CHAPTER: II

REVIEW OF RELATED STUDIES
The present chapter contains a brief review of the researches related to the problem under investigation. Only such studies are reviewed in some detail which have considerable bearing on this investigation. The studies are grouped into appropriate categories to make the review clear and concise.

I. STUDIES FOCUSING ON COGNITIVE DEVELOPMENT: CONSERVATION

Since the study aimed at an assessment of cognitive development of the primary school children in classes II, III and IV, approximately ages 7 to 10 years, conservation was chosen as a cognitive variable. In terms of Piagetian model it happened to be the concrete operational stage (7/8 to 11/12 years).

A good number of Piaget's own studies had been concerned in one way or the other with the concrete operational stage. A representative sample of Piaget's works included - "The child's Conception of Number" (Piaget, 1952), "The child's

AGE/STAGE, SEX AND CONSERVATION:

Researches have consistently shown that the sequence of stages is invariant but the age of onset may vary with circumstantial factors like class, culture, level of schooling etc. In this context, studies conducted by Carpenter (1955—first attempt in Britain on Piaget's work at the experimental level), Hyde (1959), Lunzer (1956, 1960), Level and Bjelland (1960), Wohewill (1960a, 1960b), Elkind (1966a, 1961b), Kooistra (1965), McNall (1971), and
Brains.nered and Brainered (1972) are noteworthy. Researchers have shown that children acquired different types of conservation—number, liquid, quantity, mass, weight, volume etc. in three stages—no conservation, transition and conservation of development in an invariant sequence.

Piaget (1948) had suggested the attainment of conservation of area by the age of seven or eight years. This result was not confirmed by later researches reported by Good et al. (1973). They used the well-known 'Pasture and Barns' technique to study the conservation of area with 249 children in grades 1-5. Among the fifth grades (11 years), not more than 58% of the children conserved area. Good (1973) studied 250 children and found that the conservation of weight had been achieved by only 39% of the children in fifth grade (10 to 11 years of age). The predicted pattern that children always conserve number before they conserve quantity has been observed by several investigators (Brains.nered and Brainered 1972; Gruen and Vore 1972).
Goldschmid (1973) reported age trends in the development of conservation. Omari (1975) reported that at all grade levels, the developmental sequence is: conservation of distance, conservation of area and finally mastery of the horizontality in the co-ordinate reference system. A stagewise progression was observed but each stage was achieved at a relatively later age as compared to Piaget's norms.

In India, Rao and Reddy (1974) and Pachury (1974, 1976) conducted studies to test the development of conservation at different ages. They observed that children were able to conserve mass and weight around the age of seven years, but the conservation of volume appeared at a much later age.

Ashton (1975) and Dasen (1977) reported that there were no age differences in conservation across culture. Oakes (1985) administered several Piagetian tasks individually and reported significant stage related development in conservation.
Heron and Dowel (1973) explored sex differences and found no significant sex differences in the conservation of weight. Haney and Hooper (1973) attempted to evaluate the effects of SES and sex on Piagetian concrete operation tasks. Results indicated the absence of significant SES and sex effect on Piagetian tasks. Renner et al. (1976) found that males scored significantly higher than the females on Piagetian tasks. This finding was supported by Pesch (1984).

White and Friedman (1977) tested thirty males and thirty females individually for conservation of volume on three sets of procedures—the first identical to Elkind's; the second involving displacement of water, and; the third identical again to Elkind's. They found no sex differences on conservation of volume. Sella and Cowan (1977) reported a positive relationship between field-dependence and conservation in young school age children. They did not observe any sex differences. Jha (1981) found that there were no sex differences on conservation of mass and number.
II. CULTURE, SES AND CONSERVATION

As the present study focused on tribal and non-tribal from two socio-cultural backgrounds, some studies relating the relationships between deprivation and various cognitive aspects are reviewed. The studies focusing on impoverished environment or prolonged deprivation in natural settings have unequivocally shown that sensory, muscular, social, parental, cultural and economic deprivations result in deficient cognitive functioning in complex perceptual tasks and conceptualization (Sinha and Shukla, 1974; Broota and Ganguli, 1975; Mishra and Tripathy, 1975; Sahu, 1975 and Tripathy and Mishra, 1976).

