkage with the medical and health systems are concerned. Financial, personnel and managerial aspects of the hospital are directly under the control of the directorate of medical services which inturn is controlled by the health ministry. The contradiction between the professional autonomy embedded in superspecialist orientation and the bureaucratic organisa^ tional structure characteristic of a governmental set-up gives the IOS its specific structural and cultural character" istics which are described in some detail in the following paragraphs.

A superspecialities orientation calls for greater involvement of the doctor both in terms of the time spent as well as the degree of intervention through physical, social and psychological rehabilitation and monitoring. While specialisation orientation requires concentrated attention on a few professionally challenging and interesting cases, the aim of medical bureaucracy is to spread the services over as large a population as possible. Consequently, infra-structural facilities and organisational structures do not coincide. The lag between the two leaves scope for the emergence of informal understandings which alter the formal structure and goals considerably.

Financial Inputs: The financial inputs are significant in determining the infrastructural *facilities available in a hospital. But they are considered inadequate for the IOS where all the departments are of highly specialised nature requiring sophisticated equipment involving huge financial outlays. However, the annual budgetary allocation for the hospital is only Rs.1.40 crores with Rs.6,000/- per bed per annum which includes electricity, water,* purchase and *maintenance of equipment, drugs and diet. This is felt grossly inadequate by the doctors, considering the fact that reallocations and shuffling of funds are not possible since for each specialist department, the allocated funds are much smaller than required.*

Drugs and Equipment: For an institution which is engaged in advanced fields of medical technology and science, good accessibility to drugs and equipment is essential. But the rate contracts and the budgetary controls exercised by the State bureaucracy often restrict the infrastructural and development funds available to the departments. Purchase of drugs, according to administration, is dependent on their availability, cost and essentiality. Yet, some essential drugs are reported by the doctors to be unavailable. Similarly, accepting the lowest tender while purchasing equipment and drugs, the doctors felt, is counterproductive as they may not be of the same accuracy or efficiency as some

of the more expensive ones. Since the technology needed by the specialist hospital is generally expensive and beyond the discretionary powers of the superintendent, most of the requests have to be made to the directorate or the secretariat. This results in leaving the decision making to non-professionals who may not be competent enough to make an appropriate assessment, and who may be domina-ted by populistic and political rather than professional considerations. "Even while entering into contracts", the doctors opined, "sufficient attention is not being paid to maintenance and after sales service". For instance, it is pointed out that the cardiac monitors, intra-thorasic positive pressure respirators (ITPP) and baloon pumps which are essential in an intensive cardiac care unit (ICCU) are not available in sufficient numbers and are not properly maintained From air conditioners to blood pressure (BP) apparatus, the maintenance falls short of expectations, the doctors complained.

There was a universal feeling among the doctors that if they had access to sophisticated equipment, they would have been able to improve their performance considera-bly. Some of these equipments are quite expensive and beyond the resources of a government hospital. The above attitudes may be considered as indicative of the technological and professional orientation of the doctors and also a pointer

to the underutilisation of the skills of the personnel.

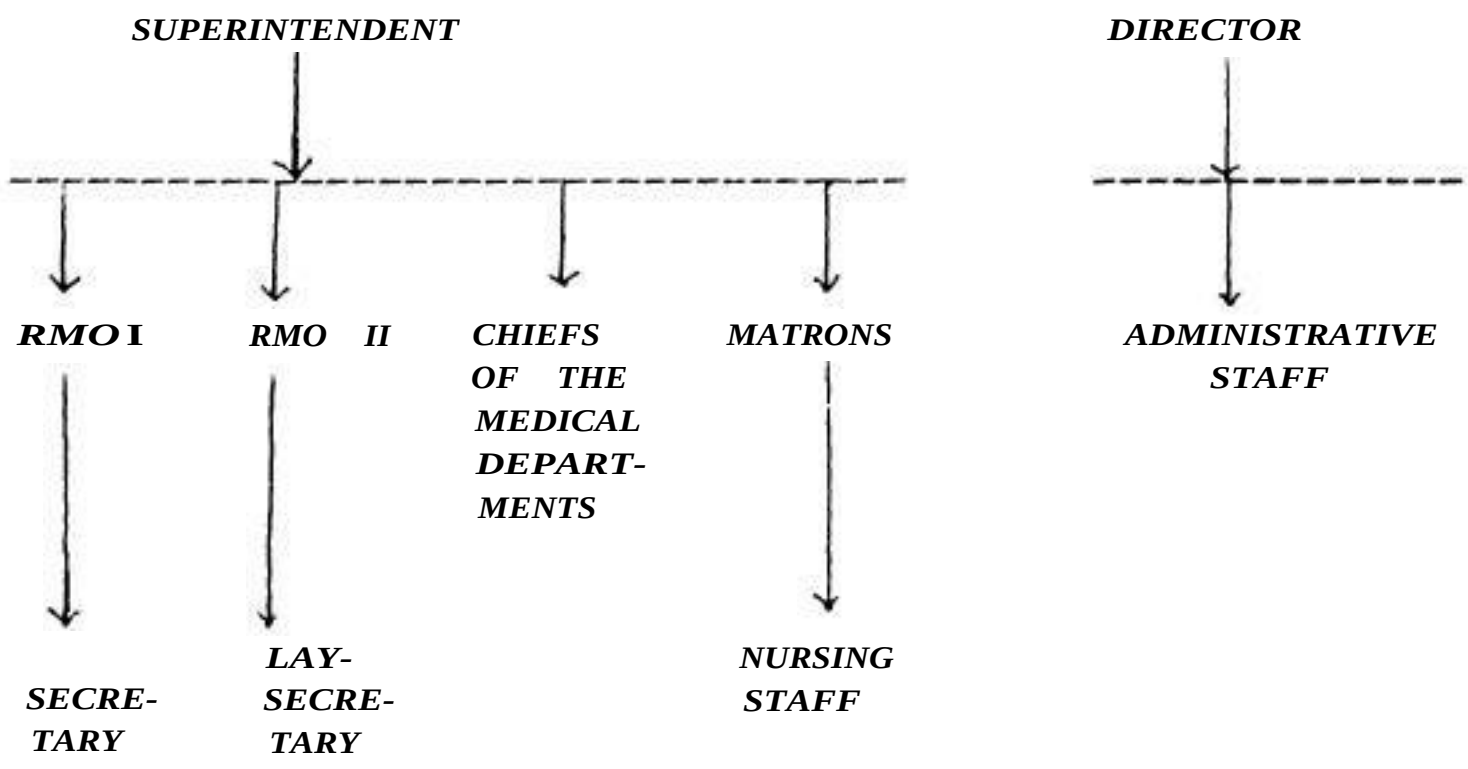
Personnel: By and large, the hospital has sufficient number of doctors and nurses in the inpatient wards. The doctor patient ratio in these wards is 1:5 and the nurse-patient ratio 1:4. The doctor patient ratio in the outpatient (OP), however, is unfavourable due to lack of screening facilities. There is a deeply felt need for technical and secretarial assistance, since their shortage burdens the doctors with heavy load of paper work. The present technical staff is insufficient besides being inadequately trained. The doctors feel that they do not somehow get their co-operation and the expected level of commitment in their work. Consequently, the key area of maintenance of records is unsatisfactory which hampers academic work considerably. It hardly needs emphasis that in a specialist hospital like the IOS, the follow-up care is very essential both for the well being of the patient as well as for research purposes. But, in the existing set up, follow-up care is not being given due importance.

*Reward*__System : *There is considerable dis-satisfaction about the economic rewards. Most of the doctors confessed that it is their private practice which takes care of their economic requirements. There is a certain disapproval about the*

personnel policies also. It is opined that the transfer policies are not *rational and career mobility is limited. Significantly, a high degree of satisfaction is expressed by most about colleague recognition, co-operation of administration and interpersonal environment.*

Division of Tasks: The division of tasks is carried out through the departments. There are seven clinical departments, viz., cardiology, cardio-thorasic surgery, neurology, neurosurgery, *orthopaedics, CPMR and gastro-enterology. Besides, there are six support departments, viz., radiology, pathology, bio-*

ORGANISATIONAL CHART



chemistry, physiotheraphy , blood bank and anaesthesiology . The administrative matters are looked into by the superintendent assisted by two resident medical officers (R M O) who are non-practising physicians. There are also administrative officers looking after the routine administrative functions such as accounts, indenting, stores, etc. A large number of nurses, paramedical and technical staff provide support services to the doctors. Organisational chart of the IOS is given on page 34.

The above chart shows a predominantly lateral structure rather than a vertical one. The superintendent is the head of the hospital though here we also have a director to ensue the smooth transition of the hospital from government control to an autonomous status. Administratively, the superintenent is responsible for the running of the hospital. The post of superintendent is a practising post. The advantage of this arrangement is that he works in close collaboration with clinicians and is thus able to appreciate their problems. But his powers to determine the personnel policy are limited. Pie is merely the recommending authority on matters relating to appointments, transfers, dismissals, etc. , and the actual decisions are taken at the directorate and the secretariat levels. The superintendent feels that the high militancy of some

categories like the class-IV employees and nurses and their links with certain political groups further curtail him from exercising his authority to enforce discipline among the subordinates. The routine administrative matters are looked after by the non-practising RMOs and the lay secretaries. The technical and class-IV employees are under the control of the RMOs.

Besides the superintendent and the RMOs, we have the chiefs of the medical departments who also carry out the administrative work at the departmental level such as indenting for drugs, attending important *meetings, etc. Working under the chief are the medical and technical personnel of the department.*

The nursing services are co-ordinated by the matrons. But in rare cases the superintendent also exercises direct control over the nurses.

Routine Management *of* _*Work: The routine management may be divided into three services. The outpatient, inpatient and emergency services. in the IOS, the OP services are less structured. They are usually held on three days of a week in each department and are open from 8.30 A.M. to 11.30 A.M. There are no screening facilities*

available either by a general physician or a general surgeon. The patients are controlled by an attender who issues tokens and calls out their names. Inside the OP room, a team of doctors from the department concerned screens, *prescribes medicines and admits some of the patients. Due to the lack of screening facilities, there is considerable workload on the doctors. Each doctor examines about 40 to 50 patients a day. Patients are given medicines for two days to prevent their misuse. But this arrangement causes considerable redundancy of work for the doctors who have to examine the patient every two days. Diagnostic tests such as x-rays, blood, stool and urine analysis, etc., are also conducted in the OP. The doctor-patient ratio in the OP is adverse which at times is as high as 1:60. This ratio is calculated as the number of patients per doctor. Since the bed strength of the hospital has remained unchanged for the past several years, there has not been an increase in the number of doctors employed. But the OP attendance has increased owing to the enhanced reputation of the hospital as a centre for superspecialities resulting in an adverse doctor-patient ratio.*

Inpatient services include diagnostic, curative and after care services. Members from various departments work together in small teams and carry out the different tasks. The working hours for doctors are from 8.30 A.M. to 3.00 P.M. Early in the morning, ward rounds are taken to, decide about the shifting and discharge of patients. After attending to the outpatient clinic, doctors visit the wards once again to examine in detail the new admissions and old patients, and decide on the course of treatment.

Surgical operations are done on five days of the week. While on three days major surgery is performed, minor surgical procedures are done on the remaining two days. Surgery and OP days are alternated for each team of doctors.

For emergency services, two doctors are placed on 24 hours duty. Besides these, each department has a doctor on call duty who could be contacted in case of an emergency .

To facilitate co-ordination and exchange of notes between the doctors and the main and support departments, weekly seminars are conducted. Apart from this, on most of the days there are departmental seminars in the mornings

where certain treatment procedures are discussed with regard to difficult cases in the wards.

Thus, the bureaucratic set- up involves fixed timings for hospital and call duty, depersonalised services, i.e., absence of any doctor patient identification, routine management of wards and emergencies.

The organisational milieu is characterised by a distinct contradiction between the superspecialist orientation and the bureaucratic structure of a government hospital. This contradiction is manifest in two spheres. Firstly, the formal routines, structures, etc., are modified by the medical personnel to suit their convenience, interests and social obligations. Secondly, the very aims of a specialist institution and a government hospital are modified to strike a balance between the two.

Modifications in *Routine Management: Firstly, we find that time schedules are not seriously enforced. Doctors are required to work from 8.30 A.M. to 3.00 P.M. However, depending upon the pressure of work, most of them spend longer hours in the hospital. What is said by a cardiologist is shared by many others. According to him:*

"The department is known for its diagnostic tests - echo, stress, catheterisation - which are in great demand. Apart from this, there are obligations - patients who are referred to us *by our colleagues, fellow professionals, family friends, VIPs and others. They are given prior appointments and are accommodated along with the routine cases. So, a doctor who can see only* three cases a *day works overtime and accommodates eight patients".*

Secondly, consequent upon the above obligations, some patients tend to be identified as the responsibility of particular doctors. Usually, patients are found to attend OP on those days when they are sure of meeting their doctor. Even the other doctors tend to accept this special situation as a matter of course.

"While the interview with Dr. Mahesh was under-way, a very interesting interaction came up. One lady has come to the doctor seeking his advice if the recommended angiogram should or should not be taken by her mother. She had earlier taken her mother during OP to Dr. Kishore, who was the head of the department and he had advised her to undergo the stress test. The test was done by Dr. Mahesh who, on the basis of the test, advised an angiogram. But when the patient had gone to Dr. Kishore with the report of the stress test he had not suggested an angiogram, but had instead asked her to con-tinue the medicines for another fortnight. Now there arose a delicate situation, for Dr. Mahesh as well as the patient since they had to decide as to whether they should go ahead with the angiogram or not. Dr. Mahesh advised her to follow the instructions of Dr. Kishore since he was the one looking after the case".

(a note from the field diary)

Thirdly, even in the management of emergencies, we find deviations from the formal arrangements. Though emergencies are expected to be tackled by contacting the doctor on the call duty, in some departments like cardiology and cardio-thorasic surgery, one doctor remains on night duty. As there are no post-graduate students in these departments, even senior doctors have to be on duty at night when their turn comes. This is an informal arrangement made by the doctors themselves to take care of the critical patients.

Finally, rules and regulations are bypassed in most of the day to day activities of the hospital whether in seeing a patient at odd hours, procuring medicines, equipment, or an extra table in the room. These accommodations are usually done for mutual obligations and understandings. There is a high degree of personal discretion in the day to day functioning which lends the organisation greater flexibility .

Modification in the Aims of the Hospital: The inherent contradiction between the orientation of a superspecialist hospital and the bureaucratic set up *of* a *government hospital has, on the one hand, led to the underutilisation*

of the skills of the personnel and, on the other hand, undermined the aim of the government to provide free and equal services to all strata of people. Specialist services involve expenditure. However, it is obvious that the very poor are getting excluded from the services rendered by this hospital. For instance, in the OP itself, those patients who cannot visit the hospital for medicines every two days are asked to buy from the market. Apart from this, most of the procedures are expensive, as for example a catheter, which costs Rs.2,800/-. Some of the medicines are very costly and not available in the hospital. Hence, the patient is forced to buy them himself. Also, major surgery involves prolonged stay in the hospital and the patients are appraised of this before being admitted. The expenses involved in keeping a patient in the hospital in terms of the conveyance charges for the attendants, their stay in the city in case of outstation patients as well as financial loss due to absence from work in case of very poor patients dis-courage them from seeking the services of the hospital. Though doctors use their networks to get certain tests done and medicines made available free of cost, this is an extremely rare phenomenon and happens only in the case of the very poor. Thus, some of the bureaucratic controls such as unanticipated budget cuts, rate contracts.

etc. , undermine the spelt objectives of the organisations. Inefficiencies due to lack of equipment, at the same time, cause underutilisation of professional skills and manpower.

It is, therefore, significant to observe here that whenever there is a lag between technology and organisational structure,- apart from underutilisation of technology there is yet another possibility, a change in the organisational structure. It is this option which is being tried at the time of the research in the institute. Given the limited resources of the government and the pressing demands on it, it has not been found possible to liberalise the financial position to provide free and equal service to all in a superspecialities hospital. Thus, the anamolies are sought to be resolved by making it an autonomous institution with private investments and non-resident Indian participation both technical and financial. It is sought to be converted into a paying hospital with the poor being exempted from payment of fees or from whom nominal charges would be collected. The personnel are to be delinked from government service. The personnel and managerial practices would be reformulated with absolute powers to the director and the administrators. It is being hoped that these changes would enable

the hospital to emerge as a pioneer institution in medical sciences in the State.

In conclusion, it can be said that the IOS presents a work milieu which is having contradictory pressures, to excel in a professional sphere and to provide the best possible services to as large a population as possible, within the given resource constraints.

1.7 *NATURE OF THE STUDY:*

The present thesis is exploratory , descriptive, and analytical in nature. Hence, the case study method has been chosen as it enables us to gain an indepth understanding of the phenomenon of informal networking. More appropriately, this study may be classified as an 'embedded single case study' *(Yin:1984) which* is *defined as a case study of a single institution, phenomenon or occurence with special attention to the* sub-units. *Though the focus of the present study is on the organisation and its informal networks, we consider the specific situational and socio-demographic characteristics of the 'nodes' significant. These need to be highlighted in descriptive accounts to gain a better understanding of the dynamics of informal networkings. Thus, in this*

thesis, *we find the focus shifting from the organisational level analysis to specific individuals in the organisation, often interspersed with biographical, impressionistic and descriptive notes. Though somewhat unconventional, the above approach has great potential as a rigorous methodology in exploratory studies.*

1.8 SOURCES OF DATA:

Considering the nature of the study, it was felt necessary to collect data using various techniques and from varied sources. Background information about the respondents and their sociometric preferences were gathered through a questionnaire. This was supplemented by indepth interviews with the doctors. These interviews were focussed on the functioning of the doctors within the overall formal context. Usually they were unplanned conversations and discussions and yet they provided valuable information about the informal mechanisms that operate in the hospital. Significant information from the point of view of this study could be gathered through these interviews though wo were not able to present all of it in this thesis. We also maintained a field diary in which some of our observations about the individual respondents and the developments in the hospital were noted down. Even though done sketchily, the comments

and information thus jotted down proved valuable during data analysis. A questionnaire was administered to the patients to explore the possibility of extra-organisational and inter-organisational networks influencing the utilisation of hospital services. However, very little information from this questionnaire is used as it has not yielded any significant data.

*1.9 **SAMPLE***

Attempts were made to cover all the fifty six doctors in the hospital with a view to gaining an insight into the overall organisational network as well as the individual personal networks. All except three doctors were interviewed and some background information about the three doctors who refused an interview was gathered informally .

1.10 DATA ANALYSIS:

A comprehensive network analysis takes into consideration every individual in the organisation and his intimacy and frequency of interaction with all the other individuals. Such an approach results in voluminous data which could be processed and analysed with advanced computer packages alone. Considering the resource cons-

traints of the researcher, the scope *of* the study **has** been *limited to the response patterns to the four questions on networkings; viz., "With whom do you discuss your (1) organisational problems (2) professional matters (3) family and personal matters and (4) whom do you consider as your close friends in this organisation". No restriction was placed on the number of choices that could be made by the respondents.*

The response to all the questions, excepting the third, was good. The poor response could probably be because of the misconstruing of our query as an intrusion into their privacy. It is also likely that this may be indicative of the shallow level of intimacy in relationships. Our analysis is, hence, limited to the responses to the first, second and fourth questions.

1.11 DEFINITIONS AND EXPLANATION OF THE TERMS USED:

Network: It may be defined as a pattern of linkages between various members of a particular organisation. More elaborately, it is "that set *of personal contacts through which the individual maintains social identity and receives emotional support, material aid and services, information and new social contacts".*

(Walter et al: 1977, 55).

Functional networks: These are pattern of linkages based on relationships among members who are involved in the performance of a particular task. *They cut across departments, specialisations and hierarchy.*

Professional networks: These denote the pattern of link-ages among a group of individuals by virtue of their being members of a particular professional occupation.

Specialist networks: These exist among a small number of specialists whose linkages are based on similar or complementary specialisations.

Social networks: These are based on linkages that exist among groups of individuals with pre-existing personal, traditional, charismatic and emotional ties.

Size or expanse of a network: The two terms are used interchangeably to denote the number of individuals included in a particular network.

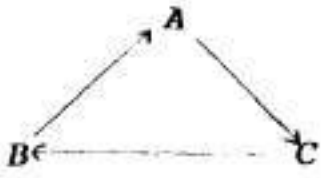
Cohesiveness in networks: The relationship between two individuals is not always of equal intensity. A relationship where the intensity of interaction and feeling is reciprocal is called a cohesive relationship. Apart from this, we have unilateral *linkages which are of*

two *types: (a) an individual 'A' is chosen by others but has not chosen them. This denotes 'popularity' of the chosen individual and (b) an individual 'A' has chosen another 'B', but is not chosen by him. This denotes 'sociability' of the individual 'A'. Though both of these are unreciprocated relationships, this distinction is significant as it highlights the desirability of an individual or a group as a sociometric preference. Besides these, we also have absolute lack of relationships of any kind. All of these together constitute cohesiveness in networks.*

Density of networks: Density is generally defined as the ratio of actual number of relationships to the total number of possible relationships. This definition, however, docs not reflect the actual linkages between the indivi- duals. For instance, a network with highly dense subunits and a few isolates would indicate a low density figure while a loosely linked small group may show a high density figure. For a proper under standing of the density of relationships, one needs to take into consideration the strength of the ties binding the individuals. Hence, we define density as the total number of actual linkage. to the total number of possible linkages. Nevertheless,

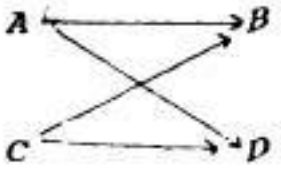
as the unilateral linkages are being distinguished from the reciprocal relationships which vary in their strength, we consider for computation purposes the reciprocal relationships as two linkages. The maximum number of relationships, thus refers to the total possible unilateral linkages in a network. For a correct evaluation of density the maximum number of unilateral linkages need to be calculated separately for ingroup network density and inter group network density. The formulae are as below:

Ingroup density :

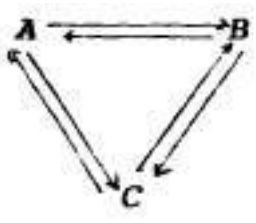


n x n - 1 / 2 3 x 2 / 2 = 3

Inter group density : n x n 2 x 2 = 4



If density is calculated *based on the above formulae, the scores may sometimes be more than one because we* are *treating a reciprocal relationship as constituting two linkages. For example, if A B and C are all reciprocally linked, the number of linkages would be 6, whereas the maximum possible linkages* are *only 3, so the density score*



would *be 6/3 = 2 which* is the maximum *possible score. Consequently, any group having a score between 1 and 2 may be treated as a dense and cohesive group.*

Direction of network linkages: Direction of network linkage indicates the direction of preferences in the discussion on graduated parameters like centrality. A horizontal choice indicates selection of an individual from one's own level. Upward and downward choices indicate preferences for persons from higher and lower levels respectively .

Centrality: Centrality is the term used to denote the hierarchic position of an individual in the organisation. In our study, three hierarchic levels have been identified based on the official designations of the doctors as it existed in the hospital. Heads of the departments, professors and associate professors are classified as senior level, assistant professors are considered as *middle level and junior doctors and interns are categorised as constituting junior level personnel.*

1.12 STRUCTURE OF THE THESIS:

The thesis is divided into four self-contained chapters pertaining to various aspects of the problem

that is being studied. This introductory chapter is designed to provide a theoretical, conceptual, empirical and methodological background of the thesis. The second chapter includes a discussion and analysis of the relationship between the centrality of an individual, concommittant organisational and professional requirements and their influence on the networking patterns. The analysis of the data is related to Blau's parameters of social structure. The third chapter contains a discussion on the network structures and the factors that influence the structuring of informal relationships. Both Barney's contingency model and Blau's parameters are related to the empirical reality that is being analysed. The fourth chapter is the concluding one. Here, the main findings of the thesis are summarised, their theoretical potential assessed and relevance to the understanding of professional organisations and informal structures highlighted. Some directions for future research are also identified.

