CHAPTER I

THE PROBLEM

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CHAPTER I

THE PROBLEM

1.1 Introduction

The cultural plurality and social multiplicity that India possesses undoubtedly reflect her enormous human capital that has built up the nation. The democratic philosophy of the nation further accelerates that unity as a binding force of national built-in process. The constitutional provisions for the optimum unfolding of the potentialities of the members of all the communities and the special constitutional directives for the minority communities in terms of special concessions and considerations so long as they are deprived; educationally, socially, economically, culturally and politically, aim at total welfare of the Indian society. With a view to bring the disadvantaged section of the society on par with the privileged ones, numerous attempts have been made by the Government of India, political thinkers, social reformers, and religious preachers. Governments, State as well as Central, too have appointed numerous committees and commissions to review their lot and suggest ways and means to bring about social change and cultural awakening in them.
Keeping in view the normal distribution of traits, it is unlikely to say that deprived communities lag behind in certain essential traits which are needed for the national development. In fact, in all the communities, traits are normally distributed, and therefore, the nation as such has to take care of all the potentialities available in different fields, and in different communities. This is because the nation grows fully and attains its optimum prosperity only by pooling up all the resources available in different froms and in different societies. Ignoring them means loosing them, not using them for the national cause. It, therefore, appears that in a democratic state every individual's potentiality must be nurtured fully so that it may attain an optimum growth of potentiality which could be exploited fully for the national development. The human resources, thus, constitute an important aspect of national development and planning.

Since every section of the Indian society contributes its share in the total national built in process, the disadvantaged communities can not be ignored. Rather, they should be given more importance with a view to bring them on par with other advanced ones.

The scheduled castes and scheduled tribes living in different parts of the country constitute about 20% of the human capital and as such these minorities can not
be ignored on the grounds that their retardation may reflect upon the retardation of the country as a whole. Consequently, educational, social, cultural, economic and political planning for the national development have to take into consideration the mighty role of the minorities; and every welfare democratic state will have to look into their interest and give them priority in consideration.

Acknowledging the significant contribution of the schedule castes and schedule tribes in the national development, Governments, both Central and State, have appointed special commissions which made numerous recommendations from time to time.

The Reports of the Radha Krishnan Commission (1948), Mudaliar Commission (1953), and Kothari Commission (1964) have also highlighted the significance of educational advancement and academic achievement of the minorities in national progress. The creation of Tribal Block Development and reorganisation of primary and secondary education through tribal welfare departments under Block Development Scheme as well as giving numerous privileges and concessions in admission, promotion and selection and providing them special opportunities by various means for their fullest developments are some of the welfare schemes extended by the Governments in accordance with the constitutional directives to the schedule tribes and schedule castes in India.
Though huge capital has been invested over the developmental schemes of the scheduled tribes and scheduled castes, relatively only small gains have been accounted for.