Rao (1971) found that until the age of 5 1/2 years, the effect of SES was negligible on conservation tasks. Beyond that there were significant differences between high and low SES children which increased with age. In another study Rao (1976) found significant effect of SES on conservation of mass, weight and volume.
In a number of studies Sinha and his associates (e.g., Sinha and Shukla, 1974; Mishra, 1976; Sinha, 1976; 1977) found that deprived children show significantly lower levels of performance on pictorial depth perception, pictorial interpretation and sequential perception tasks. Similarly Das (1973), Das and Singh (1974), Malani (1976), Das and Panda (1977), Mishra and Sahai (1977), Verma and Sinha (1977), Broota and Madholia (1978), Chawla (1979), Juneja (1977), Broota (1979), and Mishra and Tripathy (1980) have reported differences between advantaged and disadvantaged children on several cognitive measures.

Bowd (1977) attempted to examine the relationship between field dependence and conservation in children from different cultural environments. Results indicated that the Children's Embedded Figures Test correlated with conservation of length and volume (p<.01). Bevli (1977) has also reported delay in the development of concept of speed in disadvantaged children. Saxena (1978) reported that low SES children evidenced lower level of insightful
problem solving. On the contrary, Golomb and Mclean (1984) found that the SES was not an effective variable in conservation tasks.

III. SCHOOLING AND CONSERVATION

Several studies have explored the effects of schooling on conservation. In Italy, Peluffo (1962) carried out several comparative studies on children with different degrees of schooling. Goodnow (1962) used Piagetian tasks to compare several groups of children in Hong Kong whose levels of schooling ranged from low to average. He found that the higher class children did well on conservation tasks than the lower class children. In Iran, Mosheni (1966) compared a group of Teheran school children with a group of rural unschooled children on their responses to certain Piagetian tasks. He reported a direct relationship between schooling and conservation tasks. Delemos (1966), Bovet (1967, 1971) and Dasen (1972) gave several conservation tasks to aboriginal children in Australia. It has been found that unschooled children succeed at the Piagetian conservation tasks at somewhat later ages than the school
A number of studies have attempted to determine the effects of schooling on Piagetian stage development (Dasen, 1972). These studies have been undertaken by using a variety of methods and testing procedures. Predictably, there is little consensus about the effects of schooling on the acquisition of conservation skills. For example; Goodnow (1962), Goodnow and Bethon (1966), Mermelstein and Shulman (1967), and Kelley (1967) are cited by Dasen (1972) that there was no direct relationship between schooling and conservation. The above finding was also supported by Delemos (1969), Ayisi (1972) and Fahrmeier (1978).

Bruner et al. (1966) and Levine (1970) reported that children in non-industrial societies have been found not only to score lower on traditional Western Intelligence Tests, but also to demonstrate a slower or even curtailed rate of development on Piagetian tasks. Usually, these differences are attributed to environmental variables, such as lack of


Kimenyo (1977) found no difference on conservation tasks between schooled and unschooled Kamba children and a similar finding was reported by Arnold, Armah and Cox (1981) for Ghanaian children. In contrast, Miller and Meltzer (1978) found schooling to be a major factor in accounting for variations on these tasks among both rural and urban Satho children.

Brainerd (1979) found that the number concept, however, was typically assessed by
using the number conservation tasks. Subsequently, various researchers outside Geneva investigated the relationship between different kinds of conservation and arithmetic achievement (McNally et al., 1973; Riggs et al., 1976; D'Errico, 1976; Lunzer et al., 1976; and Bowie, 1979). Kingma (1984) examined the Kindergarten children on traditional intelligence, Piagetian tasks and initial arithmetics. It was found that the Piagetian tasks of seriation might especially serve as a valuable diagnostic instrument for some aspects of initial arithmetics in addition to the traditional intelligence test. Neumann et al. (1989) found that cognitive scores were best predicted by a combination of factors including duration of schooling, food intake and SES.

In India, Sinha (1977), Mishra and Gupta (1978, 1983) have found that better schools which are characterised by several physical facilities and generally a stimulating psychological environment promote better cognitive skills of preception and comprehension of pictures than ordinary schools.
Rao (1979) attempted to study the differences between (1) school-going and the non-school going children (2) children hailing from low SES and culturally deprived or disadvantaged homes and the middle class children on the development of discrimination, seriation and numeration skills. The results showed that deprivation, SES and non-schooling adversely affected the cognitive development of children.

Rath and Patnaik (1979) examined the effect of training on cognitive abilities among advantaged and disadvantaged 9 years old children. The training had remarkable effect in developing the ability to conserve volume and length. This finding was supported by Padmini (1985). Jha (1981) found that the tribal and the non-tribal children did not differ significantly in the acquisition of different conservation tasks.