1.13 CONCLUSION:

This study is exploratory in nature and has very few hypotheses derived from previous studies in the Indian context. Yet the subject matter is intuitively comprehensible to most of us who participate in

such *organisations in our daily work life. Precisely for this reason, the data presented as well as the inferences drawn may appear simplistic at times. The value of this work lies not in its ability to make any major theoretical break-throughs but in providing a systematic description and analysis of a particular facet of human interaction - the informal structures.*

CHAPTER - II

NATURE AND TYPES OF MET WORKS AND THEIR ACTIVATION

In a dynamic organisational context, an individual has more than one set of networkings. The work milieu of a professional organisation - with its changing group structures, work schedules as well as the individual's roles as a professional, an administrator and a social being - results in multiple role sets and a plethora of networkings. These networkings cut across the inevitable compartmentalisation necessary for specialized activities. The web-like structure of informal networking thus introduces the structural flexibility in contradistinction to the rigidity of hierarchic structures.

An understanding of the process of networking and network activation needs a proper conceptualization of network structures. A network is a set of complementarily inter-linked individuals or nodes. The 'activation' of a network can be achieved only by those who are inter-linked with atleast one node of the network. Visibility, multiple connections and chain reactions (Maguire: 1983) form the crux of network activation. Networks have highly varied and situationally specific potential

'usefulness' for the activators. Nodes may be activated to gain emotional support and professional identity, mobilise aid and service, gather information and knowledge and establish new social and professional contacts. Prior to the activation of a network, the usefulness of a node in bringing about the desired results is taken into account. Professional or organisational centrality , personal, familial or community identities and affinities with the activator, personal characteristics and abilities, willingness to offer help, conformity to group norms and contact with the influential members of the network are some of the factors that determine the usefulness of a node.

Formal organisations provide a unique social context for the formation and activation of networks. On the one hand, differences in the educational levels, capabilities, socio-economic background as well as attitudes and expectations are minimised by the rational rules and regulations which govern the appointments, promotions and socialisation in an organisation. On the other hand, the functional differentiation, professional and specialist group loyalties and the organisational hierarchies determine the broad parameters within which the informal structures come into existence. In sum, informal structures develop in response to the opportunities created and problems

posed by the formal organisations (Blau & Scott: 1977).

Informal structures involve a parallel stratification of the members of an organisation in terms of the differential distribution of social relations. The status of each member depends on his ability to integrate himself into complex interpersonal networkings and earn the respect, appreciation, recognition and obedience of the other members. Consequent upon this, "integrated members become differentiated from isolates, those who are widely *respected from those who are not* highly regarded and leaders *from the followers". (Blau & Scott: 1977 : 6).*

In this chapter, an attempt is made to briefly sketch the broad parameters of the emergence of informal structure, viz., functional differentiation, professional loyalties and interpersonal interactions. Later on, a *detailed analysis of the relationship between centrality ,* *differing* professional interests *and not work ing patterns is drawn up. The implications of the above exercise for the informal stratification are also* discussed.

The *data on networks for our analysis is drawn from the response elicited to the questions "with whom do you discuss your professional and organisational matters" and "whom do you consider as your close friends*

in *the organisation". The above questions have been framed to assess the willingness of an individual to activate the various networks at critical times but do not show the frequency with which he activates these networkings in the course of his day to day functioning. We believe that the conscious choice of an individual to activate his networks is made particularly in the course of solving problems related to career and professional life rather than in the daily routine which is usually done as a matter of course. Though the data gathered through these questions is likely to be different from the empirical reality, we consider it significant. This is because it indicates the subjective recognition and awareness by the respondents of certain individuals as preferable, efficient and successful in the informal networkings in the organisation. It may be stated that this is a better indicator of the informal stratification than the actual frequencies of contacts and activations.*

Let us now look at a brief sketch drawn from our observational data on functional and professional networks and their implications for organisational functioning and informal structuring.

2.1 FUNCTIONAL NETWORKS:

An organisation functions through the co-ordinated and concerted action of various departments and individuals. For example, treatment of a patient which is the main function of a hospital requires the co-ordinated action of various departments and levels of personnel. Take for instance the treatment process as detailed in the field diary) note:

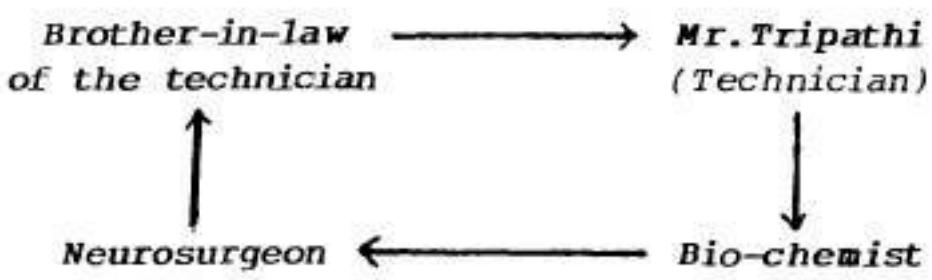
> Ramulu, a 19 year old person, has been admitted following prolonged illness. Before visiting the hospital, he had consulted two private practitioners both of whom advised him to get admitted into the IOS. One of them had addressed a letter to the hospital authorities furnishing the case history of the patient and the earlier diagnosis of cardiomegaly (heart enlargement). Ramulu first contacted the attender in the OP who took him to the duty doctor. Preliminary examination by the duty doctor revealed that Ramulu needed immediate hospitalization and the same was advised to him. Nurses, wardboys and orderlies prepared the bed and the patient was shifted to the ward. A couple of hours later, the doctors came on rounds and examined him. Some medication and a few diagnostic tests were recommended by these doctors. While the nurses attended to the medication, the diagnostic tests were carried out by the cardiologists and other specialises and his ailment was diag-nosed as constructive pericorditis requiring surgical intervention. A date was fixed for the operation and the patient, in the meantime, placed under observation. An indent for medicines was also placed with the in-chargc- of the stores department and all of them procured for the patient. Besides, the blood bank authorities were informed about the likely requirements of blood. Cross matchings were done and the availability of sufficient quantities of blood ensured. One day prior to the date fixed for the operation, the anaesthetist on duty certified Ramulu as fit for surgery. A team of doctors

performed the operation on the appointed day. After the operation, the patient was shifted to the post-operative ward. Specially trained doctors and nurses kept a constant vigil on Ramulu throughout his stay in the post-operative ward. Once his condition stabilized, the doctors who had performed the operation decided to shift him out of the post-operative ward and accordingly he was moved to the general ward.

Thus, functional networks cut across hierarchical levels and specialist groups and are specific to the tasks on hand. The degree, nature and significance of involvement by various groups, however, differ. It is the functional networks which lay the ground for the development of mutual expectations and obligations. The parameters of interpersonal area of expectations and obligations are defined by the roles. The 'power' or influence implicit in these roles is manifested through the activation of role set linkages, some of which may be located outside the organisational system. A few illustrative cases are given below:

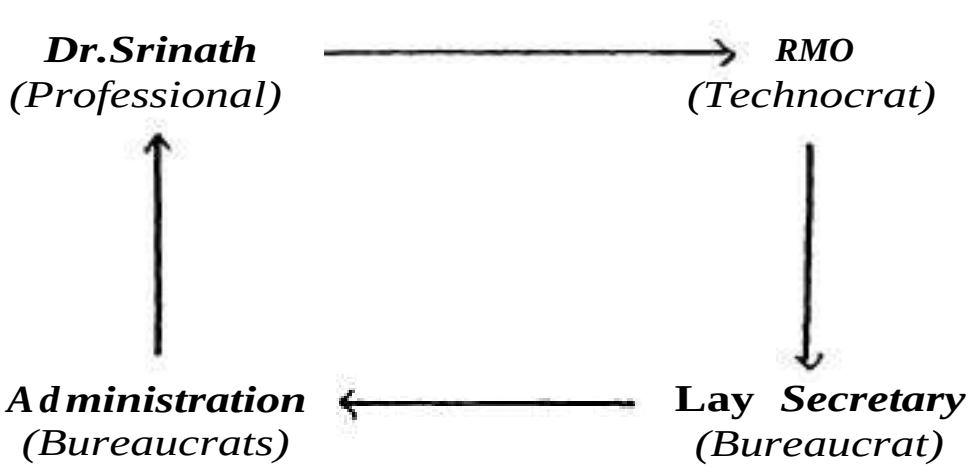
Case-1; Mr. *Tripathi is a technician in the department of bio-chemistry. His brother-in-law has been suffering from an undiagnosed illness. Mr. Tripathi first approaches the doctor in the bio-chemistry department who in turn recommends the case to a neurosurgeon. The patient is admitted and is being looked after by the neurosurgeon.*

The above patient may not have got such prompt and personalised service had he gone through the regular OP. It is not the personal equations of the technician with the neurosurgeon directly but that between the bio-chemist and the neurosurgeon which has determined the outcome. Diagramatically, it can be represented as under:



Case-2: Dr.Srinath who has certain pending bills with the administration approaches the RMO in-charge of pharmacy and technical services. The RMO in turn puts in an informal request to expedite the process to the lay-secretary who contacts the accountant and gets the work done. In this case, there would not have been any great speeding up in the clearing of bills had Dr.Srinath gone to the administration directly which would have looked into the matter in the course of clearing several other bills. But the informal intervention of the RMO who is

functionally linked to them hastened the decision making process. Diagramatically it could be represented as follows:



This illustrates once again the manner in which functional networks increase the interpersonal area of influence.

2.2 *PROFESSIONAL NETWORKS:*

Apart from functional networks, we have a large number of interlinked networks consisting of linkages between professionals in the organisation which are once again based on mutual expectations and obligations. These networks are more clearly demarcated and include all

those nodes who are referred to as doctors and holding a medical degree, irrespective of their area of specialisation. These networks can be distinguished from enduring groups of occupations - administration, nursing, technical services, etc. These spill out of the organisation and include all doctors notwithstanding the differences in their organisational locus. Some of the mutual obligations can be outlined as under:

> *(a) whenever a patient is recommended by another doctor, attempts are generally made to give prompt and personalised service.*
>
> *(b) depending on the judgement of the other doctor, concessions in terms of fees, duration of stay, etc., are given, and finally*
>
> *(c) if a patient is identified with a particular doctor, other doctors do not interfere in the treatment process unless personally requested to by the attending doctor.*

These mutual obligations and expectations determine, on the one hand, the clientele of the hospital and, on the other hand, its linkages with other institutions **in a geographical area. Our interviews** ***with patients amply demonstrated these aspects of professional networks, it was found that the referral functions were being performed by the professional networks since only the critical,***

indigent or complex cases were sent to the hospital by the other doctors. Thus, out of 100 patients interviewed, 53 patients had come to the hospital on the recommendation of doctors who were working outside the organisation. These patients were in some cases accompanied by a letter addressed to the hospital in general or to a particular doctor. Even poor patients who could not afford treatment in private clinics were referred to the IOS. Similarly, some patients who visited the hospital were referred to other institutions and practitioners informally. Further, many of the research projects and programmes extended outside the institution involving other professionals.

Activation of all networks is essentially in the interest of the individual members. However, the individual and organisational interests coincide only at certain times and at others the networks may be used against the interests of an organisation. For instance, when professional networks are activated, sometimes genuine cases may be neglected while some other not-so-serious cases may be accommodated because of extraneous considerations. Activation of professional networks may also lead to divided interests of the professionals - to enhance their image and private practice at the expense of the facilities provided at the government hospital.

Thus, the functioning of a hospital is not always determined by objective professional decisions of the doctor or by the formal-structural considerations. Instead, the day to day exigencies are tackled by informal agreements, obligations and understandings that exist between the various groups which are based on these common identities, complementary interests and affinities.

Both functional and professional networks have the function of extending the parameters within which various types of interactions take place. Ability to activate varied and more influential nodes in the networks extends the influence of the activator of a network. Besides, organisational matters and problems are tackled better if one can enlist the support and involvement of those close to the administration. Professional consultancy, in addition to being useful in terms of sharing the experience and knowledge of the experts in the field, is also a means to mobilise their influence in a variety of diverse fields of social life. Consistant with general expectations, hierarchic position and administrative authority have been found to be the two important factors in the selection of an advisor or a confidant in case of organisational problems. Out of the 56 doctors interviewed, 29 stated that they would approach the superintendent or the head of the department. Eight preferred

TABLE **2.1**

CHOICE FOR CONSULTATION ON ORGANISATIONAL PROBLEMS:

Personnel Chosen for Consultation

Super in-tendent/ Head	*Colleagues*	*RMO*	*Director*	*Association leader*
29	*8*	*5*	*5*	*2*

NOTE: The figures in the table do not add upto 56, the total strength of the hospital, because they represent the number of doctors who chose the above personnel and some of them have made more than one choice. 18 doctors have not indicated any preference.

to discuss with their colleagues. RMO and director were mentioned by five each and the association leader's advise was sought by two doctors. (Table 2.1)

Thus we see that the superintendent, RMO and the director, *the administrative heads for various activities in the hospital, are the most sought-after individuals*

to discuss and advise on matters pertaining to administration. Incidentally, both the superintendent and the RMO are sociometric stars. The greater preference for these two functionaries should not be seen as solely determined by their centrality. Both of them are considered to be more informal, approachable, dynamic, and successful by their colleagues, as has been revealed in our informal discussions.

Though centrality appears to be an important factor in the selection of advisors, it is not the sole criterion, because, if it were so, there would not have been any divergence between the formal and informal structures. Even when all the individuals occupying a similar position are equal in terms of the authority they enjoy, perceptions of their influence as well as their significance is determined by certain extraneous considerations. Take for instance the case of the two RMOs. While one is a star, the other is an isolate, i.e., she is not mentioned by anyone and she has not mentioned anyone as a sociometric choice. Functionally, she is in-charge of sanitation and maintenance, an important task in the context of the hospital though of little professional prestige. She belongs to a minority community and has a diploma in gynaecology which is not one of the specialities

provided in the hospital. The above factors, viz., minority status, peripheral nature of specialisation, sex, reserved disposition and the non-technical nature of the charge, sanitation and maintenance, perhaps explain the isolation of the RMO. Thus, inspite of being placed in an important administrative position, she is not able to emerge as a central figure in informal networks owing to her inherent nature and peripherally on various counts.

A professional work pre-supposes the existence of delegated discretion, egalitarian relationships and colleague control. This means that the interactions between the professionals whether in the nature of consultation, advise or correction is based on greater experience and knowledge rather than seniority. (Becker & Geer: 1958). Colleague control, according to Marcson (1960:130), empha-sises a "relationship of association, alliance and working together while at the same time accepting whatever inequal" ity in status that may be present. A colleague authority exists within a framework of 'representative bureaucracy based on rules established by agreement and to which individual's consent is given voluntarily". But, in the Indian context, it has been observed that bureaurcratic framework is emphasised over and above professional creativity and autonomy (Ashok Parthasarathy :1969) •

It is interesting to note that in the IOS also, experience and knowledge are being equated with hierarchic position. The nature of professional consultancy is mostly horizontal or upward as may be seen from Table 2.2 given below:

TABLE 2,2

CHOICE FOR CONSULTATION ON PROFESSIONAL PROBLEMS:

Personnel Chosen for Consultation						
Heads/ Seniors	Departmental Colleagues	Other Departmental Colleaques	Juniors	Outsiders	None	NO response
30	10	7		5	4	83

NOTE: Figures in the table add upto 67, a number exceeding the total number of doctors at 56. This is on account of multiple choices made by some respondents. Nine doctors have not expressed any preference.

While 30 doctors mentioned their seniors or the heads of the departments as advisors on professional matters, 10 doctors look up to their colleagues. Senior faculty members and those who have no other doctors specialising in their field in the hospital, as for instance doctors working in the support departments such as bio-chemistry, blood bank and pathology have mentioned the names of their teachers and contemporaries from other medical colleges. Non-clinicians like radiologists who work in close collaboration with clinicians mentioned their colleagues from clinical departments as their advisors in the event of a difficult case. Eight doctors revealed that they do not discuss with anyone and three more did not respond. The reasons tor the over emphasis of the bureaucratic structure are many. Aurora (1976) identifies one of the reasons as the tendency of senior professionals to employ their own students as juniors which strengthens the hierarchic relationships more parti-cularly since the teacher-student relationship in India is unequal. This problem, however, has been elaborately discussed with regard to the scientists. It has also been pointed out that nepotism, casteism, favouritism and other irrational criteria which creep into the selection and promotional processes in India catapult the mediocre scientists into powerful positions which further strengthens

inequalities in the organisation leading to groupism and jeolousy (Ashok Parthasarathy.- 1969, Bhattacharjee: 1971). According to Rahman (1974:30), "while the developed countries have taken care to see that 'burnt out' scientists do not damage the careers of youthful scientists, in India/ the 'burnt out' scientists continue to remain in controlling positions for too long". This at times leads to acts of appropriation of juniors' works by the seniors and professional frustration among the former.

In the case of doctors at the IOS also, we do find teacher-student relationship running parallel to the senior-junior relationships. This may partly be because most of the doctors are drawn from the two medical medical colleges in the city. Hence, the relationship between seniors and juniors tends to overstep the purely professional one. At times, it assumes paternalistic over-tones like in the case of Dr.Sudheer whose professor, who is also the head of the department, has said:

> *"Dr.Sudheer is very conscientious, sincere and devoted. But he suffers from lack of confidence. As long as I am there, he performs excellently, but in my absence he makes a mess of everything.* Dr.Sudheer is *an extremely nice person and is fairly open-minded. He is* a *brilliant doctor and has a good future".*

Such patronage and protection from the senior doctors to a few junior doctors does lead to feelings of frustration in some others. Dr.Narender who is a colleague of the doctor cited above, is highly disappointed at the existing pattern of relationships between him and his colleagues in the department. Eventhough he is the junior-most doctor in the department, he feels that he is as good as the others. So, he finds the interference or even the suggestions of the other doctors oppressive. This point is also mentioned by the head *of the department who said :*

> *"Dr. Narender is brilliant but suffers from touchi-ness and does not easily take to correction and criticism except from me and that too if it is done when others are not around".*

It is of significance that unlike scientists, doctors work in teams. Apart from that, the latter are engaged in an applied science where the results are easily discernible. A doctor works on a patient and the credit for the well-being of the patient goes to the doctor. Further, the professional growth *and* recognition of a *doctor are not solely determined by his employment in the hospital, as he has opportunities for private practice which enhances his visibility independent of his organisa-*

tional employment. For instance, in the cardiology department, it is the second in the line rather than the chief who is more sought after by colleagues both from his own department as well as from other departments. He is young, efficient and exceptionally good in his area of specialisation. Besides, he is an active member in various organisations and has a successful private practice. Thus, ' the one-to-one relationship between the doctors and patients seems to be important in lending considerable degree of independence to the doctors which is not the case with scientists.

Yet, a government hospital with an essentially bureaucratic set-up does provide a certain scope for the political, bureaucratic and other groups to use promotions, postings and transfers as a means of punishment and reward. However, doctors who form the dominant professional group do act as a pressure-group in case of any unfavourable developments. In recent times, one of the junior doctors of the JOS was accused of being negligent and callous with a patient who happened to be a correspondent of a local daily . A furore in the State legislative assembly ensued which was followed by the issuance of transfer orders to the doctor. At this juncture, the whole medical fraternity got united

and decided to stand by the doctor. A public apology was tendered by him and the transfer orders were cancel led. While the solidarity shown by the medical fraternity may be due to their desire to ward off any attempts to bring political intervention in the affairs of the hos- pital, it is interesting to note that the doctor concerned sees it as an act of goodwill on the part of his teachers. He said:

> *"fortunately for me all my seniors were my teachers and know me since my student days. It is their confidence and trust in me which had earned their support and stalled the transfer orders".*

It is pertinent to observe that developments such as the one discussed above bring to the fore an interesting inference that loyalties can cause inequalities and curb the development of egalitarian relationships among the doctors. Thus, in the event of a disagreement over a diagnosis, junior doctors indicated that they do not dispute it immediately but prefer to mention at a later point of time. This is partly because of their unwillingess to incur the disapproval of their seniors and partly because of their belief that seniors know better than they do.

A significant point which emerges from the foregoing discussion is that centrality or the organisational position of an individual is an important factor in choosing a member for consultation on professional and organisational matters. While it is understandable in the case of consultation on organisational problems, the fact that centrality dominates even professional consultation encourages us to infer that the relationships between professionals are not necessarily egalitarian, and the professional community is stratified on bureaucratic lines. We would be elaborating on it at a later stage.

It is interesting to note that though professional and organisational networks are based on centrality, there is *no total overlapping of the* two, i.e., the *same individual is not always chosen for both professional and organisational consultation. This implies that existence of informal grading of individuals in terms of their desirability for professional and organisational consultancy is based on centrality but these two network patterns are different. It, therefore, indicates a certain degree of compartmentalization of interaction. The data on the overlapping of professional, organisational and social networks is given in table 2.3.*

TABLE 2.3

OVERLAPPING OF PROFESSIONAL, ORGANISATIONAL AND SOCIAL NETWORKS

Description of Overlap	*No.of instances of overlap/divergence*
1. Identical social and professional networks	*9*
2. Partially overlapping social and professional networks	*12*
3. Different social and professional networks	*14*
4. Partially overlapping organisational and professional networks	*19*
5. Partially *overlapping organisational and social networks*	*20*
6. No social networks reported	*8*
7. No organisational networks reported	*18*
8. No professional networks reported	*9*

NOTE: The figures under the different columns ***are*** not *totalled as the data pertains to different sets of information. Percentages are also not calculated for the same reason.*

There seems *to be considerable degree of divergence between social, organisational and professional networks. There are only nine instances where the social* and *professional networks are identical. Partial overlapping of the two is observed in 12 cases and there is total divergence between the two in 14 instances. Total coincidence of organisational and professional networks is not noted at all. Further, in 19 cases, we find partial overlapping, and organisational and social networks overlap partially in 20 instances.*

2.3 SOCIAL NETWORKS:

The data in Table 2.3 indicates compartmentnlizn-tion of professional, organisational and social spheres in the interactions of the doctors. Social networks are found to be more expansive than the professional and organisational networks and appear to be providing greater scope *for interaction beyond the functional linkages* and *professional affinities.*

The number of choices are tabulated against centrality in table 2.4 and the data is as follows: On an average, 2.03 sociometric choices are made by the respondents. Senior doctors, on an average, made more

TABLE ***2.4***

CENTRALITY Vs. NUMBER OF ***SOCIOMETRIC CHOICES***

	No. of Sociometric Choices Made				
Certrality	*0*	*1-3*	*4+*	*Total*	*Average*
Senior	*5 8 (25.0)*	*7 (40.0)*	*(35.0)*	*2 0 (100.0)*	*2.55*
Middle	*11 (39.3)*	*11 (39.3)*	*6 (21.4)*	*28 (100.0)*	*1.68*
Junior	*3 (37.5)*	*3 (37.5)*	*2 (25.0)*	*8 (100.0)*	*2.00*
TOTAL	*19 (33.9)*	*22 (39.3)*	*15 (26.8)*	*56 (100.0)*	*2.03*

NOTE: Percentages are given, wherever required, within brackets under the original frequencies throughout the work.

number of choices, 2.55, than the junior, 2.0, and middle level, 1.68, doctors. More number of senior doctors (35.0%) have chosen four or more of their colleagues as sociometric choices than the junior, (25.0%) and middle level (21.4%) doctors. Finally, *less number of senior doctors (25.0%)*

had no friends in the organisation as compared to middle (39.3%) and junior level (37.5%) doctors. This shows that senior doctors have more extensive networks and are more active socially which, however, needs some explanation.