"Tribals" as a casteless minority society of India could get due recognition after independence. Their educational and cultural rights to "Established and Administered" (G.S. Sharma, 1973, p. 15) has been adequately high-lighted and contemplated as the necessary rights of the minorities. In view of the fact that tribals are deprived and disadvantaged communities, constitutional provisions for their upliftment have been extended to that extent. Obviously, the researchers regardless of their disciplines have focussed their attention to these revealing tribal communities which are rather loosing their identities, getting infused some of their identities and adapting new identities by a way of exchange of inter-cultural interactions. Obviously, the studies on tribals in the post-independent period with the extension of constitutional provisions through governmental concessions in admission, promotion and selection had become a fascinating topic for research. Consequently, not only the social anthropologists and sociologists, but also the educationists, the economists, the political scientists, the psychologists, the linguists, the ethologists, the agriculturists and such other researchers who are in some
way or other interested or associated with tribal life plunged into the tribal studies. However, they suffered from numerous limitations as pointed out by S.C. Dubey (1972, p. 3) who remarked that "Many of these tribal studies, however, are old and do not reflect the contemporary situations. The well-rounded monographs do not bring into sharp relief the special problems of particular tribes. Some of them unfortunately tend to treat the tribals as isolates and do not view their problems in the perspective of larger communities of which they form a part. In the last two decades, there has been a noticeable shakening of interest in tribal studies. Because of this neglect several emergent problems have not been high-lighted and new insights to guide policy are not available". Further, as pointed out by Sharma (1980) "From the points of view of either psychological investigations or interdisciplinary explorations, the entire Bastar as a tribal belt classified under scheduled tribes inhabited by Muria and (Abuj)-Muria tribes primarily is in fact a laboratory for experimentation. Despite the top priority being given to these disadvantaged scheduled tribes by central as well as state Governments in accordance with the constitutional Directives, no vertical exploration through psychological or inter-disciplinary researches has been undertaken so far, and they have remained to this date relatively unexplored and neglected despite the fact that the psychological variables are of crucial importance not only to their social
and economic life but also to the country. There is thus, a tremendous need for vertical exploration and depth studies in the psychodynamics of developmental processes which ultimately design a person". Perhaps, in this perspective, the psychological problems of these disadvantaged groups with special reference to their social and cultural deprivation on personality of these scheduled tribes offer a challenge to the researchers. An illustrative list of Research priorities of both UGC and ICSSR, have vividly recorded the proposed study rather at a relatively top level in psychology.

On the strength of a survey of literature, the ICSSR has prepared "priorities in research on 'Scheduled Tribes' which has been outlined below":

1. Tribal self image and identity.
2. Patterns of inter-tribal relations.
3. Patterns of tribal and non-tribal interaction.
4. Revivalistic, revitalistic and other sociopolitical movements among the tribes.
5. Interaction of traditional and emerging political structures.
7. Tribal religious beliefs and practices, and their interactions with major religions.
8. Tribal economics and their transformations.
9. Land system and land legislation.
10. Tribal craft and technology.
11. Health sanitation and therapeutic practices among the tribes.
12. Tribal demography and vital statistics including bio-social adaptation.
13. Tribal aesthetics, art, music, dance, and folklore.
14. Tribal education.
15. Tribal Agriculture including shifting, terrace, dry and wet cultivation.
16. Ethos and world-view of the tribals.
17. Industrialization and urbanization.
18. Tribal customary law.
19. Family organization and kinship.
20. Studies of tribal languages.

The ICSSR (1972) has visualized that there are several gaps in the ethnographic map of India. It is indeed deplorable that we have very scanty information about some of the sensitive areas of the country. It is necessary to undertake systematic studies in these areas. Anthropological research should be taken up immediately in Ladakh, Lahaul and Spiti, Kinnaur and the Laccadive and Minicoy Islands. It is necessary also to identify for each state, the anthropologically and politically neglected smaller tribal groups who are perhaps the worst
victims of exploitation with a view to study their culture and their problems of adjustment" (ICSSR, 1972).

With a view to bring about effective change in the material, cultural and social life of the tribals, problem-oriented studies have been suggested (ICSSR, 1972). In view of the fact that most of the tribal communities rather face more or less the same type of problems arising out of material hardships; however, socio-culturally, they are different despite, their being casteless on social structure. Since each tribe inherits significant social, cultural and religious values, their problems to that extent appear to be different. Despite their socio-cultural variations and territorial differences, they are in a transitional state of socio-cultural change. The impact of fast industrialization and urbanization that bring modernity to them through bridging the communicative gap is bringing about significant change in their social, material and cultural life. As such, the ICSSR (1972) has visualized the following common problems of the tribals.

1. Social mobility, movements among the tribals.
2. Proto-national, sub-national and other types of ethnic movement among the tribals: emergence of new political idioms and political cultures.
3. Tribal participation in democratic processes.
4. Tribal political system: their link with emerging political institutions.
5. Changing patterns of tribal and non-tribal relations.
6. Comparative study of the patterns of relationship between traditional and modern elites in tribal societies.
7. Land problem in tribal areas.
8. Impact of market economy on traditional tribal economy.
9. Tribes and the new economic opportunities: occupational mobility among the tribals in a historical and contemporary perspective.
11. Study of the scheduled tribe people in urban industrial areas with particular reference to their problems of identity.
12. Role of voluntary organization working among the tribals.