It may be stated that relating network structures to centrality pre-supposses variance in the network structures vis-a-vis the requirements of a particular hierarchic position. The relationship between purpose and network structures is well established in network analysis. Walker et al (1977:36) inferred in their study that "a relatively unchanging and uncomplicated identity is maintained by a small, dense, culturally homogeneous, lowly dispersed networks with strong ties". "High density and homogeneity of network increases the likelihood that network members are aware and discuss the problems of members and agree concerning the best means for provi-ding emotional support". "Mobilisation of material resources and services requires a widely dispersed, larger network with a high density as well, which supports communication within the network". According to Maguire (1983:48), "When new knowledge or unusual information is required, a network is often used with atleast some weak ties that bridge other networks. One or more weak ties to

different types of networks increases the likelihood of encompassing different opinions as well as new information, since close knit personal networks are more likely to share the same *opinions and information". Maguire (1968: 48) adds further, "New social contacts have greater reliability if first screened through one's own personal or social network. The existing network members are used as bridges to new social contact which ensures that the new social contact will be compatiable network members".*

2.4 CENTRALITY ***AND NETWORK PATTBRBS:***

In the light of the above findings it is hypothesised that at various levels in the organisational hierarchy, prominence is given to one or more purposes of networking, to gain information and knowledge, establish *new professional and social contacts, gain professional identity and emotional support, mobilise material aid and services, etc. This means that there exists a direct correlation between the network structures and centrality of an individual, as* may be seen *in tables 2.5 and* 2.6.

TABLE 2.5

CENTRALITY Vs. SIZE A ND DEHSITY OF NETWORKS

Size	Centrality		
	Senior	Middle	Junior
0	1 (5.0)	3 (10.7)	1 (12.5)
1-3	7 (35.0)	13 (46.4)	5 (62.5)
4-6	7 (35.0)	9 (32.2)	1 (12.5)
7-9	4 (20.0)	3 (10.7)	1 (12.5)
10+	1 (5.0)	0	0
Density			
0	1 (5.0)	3 (10.7)	1 (12.5)
0.0006-0.0019	7 (35.0)	10 (35.7)	4 (50.0)
0.0025-0.0038	6 (30,0)	10 (35.7)	2 (25.0)
0.0045-0.0058	2 (10.0)	4 (14.3)	1 (12.5)
0.0064+	4 (20.0)	1 (3.6)	0

TABLE 2.6

CENTRALITY Vs. NO. OF WEAK LINKS AND DIRECTION OF NETWORK CHOICE

No. of Weak ties	Centrality *Senior*	*Middle*	*Junior*	*Total*
Popularity	*34*	*36*	*8*	*78*
Sociability	*28*	*36*	*14*	*78*
TOTAL	*62*	*72*	*22*	*156**
Direction				
Upward	*0*	*21*	*12*	*33*
Same level	*27*	*23*	*2*	*52*
Downward	*25*	*6*	*0*	*31*
TOTAL	*52*	*50*	*14*	*116***

* *The total number of weak* ties *aggregate 156 as reciprocal relations numbering 38 are excluded from the overall linkages at 194.*

** *The total* works out *to 116 as sociability linkages numbering 78 are excluded front the total* number *of 194 linkages, otherwise it leads to double* counting.

Hypothetically, the changing purposes of net-workings are identified as under:

A fresh post-grauduate student who enters the hospital has a greater need to gain functional know-ledge and practice in his area of specialisation, establish contacts and, to some extent, gain emotional support from his peer group in his attempts to establish himself in the organisation. He is ambitious, idealistic and to use Gouldner's (1957-58) term, 'cosmopolitan' in his approach, i.e., he desires to learn, expand and be socially active. Hence, it is likely that junior level doctors have an extended network, which is less dense and has more number of weak links. Network choice is also likely to be upward in direction.

From the above tables, we find that junior doctors have a slightly smaller size of network than the middle and senior doctors. 57.5% *of them have less than six members in their network. One probable reason for this could be on account of the limitation of size where there are only eight junior doctors in the organisa-tion which restricts the number of linkages* they can have, *among themselves. Network density is also less*

with 87.5% of them having a density of less than 0.0038. Besides, they have more number of weak .ties - eight popularity and 14 sociability linkages. Left us now look into the profile of two junior doctors to gain an insight into their needs and networking patterns.

Case 1: Dr.Prasad is a young doctor in his early thirties. He hails from a family with a professional background. He has a good private practice where his wife also helps him. Dr.Prasad has completed his MBBS as well as MS from Kurnool Medical College. Before his present appointment, he worked at Mahatma Gandhi Memorial Hospital, Warangal. The papers presented by the head of the orthopaedics department of JOS at professional seminars influenced him to seek a job in the institute. The main reason for taking the present job, according to him, has been the opportunity it has provided him to improve his professional skills. He said, "here I can actually watch and learn some of the procedures which are only discussed in advanced research papers. I learn a lot by observing and following the senior doctors when they are performing certain procedures". His networks are as under:

NETWORKINGS OF Dr. PKASAD

Professional and Organisational	• ⟶	*Head, department of Orthopaedics*
	• ⟶	*Senior doctor, department of Orthopaedics*
	• ⟶	***Superintendent***
Social	• ⟶	*Head, department of Orthopaedics*
Junior Orthopaedic Surgeon	• ⟶	***Superintendent.***
Middle level neurologist	• ⟶	*Senior doctor, department of Orthopaedics*
Middle level *Orthopaedic Surgeon*	• ⟶	*Middle level, Orthopaedic Surgeon*
	• ⟶	***RMO***

NOTE:

⟷ *denotes reciprocal relationship'* ⟶• *popularity and* ⟵• *sociability linkages throughout the thesis.*

Case 2: 32 year old Dr.Swamy is a tutor in the *cardiology department and comes from an agricultural family. He has a good private practice. Dr.Swamy finished his MBBS from Osmania Medical College and is presently*

undergoing training at the IOS in his preparation for Member of National Association of Medical Specialities (MNAMS) examination. The IOS, according to him, provides good facilities and equipment and offers excellent scope for improving one's professional skills and contacts. In addition to working in the institute, he is conducting a research project on hypertension and cardiac disorders in which certain other institutions are also involved. Though he is expected to perform the tests between 9.00 AM and 12.30 PM only, he works for longer hours. His networks are:

NETWORKINGS OF Dr.SWAMY

Professional_ and ***<u>Organisational</u>***	• ⟶ **Superintendent**
	• ⟶ ***Head,*** *department of cardiology*
	• ⟶ **Senior *doctor,*** *department of cardiology*
<u>Social</u>	• ⟶ ***Head,*** *department, of cardiology*
	• ⟶ ***Senior doctor,*** *department of cardiology*
	• ⟶ ***Senior doctor,*** *department of cardiology*
	• ⟶ ***Senior doctor,*** *department of cardiology*

In both the above cases, we find that the networks are large in size, less dense with no reciprocal or unilateral choice by others and are upward in their preference.

In the middle rungs, the emphasis shifts from gaining practical knowledge and experience in one's area of specialisation and establishing contacts to consolidation of one's networks with a view to receiving the needed emotional support, material aid and services. This category seeks professional identity by establishing linkages with colleagues who have professional experience and expert knowledge. They are also sure of their relationships with the others in the organisation, especially with regard to those members who are approachable and obliging. At the present stage in their careers, besides the need for being professionally active by keeping themselves abreast of the latest development in their field, they also require consolidation of their social contacts. It is thus a phase of closing up and consolidating and the networks are likely to be more dense, smaller in size and upward or lateral in nature.

From tables 2.5 and 2.6 we find that middle level doctors have a smaller size of network than junior

doctors. 89% of them have less than six members in their networks. Here, the density is higher vis-a-vis the junior doctors but less as compared to the senior level doctors. They have an equal number of sociability and popularity linkages and also more horizontal and upward directed linkages. The data is therefore more or less identical with the expected pattern of relation-ships.

Profiles of two middle level doctors are given below:

*Case*__1: Dr. *Venkat is middle aged and comes from an upper caste and class background with strong professional roots. 'Professionally, he is well qualified with a few years of advanced education in England. He has work experience in various organisations - a primary health centre (PHC) and teaching in general and specialised hospitals. He has no private practice. He* is profession-ally *quite active with three research* papers and *five research projects to his credit. He has, however, no participation in professional associations, seminars, conferences, etc. His networks are :*

NETWORKINGS OF Dr.VSHKAT

Organisational	• ⟶	***Superintendent***
Professional	• ⟶	*Head, department of neurosurgery*
	• ⟷	*Head, department of neurosurgery*
Social	• ⟵	***Senior Colleague,*** *department of neurosurgery*

Case 2: Dr.Naidu is an assistant professor in the department of radiology and is in the age group of 36-45. His father is a doctor. He has a brilliant academic record and has been a rank holder throughout. His special interest is in ultrasonography. He said, "usually *radiologists do not involve themselves in interventional procedures, i.e., treatment processes. The aim of the radiologist is to anatomically localise the region and pathologically diagnose the ailment. The participation of radiologists in the interventional procedures abroad is interesting and challenging. It is for this reason that I have been specialising in cardiological and gastro-enterological radiology* ".

Before joining the IOS, he has worked in Christian Medical College (CMC), Vellore and Government *Maternity Hospital, Hyderabad. He has a very successful private practice and yet he finds employment in the IOS rewarding as it provides access to better equipment and facilities, opportunities to improve professional skills and develop professional and social contacts. He has published six articles, participated in five professional conferences and provide guidance to a post-graduation student in his research work. His networks are given below:*

NETWORKINGS OF Dr.NAIDU

Organisational	● ⟶	***Superintendent***
	● ⟶	***Director***
Professional	● ⟶	Head, *department of radiology*
	● ⟶	**Clinicians *concerned***
Social	● ⟵	***Junior radiologist***
	● ⟵	***Middle level radiologist***
	● ⟶	**Middle level *cardiologist***
	● ⟷	***Middle level*** **gastro-enterologist**

Thus, at the middle rungs of the hierarchy, the networks are smaller in size, more dense and lateral or upward in direction. The accent at this stage in one's career is on consolidation of networks and attaining a place in the professional world through more effort in one's work.

From the data at tables 2.5 and 2.6, we find that 60% of the senior doctors have four or more members in their networks. The figures for middle and junior levels are 43% and 25% respectively. Senior doctors also seem to be having a higher density. 30% of them have a density score which is more than 0.0038 as compared to 18% of middle and 12.5% of junior level doctors. They have more number of popularity relation-ships (34) than sociability relationships (28) and the direction of choice is horizontal or downward in nature.

We thus see that a doctor once again enters the phase of opening up and expanding networks when he occupies the administrative position as the head of the department or as the superintendent of the hospital. He is entrusted with the work of mobilisation of resources. Walker et *al (1977:36) say that "individual networkings*

for mobilisation of resources and job seeking require the development of as many strategically placed connections as possible and includes joining and being active in various types of organisations, associations and clubs". Hence, his networks are likely to be larger in size, dense and lateral or downwards in nature. While senior doctors are strategically placed to be preferred by the juniors, a large network helps the seniors in enlisting the support and co-operation of their subordinates. Their success depends to a great extent on their ability to gain the appreciation and co-operation of the other members in the organisation which would be forthcoming only if they are dynamic, open-minded, informal, approachable and accomplished. Thus, apart from a central position in the organisational hierarchy, a senior doctor should also possess good managerial skills and professional standing. The superintendent of the hospital had stated, "the superintendent has no powers, either organisational or monetary, to reward or punish his subordinates and the presence of strong unions further curtails his powers. He has to rely on his personal appeal, intelligent manipulation and informal negotiation".

During the course of our observation, some of these aspects became very clear. Once three nurses

on duty in a ward had gone on leave without prior permission. This caused considerable inconvenience to the patients in the night. The matron was summoned and questioned. She was advised to exercise her authority and see that such a situation does not recur. While the matron was in the superintendent's room, the three nurses were also called in and reprimanded by the superintendent not in an authoritative manner in his capacity as the head of the institution but in a very paternalistic tone. Similarly, the superintendent was found to be taking decisions at the risk of inviting criticism from certain quarters. He had bought new crockery and cutlery for the doctors to ensure that they would be able to have their food in comfort. This measure was greatly appreciated by the doctors. It was further reported that the superintendent, at the end of a particular financial year, made efforts to obtain as much additional grants as he could, out of the re-allocations made from the money surrendered by the other hospitals of the State.

It is interesting to observe that the superin-tendent has not merely been the head of the institution but also a highly successful professional. He holds an advanced degree in superspecialist surgery from

CMC, Vellore. He had attended 22 conferences in the past 5 years, guided several students and one of the papers presented at *the conference of Association of Surgeons in India (ASI) had won him a gold medal. He is an active member in many professional organisations such as ASI, Association of Cardio-vascular Surgeons, Red Cross Society and two of the prestigious clubs in the city. These achievements have also earned him the respect of the subordinates. His networks are as under :*

NETWORKINGS OF SUPERINTENDENT

Professional and organisational • ⟶ *Mould discuss with the colleagues concerned*

Social

Junior orthopaedician ⟶ • ⟵ ***Middle*** *level anaesthetist*

Junior orthopaedician ⟶ • ⟵ ***'Head,*** *department of anaesthesiology*

Middle *level cardiothorasic Surgeon* ⟷ • ⟷ ***Middle*** *level cardiothorasic Surgeon*

Head, *department of Orthopaedics* ⟶ • ⟷ *Senior, cardiothorasic Surgeon*

Middle *level cardiothorasic Surgeon* ⟷ • ⟵ *Head, department of cardiology*

Middle *level cardio-thorasic Surgeon* ⟵

The profile of another senior level doctor is more or less identical. Dr. Rao, head of the department of neurosurgery has expressed similar views as those of the superintendent. He said, "it is possible to head the department only through understanding the needs of the juniors and behaving accordingly". He explained that he gave considerable freedom to his junior colleagues and many . of the problems were solved through discussions. He also said that the personality of each of the colleagues was different, while one member was very diffident, another colleague was brash and a,verse to criticism. A third was an aggressive 'trade unionist' in his attitude and appeared to be arrogant and close minded.

Dr. Rao is one of the senior-most and highly respected members of the institution. He is highly successful in his professional work. A prolific writer, he has 135 papers to his credit besides authoring chapters in certain foreign text books. He had conducted seven to eight research projects most of which were funded by his personal finances and arising out of his individual interest. His networks are as follows:

NETWORKINGS OF Dr. RAO

Organisational	⟷	***Association leader***
Professional	⟷	*All the* three ***colleagues*** *from the department*
Social	• ⟷	***Middle*** *level colleague*
	• ⟷	*Departmental* ***Colleague & Association leader***
	• ⟵	*Head, department of anaesthesiology*

It is well know that at the senior level, the doctors have to perform administrative duties which call for the ability to infuse discipline among their subordinates and keep in touch with professionals and administrators both within and outside their institution. Their work roles thus encourage the establishment of extended networks. Interestingly, reciprocal relation-ships are limited to members from their own departments but they in turn are chosen unilaterally by members from other departments. This may be seen as a *reflection of their usefulness to their professional colleagues in the hospital, who may also look up to them for support and guidance and for these reasons, their networks are larger in size, dense,lateral and downward in direction.*

2.5 *NETWORKS, CENTRALITY AND PROFESSIONAL ACTIVITIES:*

It may be possible to superimpose purposes of networking, types of networking and finally the nature of professional activities. To gain information and know-ledge and also establish new professional and social contacts, participation in professional conferences and subscription to professional journals are helpful. Further, to gain professional identity, one *may have to concentrate more on professional output in terms of number of research articles published and research projects conducted. Participation in organisational committees and profes-sional organisations is useful as that can, to some extent, influence the administrative decision in favour of one's own self or the department and this can gainfully be utilised to mobilise material aid and professional services. From the above we can hypothesise as follows :*

Senior doctors generally subscribe to more number of journals and attend more number of conferences to expand as well as maintain professional networks. They may be more prolific in their publications owing to their experience and the fact that their works are accep-ted more easily in view of their professional standing.

Middle level doctors are likely to *concentrate more on their research work and publications to consolidate their professional standing.*

Junior doctors are usually more enthusiastic about attending conferences and participating in research work to gain experience and exposure to the latest developments in the field. Their publications as *well as subscription to journals are likely to be less in number as they are not yet fully established either financially or professionally.*

TABLE 2.7

CENTRALITY AND MEMBERSHIP IN ORGANISATIONAL COMMITTEES

Membership in organisational committees	*Centrality*			
	Senior	*Middle*	*Junior*	*Total*
Member	*5 (25.0)*	*2 (7.1)*	*0*	*7 (12.5)*
Not a member	*15 (75.0)*	*23 (82.2)*	*8 (100.0)*	*46 (82.1)*
No Response	*0*	*3 (10.7)*	*0*	*3 (5.4)*
TOTAL	*20 (100.0)*	*28 (100.0)*	*8 (100.0)*	*56 (100.0)*

As the selection of members in the organisational committees is guided by the criteria of seniority and administrative authority of an individual, there is maximum participation by the senior doctors. Thus, of the seven doctors with membership in various organisational committees, five belong to the senior level and two to the middle level. There is absolutely no participation of junior level doctors in any of these committees. (Table 2.7)

TABLE 2.8

CENTRALITY AND NUMBER OF JOURNALS SUBSCRIBED

Number of journals subscribed	*Centrality*			
	Senior	*Middle*	*Junior*	*Total*
0	*3 (15.0)*	*9 (32.2)*	*5 (62.5)*	*17 (30.4)*
1-2	*10 (50.0)*	*13 (46.4)*	*2 (25.0)*	*25 (44.6)*
3-4	*7 (35.0)*	*3 (10.7)*	*1 (12. 5;*	*11 (19.6)*
No Response	*0*	*3 (10.7)*	*0*	*3 (5.4)*
TOTAL	*20 (100.0)*	*28 (100.0)*	*8 (100.0)*	*56 (100.0)*

The number of journals subscribed indicates, to some extent, the desire of an individual to keep himself abreast of the latest developments in the area of his specialization. Affordability is, however, an important factor in this behalf and the number of journals subscribed is by no means a complete indicator of an individual's effort to keep abreast of the latest trends and developments, as the same could as well be achieved by refering to them in the library. Considering the time constraints of the senior doctors and the strong links maintained by the juniors with their medical colleges, we can expect a direct relationship between the number of journals subscribed and the centrality of an individual in the organisation.

The data presented in table 2.7 shows that senior doctors subscribe to more number of journals than middle and junior doctors. Of the 11 doctors who subscribe to 3-4 journals, seven belong to the senior level, three to the middle level and only one to the junior level. 25 doctors subscribe to 1-2 journals. While 10 out of these are from the senior level, 13 are from the middle level. Significantly, five out of the eight junior doctors do not subscribe to any journal.

TABLE 2.9

CENTRALITY AND NUMBER OF RESEARCH ARTICLES PUBLISHED

No. of Research articles published	Centralitg			
	Senior	*Middle*	Junior	*Total*
0	*3 (15.0)*	*12 (42.9)*	5 *(62.5)*	*20 (35.7)*
1-2	*3 (15.0)*	*4 (14.3)*	*1 (12.5)*	*8 (14.3)*
3-4	*4 (20.0)*	*3 (10.7)*	*2 (25.0)*	*9 (16.1)*
5+	*10 (50.0)*	*6 (21.4)*	*0*	*16 (28.6)*
No Response	*0*	*3 (10.7)*	*0*	*3 (5.3)*
TOTAL	*20 (100.0)*	*28 (100.0)*	*8 (100.0)*	*56 (100.0)*

It may be concluded from tables 2.9, 2.10 and 2.11 that the number of research articles published and research projects undertaken in the last five years are directly correlated to centrality.

TABLE 2.10

CENTRALITY AND PARTICIPATION IN RESEARCH PROJECTS

Participation in Research Projects	Centrality			
	Senior	*Middle*	*Junior*	*Total*
Yes	6 (30.0)	*12* (42.9)	*5* (62.5)	*23* (41.1)
No	*14* (70.0)	*13* (46.4)	*3* (37.5)	*30* (53.6)
No Response	*0*	*3* (10.7)	*0*	*3* (5.3)
TOTAL	*20* (100.0)	*28* (100.0)	*8* (100.0)	*56* (100.0)

14 doctors belonging to the senior level, nine to the *middle level and two to the junior level have published 3 or more articles in the last* five *years. The averages worked out highlight the higher productivity of senior doctors. On an average, they are found to have published 8.4 articles* in *the last five years as compared to 2.6 for middle level and*

TABLE 2.11

CENTRALITY AND NATURE OF PARTICIPATION IN RESEARCH PROJECTS

Nature of participation	Centrality			
	Senior	Middle	Junior	Total
Leader	4 (19.1)	4 (13.3)	1 (33.3)	9 (16.7)
Team Member	7 (33.3)	9 (30.0)	2 (66.7)	18 (33.3)
Consultant	4 (19.1)	5 (16.7)	0	9 (16.7)
PGthesis guidance	6 (28.5)	12 (40.0)	0	18 (33.3)
TOTAL	21 (100.0)	30 (100.0)	3 (100.0)	54* (100.0)

*The totals denote the number of times the respondents have participated in different capacities in research projects.

0.9 for junior doctors. The data shows greater participation of middle level (43.0%) and junior level (62.5%) doctors in research projects than senior doctors (30.0%). This is because senior doctors generally function as

leaders and consultants as *compared to middle* level doctors whose participation is more as research guides to *post-graduate students. The participation of junior doctors is mostly as team members and in* a *solitary instance*, the *project has been lead by one of them.*

TABLE 2.12

CENTRALITY AND NUMBER OF CONFERENCES ATTENDED IN THE LAST FIVE TEARS

Conferences attended	Centrality			
	Senior	*Middle*	Junior	*Total*
0	*0*	*5 (17.9)*	0	*5 (8.9)*
1-5	*8 (40.0)*	*14 (50.0)*	a *(100.0)*	*30 (53.6)*
6-10	*8 (40.0)*	*6 (21.4)*	*0*	*14 (25.0)*
11+	*4 (20.0)*	*0*	*0*	*4 (7.1)*
No Response	*0*	*3 (10.7)*	*0*	*3 (5.4)*
TOTAL	*20 (100.0)*	*28 (100.0)*	*8 (100.0)*	56 *(100.0)*

The frequency of attendance of professional conference is more for senior and junior doctors. Around 60% of senior doctors have attended six or more conferences in the last five years. The figure for middle level doctors is 21.4%, while junior doctors have drawn a blank. But, unlike in middle level, where five doctors (17.9%) have not attended any conference in the past five years, there are no such doctors among the senior and junior levels.

2.6 INFERENCES:

The above analysis reveals the 'social person' engaged in interaction within the constraints of a given organisational framework. He is seen as a 'rational person' acting in a social structure with its. defined opportunities and alternatives (Jain : 1987). Each social person defines the social context according to his requirements and acts within that context (Earth: 1978, Fisher: 1977). While doing so, the potential or suitability of others to enter into interaction is also considered. This, in fact, lays the ground for stratification in the internal organisation which runs to a considerable extent parallel to the formal structure.

Our data, for instance, shows that there is more horizontal reference among senior doctors followed by middle level and junior level doctors (Table 2.5). The greater horizontal reference among senior level doctors could be because of various reasons. Firstly, several years of association forges stronger bonds among senior members. Secondly, the status differences between them and the other levels in the formal organisation restrict their choice to colleagues of their own level or those from the middle level who are closer to them in age or possess common affiliations. Significantly, there is not a single reciprocal linkage between a senior and a junior member. On the other hand, more number of junior doctors mentioned senior doctors as their sociometric choice, which may be seen as an indication of the mobility aspirations of the junior doctors. Middle level doctors also prefer seniors rather than their juniors.

At this point of discussion, it would be worthwhile to relate the research findings to the theoretical model presented by Blau (1977). According to him, centrality is a graduated parameter whereby the preference would be for someone from one's own level or for someone from a level that is adjacent

to one's own. From our *data, we find that the senior and the middle level doctors reveal this tendency in their choice. Interestingly, in the* case *of junior level doctors, the choice is for senior and middle levels, and not for their own level, where the choice for reciprocation is limited. Centrality in the case of juniors is thus showing a reference group bias rather than inbreeding bias. An analysis of the implications of this phenomenon shows that concommitant to stratification is the desire for mobility in some quarters and the desire for exclusiveness in others. The junior doctors who are ambitious and aspiring for greater career progress attempt to enhance their chances for the same by establishing and claiming strategically placed individuals as their friends in the organisation, while the middle and senior level doctors tend to be exclusive and consolidate their group interests in the organisation vis-a-vis the others. It is apt* to *quote Blau at this point. He says :*

> *"For.. .occupational mobility having associates in the new group is not essential but it* is *a great help. ...knowing persons in an occupation enables young people to learn about it and the opportunities in it, provides them with role models and furnishes them with realistic information on how to acquire the training needed for it, all of which improve their chances of moving into that occupation". (or moving up* **in** ***an*** *occupation)* (Blau: 1977:48)*
>
> ** emphasis added*

Therefore, viewing certain parameters as *dominated by reference group bias has considerable potential to explain the shifting boundaries in the structure of any organisational form.*

Thus, through the above discussion it has been possible to establish a certain correlation between the differing roles of the individuals at various levels of the hierarchy, their changing professional interests and the impact of the above two on the networking patterns. We conclude that though an individual is constrained by the formal organisational structure, he still remains in a position to manipulate his social networks to a considerable extent to suit his requirements.

CHAPTER-III

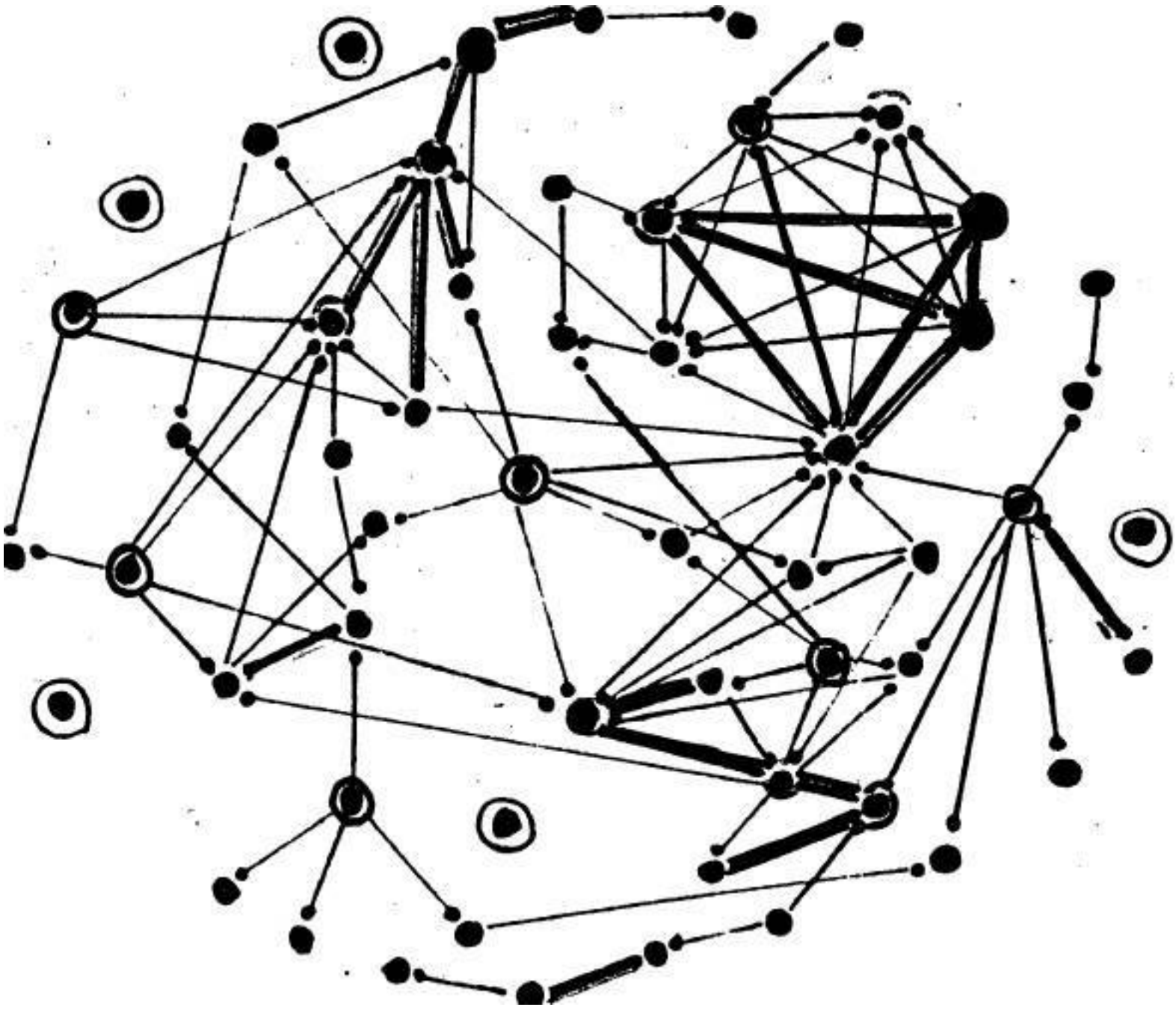
INFORMAL NETWORK STRUCTURES

An analysis of the informal network structures may be carried out at two levels. At the individual level, it focuses on certain patterned linkages such as dyads, stars, cliques, etc., which are based on reciprocal relationships. At the organisational level, the focus is on the informal networks in the hospital as a whole, laying special emphasis on the factors likely to influence such networking.

3.1 INDIVIDUAL LEVEL STRUCTURES:

Individual level analysis is mainly based on friendship relationships. They are more dominant, cohesive and significant. Of the 19 reciprocal relationships identified in the IDS, there are three dyads, one chain, one clique and a star with one outer link. Apart from these, there are certain individual level structures, which are not reciprocal in nature. These are less cohesive but equally significant and consist of nodes which are the focal points of a large number of linkages. These nodes are referred to as popular nodes where linkages point towards the node, and sociable nodes, where the linkages point outward to other nodes. A map (No.I) showing the different linkages is given on page 109. A brief description of each pattern of linkages is as follows:

Significant Structural *Units in the Inform Networks*



Dyad ——

Chain ——

Star with an Outer Link ——

Clique ——

Sodometric Star

Reciprocity Star

Popularity Mode

Sociability Mode

Isolates

Dyad: It denotes a reciprocal relationship *between two individuals. It Is the simplest social formation and* is the basic unit of all *complex forms (Simmel: 1902). It Implies affectivity and Intimacy. The three dyadic relationships in the network are between (a) a radiologist and a* gastro-enterologist *(b) the chief and the senior most doctor in the anaesthesiology department and (c) pathologist and the biochemist. The most striking feature of* these *dyadic relationships* is *their homogeneity and complementarity with regard to functional linkages, centrality, age, sex, caste and professional productivity,* as *may be seen from table 3.1. Dyadic relationships are highly cohesive and homogeneous units, and have the highest possible density score of 2.*

Chain: The relationship between an orthopaedic surgeon, RMO, association leader, chief neurosurgeon and middle level neurosurgeon shows a chain linkage. Here, the first and last nodes have only one reciprocal linkage while the remaining three nodes in the middle of the chain have two reciprocal relationships each. It has a density score of 0.8 which is moderate in intensity. The relationship

ATTRIBUTES OF INDIVIDUALS LINKED IN DYADS

Attributes	*Dyad - 1*		*Dyad - 2*		*Dyad - 3*	
	Radio-logist ⟷	*Castro-enterolo-gist*	*Chief Anaesthe-tist* ⟷	*Senior Anaesthe-tist*	*Pathologist* ⟷	*Bio-chemist*
Age	26-35	26-35	*46+*	*46+*	*36-45*	*36-45*
Sex	*Male*	*Male*	*Female*	*Male*	*Female*	*Female*
Generality	*Middle*	*Middle*	*Senior*	*Senior*	*Middle*	*Middle*
Functional *Linkage*	*Related departments*		*Same department*		*Related departments*	
Professional productivity	*Very high*	*Moderate*	*Moderate*	*Moderate*	*Nil*	*Nil*
Caste	*Naidu*	*Reddy*	*Reddy*	*lyyengar*	*Brahmin*	*Naidu*

shows chain formation because of extending personal networks rather than overlapping networks. Thus, the association leader is linked to a neurosurgeon who in turn is linked to another neurosurgeon. Similarly, the association leader is also linked to the RMO who is further linked to an orthopaedic surgeon. In the chain relationships departmental linkages and centrality seem to be the determining factors. Further, *there is no homogeneity in caste and professional productivity. From the table, it becomes clear that chain structures are less homogeneous and moderately cohesive.*

TABLE 3.2

ATTRIBUTES OF INDIVIDUALS LINKED IN CHAIN STRUCTURES

Attributes	*Orthopaedie*	⟷ *RMO surgeon*	⟷ *Association leader*	⟷ *Chief neurosurgeon*	⟷ *Middle level neuro surgeon*
Age	*26-35*	*36-45*	*36-45*	*36-45*	36-45
Sex	*Male*	*Male*	*Male*	*Male*	*Male*
Centrality	*Middle*	*Senior*	*Senior*	*Senior*	*Middle*
Functionally linked	*No*	*No*	*yes*	*Yes*	
Professional productivity	*Moderate*	*Low*	*Moderate*	*Very High*	*Moderate*
Caste	*Backward class*	*Brahmin*	*Reddy*	*Reddy*	*Brahmin*

Star: The senior most doctor in the cardiology department has reciprocal relationship with four of his colleagues of whom only one is linked to a doctor in the CPMR. There are no reciprocal relationships between the four nodes linked to the cardiologist. Hence, the network structure is designated as a star, *with one outside linkage. In this type of relationship, the charisma of the individual seems to be the determining factor with departmental affiliations and centrality the other dominant factors influencing these relationships. There is moderate homogeneity in this structure. Further, due* to *absence of linkages between the other members, the density is also low, 0.6, though the members are linked reciprocally to the star. The data is presented in table 3.3.*

Clique: In a clique, each member is linked to every other member through reciprocal linkages. Hence, it is a very cohesive unit, homogeneous and exclusive in nature. Owing to these attributes, a clique can act as a single unit vis-a-vis the other groups in a set up. *In our data, there is only one clique comprising four members from the department of cardiothorasic surgery. The density is 2.0 (the highest, possible score). This group is exclusive to the extent that there are very few linkages with non-cardiothorasic surgeons*

TABLE 3.3

ATTRIBUTES OF INDIVIDUALS LINKED TO A STAR

Node 2

36-45, Male, Low Product ivity, Middle Level, Kamma, same department

Node 3

26-35, Male, High Product ivity, Senior, Brahmin, different department.

Star

36- 45, Male, Low Product ivity, Senior, Raju.

Node 1

36-45, Male, High Product- tivity, Senior, Raju, same department.

Node 4

26-35, *Male, High Produc tivity, Senior, Brahmin, different* department.

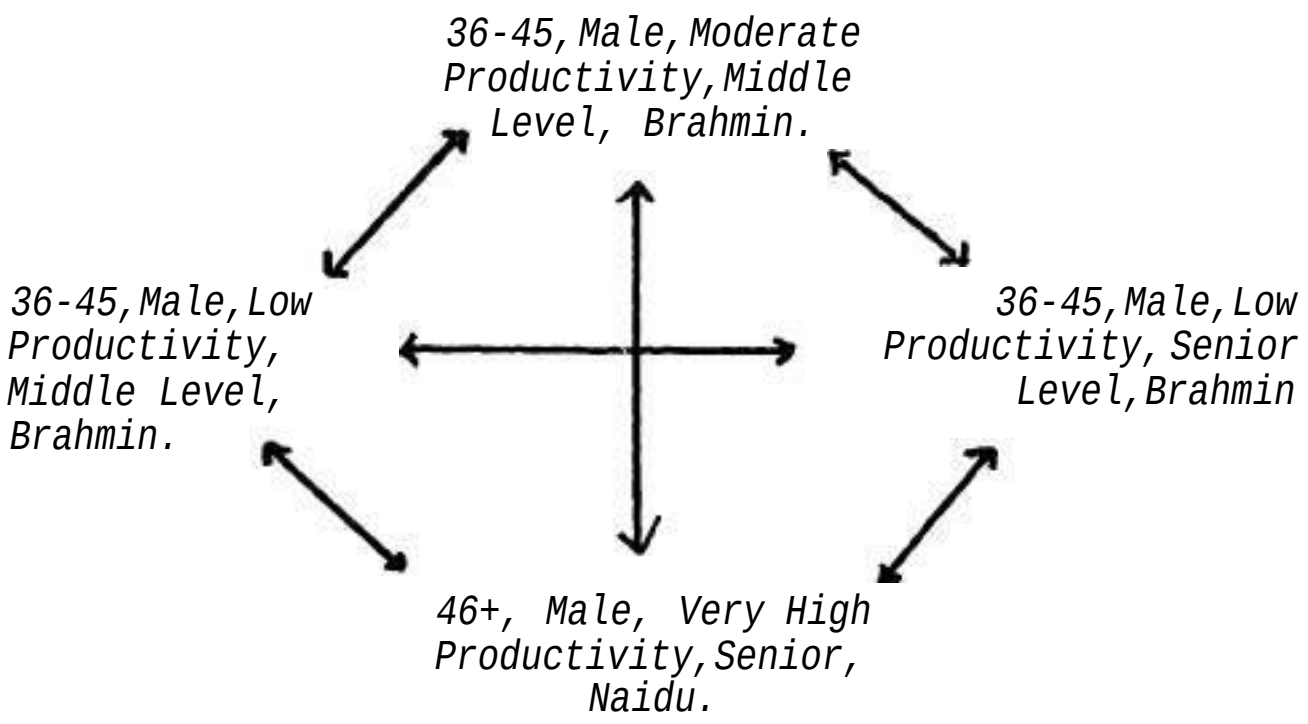
Outer Link

26-35, Male, Moderate -Producti - vity, Middle Level, Brahmin, different department.

but *interestingly, It* is *closely linked with the other doctors in the same department. If the entire department is taken as a unit, the density works out to 1.2 which is also quite high. The characteristics of the members of the clique are listed in a descriptive table 3.4 below:*

TABLE 3.4

ATTRIBUTES OF CLIQUE MEMBERS



Thus, reciprocal relationships are characterised by a *high degree of homogeneity. A table showing the number of linkages between homogeneous nodes is given* *on page 116.*

TABLE 3.5

HOMOGENEITY BETWEEN RECIPROCAL LINKAGES

Attributes	*No. of linkages between homogeneous nodes*	
	Number	*Percentage*
Age	*18*	*47*
Sex	*36*	*95*
Department	*24*	*63*
Centralitg	*20*	*53*
Professional Productivity	*8*	*21*
Caste	*14*	*37*

NOTE : Percentages for each category are calculated on the basis of the total number of actual linkages between homogeneous nodes totalling 38.

From the foregoing analysis, it appears that Blau's 'inbreeding bias' is a dominant factor in the case of reciprocal relationships which are emotive in nature. A more detailed discussion is attempted at the end of this chapter.

Apart from the reciprocal relationships, isolates and unilateral linkages such as popular and sociable nodes constitute individual level structures. These are briefly explained below :

Isolates: 'Marginality' seems to be an important determining factor in the isolation of members. It could be on account of (a) sexual identity, i.e, being a woman in a set-up dominated by men or vice-versa (b) functional insignificance where one's specialisation of task is not crucial in the organisational context and (c) limited association and interaction due to lack of familiarity and also the personality traits of the individual. Of the five isolates, three are women. One of them is an RMO and is peripheral on various counts as explained in Chapter II. The second seems to be having certain personality problems and the third is a new appointee. Of the two isolates among men, one is in the middle level and the other a student. However, both are new appointees.

Sociability and Popularity Nodes: The radial structure of a star may be visible at various points in the network map I. As we distinguish popularity and sociability linkages, it is likely that certain stars are focal points of sociabi-

From table 3.6, we find that 101 and 208 are Included In all the columns except the last one. The former is the superintendent and the , latter the second in line in the cardiology department. 105 and 315, chief of neurosurgery and a cardlothorasic surgeon respectively, owe their star status to their reciprocal relationships. While 105 is the head of a department, 315 is a member of the clique. 1551 and 212, the RMO and a cardiologist respectively, owe their star status to their popularity among their colleagues. While the popularity of the RMO could be because of his administrative position, the cardiologist is often referred to by his colleagues as a "perfect gentleman". 316, the association leader, owes his star status to his sociability. 419, 102, 103, 104 and 106 are either members of a clique or linked to one.

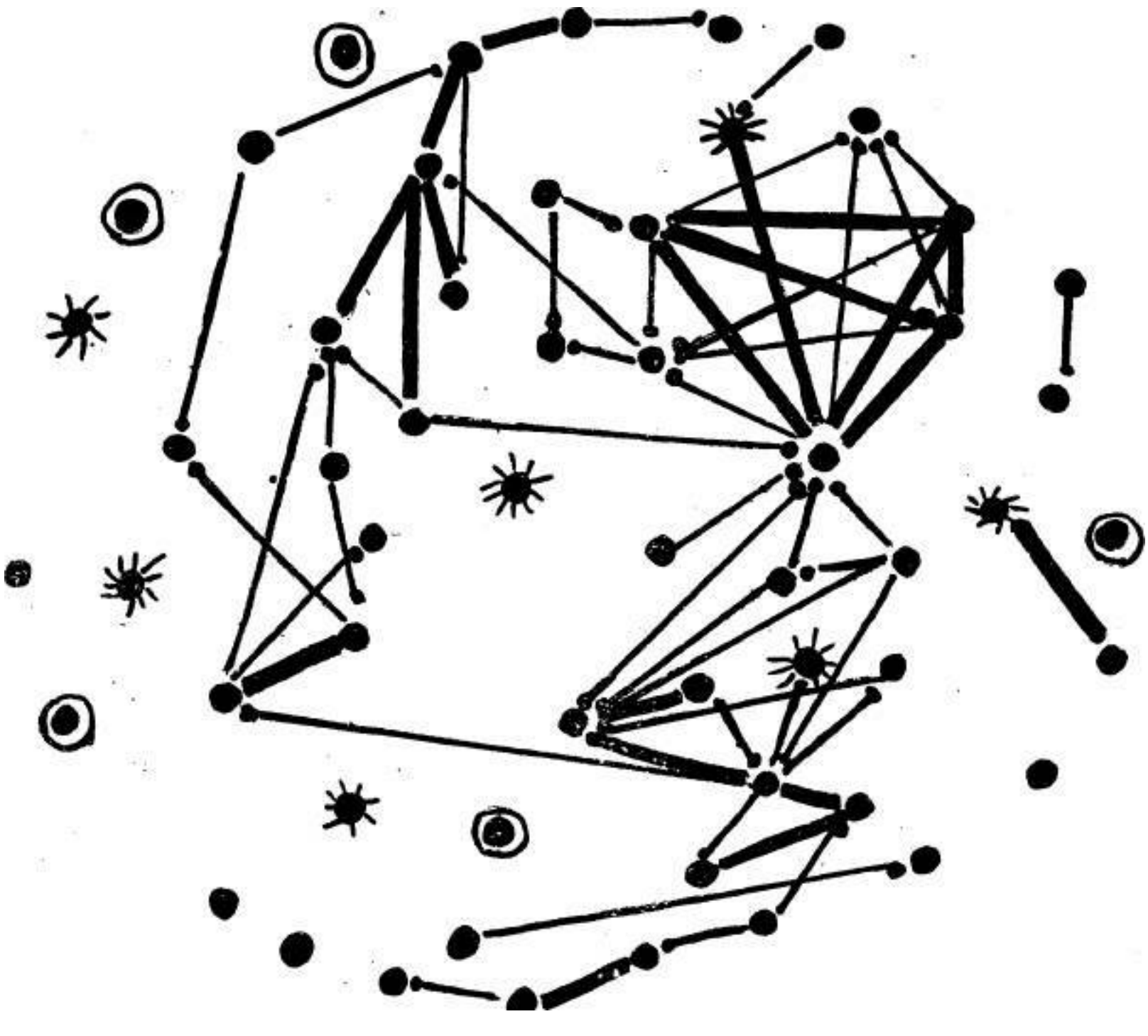
There are no members, except 316, among the sociability nodes who are also stars or nodes in other kinds of linkages. Among the sociability nodes are two heads of departments a man and a woman respectively, one senior doctor, two middle level doctors and one junior doctor and two post-graduate interns. As in the case of isolates, marginality seems to be significant in the determination of the sociability of an individual. Sociability may be seen as an attempt to integrate oneself in the network

structures *and* is articulated *by those who Are* loosely connected with them. *Besides,* they are situationally strategic as liaison nodes. Though not members of any. digue, they *connect two or more cliques or groups through their* linkages with them. It is lively that *if their linkages are removed, the network will be divided into a number of sub-units, as shown in the accompanying map II. However,* the *sociability nodes play an important function in so far as they activate linkages between various types of reciprocally linked nodes cutting across various formal and informal structures within the hospital. The fact that sociability preferences are not expressed by either the sociometric stars or popularity and reciprocity nodes shows that sociability is a less prestigious proposition on several counts. Firstly, it denies the chooser the satisfaction of being chosen by the others. Secondly,* it *implies the acceptance of the usefulness, 'superiority'* or *'desirability ' of the others chosen, while the fact that he (the chooser) is not chosen in turn implies that he is lacking on these grounds. Consequently, it points to the status-honour stratification in the informal structures.*

At the end of this discussion on individual level informal structures, a significant point emerges in that

MAP II

Pattern of Networking after the removal of Sociability Stars



DE-LINKED NODES

SOCIABILITY NODES

ISOLATES

there is greater cohesion and homogeneity among units of this level. Further, the dominant attributes in the homogeneity are centrality and departmental affiliations. Age and caste are two other significant factors. Finally, professional productivity dees not seem to be all that significant in determining individual-level structures.

3.2 ORGANISATIONAL LEVEL STRUCTURES;

At the organisational level, we need to identify the variables that influence the networks within the specific context of the organisation and the overall social structure. Barney (1982) observes that in production organisations, the informal networks are modelled after the departmental divisions which are characterised by increased interaction and homogeneity in skills as well as functional interdependence. Though a hospital organisation cannot be treated on par with the industrial production organisations with conveyor belt technologies, they have, nonetheless, departmental divisions based on functional differences, technological inputs and skills. These constitute significant bases for the establishment of informal networks among organisational members. Specifically, certain variables are identified for the analysis of informal networks. Sex, age and professional productivity are the personal attributes of

the Individuals which are likely to determine their desirability as sociomotric choices. Further, departmental divisions and centrality determine the positioning and functional interlinks which are significant structural units in the organisation. Finally, caste is taken as an important extra-organisational variable which, to a certain extent, emphasises the parochial tendencies underlying the networkings even in a modern rational organisation. The different organisational level variables are discussed below.

Sex: It is well known that social values and position in the overall social structure have a determining influence on the extent and pattern of networkings by different groups in a society. Thus attitudes, role expectations and social interactions are markedly different among men and women resulting in varying needs and degrees of integration in the different network structures. Traditionally in the Indian society, women are confined to the home and the hearth with linkages limited to kin members and other women in gossip groups. Hence culturally, the networks of women are restricted. Accordingly, they are encultured to have strong bonds with selected adults, peers and kin members, rather than establish extensive network linkages with a wide range of individuals from different regions, strata or groups. As a result, the network links of women are

stronger and homogeneous in nature *(McPherson : 1980).*

It would be significant to note if in the modern times *when women are entering into diverse fields, a change has come about in their network patterns. More precisely, it is a question of their ability to identify, cultivate and activate networks in their own interests. This is important in the light of our observation that situationally determined conditions based on secondary group relationships, as expressed in cross-cutting networks, are more predominant than primary group relationships in organisations.*

It hardly needs emphasis that the ability of an individual to manipulate, adapt and function in any organisational context depends on effective networking. In this section, we examine the role played by sexual identity on networking patterns. Our interest is to see the extent to which the man-woman stereo types influence the division of labour in a formal organisation and the differences, if any, in their networking patterns in the informal structures.