The ICSSR (1972) has listed some of the social problems of the tribals which may help in designing the national policy. Of course, these studies constitute the core of their developmental processes; however, the psychological problems pertaining to learning abilities, motivational strength, emotional status, perceptual values are in fact, some of the very significant problems of the tribals which have been unnoticed by the ICSSR. The psychological processes rather regulate the social, cultural, political religious and economic behaviour. Rather studies on psychological frontiers constitute the
base for the content studies pertaining to other disciplines. Thus there exists a significant need for thorough vertical and depth studies in the psychological dimensions of behaviour of the tribals; and how and to what extent they differ from their counterpart non-tribals.

Perhaps, because of this reason alone, the ICSSR (1972) has proposed to evolve social scientists other than anthropologists and sociologists in research of the scheduled tribes. This leads to interdisciplinary approach in tribal studies. Some of the topics which could be effectively undertaken by interdisciplinary approach has been suggested by ICSSR (1972) as under:

1. Customary law of inheritance of the tribals and the problems of its codification, keeping in view the trends of change under the impact of the forces of modernization.

2. Functioning of the autonomous district councils and Tribals Advisory Councils, under the sixth and fifth Schedules respectively of the Constitution.

3. Comparative study of diverse organizational arrangement and procedures in the matter of policy decisions; plan formulation and coordination; and implementation of programmes relating to scheduled tribes.

4. Study of the viability of land settlement schemes for the tribals with reference to the infrastructure for growth availability of agricultural finance, structure of leadership and socio-economic setting of the areas.

5. Politic-economic and socio-culture processes among tribals displaced as a result of implementation of large scale industrialization projects in their areas.
6. Study of tribal in industrial contexts with a particular reference to the role of ethnic factors in workgroup formation, operational specialization, trade union membership and other formal and informal interaction situations.

Since the frontiers of knowledge are expanding day by day and behavioural interactions are rather multidimensional ones, there exists greater need for interdisciplinary or multidisciplinary approach to study the tribal problems because behaviour on a wider perspective is a unitary process of growth, development and change.

Numerous sociologists and social anthropologists have made extensive studies of the sociocultural settings of the tribes. Margret Mead (1934), Rohner (1975a, 1975b, 1978, 1979, 1980), Potvin, Ramona, H. (1977), Parke R.D. and C.W. Collman (1975) being notable among them. They have studied the various aspects of social forces and cultural components through their surface level studies. Though their findings may be revealing; however, they do not say much about the blocks and barriers of their retardation. It is, rather, convincing to say that despite numerous attempts made by various organisations for a period of over thirty years and thereby investing huge national capital through concessions, scholarships and special provisions, their lot could not be improved correspondingly. This alone is a sufficient cause that the surface level study could not penetrate into the blocks and barriers that the
tribals might be having which pull them backward and resist change. Such inhibitory factors may be cultural barriers; social forces, and psychological built-in processes. Rather, such norms and values found as blocks and barriers among the tribals are largely cultural lags and such cultural blocks are deep seated values in the personality patterns of the deprived peoples which all the while have negative pulls in them. These values could be scientifically studied by the psychologist through depth studies.

Relatively psychologists have made few investigations on the psycho-social and various other aspects of tribal society. Consequently depth study of this deprived group remained unexplored to the extent it ought to be. A few studies on disadvantaged and deprived section of the community have been made by the psychologists and even there the tribal community have hardly been taken as representative sample (Durganand Sinha).

From the direction of studies that have been undertaken it is apparent that:

1. Sociologists and anthropologists have given much importance to the socio-cultural aspect of tribal through their surface level study and have not yet entered into the psychological dimensions.