An interesting fact which emerges from our data is that the main departments which are based on high technology, skills and qualifications and enjoy greater social prestige are dominated by men whereas the support departments

have a predominance of women doctors. This lopsided participation of women in the main and support departments is clearly brought out in table 3.7.

TABLE 3.7

DEPARTMENT-WISE PARTICIPATION OF MEN AND WOMEN

Name of the Department	Number of Men	Number of Women
Main Departments:		
Cardiology	10	0
Cardiothorasic surgery	7	0
Neurology	2	1
Neurosurgery	4	0
Orthopaedics	7	0
CPMR	2	2
Gastroenterology	2	0
Support Departments:		
Pathology	0	2
Radiology	4	2
Bio-chemistry	0	1
Blood bank	0	1
Physiotherapy	0	1
Anaesthesiology	3	3
RMOs	1	1
TOTAL :	42	14

10 out of the 17 doctors in the support departments are women *whereas there are only three woman doctors among 37 doctors working in the main departments. Though deliberate gender discrimination in the organisation, as such,* is *not in evidence, the general social values do seem to have a certain discriminatory influence on women. Interestingly, there are a few studies on women professionals which have concluded that they opt for non-clinical specialisations and general medicine because these are amenable to re-employment following geographical mobility, long periods of non-practice, etc..(Silverstone & Ward: 1980, Rao : 1986). Our own findings support this. It is argued in the above studies that the stereo type of man as the aggressor and woman as the submissive and supporting individual influences the career selection of women who opt for those specialisations which are in conformity with their social role as the nurturing, supporting individuals. Consequently nursing, teaching, maternal and paediatric care are dominated by women whereas the competitive fields of the professions largely remain the domain of men. To bring out the influence of the social cultural factors on the participation of women in this organisation, we present a few illustrative case studies below:*

Case 1: Dr.Nandini, aged around 40 years, assistant professor in the department of radiology, is married to a cardiologist

working in the same institute. She is a mother of two school going children and has an educated family background. She has done her MBBS from Guntur Medical College and M.D. from Osmania Medical College. Dr. Nandini is *specialising in neuroradiology. It is significant to note that though in India no such specialisation exists, she has out of her personal interest worked with neurologists and specialised in her subject. She finds working in the IOS more fruitful as it provides greater opportunities to improve her professional skills and develop social and professional contacts. She has no membership in any social, cultural or occupational associations except the Indian Radiological Association. She has a few publications to her credit and has guided some students in their research work. Though she takes a few chest x-rays in her husband's clinic when requested, she has no private practice of her own. She said that she would not like to work outside the hospital hours as that would distract her from looking after her children and husband. She said "working in the IOS is rewarding as I really enjoy what I am doing - specialising in neuroradiology. If I have an x-ray clinic, I know I can make a lot of money, but the arrangement of helping my husband in his clinic is allowing me to make some money without compromising on the upbringing of my children".*

Case 2: Dr. *Suneetha is an assistant professor in the department of pathology. Aged around 40 years, she is married to a scientist and is the mother of two school going children. She pursued her professional education at Andhra and Madras Medical Colleges. Throughout her* career, *she has been in the teaching line. In the mid-seventies, when the department of pathology was established in the IOS, she joined as an assistant professor and was actively involved in the development of the department. She feels that the weekly seminars between the clinicians and non-clinicians are of little value as there is no openness to suggestions and appreciation of the efforts of the non-clinicians by the clinicians. Recently, she had undergone training in gastroentric pathology for two months at AIIMS, New Delhi. She feels that once the specialisation of gastroenterology develops in the hospital, she may be able to do something more interesting. She has no participation in any organisations, and has no publications or research experience to her credit.*

It would be wrong to say that all the fourteen women doctors working in the IOS are professionally less active. We have come across some of them who are highly productive professionally and aggressive in the pursuit of their career. We present two profiles below:

Case 3: Dr.Jayanthi is *a professor in the department of CPMR, aged around 40 years and married to a doctor who is the managing director of a multinational pharmaceutical company. She is the mother of three grown-up daughters. She comes from an elite family and both her parents are graduates. Her mother is a social worker and father a senior administrator. Her brother is a surgeon in an academic institution in England. She has done her MNAMS in clinical pharmacology and therapeutics from Post Graduate Institute of Medical Research (PGIMR) Chandigarh and took advanced training in Bombay. She worked abroad in Holland and the United Kingdom both as a researcher and as a lecturer. It is interesting to note that her sustained efforts for better facilities and inputs have lead to the growth of the department as it was otherwise being relegated to the background. She opines that CPMR is an essential specialisation that would help in testing the efficacy of drugs and in the treatment of undiagnosed illnesses. She firmly believes that as over 75% of the department's work is in the hospital ward, it should be placed in a hospital and not in a medical college as is generally the practice. In the course of her efforts, she is reputed to have mobilised some of her contacts at the political and directorate levels to establish CPMR in the IOS. With her personal initiative, some very interesting academic work is being done in the department in collaboration with other research institutes in the city.*

Case 4: Dr. *(Miss) Bharathi is a 50 year old professor* in *the department of pathology. Both her parents are well-educated. Her mother is a social worker and a senate member in one of the universities and father a layer. Her younger sister is a doctor in America. She has done her MBBS and MD from Guntur Medical College and has special training in neuropathology at PGIMR, Chandigarh. Throughout her career, she has been in the teaching line. She has no private practice. She is very active professionally with six articles published in the last five years. She has delivered a number of lectures at the Indian Medical Association (IMA), Lions & Rotary Clubs and guided several students in their post-graduate work. She has an impressive library of the important works on brain tumors and a vast collection of slides and smears on the subject. These activities are pursued with personal finances. She spends long hours in the hospital which she says is possible as she has no responsibilities at home. She has, however, reported that she was unnecessarily drawn into some power wrangles in the hospital and had to face unfair criticism from men doctors. Notwithstanding this, she is a highly respected doctor in the hospital for her professional achievements.*

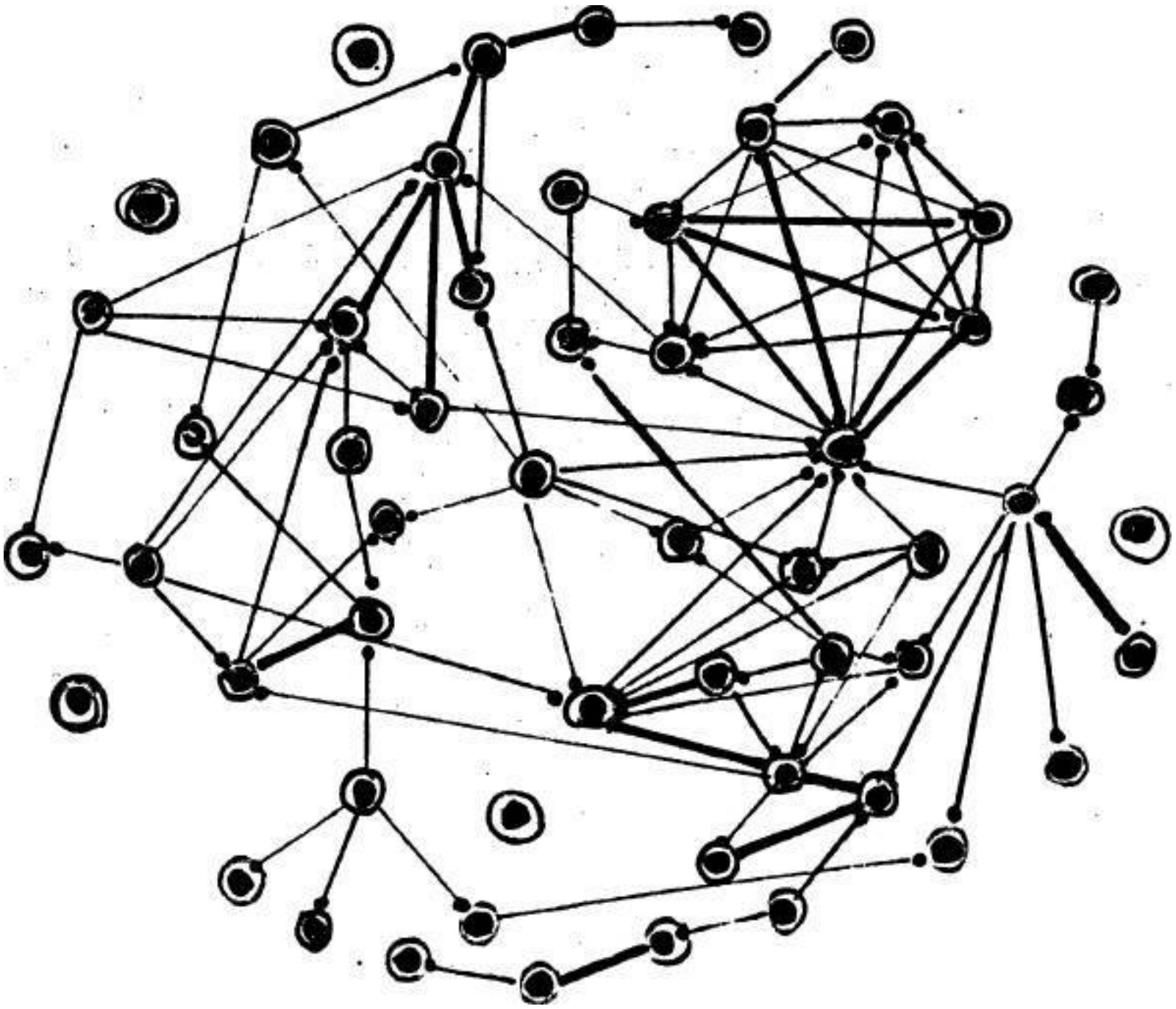
From the above case studies, it appears that the few women doctors who pursue their career aggressively come from families where they belong to the second generation

of working women. Socially and economically, their families are highly placed. Their aggressiveness in the organisation does not meet with the approval of their men colleagues, with the result women doctors, barring certain exceptions, shy away from even asserting their legitimate rights. Thus, the personnel of the support departments largely comprising women doctors expressed the view that they do not get their due share of resources both financial and technical. For instance, the sole woman doctor in the blood bank is perpetually over worked, as the various departments perform a large number of surgical procedures everyday. Her requests for extra technical staff are not being taken note of and she is made to manage with the existing facilities. Similarly, the infrastructure and position of personnel in the physiotherapy department remain at the same level as in the early 1960s though the number of patients increased manifold putting considerable strain on the single woman physiotherapist in the department. Yet, the matter has not been taken up by the in-charge of the department with the hospital authorities.

The peripheral nature of women is not confined to their functional position in the organisation alone but reflected in their informal linkages also. A look at the network map III on the following page shows that women

MAP III

MALE, FEMALE PREFERENCES IN NETWORKINGS



FEMALE ○

MALE ○

are placed at *the outer margins of the network and have a limited number of network relationships. It may thus be seen that out of the fourteen women doctors, three are isolates, five each have one and two linkages respectively, and only one has an extended network comprising seven linkages. Of the three isolates, one is an RMO whose isolate status has already been discussed in Chapter II. . The second is a neurologist who appears to be suffering from certain personality problems. Incidentally, she also happens to be one of the respondents who refused an interview. The views expressed by her colleagues and some of the patients in the wards about her short tempered nature, lack of commitment and indifference may perhaps explain her isolate status but this is a mere conjecture. The third isolate is an anaesthetist. Her isolation may be due to her limited association with the others as she had joined the department only a few weeks earlier.*

Coming to the networks, we find five woman - woman relationships. The profiles of women engaged in these relationships are given in the following tables (3.8 & 3.9).

TABLE 3.8

ATTRIBUTES OF WOMEN ENGAGED IN WOMAN - WOMAN LINKAGES

Attributes	Head, department or radiology	Head, department of pathology	Head, department of anaesthesiology
Age	36-45	46+	46+
Professional Productivity	Low	High	Moderate
Caste	Reddy	Brahmin	Reddy
Educational Institute background	Andhra Medical College, Osmania Medical College	Guntur Medical College, PGIMR, Chandigarh	Madras Medical College, Andhra Medical College, Hammersmith Post-graduate Institute, London
Previous employment	Osmania Medical College, TB Hospital, Cancer Hospital, Hyderabad	Gandhi Medical College, Osmania Medical College	Andhra Medical College, Osmania Medical College
Network density	Has been mentioned by a male student	No other relationships	Mentioned six others as her sociometric choices- superintendent, head of the orthopaedics department and four colleagues from her own department

TABLE 3.9

ATTRIBUTES OF WOMEN ENGAGED IN WOMAN - WOMAN LINKAGES

Attributes	*Head, blood bank*	*Middle level doctor pathology*	*Head, bio-chemistry*	*Head, CPMR*
Age	*36-45*	*36-45*	*36-45*	*36-45*
Professional Productivity	LOW	*Nil*	*Nil*	*High*
Caste	*Brahmin*	*Brahmin*	*Naidu*	*Naidu*
Educational Institute background	*Cuntur Medical College, Blood Croup Reference Centre, Bombay*	*Andhra Medical College, Madras Medical College*	*Kurnool Medical College, Osmania Medical College*	*Gandhi Medical College, Osmania Medical College, PGIMR, Chandigarh*
Previous employment	*PHC, Civil Hospital , Institute of Preventive Medicine, Hyderabad*	*Andhra Medical College, Guntur Medical College, Osmania Medical College*	*Kurnool Medical College, Osmania Medical College, Fever Hospital, Hyderabad*	*Osmanis Medical College and in Holland & the United Kingdom*
Network density	*No other linkages*	*No other linkages*	*No other linkages*	*Unilaterally chosen the head, department of neurosurgery*

There are nine man-woman linkages in the network map III. A male student of the radiology department has mentioned two of his women teachers as his sociometric choices. There is a reciprocal relationship between the two senior most doctors in the anaesthesiology department. Besides these, there are no other linkages showing the choice of women colleagues by men doctors. There are seven linkages between women and men. While the head of the department of anaesthesiologg had mentioned two of the men doctors working in the department

TABLE 3.10

SEX AND SOCIOMETRIC PREFERENCES

Sex of the choosers	Sex of the chosen individuals	
	Man	Woman
Man	97 (11.26)	3 (0.51)
Woman	9 (1.53)	7 (7.69)

NOTE : The figures indicate the number of linkages and total to 116. The figures in the brackets indicate the ratio-percentage of the actual linkages to the total number of linkages in each category.

and also head department of orthopaedics and the superintendent as her sociometric choices, the woman physiotherapist has mentioned the chief, department of orthopaedics. A woman doctor in CPMR has indicated her husband from cardiothorasic department. The head department of neurosurgery is *mentioned by the head of the CPMR department. The ratio-percentages of man-man, woman-woman, man-woman and woman-man linkages are given in table 3.10.*

From table 3.10 it is clear that there is more man-man preference (11.26) followed by woman-woman preference (7.69). Man-woman preference is very limited (0.51) and the woman-man preference is slightly more (1.53) even though this is also of a low order. Studies (Blau: 1977, Salzinger: 1982) have shown that larger the size of a *group, greater is the tendency for ingroup interaction and exclusiveness. Intergroup interaction is more pronounced in small groups which have lesser number of their own kind to interact with. While the dominant man-man association may be explained as above, the limited woman-man interaction needs further explanation. Blau (1977) says that where the nominal parameters are inter-sected with more division of labour there would be greater inter-group interaction. Interestingly, in this organisation, we find that the nominal parameter, i.e., sex, is not being*

intersected with *division of labour but is being enforced by it. Men are predominant in main departments and women in support departments. Consequently, we find very little man-woman or woman-man inter linkages in this organisation.*

Age: Next to the sexual identity of an individual, age seems to be the most significant factor influencing the choice of associates. Three age groups are identified in this study - 26 to 35 years, 36 to 45 years and 46 years and above. The age-wise distribution of respondents is as follows:

TABLE 3.11

AGE-WISE DISTRIBUTION OF RESPONDENTS

	Age of the respondents			
	26-35	36-45	46+	Total
Number	20	27	9	56
Percentage	35.7	48.2	16.1	100.0

From the above table, we find that around 84% of the respondents fall in the age group of 26 to *45 years - a relatively young group, it would be interesting to note*

the coincidence of age and centrality structures as it *indicates* 'lumping' of parameters - where the sociometric choices are *identical on more than one parameter. Hence, in table 3.12 we have superimposed the two variables.*

TABLE 3.12

AGE Vs.CENTRALITY OF THE RESPONDENTS

Age of the respondents	*Centrality of the respondents*			
	Junior	*Middle*	*Senior*	*Total*
26-35	*8 (40.0)*	*10 (50.0)*	*2 (10.0)*	*20 (100.0)*
36-45	*0*	*14 (51.9)*	*13 (48.1)*	*27 (100.0)*
46+	*0*	*4 (44.4)*	*5 (55.6)*	*9 (100.0)*
TOTAL	*8 (14.3)*	*28 (50.0)*	*20 (35.7)*	*56 (100.0)*

From the table, it is clear that doctors belonging to the age group of 26-35 are predominant in the junior and middle levels of the hierarchy, middle aged doctors are largely found in the middle and senior levels and the old mostly

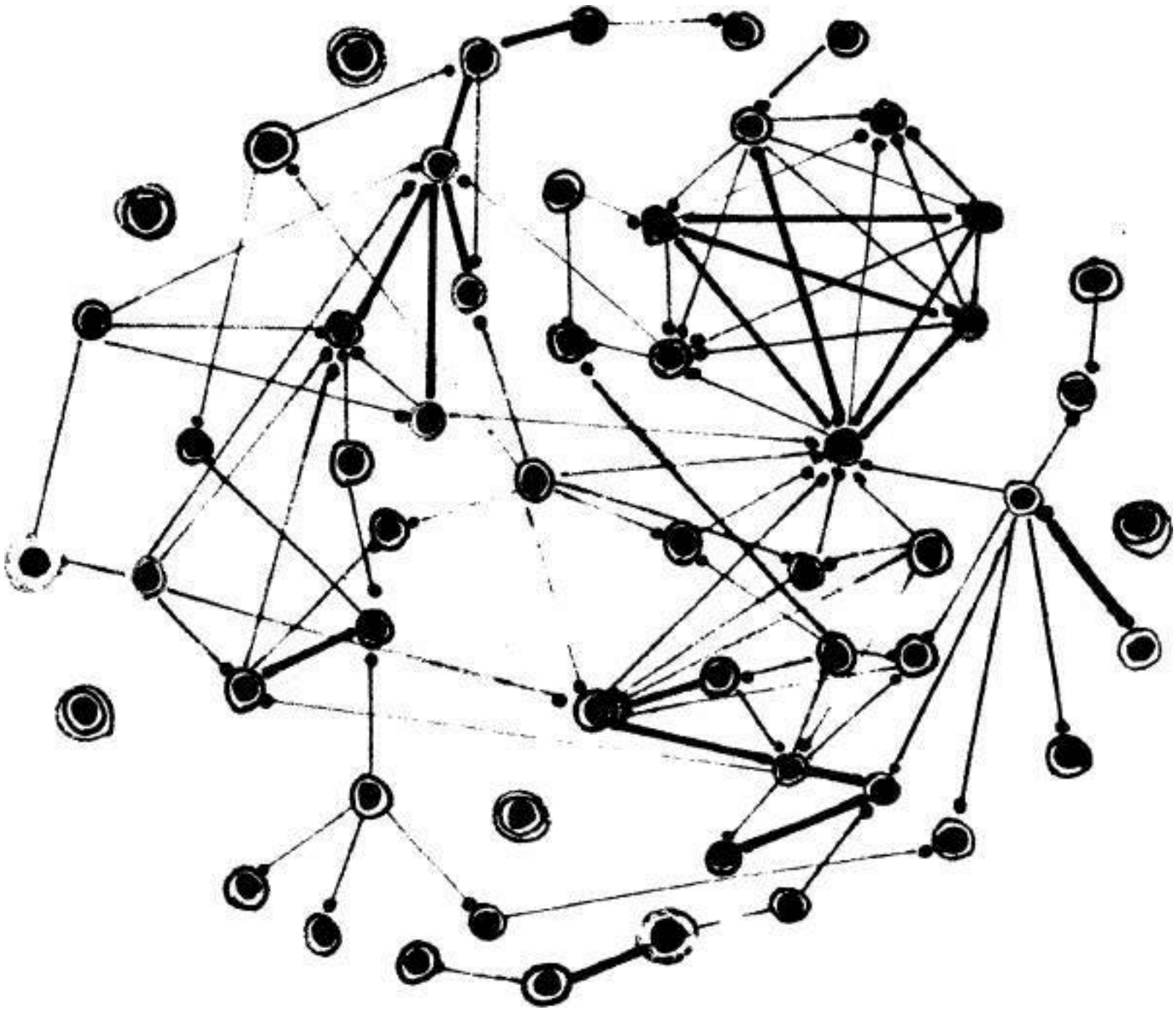
in senior positions. This is an understandable phenomenon as career in most organisations is time bound and though there may bo a few cases of young doctors being placed in senior and middle positions, age and seniority seem to be more or less co-variant. (Map IV)

In Chapter II, while discussing the career of a doctor in the hospital, his varying needs as he moves up the hierarchy and the consequent impact on his networks, we found that there was greater upward reference among junior level doctors, horizontal and upward choice among the middle level doctors and horizontal and downward choice among the senior level doctors. Here, we present the data in a more detailed and systematic manner.

The network map V on page 142 shows the significance of age in the selection of associates. Of the total 116 linkages, 60 linkages occur between individuals belonging to the same age group. Similarly, map IV also indicates that there is considerable similarity in the centrality of the' network members. Here, of the 116 linkages, 53 are between individuals who belong to the same level. When the two maps are superimposed in map VI, the data shows that there are 29 linkages between individuals belonging to the same age as well as centrality groups. The above data is presented in a tabular form on the following page.