2. That the psychologists have relatively long been showing their indifferent attitude towards their
tribal studies. However it is apparent from the tribal literature that they too are now interested in tribal studies.

3. Surface studies on tribals are rather numerous but depth studies are very few. From the points of view of diagnosing the nature, kind and degree of the blocks and barriers that the tribals inherit could be best known by depth studies and such depth study could be effectively undertaken by the psychologist.

4. The tribal literature reveals further that every tribe is a different tribe in terms of its cultural values, social control, and religious sanctity, and therefore any work on any psychological construct could be different in its findings, its important to national cause is rather relative.

Though Madhya Pradesh is very rich in tribal culture no research on psychological dimension of behaviours has been undertaken by any one. The tribes of Bastar (Moria, Maria), Raigarh (Oraon), Sarguja (Gonda, Baiga) and Bilaspur (Gond, Kawar) are important tribal communities whose psycho-social behaviours have hardly been studied so far. In view of the contributions of the tribal people in the nation building, and the degree of long deprivation and its consequences not only on individual growth and development but also its impact upon social life and cultural value, it is rather urgent to study thoroughly various psycho-social aspects of the tribals.

In the light of the importance attached to the tribal study from the points of view of national development,
it is crucial study certain psychological aspects of tribals.

The investigator, therefore, decided to study the aptitudes and interest patterns of the tribal peoples. This study is not only new, novel and unexplored but is very significant from the points of view of the development of tribes under reference as well as of national significance.

It was further, thought to make a comparative study of the tribals and non-tribals of the same territory on interest patterns and aptitudes and to study the magnitude and directions of their difference in aptitudes and interests. By designing such a comparative study of two communities brought up in different culture and social set up, other physical environment being the same one may derive some significant conclusions which may stand out as the potential causes of existing retardation among the tribals but not among their counterpart non-tribals. The problem has been specifically stated as under.

'A cross-sectional study of the differential aptitudes and interests of the tribal and non-tribal students'.

1.2 Scope and Significance of the Problem:

In view of the fact that scheduled tribes constitute a significant proportion of population who
remained deprived and backward for decades; however, whose contribution in the national development has been duly recognized by the central as well as the state Governments, it is very material to study them thoroughly for the cause of the nation as such. In fact, tribal research could be considered as national research projects. The significance of the tribal studies and their scope have outlined below:

(1) The tribal community is a special concern to the Govt. of India. The utilization of vast human capital which the tribal community possesses is the most challenging problem today. This study has focussed its attention on the tribal community. Thus it has a direct bearing on the national progress and prosperity.

(ii) The study is useful to policy makers and planners of tribal welfare schemes. The study of aptitudes and interest patterns of tribals would help the planner to select a plan which is suitable to the tribals most.

(iii) The present study is significant for guidance worker and counsellor. The study of aptitudes would enable them to suggest right job for right person. The study would thus help planning, programming and executing the vocational fitness and placement; and ultimately the vocational guidance in addition to the personal and educational ones. The study would help in typing a
tribal student educationally and vocationally for successful competitive career.

(iv) The study is significant to the executives. The execution of the plans have hardly succeeded and a huge amount of input have been wasted because the interests which constitute the base for personal, educational and vocational adjustments in life and at work have not yet been worked out and systematically and effectively introduced in the process of growth and development of human capital.

(v) This study would equip the educationists and practical teachers with a psychological criteria to design the structure and pattern of education more meaningfully. Curriculum could be more meaningfully designed on the psychological foundations of soil and culture bound need and local resources which may bring improvement in methods of teaching-learning processes, course-content, and ultimately to educational standard.

(vi) The study would be helpful to parents and pupils also. The identification and knowledge of aptitudes and interests may suggest them for improving the standard of their education and vocational aspiration. They may realize their deficiency and try for their betterment.

(vii) The study would be helpful in social integration between tribals and non-tribals. The study may prove that
in certain aptitudes, tribals are superior to non-tribals. This may inculcate and promote confidence in tribals on one hand and encourage the non-tribals to come in closer contact with the tribals.