MAP IV

CENTRALITY AND NETWORK STRUCTURES



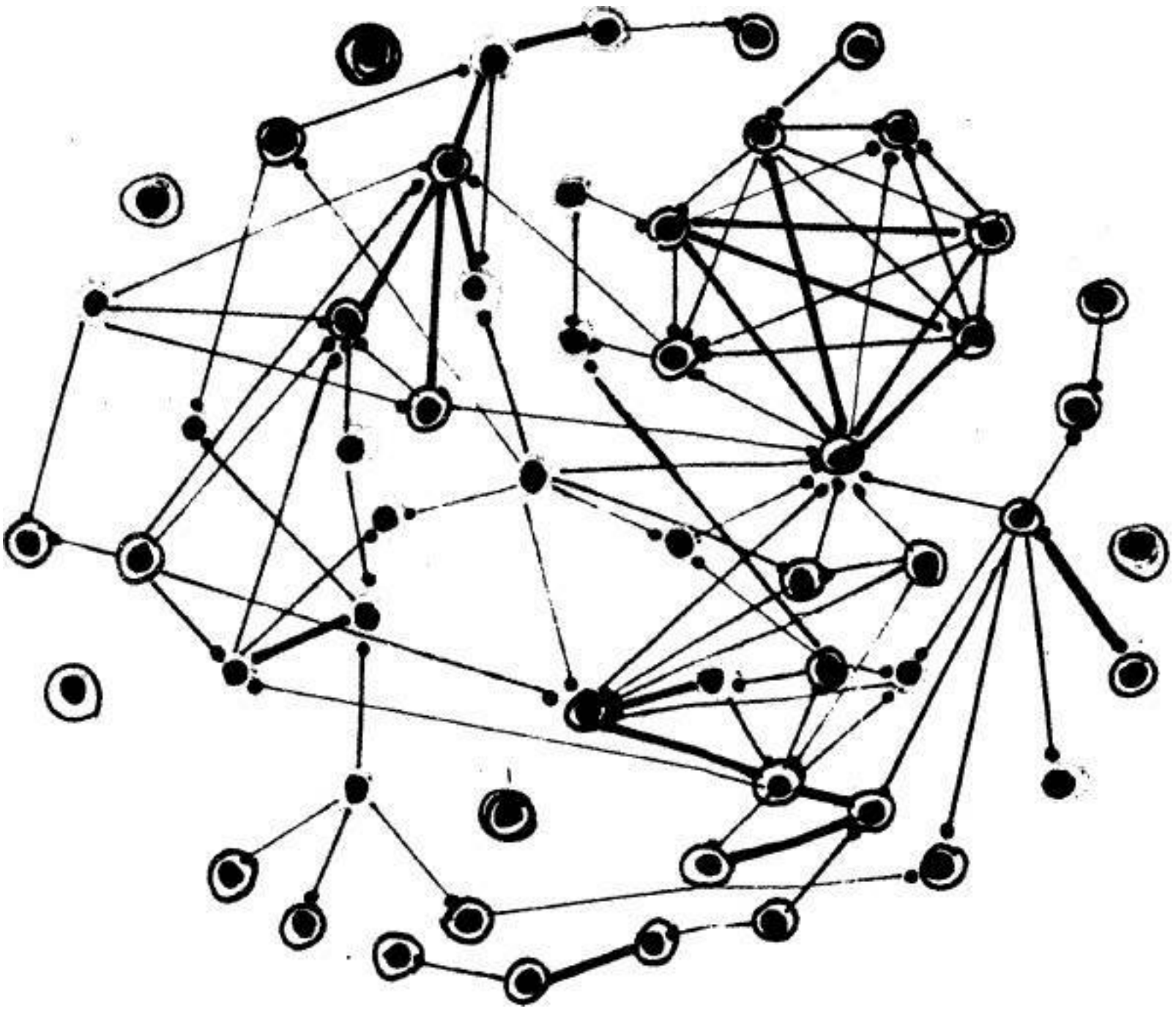
SENIOR

MIDDLE

JUNIOR

MAP V

AGE AND NETWORK PREFERENCES



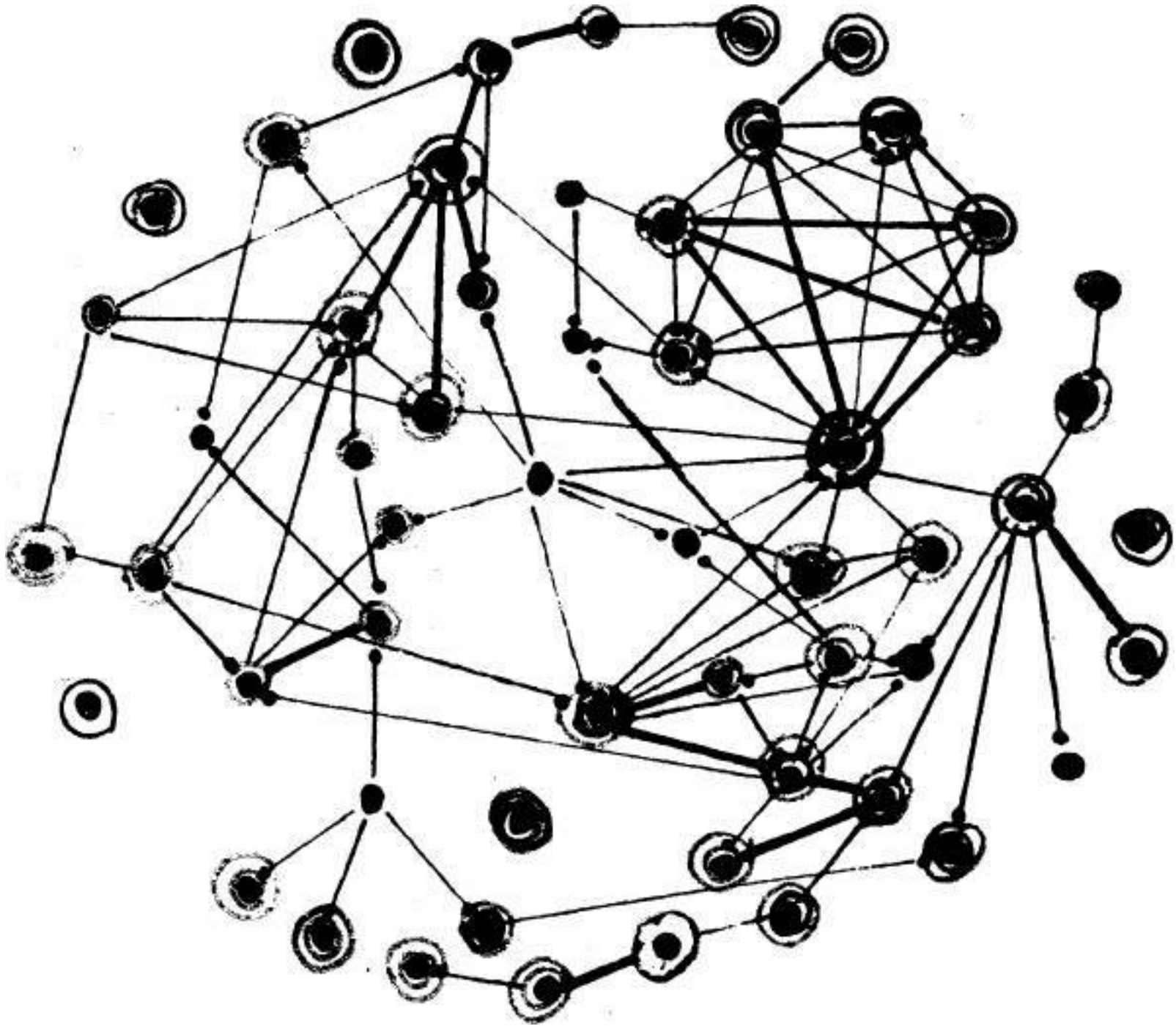
46+

36-45

26-35

MAP VI

AGE AND SENIORITY IN NETWORK STRUCTURES



SENIORITY

Senior

Middle

Junior

AGE

46+

35-45

26-35

TABLE 3.13

AGE AND SOCIOMETRIC PREFERENCES

Age group of those making the sociometric choice	Age group of those chosen as Sociometric preferences			
	26—35	36—45	46+	Total
26-35	13	16	4	33
36-45	10	31	14	55
46+	2	10	16	28
TOTAL	25	57	34	116

TABLE 3.14

CENTRALITY AND SOCIOMETRIC PREFERENCES

Centrailty of those making the sociometric choice	Centrality of those chosen as Sociometric preferences			
	Junior	Middle	Senior	Total
Junior	2	5	8	15
Middle	5	24	21	50
Senior	1	23	27	51
TOTAL	8	52	56	116

From the preceding tables with actual frequencies, one finds a definite tendency in the respondents towards exercising choice among the same age group and similar or higher level members as sociometric choices. There is frequent networking by middle aged members and more particularly among themselves. This should not, however, be *accepted as significant in itself. While studying networks, the actual number of preferences should be seen as the ratio - percentage of the maximum possible linkages among a given number of individuals. This gives us a standardised idea about the actual density of relationships in each category. The data thus modified is given below:*

TABLE

AGE IN SOCIOMETRIC PREFERENCES BY RATIO-PERCENTAGES

Age group of those making the sociometric choice	*Age group of those chosen as Sociometric preferences*		
	26-35	*36-45*	*46+*
26-35	*8.49*	*2.96*	***2.77***
36-45	*1.85*	*7.18*	*5.80*
46+	*1.39*	*4.16*	*57.14*

TABLE 3.16

CENTRALITY IN SOCIOMETRIC PREFERENCES BY RATIO-PERCENTAGES

Centrality of *those making the sociomctric choice*	*Centrality of those chosen as Sociometric preferences*		
	Junior	*Middle*	*Senior*
Junior	*7.14*	*2.20*	*5.00*
Middle	*2.23*	*6.85*	*3.75*
Senior	*0.60*	*4.40*	*14.20*

From the above tables, the following conclusions could be drawn:

1. There is greater tendency for the doctors to choose others from their own age and seniority groups as their socio-metric choices.

2. The tendency to choose members belonging to their own age groups is more predominant among the category of 46 years and above perhaps because they also happen to be the senior personnel in the organisation.

3. On account of the blurring boundaries of age and centrality, more number of younger doctors prefer middle aged doctors to older doctors, middle aged doctors tend to prefer older colleagues where the older members prefer their middle aged colleagues to the younger ones.

4. Age seems to be cutting across the barriers of centrality. There are more same age group interlinkages than centrality based linkages.

Professional Productivity: An important characteristic of any organisation is its authority structure. Three authority bases can be identified - bureaucratic, professional and charismatic. In a hospital, inspite of the bureaucratic frame-work having a certain controlling influence, what distinguishes it from other institutions is the dominance of 'charismatic' appeal of the doctor. We quote Coe at length here:

> *One further impact of doctors on the hospital social structure should be noted and that is the charismatic nature of their authority in the hospital setting. Weber has discussed charisma, literally 'gift of grace', as characteristic of self appointed leaders whose authority rests on their ability to accomplish extraordinary feats. In contrast to bureaucratic organisation . . . charismatic authority is vested in a particular individual because of an intensely personalised ability to move people especially in times of stress when other leadership has failed ...because doctors had a monopoly on medical know-ledge it was essential that they control the treat-ment of patients; thus any cures effected would be to their credit. In the hospital setting, however, the charismatic role of the doctor has greatly exaggerated his control over not only patients but other persons as well especially nurses and ancillary treatment personnel. Discipline and unques-tioned acceptance of authority were (and still continue to a certain extent) necessary to meet situations where life and death hang in the balance. Authority was placed on one leader - the doctor and among other personnel lines of responsibility are clearly drawn (Coe : 1978: 270).*

The ability to perform extraordinary feats and come to the rescue of patients at critical times builds up

an aura *about the doctor and is significant in determining his charismatic appeal. The potential for such critical intervention varies from one specialisation to another and influences the grading of the different specialisations within the medical profession. Thus for instance, as compared to surgery, general medicine provides fewer opportunities for the dramatic intervention. Hence, a general physician has lesser scope for charisma than the surgeon. Though charisma is built into the very occupational identity of the doctors, it is individualised to the extent that the ability of each doctor to project the charismatic image varies. It also determines his success in the professional practice as well as his desirability as a sociometric preference among his colleagues in the hospital context.*

Though at the intellectual level charisma is easily comprehensible, at the empirical level, it poses considerable problems. Charisma is something that is Perceived by others and as such is difficult to operationalise or quantify. There are two factors, however, which can be identified as influencing the charismatic appeal of a doctor. One is the reputation as a practising doctor and the other his professional productivity. The reputation as a practising doctor can be guaged by the number of patients treated and cured, the various *procedures done indicating the complexity of the task and the*

competence required of a doctor. The perception of the patients about the doctors is also necessary. In a hospital context where there is team work and no doctor patient identification is possible, it would be difficult to arrive at the reputation of a doctor in any definite manner. Besides, the charisma of a doctor may be influenced by his participation in research and other activities. An assumption has been made that in a organisation like the IOS where the doctors are working in the frontier areas of medical research, it is their participation in professional activities which determines the informal grading in the hospital. Accordingly, we have computed a professional productivity score based on the number of journals subscribed, research articles published, conferences attended, research projects conducted and participation in organisational committees. The sum total of the frequencies of all the above variables is taken as the professional productivity score of the respondents.

Age and centrality are the two other graduated parameters which have been discussed earlier on. Productivity is *tabulated against the two variables to gain an insight into the degree of overlap between the three variables. This exercise is considered necessary as it has implications for the consolidation of status differentials in the organisation and inter group associations. Further sex, a nominal parameter,*

has been included as it has been found significant in determining the interpersonal relationships as well as the divide between the main and support departments. The data is presented below:

TABLE 3.17

AGE AND PROFESSIONAL PRODUCTIVITY

Age group	Professional Productivity Score						
	0	1-8	9-16	17-24	25+	No Response	Total
26-35	0	9	4	3	2	2	20
36-45	2	12	7	3	2	1	27
4 6 +	0	1	4	2	1	1	9
TOTAL	2	22	15	8	5	4	56

TABLE 3.18

CENTRALITY AND PROFESSIONAL PRODUCTIVITY

Centrality	Professional Productivity Score						
	0	1-8	9-16	17-24	254	No Response	Total
Senior	0	4	5	6	5	0	20
Middle	2	10	10	2	1	3	28
Junior	0	6	1	0	0	1	8
TOTAL	2	20	16	8	6	4	56

TABLE 3.19

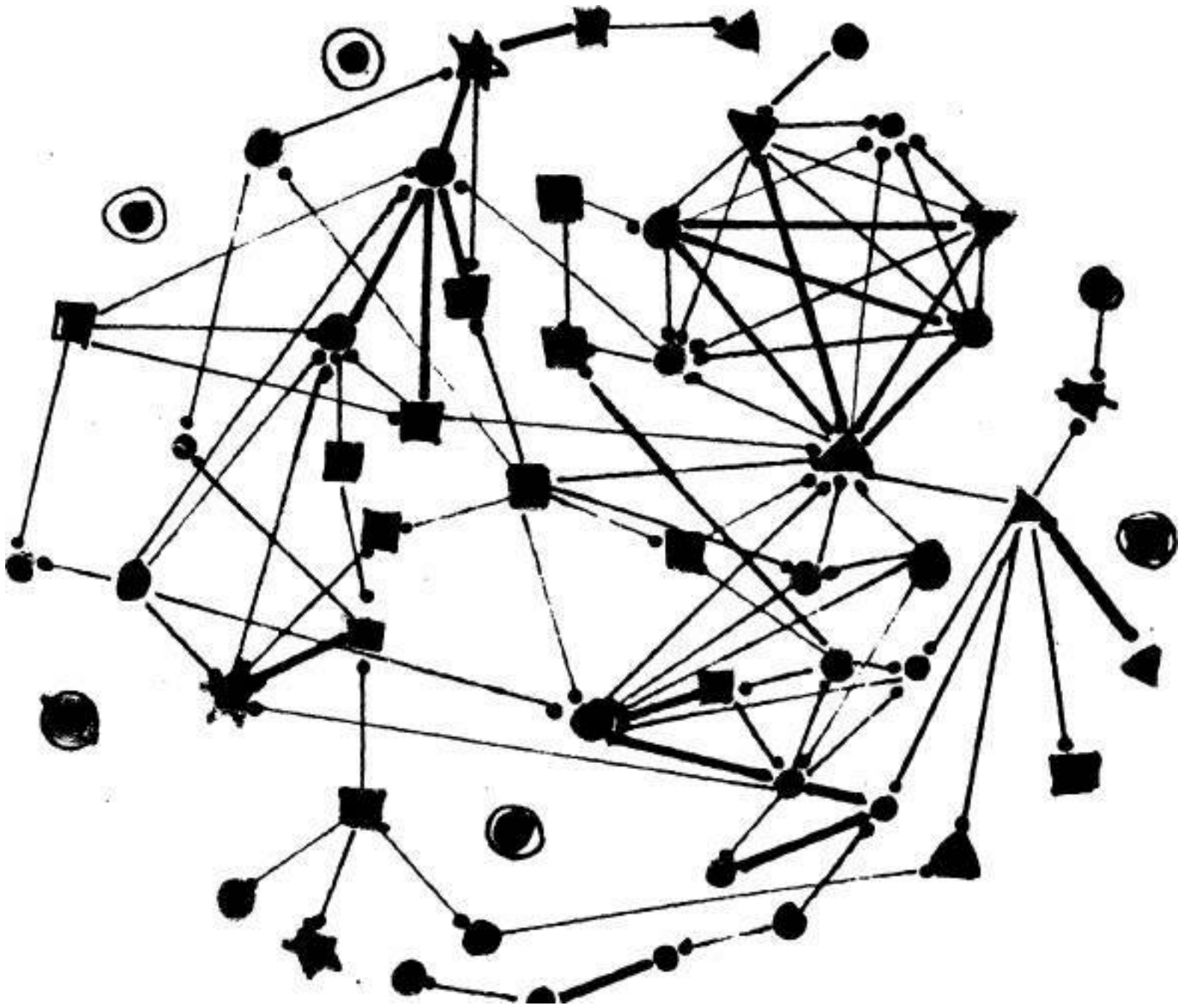
SEX AND PROFESSIONAL PRODUCTIVITY

Sex	Professional Productivity Score						
	0	1-8	9-16	17-24	25+	No Response	Total
Male	0	14	14	6	5	3	42
Female	2,	8	1	2	0	1	14
TOTAL	2	22	15	8	5	4	56

The above tables provide an idea of the professional productivity of various categories of personnel in the hospital. Firstly, we find that men are more productive than women notwithstanding the fact that the very small number of women does not allow any significant statistical comparison. Secondly, professional productivity and centrality are fairly well correlated, with productivity increasing as one moves up the hierarchy. Thirdly, there is no definite pattern in the relationship between age and productivity as old and members are more productive than middle aged doctors, in order to demonstrate the lumping of productivity with age, sex and centrality, the relevant mapsVII, VIIIland IX are enclosed

MAP VII

PRODUCTIVITY AND AGE IN NETWORK STRUCTURES



PRODUCTIVITY

0

1-8

9-16

17-24

25+

AGE

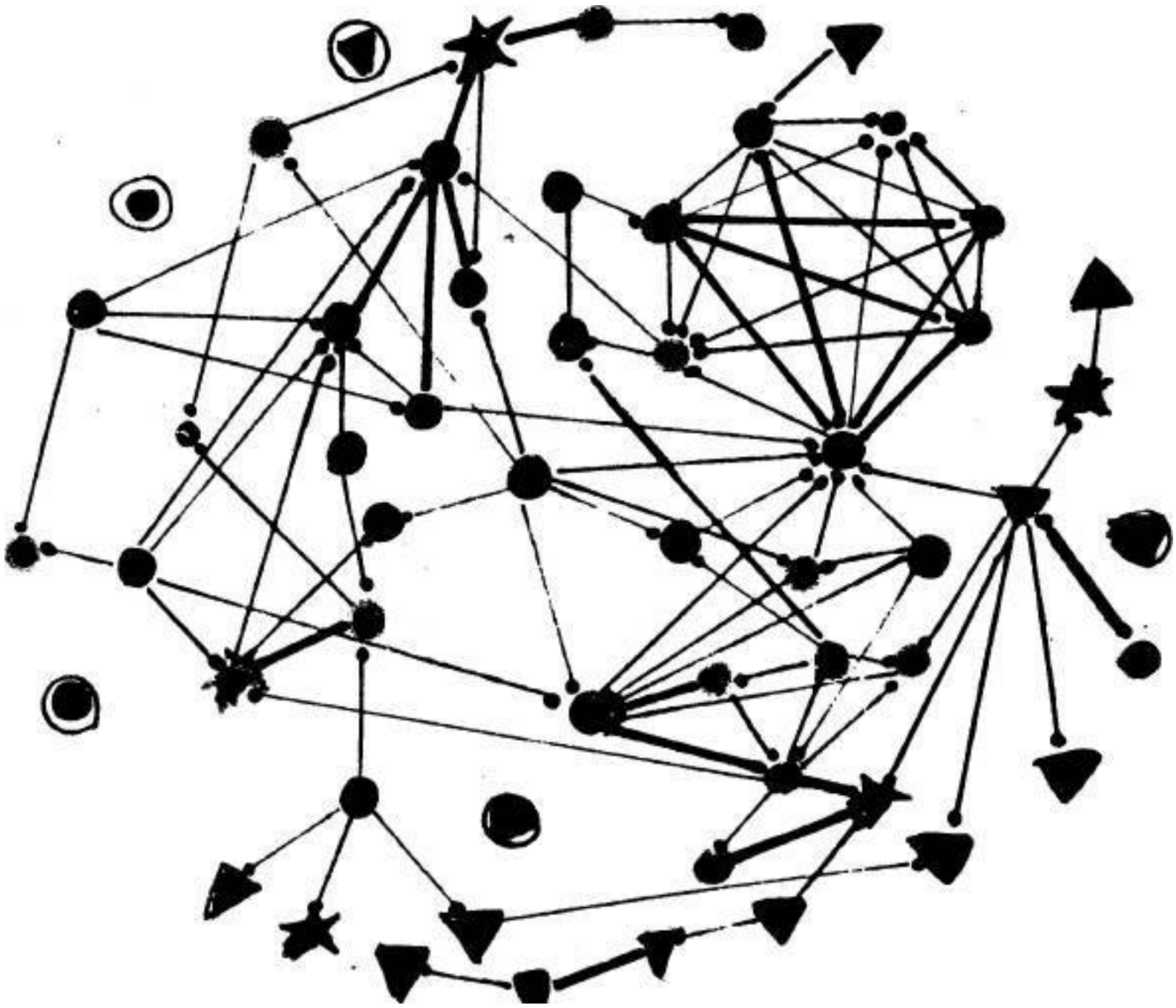
46+

36-45

26-35

MAP VIII

PROFESSIONAL PRODUCTIVITY AND SEX IN NETWORK STRUCTURES



PROFESSIONAL PRODUCTIVITY

0

1-8

9-16

17-24

25+

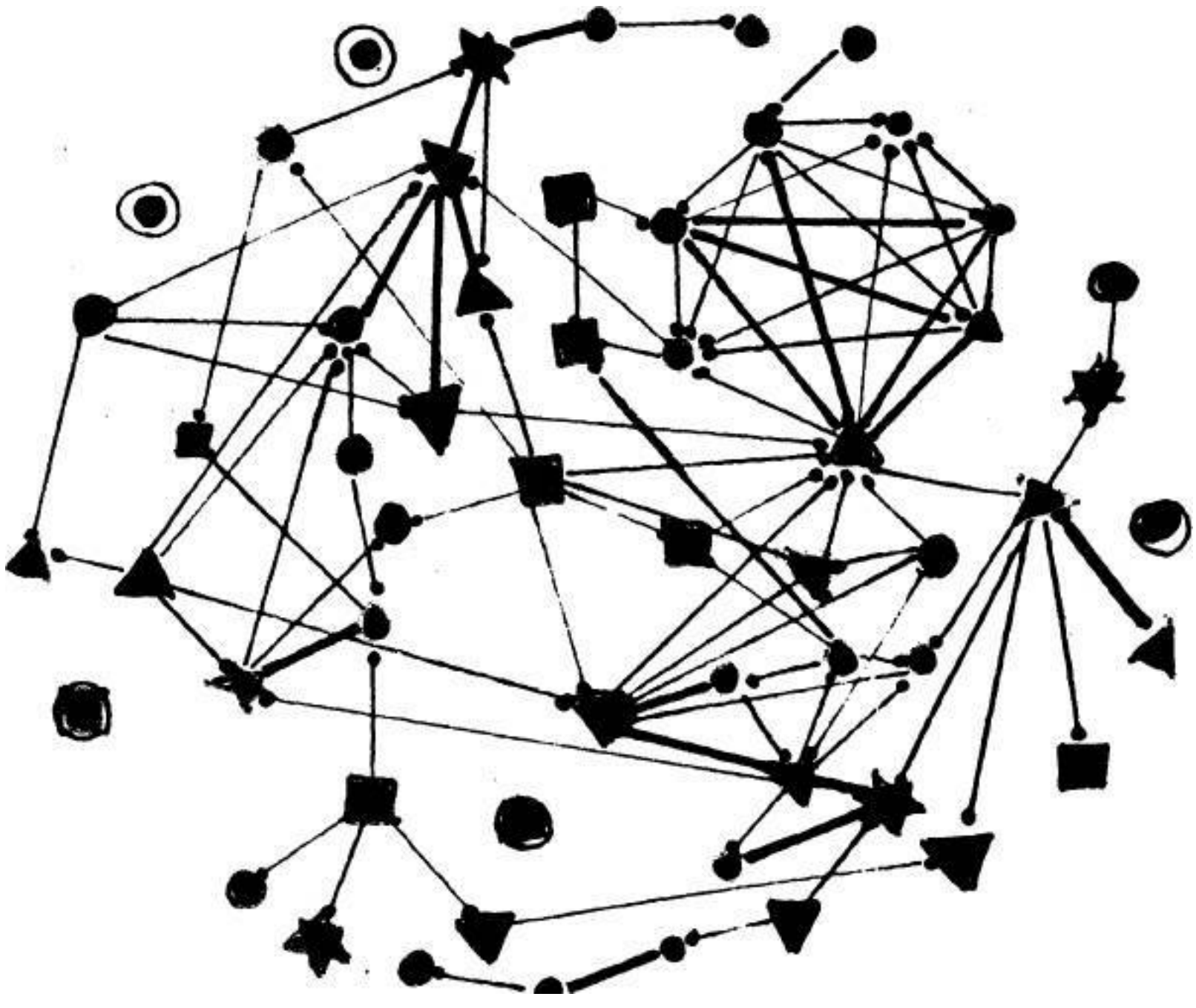
SEX

MALE

FEMALE

MAP *IX*

PROFESSIONAL PRODUCTIVITY AND CENTRALITY IN NETWORK STRUCTURES



PROFESSIONAL PRODUCTIVITY

O

9-16

17-24

25+

CENTRALITY

SENIOR

MIDDLE

JONIOR

In order to see the significance of productivity in the networkings within the organisation, the following table with the productivity score of choosers and chosen individuals is presented. We may hypothesise that since productivity is an important factor in determining the charisma of an

TABLE 3.20

PROFESSIONAL PRODUCTIVITY AND NETWORKINGS

Professional Productivity of the choosers	Professional Productivity Scores of the sociometric choices					
	0	1-8	9-16	17-24	25+	No Response
0	2 (66.6)	1 (1.59)	0	0	0	0
1-8	0	14 (6.6)	14 (4.4)	11 (6.5)	3 (2.8)	4
9-16	0	11 (3.49)	11 (10.47)	5 (4.16)	8 (10.6)	3
17-24	1 (4.2)	11 (6.5)	4 (3.3)	2 (7.1)	2 (5.0)	1
25+	0	2 (1.9)	4 (5.3)	2 (5.0)	0	0

NOTE : The figures in the brackets represent the density of networking and are calculated as a percentage of the total number of possible linkages in each sub-group.