(viii) It is logical to deduce that a student with higher aptitude and greater interest in certain fields of knowledge and skill would excel in a related academic performance or some tasks to his class-mate who is relatively lower in the same aptitude and interest. It is, therefore, significant that the present study has a direct bearing upon the educational accomplishment of the tribal and non-tribal pupils. Once their nature, kind and degree of aptitudes and interests are identified, then their personal, educational and vocational planning and guidance would follow in accordance with their needs and demands.

(ix) The knowledge of differential aptitudes and interests of the tribals would help the educational and vocational planners and policy makers, and guidance workers to develop and design suitable, and appropriate educational and vocational system in which they could be properly fitted in without any waste of human resources. The study would check to a large extent the educational wastage, withdrawal, and stagnation which is a significant national problem in elementary schooling. It would thus direct and mobilize the human potentialities among
the tribals and non-tribals for some meaningful national cause.

(x) The findings of this investigation would bring attitudinal change among the tribals and non-tribals which may facilitate the execution and implementation of educational and occupational national projects. The results would make the policy makers and planner conscious about the meaningful exploitation and utilization of tribal energy, and judicious diversion of national fund.

1.3 Purpose of the Study:

In view of the limitations in the relevant literature as pointed earlier in this Chapter as well as in Chapter II, and the significance and scope of the problem as stated above, it is essential to identify the specific aptitudes and some interests of the tribal and non-tribal pupils. It has a predictive value and functional utility in guidance and counselling of the tribals and non-tribals and has a direct bearing upon their educational diagnosis and vocational prognosis. This study may certainly add to the available literature on tribals.

Research studies have shown that many students with intelligence considered sufficient for the academic success have failed or have achieved at a level below their
abilities (Centi, 1962). This indicates that factors other than intellectual ones, operate in ones academic achievements and aptitudes personality and achievement motivation may be some of them (Tyler, 1956). Inspite of the acceptance of differences in aptitudes and interest patterns that influence the scholastic attainments, not much research has been conducted in this area. The need for more systematic studies in this field has become more imperative because of the wastage of human resources and stagnation of their potentialities which are rather increasing day by day in tribal as well as in non-tribal communities.

The present study is centred around the tribals which is one of the disadvantaged section of society. Despite numerous attempts made by various organizations for a period of a quarter of a century, their lot could hardly be improved upon. Keeping in view the normal distribution of human potentialities it is thought necessary to study the aptitudes and interests of the tribal and non-tribal pupils; and to study to what extent they are alike in these psychological constructs, and to what extent they are different.

The main objective of the study is to compare the level of aptitudes and interests of tribal and non-tribal pupils. It is assumed that if a student has
suitable aptitudes for a specific stream of studies or is highly interested in certain accomplishment, he should decidedly be better in his level of performance than those not having these attributes. Thus, the study of aptitudes and interest have a direct bearing upon their educational accomplishment. It is also assumed that undesirable aptitudes, personality traits and lower level of interests are likely to have poor level of academic achievement.

But if the level of intelligence of both tribal and non-tribal is not significantly different, in other words if both the tribal and non-tribal pupils belong to the same range of intelligence, then underlying factors like aptitudes, interest patterns and visual motor coordination increases or decreases scholastic achievement. Thus, aptitudes and interest patterns have their relevance in scholastic achievement, and largely determine the personal, educational and vocational adjustment, aspiration and placement.

In the light of such significance of aptitudes and interests in moulding the behaviour and designing the educational achievement and vocational placement the present study aims at comparing the aptitudes and interests of the tribal and non-tribal pupils.

The objectives of the study could be more explicitly presented as under:
(1) To identify certain specific aptitudes (e.g. Scientific, Mechanical Reasoning, Verbal Reasoning, Numerical Ability, Language usages, and Clerical : Speed and Accuracy) in tribal and non-tribal pupils.

(ii) To compare the interests of the tribal and non-tribal pupils.

(iii) To compare the level of visual motor coordination of the tribal and non-tribal pupils.

1.4 **Statement of the Problem** :

The problem could be pin-pointedly stated as under:

'A Cross-Sectional Study of Differential Aptitudes and Interests of the Tribal and Non-Tribal Students'.

1.5 **Formulation of Hypotheses** :

With a view to probe into the problems of this study scientifically, the following hypotheses have been formulated.
(a) **Study of Aptitudes:**

H₁  "The non-tribal students would score significantly higher than those of tribals on the test of Scientific Aptitude."

H₂  "The tribal students would significantly excell the non-tribals on the test of Space Relation Aptitude."

H₃  "The means of the non-tribal pupils would be significantly higher than those of the tribals on the test of Numerical Aptitude."

H₄ I  "The non-tribal students would show significant higher reasoning ability on the test of Verbal Reasoning than the tribals."

II  "The tribal students would significantly excell the non-tribals on the test of Mechanical Reasoning."

III  "On the test of Abstract Reasoning, the non-tribal students would score significantly higher than the tribals."

H₅  "Non-tribal students would score significantly higher than the tribals on the test of Language Aptitude."

H₆  "On the test of Clerical Aptitudes, the tribal students would excell significantly the non-tribals."

H₇  "The tribal students would be significantly superior to the non-tribals on the test of Visual Motor Coordination."

(b) **Study of Interests:**

Since interests inculcated by individuals are largely governed by the environments in which they are brought up, nourished and educated, it is in the fitness of things to assume that interests of different groups would be soil culture bound in characteristics. Hence we assume as under:
Preference for Occupation:

H₈ "The pattern of occupational interests of the tribal and non-tribal pupils would be soil-culture bound". It could be elaborated that 'the tribal students would opt for rural centred occupations whereas the non-tribals would have greater preference for urban oriented occupations'.

Preference for School Subjects:

H₉ "There exists no significant difference between the tribal and non-tribal students on their preferences for offering school subjects".

Preference for Amusement:

H₁₀ "The tribal students would show significantly greater interest in rural-oriented amusement items whereas preferences for amusement items of the non-tribals would be urban-centred".

Preference for Activities:

H₁₁ "The non-tribal students would prefer for higher social status-prone activities whereas activities opted for by tribals would have relatively lower social status".

Preference for Peculiarities of People:

H₁₂ "The tribal and non-tribal students would have preferences for peculiarities associated respectively with rural folk and urban people".

Preference for Criteria of Job Selection, Identification of Public Figures and Affiliation to Institutions:

H₁₃ "There exists no significant difference between the tribal and non-tribal students on the matters
of (i) job-selection, (ii) identification of public figures, and (iii) affiliation to institutions.

Preference for Personal Liking:

H₁₄ "The nature and kind of personal liking of the tribal students would be significantly different from those of the non-tribals".

Evaluation of Present Abilities and Characteristics:

H₁₅ "There would be no significant difference between the tribals and non-tribals on the subjective evaluation of their present abilities and characteristics".

1.6 Delimitation of the Problem:

The problem has been delimited by the following considerations:

1. It is a comparative and contrastive study, diagnostic in nature. No attempt has been made to design it as an experimental study.

2. It is a cross-sectional study at grade X only, and no attempt has been made to extend it beyond that.

3. Seven aptitudes (e.g. Scientific, Reasoning: (mechanical, verbal and abstract), Numerical, Language, Clerical, Space Relations and Visual Motor Coordination) and eight patterns of interests as specified in the Vocational Interest Inventory.
have been selected for collecting the data. No other variable has been included in the study.

4. The sample has been drawn from both the tribal and non-tribal pupil population of higher secondary schools of Bilaspur Division.

5. The non-tribal pupils have been drawn from the higher secondary schools of non-tribal areas including both rural and urban complexes whereas the tribal pupils have been selected from the tribal schools run by Tribal Welfare Departments.