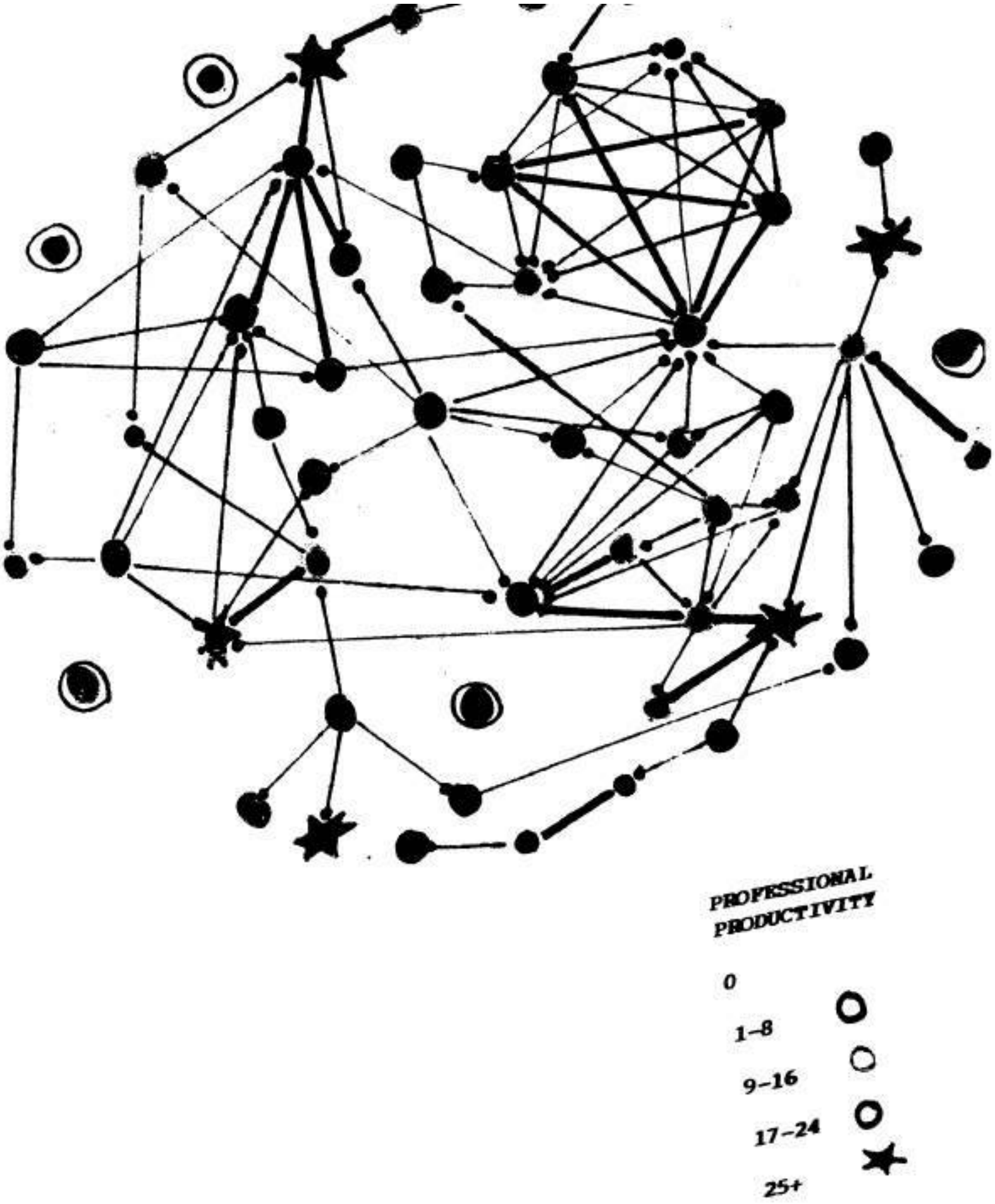
individual, it is likely that the highly productive individuals would be having more dense networking and that they would more often be chosen as sociometric choices. *High scorers are also likely to choose high scorers if productivity as defined by us plays a significant role in the networkings within the organisation. (Map X)*

From table 3.20 , it is clear that there is greater *incidence of sociometric preference between individuals having similar productivity. Besides, those having* a *lower rating tend to prefer high scorers, while the high scorers indicate frequent preferences for the low scorers. Thus, the data supports the earlier part of our hypothesis more than the latter. This means that the other factor not taken into account by us, viz., reputation as a practising doctor, may be influencing the network patterns to a considerable extent.*

Departmental Divisions: *Departments are important structural units of a formal organisation. In addition to providing functional differentiation, departmentalisation facilitates the utilisation of various resources like technology, knowledge and skills, finances, personnel, work space, etc., and* is *of considerable importance in any discussion on the formal and informal structures.*

MAP X

PROFESSIONAL PRODUCTIVITY IN NETWORK STRUCTURES



Functionally, departments are divided into main and support departments. The main departments are those directly involved in the achievement of the goals of the organisation which in the case of the JOS *relate to the provision of superspecialist care to the patients. There are seven main departments - orthopaedics, cardiology, cardiothorasic surgery, neurology, neurosurgery, CPMR and gastroenterologg. Besides, we have the support departments which are not directly involved with patient care but provide the needed support services, viz., radiology, pathology, bio-chemistry, blood bank, etc.*

Categorisation of departments can also be done on the basis of the type of services they provide in patient care. Accordingly there are the surgical departments - orthopaedics, neurosurgery and cardiothorasic surgery; medical departments - neurology, cardiology, CPMR and gastroenterology and diagnostic departments - radiology, pathology and bio-chemistry.

A third method of distinction among the departments is on the basis of technology. Surgical departments and certain diagnostic departments are based on high technology whereas medical departments are less technologically oriented. Technology influences the intervention strategy adopted and determines the shifting occupational boundaries and degrees or

professionalisation and bureaucratisation. To illustrate, radiologists who have been providing diagnostic services are gradually participating in intervention procedures such as removal of kidney stones using ultrasonograms. Consequent upon these technological developments, they are also more professionally oriented as compared to other departments like pathology and bio-chemistry, where most of the tasks are delegated to trained technicians. From the networkings point of view, the departments which have exclusive technology *are likely to be more inward directed, while those which share their instruments are likely to be more outward in their linkages, as would be discussed at a later point in this section.*

The influence of technology can also be seen in the manner in which tasks are performed in a department. Surgical departments are team based, whereas the diagnostic and medical departments are comparatively more individualistic in orientation. Since team work requires co-ordinated and concerted action based on mutual respect, confidence and trust, personnel from such departments are likely to be more closely interlinked than those from departments where there is *individual specialisation.*

The distribution of certain crucial resources as for instance work space and personnel varies across depart-ments. Though functional significance and technological

basis deter/nine the allocation of the *above resources, differences in the same can be taken as Indicative of the gradation of departments In the overall organisational context. The work space allocated to each department in terms of the number of beds is an important factor in the hospital set up. The bed strength of the various departments in the IOS is as follows: cardiology (34), cardiothorasic surgery (33), orthopaedics (84), neurosurgery (30), neurology (29), CPMR (19), and gastroenterology (10). When bed strength is related to the number of medical personnel, we get the doctor-patient ratio for each department which is as follows: cardiology (1 : 3.4), cardiothorasic surgery (1 : 4.7), ortho-paedics (1 : 8.4), neurosurgery (1 : 7.5), neurology (1 : 9.6), CPMR (1 : 4.7), and gastro-enterology (l : 5.0). Thus, the doctor-patient ratio is not uniform in all the departments. It is more favourable in the department of cardiology followed by cardiothorasic surgery and CPMR, and less favourable in the departments of neurology, orthopaedics and neurosurgery. Gastroenterology falls between the two groups. Incidentally, successive superintendents of the hospital during the past ten years belonged to the departments of cardiology and cardio-thorasic surgery. During the course of* interviews, several *doctors referred to these two as the 'elite' and 'much favoured' departments in the hospital since they have brought it considerable fame by their performance. In these*

departments, researchers from foreign universities often conduct seminars and workshops for the benefit of the doctors employed in the hospital. From the point of view of networkings, elite status enhances the desirability of the doctors working in a department as sociometric preferences owing to their proximity to the power groups within and outside the organisation.

Thus departmentalisation is a very significant variable which determines the manner in which tasks are organised and has implication for the type of interpersonal networks that exist among and between the departments. Let us now examine the number and types of sociometric choices expressed by the members of various departments (Table 3.21).

From table 3.21 we see that the average number of relationships in the cardiothorasic department are the highest followed by gastroenterology and neurosurgery. The least averages are those of physiotherapy, bio-chemistzy and blood bank. The surgical departments and gastroenterology department have higher averages followed by the departments of cardiology, anacsthesiology and neurology . Support departments have very low averages. All this shows that the main departments are more closely integrated in the organisation than the others.

TABLE 3.21

DEPARTMENTALISATION AND TYPES OF NETWORK LINKAGES

Department	Types of Network linkages				
	Red-procal	Popularity	Sociability	Total	Aver-age
Cardiothorasic surgery	14	22	15	51	7.20
Cardiology	6	16	8	30	3.00
Neurosurgery	5	6	8	19	4.75
Neurology	2	2	3	7	2.30
Orthopaedics	2	11	11	24	3.42
CPMR	1	1	4	6	1.50
Gastroenter-ology	1	2	7	10	5.00
Radiology	1	5	8	14	2.30
Pathology	1	2	1	4	2.00
Physiotherapy	0	0	1	1	1.00
Bio-chemistry	1	1	0	2	1.00
Blood bank	0	1	0	1	1.00
Anaesthesio-logy	2	4	11	17	2.30
RMO	2	5	1	8	8.00
TOTAL	38	78	78	194	3.46

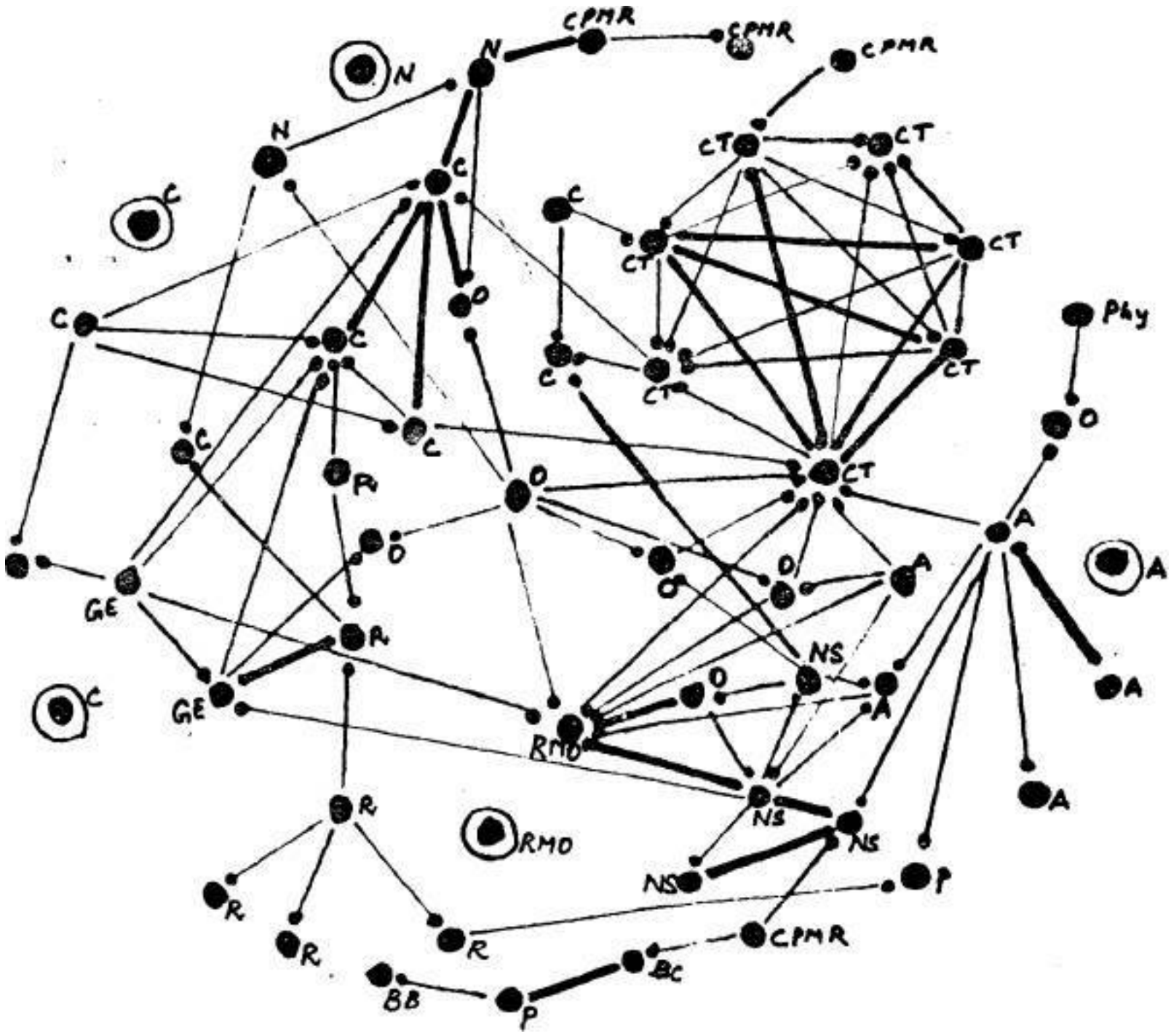
NOTE: The totals in this table and in the tables presented in the earlier section are different as we have excluded the popularity relationships from the earlier tables.

It *would be Interesting to note the nature of linkages that exist among the members of the various departments (Map XI). In other words, we need to see whether there is a larger Incidence of inter-departmental or intra-departmental linkages in the hospital. The network map on the next page shows the variation in the number of sociometric choices made inter-departmentally and intra-departmentally in the organisation. Here three aspects are taken into consideration, viz., number of times the members of a department are chosen by members from other departments, number of times the members of a department choose outsiders as their sociometric choice and the number of links existing between the members of a department. These measures show the inward or outward nature of interlinkages. An inward department is one where the members predominantly prefer those belonging to their own department and the choice of doctors from the other departments is marginal. Here, the doctors belonging to the other departments also indicate a preference for its members. The exact opposite is the case of the outward department. The data is presented in a tabular form below:*

From the table 3.22 on the following **page, it is *possible to categorise the departments as inward directed, outward directed and as having no definite direction. To***

MAP XI

DEPARTMENTALISATION IN NETWORKING



INDEX *C - Cardiology, CT - Cardiothorasic Surgery, N - Neurology, NS - Neurosurgery, O - Orthopaedics, CPMR - Clinical Pharmacology and Medical Research, GE - Castroenterology, R - Radiology, p - Pathology, Phy - Physiotherapy, BC - Bio-Chemistry, BB - Blood Bank, A - Anaesthesiology, RMO - Resident Medical Officer.*

TABLE 3.22

TYPE OF INTER AND INTRA-DEPARTMENTAL LINKAGES

Department	No. of Reciprocal choices		Popularity		Sociability		Total
	department		department		department		
	Same	Other	Same	Other	Same	Other	
Cardio-thorasic surgery	14	0	13	9	13	2	51
Cardiology	4	2	6	10	6	2	30
Neurosurgery	4	1	2	4	2	6	19
Neurology	0	2	1	1	1	2	7
Orthopaedics	0	2	4	7	4	7	24
CPMR	0	1	0	1	1	3	6
Gastro-enterology	0	1	1	1	1	6	10
Radiology	0	1	5	0	3	3	12
Pathology	0	1	0	2	0	1	4
Physiology	0	0	0	0	0	1	1
Bio-chemistry	0	1	0	1	0	0	2
Blood bank	0	0	0	1	0	0	1
Anaesthesio-logy	4	0	2	2	2	9	19
RMO	0	2	0	5	0	1	8
TOTAL	26	14	34	44	33	43	194

*the first category belong cardiothorasic surgery and cardiology departments. Orthopaedics, CPMR and gastroenterology departments belong to the second category. Neurology, neuro-*surgery and *anaesthesiology show, no definite trend.*

When the above findings are related to our earlier discussion, the rationale behind the patterns becomes obvious. Cardiothorasic department is based on high technology and team work. Consequently, it is close knit and though preferred by others is not prefering the personnel from other departments. It has the largest number of linkages among all the departments and most of these linkages (aggregating 40) are between its members. Nine outsiders have chosen cardiothorasic surgeons unilaterally while only two outsiders are chosen unilaterally by them. The unilateral choices are more in number as the superintendent happens to be a cardiothorasic surgeon and it is in this capacity that he is chosen by the others. Cardiology department is also similar to cardiothorasic surgery department. The presence of two charismatic individuals in the department could be responsible for the inward direction of networking, While the department of neurosurgery is also based on team work and has close knit group, at the same time, it is outward in nature to a certain extent owing to the presence of a medical association member among its personnel. Department of neurology with an adverse doctor-patient ratio and a heavy work load

has limited though strong linkages. It has two reciprocal relationships and three unilateral linkages with other departments.

Departments of pathology, physiotherapy, bio-chemistry and blood bank have only one or two members and are hence excluded from the analysis.

Anaesthesiology and radiology departments which are based on individual work but are functionally linked to several other departments have a fair share of inward and outward linkages. Gastroenterology and orthopaedics departments are more outward in nature due to the high sociability of some of their members. They are also close knit among themselves. The network linkages of the orthopaedic department may be seen in the light of its overall situation in the hospital. At a time when the hospital is being transformed into an autonomous super-specialist institute, it is being over shadowed by the other departments. Apart from that, the absence of a charismatic leader - one who could act as a focal point to rally support and exert pressure on the organisation to allot the needed resources *and inputs for the department may be another significant reason. The department functioned without a regular chief for some tine*

and this appointment took place during the course of the research work. Seven out of the nine outward linkages from the orthopaedics department are with the administrative heads; three each with the RMO and superintendent and one *with the association leader. Of the remaining two links, one is with the head of the cardiology department and the other with a neurologist. Thus, the presence of a strong leader or a charismatic individual is also an important factor in the networking patterns. The following quote from Coe (1978: 303) supports this argument.*

> *"... dual authority system, the division of labour etc., have marked effect on the social structure of, and therefore on interaction in, the hospital. The effect is basically one of channelization i.e., it is the function of social structure to determine the general direction of their action in specific situation - to dictate, as it were, who speaks to whom. It means that out of all the potential relationships which could be formed ...certain ones become emphasised at the expense of others". (Coe : 1978: 303)*

Caste; In the *Indian social reality, caste continues to assume a significant role in determining social interaction even among the educated professional groups. This is so because it not only identifies an individual as belonging to a particular community but also determines his kinship network to a large extent. Significantly, these networks can be activated in one's own interest to gain certain ends.*

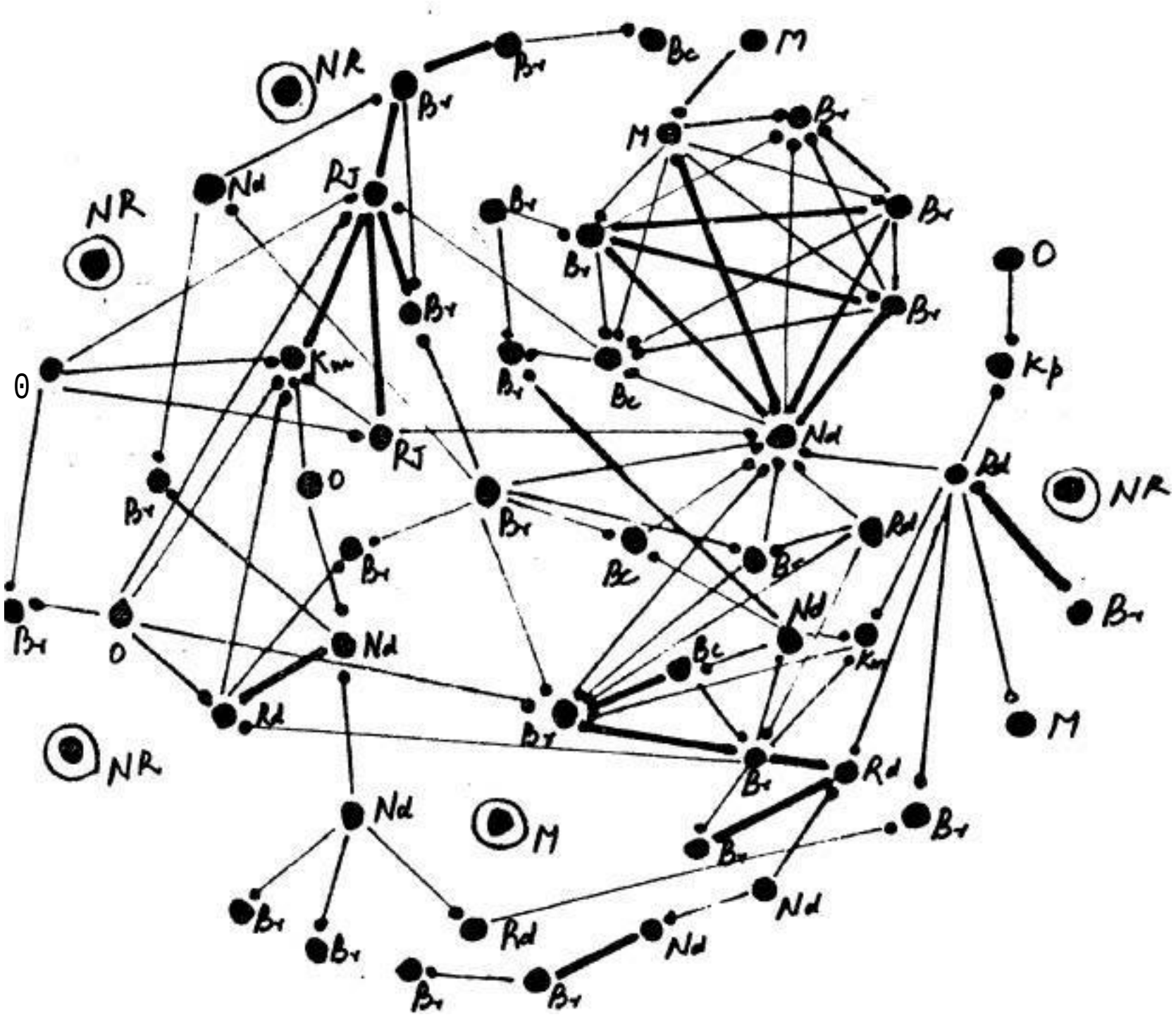
in the IOS, there are seven instances where the doctors working in it are related through kinship. In our interviews with the doctors, the role of these linkages has often been mentioned. For instance, Dr.Gopal said "I am *very close to both the director and the superintendent.* While my *father is the managing partner in the director's clinic, the superintendent is my uncle*". Caste also lays *the ground for common identities, affinities and opens up the organisation to extra-organisational influences. For this reason, caste rather than class is chosen as an extra-organisational variable. (Map XII)*

The distribution of personnel in terms of their caste is as follows : Brahmin (25) Naidu and Reddy (seven each) Backward Class (four) Raju and Kamma (two each) Kapu (one) others (seven). The caste of one respondent is *not known. Judging by the relative strength of the various castes, it is evident that except brahmins the others are not adequately represented in the hospital. Consequently, network preferences are not showing any definite caste affiliations as may be seen from table 3.23.*

Caste may be important in inter-organisational linkages between the IOS and the directorate, secretariat or political leaders, but we have no data regarding these.