1.7 Conceptual Framework and their Operational Definitions:

Most of the concepts of psychological constructs have over remained to be controversial issue, and therefore they have been best defined operationally on the strength of the scores obtained by Ss on a specific test. The description of the tests used for the study, as rationale for their selection as instruments in the collection of data, have been presented in relevant Chapters. The operational definitions of the concepts of aptitudes and interests used in this study are as under:

1.71 Aptitudes:

Scientific aptitude, numerical ability, mechanical reasoning, abstract reasoning, verbal reasoning,
space relations, language usage, clerical accuracy have been included in this study. They have been measured by some standardized or Indian adapted aptitude tests measuring specific potentialities in the type of aptitudes mentioned above. They are valid measures of predicting the success in specific fields of study. The description of these tests of aptitude and the rationale of their selection for measuring the specific aptitudes have been given in Chapter III; however, their operational definitions are presented below.

(i) **Scientific Aptitude**:

Scientific Aptitude has been operationally defined in the present study as 'the total score obtained by a subject on the test of scientific aptitude prepared by Sinha and Sinha measuring six dimensions' as described in Chapter III under the caption "Instrument".

(ii) **Reasoning Aptitudes**:

(a) **Mechanical Reasoning**:

It has been operationally defined as 'the total score obtained by a subject on the test of Mechanical Reasoning aptitude adapted under Indian conditions by J.M. Ojha in Hindi from Differential Aptitude Test (D.A.T.) as described
Abstract Reasoning:
It has been operationally defined as 'the total score obtained by the subject on the test of Abstract Reasoning Aptitude adapted under Indian conditions by J.M. Ojha in Hindi from D.A.T.' as described in Chapter III under the caption "Instrument".

Verbal Reasoning:
It has been operationally defined as 'the total score obtained by a subject on the test of Verbal Reasoning Aptitude adapted under Indian conditions by J.M. Ojha in Hindi from D.A.T.' The test has been described in Chapter III under the heading "Instrument".

Space Relation Aptitude:
Space relation aptitude has been operationally defined as 'the total score obtained by a subject on the test of Space Relation Aptitude under the Indian conditions by J.M. Ojha in Hindi from D.A.T.' The description of the test has been given in Chapter III under the heading "Instrument".
(iv) **Numerical Ability**

Numerical ability has been operationally defined as 'the total score obtained by the subject on the test of Numerical Ability adapted under the Indian conditions by J.M. Ojha from D.A.T.' The description of the test has been presented in Chapter III under the heading 'Instruments'.

(v) **Language Aptitude**

Language aptitudes has been operationally defined as 'the total score of the subject on the test of Language Usages adapted under the Indian conditions by J.M. Ojha in Hindi from D.A.T.' The description of the test has been given in Chapter III under the heading 'Instruments'.

(vi) **Clerical Aptitude**

Clerical aptitude has been operationally defined as 'the total score obtained by the subject on the Test of Clerical Speed and Accuracy adapted under the Indian conditions from D.A.T. in Hindi by J.M. Ojha'. The description of the test has been presented in Chapter III under the heading 'Instruments'.
Visual Motor Coordination Aptitude:

The aptitude of visual motor coordination has been operationally defined as 'the total score obtained by the subject on the test of task performance that deals with the hitting of target fixed at a specified point by adjusting a set of five distance variables ranging from one meter to five meters. The task performance consisted of ten successive trials presented sequentially for the five sets of distance variable'. The description of the test has been given in Chapter III under the caption 'Instruments'.

Interests:

Interests have been operationally defined as 'the total score obtained by the subject on the test of Interest Inventory standardized by R.K. Ojha in Hindi which is based on the concept and rationale of Strong's Vocational Interest Inventory. It deals with eight dimensions of interest pattern. The description of the test has been given in Chapter III under the caption 'Instruments'.

The next chapter deals with the review of relevant literature where these operational definitions
have been operationally employed either in differential or empirical studies.