MAP XII

CASTE IN NETWORKING



INDEX : Br - Brahmin, Rd - Reddy, Nd - Naidu, Rj - Raju, Bc - Backward Caste, Km - Kamma, Kp - Kap , O - Others, M - Muslim, NR - No Response.

TABLE

CASTE OF THE* CHOOSERS *AND CHOSEN ONES IN SOCIAL NETWORKS

Caste *of the choosers*	*Caste of the chosen ones*							
	Br	*Nd*	*Rd*	*Bc*	*Rj*	*Km*	*Kp*	*others*
Br	*21* (0.08)	*9* (0.05)	*3* (0.02)	*6* (0.06)	*2* (0.04)	*1* (0.02)	*0* -	*1* (0.006)
Nd	*11* (0.06)	*2* (0.09)	*3* (0.06)	*3* (0.10)	*0*	*1* (0.07)	*0*	*1* (0.02)
R d	*8* (0.05)	*3* (0.14)	*3* (0.06)	*0*	*0*	*2* (0.14)	*1* (0.14)	*1* (0.02)
B c	*2* (0.02)	*1* (0.03)	*1* (0.03)	*0*	*1* (0.01)	*0*	*0*	*0*
R j	*2* (0.04)	*1* (0.07)	*0*	*0*	*1* (1.0)	*3* (0.75)	*0*	*0*
K m		*1* (0.02)	*0*	*1* (0.07)	*0*	*0*	*0*	*0*
Others	*7* (0.04)	*2* (0.04)	*0*	*1* (0.04)	*3* (0.2)	*3* (0.2)	*1* (0.2)	*1* (0.2)

NOTE : 1. Numbers *in the brackets represent density scores.*

2. Kp is not mentioned under caste of choosers as there are no responses under this category.

INDEX : Br - Brahmin, Nd - Naidu, Rd - Reddy, Bc - Backward Caste, Rj - Raju. Km - Kamma, Kp - Kapu.

Interestingly, 14 out of 38 reciprocal linkages, working to 37% are between individuals belonging to the same caste (Table 3.5). This shows that even though caste is not a significant social structural variable in the overall organisational context, it is an important parameter with regard to primary linkages. This is understandable as unilateral linkages usually express a reference group bias which means that administrative and professional superiority are taken into account rather than certain personal or broader social structural variables.

3.3 INFERENCES:

A significant point that emerges from the above discussion is that departmental divisions and centrality, the two formal structural variables, are predominant in determining the network linkages followed by sex and age. Caste and professional productivity, though more ' pronounced in individual network structures, are not significant at the organisational level. Homogeneity is more at the individual rather than the organisational level. This is in confirmation with Fararo's *(1981), conclusion that B*lau's salience of breeding bias *is likely to be more predominant in interpersonal emotive interactions than in the 'association' linkages characteristic of organisational level* structures. *The exclusive ness following*

inbreeding is offset by the 'reference group bias' which integrates the various sub-units of the structure. Centrality which encourages inbreeding bias at the senior and middle levels and reference group bias at the junior levels is significant in determining the network structures at the organisational level. The junior level personnel expressing this bias are the 'sociable nodes' who integrate the various units through their linkages. Removing them from the network would disintegrate it into a number of smaller units centred around a few sociometric stars and functionally linked individuals. Hence, at the core of the network structure is the differentiation between the 'seekers' and the 'sought'. In an organisational context where an individual endeavours to promote his administrative and professional interests, the distinction between the seekers and the sought would be similar to the formal hierarchies.

Thus, in this chapter, an attempt has been made to understand the informal structures in relation to the intrinsic characteristics of the personnel, the formal structural context and the broader social structural frame work. The data points to the conclusion that informal structures are not purely emotive or rational in nature but are strongly entrenched in the formal organisational and social structural contexts.

CHAPER - IV

CONCLUSION

The aim of this study has been to provide a systematic description and analysis of the formal and informal structures using the method of network analysis. The selection of network analysis as a methodological framework is justified on the ground that it enables one to grasp the interlinkages between the various members of the organisation, while at the same time, highlighting the factors that influence such interlinkages. A superspecialities hospital (IOS) is chosen for conducting such an analysis for the unique context it provided with a high degree of professionalisation and bureaucratisation.

4.1 MAIN FINDINGS OF THE STUDY:

In our analysis of the professional, organisational and social networks, we found a certain degree of compartmentalisation with regard to the above three parameters. Though centrality seems to be the dominant factor, the actual preferences are guided by the usefulness of various categories of individuals for professional guidance and in the solution of administrative problems. While in the organisational context, administrative heads *are preferred, the choice tends to be towards seniors from the same as also other departments with regard to profes-*

sional matters. Thus egalitarian relationships, based on competence irrespective of the hierarchic position of the individuals, are not pronounced in this organisation. Both, functional interlinkages and professional identities, it is found, are significant in the expansion of the inter-personal area of influence cutting across hierarchic levels and occupational groups. Even social networks are influenced by centrality though they tend to be more expansive and different in their composition from the other two categories of networks. An indepth analysis of social networks has been attempted in this work.

We have started from the basic premise of several network theorists that the nature of networking is determined by the specific requirements of the individuals. We then tried to relate the patterns of network structures to the centrality of an individual and the differing professional and organisational requirements at the various levels of the hierarchy. An assumption has been made that networks being the means of establishing linkages to gain certain ends, they would differ from one stratum to the other. It is observed that senior doctors have, in addition to their professional duties, certain administrative responsibilities which require managerial skills. Since in a professional organisation each member enjoys a high degree of discretion in his work, the emphasis would be an egalitarian

interactions rather than authoritative control. Consequently, senior doctors have a need to expand their networks and establish links with strategically placed individuals at various levels. Apart from this, senior members are more sought after by the juniors because of the professional and administrative powers vested in them. Middle level doctors are well established in their profession and career and are interested in the consolidation of their professional standing through more research work. They have a small circle of friends who provide the needed support. Finally, junior doctors are mobile and not fully established either in their career or in their profession. Consequently, they have greater need to cultivate associations that would promote their interests. Our data has amply demonstrated these major trends and established the relationship between centrality, professional interests and the networking patterns.

Having placed the doctors in the overall organisational context and the implications of the same for their networkings, our attention is focussed more intensely on the network structures per se and the salience of various parameters in that structure. The analysis is carried out at two levels: (a) individual network structure and (b) organisational level structure. At the individual level networks, the emphasis is on reciprocal relationships such as dyads, chain, star, clique, etc., and the dominant forms of unilateral linkages, viz. .

sociability and *popularity nodes. Isolates are also discussed as a category here. Reciprocal relationships are found to be more homogeneous and cohesive in nature. Emotive factors, extending personal networks, charisma of an individual and overlapping professional, departmental and functional linkages are identified as the underlying factors for the dyads, chain, star, and clique structures respectively. Marginality with regard to the sociability nodes and isolates, is found to be a significant factor. Popularity nodes are either members or related to a clique.*

when the analysis shifts to the organisational level structures, it would be possible for us to identify a core *made up of the reciprocal relationships and a periphery constituting the unilateral linkages, which act as liaison links between the various sub-units in the organisational structure. The core and the periphery differ not only in their structural significance but also in the factors that are articulated in such structuring. While the former displays the inbreeding bias, is homogeneous and more exclusive in nature, the latter is less homogeneous and breaks through the exclusiveness of the core. Common affinities, identities and interests are the motives behind the reciprocal interlinkages of the core, whereas cultivation of strategically placed nodes for the achievement of one's* serial, profes*sional and career aspirations are the factors behind inter-*

linkages at the periphery of the network structures.

Organisational level analysis is centred around the five distributive attributes of the networks, viz., *sex, age, professional productivity, departmentalisation and caste and their significance in determining the inter-personal linkages. It is found that the sex role stereo-types determine the career selection, perceptions and inter-actions between men and women in the organisational context. Women who play a supportive role in the society are found to dominate the support departments of the hospital. It is interesting to note that the man-woman interaction in the organisation is restricted, leading to a divide between the male dominated main departments and the female dominated support departments. In the informal structures, women are mostly found at the outer edges of the network map with very few and weak linkages. Though minority .status in terms of group size could be one of the reasons for their loose integration, yet, considering the overall social values it seems more appropriate to accept the differences as indica-tive of the gender differences and the accompanying social values.*

Age like sex is social to an extent. Belonging to a particular age group determines the peer reference, contact and interaction. It involves a package of common acquaintances, experiences and also certain attitudes and aspirations. A significant point which emerges from our analysis is that in interpersonal linkages, age cuts across the barriers imposed by the organisational hierarchy. Thus, inter stratum interactions are facilitated by same age group interactions.

It is observed that professional productivity does not show any remarkable influence on the networking patterns. This could partly be on account of the limited relevance of the indicators of professional productivity as chosen by us in this *particular organisational context. It is likely that though working in a medical specialities* institute, *the doctors are more medical practice oriented than medical research oriented. Consequently, reputation as a practising doctor may be having greater weightage than professional productivity as defined by us. Besides, professional product" ivity may be diminishing in its appeal as compared to centrality, sex, age and departmental affiliations which are overbearingly predominant.*

Departmentalisation is *a formal structural variable which is significant in determining the patterns of informal linkages in the organisation. Technology, organisation of work, personnel and resource inputs vary across the departments and are important factors in the networking both within and between the departments. Such of the departments which have increased specialisation among their own members and are individualistic in nature have more inter-group linkages than ingroup linkages as for example, the radiology, CPMR, and anaesthesiology departments. In the case of the departments with limited specialisation among members and which are based on team work, we observe that they are inward directed and show greater cohesiveness and dense network formation as in the department of cardiothorasic surgery. The presence or absence of a charismatic leader and functional linkages with other departments are the other factors which determine the network structures among departmental units. A charismatic leader who can rally support and mobilise resources for the department acts as a focal point of informal relationships. Functional linkages, on the other hand, integrate the various departments and strata of individuals and lay the base for the emergence of informal interlinkages. Finally, the technological base of the department, task structure and nature of intervention in the treatment process are found to be significant for the professional or bureaucratic orientation of the various departments.*

Caste, a *social structural variable, does not seem to be showing any significant relationship with the networking patterns probably because of the* overwhelming *predominance of brahmins and poor representation of the other castes in the organisation. Interestingly, it is more significant in the reciprocal relationships.*

4.2 RELEVANCE OF THE FINDINGS TO THE UNDERSTANDING OF EMPIRICAL REALITY:

From our analysis it is obvious that the formal structural variables, viz., centrality and departmentalisation are determining the interpersonal interlinkages, followed by individual attributes - sex and age. Professional productivity is not showing any strong correlation to the network structures, which leads us to infer that the work culture in the IOS is *more organisation oriented rather than profession oriented. Given the financial and resource constraints of the organisation, this may* be understandable. *But, if the interest of the management and the government is to foster a culture of 'professionalism' and* 'egalitarianism', *one way of doing* so would *be to* restructure *the organisation of work. It is likely ' that emphasis on inter-*

disciplinary teams headed *by competent individuals* irrespective *of their hierarchic positions would go a* long way in *achieving the above ideal, through redefinition of the parameters of social structure.*

It may be pointed out that such organisational innovations are *often made in various contexts - research and development units, universities etc. In the light of the present study which has revealed the impact of the structure of formal relationships on the informal social structures, it would be interesting to see how far such innovations influence the salience of the various parameters and the organisational work cultures.*

4.3 THEORETICAL IMPLICATIONS:

Theoretically, this study draws on barney's contingency model of informal structures and Blau's parameters of social structure. It is found that Barney's observation that departments miniaturise the formal structures needs to be critically evaluated in the light of the *present work. The study revealed that though the formal structure* is *miniaturised in the departments in terms of the hierarchic divisions and functional linkages,* informal structures vary from depart-

ment to department. Thus, while cardiology department is centred *around a sociometric star, the cardiothorasic depart-ment has a clique formation. The orthopaedic department does not have any definite structure and the support depart-ments usually link up with related departments exhibiting weak inter-linkages.*

In the thesis, *we have often drawn upon some of the insights provided by Blau (1977). In this conclusion we mention only* three *major issues identified by us.* Firstly, *we' address ourselves to the definition of informal organisa-tions. It is found that they exhibit the same tendencies and processes as the larger social organisations and are similar to the other emergent groups like street corner gangs, neighbourhoods etc. They differ only in the specific context in which they emerge. Hence, the distinction of informal organisations from the others may be seen as a* means *of methodological delimitation of the area of study rather than as denoting a qualitatively different category of phenomena. Secondly, Blau's distinction between nominal and graduated parameters and their intersection as the impor-tant components in the emergent* process *of social structures is not universally applicable. For instance, in cur analysis it is found that sex stereo types do not as nominal*

parameters when intersected with division of labour but in fact lead to stratification and inequalities. The division of the departments into main and support departments, where men and women are predominant respectively, reflects not merely two different categories but two types of services which are graded differentially, more so in the informal status - honour evaluations. Thus, a single variable can act both as a nominal as well as a graduated parameter. Blau's claim that stratification and heterogeneity in social organisations is a function of the inbreeding bias of the graduated and nominal parameters hence needs to be reconsidered. This brings us to the third problem area - that in the explanation of social structure as emergent out of the inbreeding bias expressed by different individuals with regard to certain parameters. Mersden (1981) and Fararo (1981) observe that in addition to similarily as expressed in inbreeding bias, there is complementing which is also significant in determining inter-linkages, as for instance-in marriage. We identity two other biases namely reference group bias and situation specific social-psychological bias which is residual in nature. In the former, groups of individuals consciously seek association with a certain category of individuals not because of their similarity or complementtarity but because they act as reference points for certain aspirations. In the analysis of centralise as a parameter

of interaction, we find use of reference group bias more fruitful than the others. The latter refers to situationally specific social psychological factors which explain the emergence of charismatic leadership, emotive and personal factors in the networking patterns. ,

4.4 GUIDELINES FOR FUTURE RESEARCH:

Thus we observe that broadly, we can identify three areas of research interest for future endeavours. Firstly, more case studies of the above nature need to be carried out to build up empirical data base for the development of theoretical models. Special attention needs to be paid to the role of networkings in the inter-organisational linkages, changes in the organisational management, goals, technology, etc., since they throw light on the broader policy changes and power structures.

Secondly, larger number of middle level theories need to be developed to understand the process of informal structuring. Similarly, several middle level theories such as relative deprivation, marginality, reference group theory, role theory, etc., can be effectively utilised in the analysis of informal networks and this area needs to be explored thoroughly.

Finally, network analysis as a methodology is not being utilised fully in the Indian studies. Apart from being an interesting area of specialisation, it has great relevance in systems theory, communication studies and several other applied areas of social theory. For the same reason, *more studies in this methodology need special attention and emphasis.*

Thus, the present work is exploratory both in its methodology and theoretical framework. The empirical reality studied, i.e., informal networks in a professional organisation, is also a relatively unexplored area in the Indian context. The entire exercise has been highly rewarding as it provided an opportunity to tread on a new terrain.

ANNEXURE - I

QUESTIONNAIRE ADMINISTERED TO THE DOCTORS IN THE IOS

A SOCIOLOGICAL STUDY OF PROFESSIONALS IN ORGANISATIONS

NAME

DEPARTMENT

IDENTIFICATION NO.

1. DESIGNATION

2. SEX

6. MALE ( )

7. FEMALE ( )

3. AGE

8.. 26-35 ( )

9. 36-45 ( )

10. 46-55 ( )

11. 56+ ( )

4. RELIGION

12. HINDU ( )

13. MUSLIM ( )

14. CHRISTIAN( )

15. OTHERS ( )

5. CASTE

16. UPPER CASTES ( )

17. MIDDLE CASTES (>

18. SCHEDULED AND BACKWARD CASTES ( )

19. NOT APPLICABLE ( )

20. NO RESPONSE ( )

6. MARITAL STATUS

21. MARRIED (>

22. UNMARRIED ( )

23. DIVORCED/ SEPARATED ( )

24. WIDOWED

If 'not married' please proceed to Question *No.10,*

7. IF 'MARRIED' SPOUSE

25. *YES*

26. NO

27. NOT APPLICABLE

28. NO RESPONSE

8. IF 'YES' WORKING AS

29. *PROFESSIONAL (*

30. CIVIL SERVANT (

31. EXECUTIVE IN A PRIVATE ORGANISATION (

32. CLERK (

33. ANY OTHERS (

34. NOT APPLICABLE (

35. NO RESPONSE (

9. PARTICULARS OF CHILDREN

36. NOT APPLICABLE

(Please give the number of children in each category)

No.Of chil-dren.	*SEX*		*AGE*				*EDUCATION*			
	M	*F*	*-10*	*11-20*	*21-30*	*30+*	*School going*	*Inter-mediate/ Degree*	*Profes-sional*	*Post-Gradu-ation*
37	*38*	*39*	*40*	*41*	*42*	*43*	*44*	*45*	*46*	*47*	*48*

10. EDUCATIONAL QUALIFICATIONS OF PARENTS

Parent	*Non-Matric*	Matric	Inter-mediate	Graduate	Post-*Graduate*	Professional
Mother	*49*	*50*	*51*			*54*
Father	*55*	*56*	*57*	*58*		

PARUNT	NONE	TECHNICAL	ADMINI-STRATIVE	PROFES-SIONAL	AGRI-CULTURE	BUSI-NESS	ANY OTHERS
Mother	61	62	63	64	65	66	67
Father	68	69	70	71	72	73	74

12. ARE THERE ANY FAMILY MEMBERS OR CLOSE RELATIVES IN THE MEDICAL PROFESSION? PLEASE GIVE DETAILS

A.	Grand parents	6	7
B.	Parents	8	9
C.	Uncles/Aunts	10	11
D.	Siblings	12	13
E.	Cousins	14	15
F.	None	16	17

13. PROFESSIONAL BACKGROUND

DEGREE/DIPLOMA (MBBS onwards)	YEAR	INSTITUTION (Name & Place)	DISTINCTION (if any)
A.			
B.			
C.			
D.			

14. WHAT IS YOUR SPECIALISATION ?

15. PREVIOUS EXPERIENCE IN ORGANISATION

INSTITUTION	*DESIGNATION*	*FROM*	*TO*	*REASONS FOR LEAVING*
A.				
B.				
C.				
D.				

16. *PRIVATE PRACTICE*

18. Continue- to do private practice ( )

19. Had been doing private practice till recently ( )

20. Had given up private practice long back ( )

21. Never did private practice ( )

17. *TURN OUT OF PATIENTS IN PRIVATE PRACTICE*

22. More than 51 patients per day ( )

23. 25 to 50 patients per day ( )

24. 15 to 24 patients per day ( )

25. less than 15 patients per day ( )

26. Not applicable ( )

18. How do you rate your private PRACTICE?

27.	*EXCELLENT*	*( )*
28.	*GOOD*	*( )*
29.	*FAIR*	*( )*
30.	*BAD*	*( )*
31.	*NOT APPLICABLE*	*( )*

19. REASONS FOR TAKING UP THE PRESENT JOB

31. Please grade your responses (1,2,3 etc., in order of importance in the brackets)

32.	*Security and permanence of employment*	*( )*
33.	*Financial gain .*	*( )*
34.	*More prestigious*	*( )*
35.	*Better equipment and facilities*	*( )*
36.	*Opportunity to improve professional skills*	*( )*
37.	*More scope for professional and social contacts*	*( )*
38.	*Any others (Please specify)*	

20. WHOM DID YOU CONSULT BEFORE JOINING THE PRESENT JOB?

21. WHO/WHAT WERE THE SOURCES OF INFORMATION REGARDING THE PRESENT JOB.

22. BETWEEN PRIVATE PRACTICE AND GOVERNMENT SERVICE WHICH DO YOU FIND MORE REWARDING AND WHY?

23. WHERE DO YOU STAY?
(Please specify the location)

(a) Hospital quarters ( ) ----------

(b) Rental accommodation ( ) ----------

(c) Own house ( ) ----------

(d) Joint family house or ancestral house ( ) ----------
---

24. ARE YOU A MEMBER OF ANY OF THE FOLLOWING ORGANISATIONS?
(Please specify past or present membership)

a) Professional Organisations

	Office Bearer	Active Member	Just Member
A.			
B.			
C.			

b) Social Service Organisations

A.

B.

C.

c) Clubs/Cultural Associations

A.

B.

C.

d) Trade Unions/Political Parties
(Need not specify the name)

25. *ARE YOU A MEMBER OF ANY ORGANISATIONAL COMMITTEES ?*

39) Yes ( ) 40) No ( )

20. IF 'YES' PLEASE SPECIFY:

a) _____

b) _____

c) _____

27 . JOURNALS SUUSCRIBED: *41) No* _____

Names: *a)*

b)

c)

d)

28. RESEARCH ARTICLES PUBLISHED IN THE LAST FIVE YEARS:

*No.*_____

29. *NUMBER OF PROFESSIONAL CONFERENCES ATTENDED DURING THE LAST FIVE YEARS.*

*No.*_____

30. DID YOU PARTICIPATE IN ANY RESEARCH PROJECTS IN THE PAST FIVE YEARS.

A) YES (}

B) NO ( )

31. IF 'YES' YOUR PARTICIPATION WAS:
(if you participated in more than one project please give the number in the bracket)

A) as a leader ( )

B) as a team member ( )

C) as a *consultant ( )*

32. WITHIN THE ORGANISATION WITH WHOM DO YOU DISCUSS YOUR (Please give their *names)*

A) Professional difficulties:

B) Organisational *problems:*

C) Personal and family matters:

33. WHOM DO YOU CONSIDER AS YOUR CLOSE FRIENDS IN THIS ORGANISATION (Please give their names)

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