**SUMMARY**

Numerous researches have explored the effects of environmental deprivation and
schooling/unschooling on conservation using certain variables like Caste, SES, age, sex, area of residence and cultural groups. They have, however, neglected the process of the development of conservation due to types of schooling which may be a potent factor especially for tribal children.

II STUDIES FOCUSING ON COGNITIVE STYLE

Researchers have examined the cognitive styles adopted by children in relation to their SES and socialisation, sex, age and educational practices. Some of the relevant studies in this area have been reviewed below.

SES, SOCIALISATION AND COGNITIVE STYLE

Cerchini and Pizzamiglio (1975) administered the Children's Embedded Figure Test (CEFT) to a sample of 5 to 10 years old children and found significant SES differences in their performance. The higher SES sample demonstrated greater field independence. Ghuman (1977) compared 11-12 years old middle class subjects with working class subjects of comparable age and
found, the later to be significantly more field
dependent. MacEachron and Gruenfeld (1978) used
the Rod and Frame test in their study of 50
American female nurses and reported a positive
correlation between all measures of SES and
field independence. The two specific SES
components—subjects' education and father's
education—were found to be the best predictors
of performance on this dimension.

Some other studies found no significant
differences between socioeconomically advantaged
and disadvantaged groups on field dependence.
Karp, Silberman and Winters (1969), in two
studies (reported together: one on lower and
middle class boys and the other on lower and
middle class adults, did not obtain significant
differences in field dependence. Mumbauer and
Miller (1970) compared 32 socio-economically
advantaged and 32 disadvantaged pre-schoolers on
field dependence and obtained significant
differences. Bowd (1974) on a sample of 18 female
and 24 male kindergartners from a working class
population, did not obtain a significant
correlation between field independence and SES.
Witkin (1962), Dyk and Witkin (1965), Dyk (1969) and Witkin (1969) have cited evidence that differences in levels of field dependence are related to differences in socialising experiences during the process of development.

Witkin (1971) condensed the various socialisation variables related to field dependence by making a general observation that the interactions between parents and the child that reinforced separation and autonomous functioning, lead to field independence.

Dawson et al. (1974) obtained additional data on the relation between child-rearing practices and psychological differentiation. A group of 11 to 13 year old Hong Kong boys, who were tested on EFT, RFT and BD, filled out Dawson's Chinese socialisation Scale which assesses mother/father dominance and related patterns of child rearing. High scores on this scale indicated more severe socialisation. Significant correlations were found between subjects' scores on the scale and their scores on EFT, RFT and BD.
Claeys and DeBoeck (1976) have indicated that reinforcement of competition and a warm parent-child interaction are meaningful variables fostering field independence. Edgerton (1976) found mothers who fostered 'field-independence' to be more affectionate and accepting and they tended to use praise and reward as reinforcers more frequently. Long absence of father was found to have a link with greater field dependence, especially in adolescent boys (MacEachron and Gruenfield, 1978).

Several investigators have presented evidence to indicate that traditionalism, being associated with social conformity, tends to foster field dependence (Zadic, 1968; Dershoweitz, 1971; Rand, 1971; Weller and Sharan, 1971; Ramirez, 1974; Witkin, 1974; Park and Gallimore, 1975). Irwin (1976) found no relationship between tradition at the family level and field-dependence-independence. He reported significant relationships between field independence, the presence of material stimulation and more educated siblings at home.
In India, Sinha (1979) found that the effect of caste membership was not significant on Story-Pictorial Embedded Figure Test. Ghosh and Massey (1978), observed no effect of social class on EFT. A comparison of ethnic group, i.e., Muslim, high caste Hindu and Scheduled caste showed no differences on cognitive style (Majeed and Ghosh, 1979).

Mishra and Tripathy (1980) studied the relationships between prolonged deprivation and performance on EFT. The results showed that the two variables were not significantly related.

Puspa (1981) attempted to study the impact of social deprivation on cognitive styles of Primary School Children. She concluded that social deprivation had no significant influence on cognitive style. The children improved in their cognitive styles with increase in their age and grade.

Sharma and Triplish (1982) found that rural and urban students did not differ significantly in mean FD/FI scores. Pandey and Pandey (1985) reported that urbanisation was a
stronger predictor of cognitive style than many other variables.

SEX DIFFERENCES IN COGNITIVE STYLE

Sex differences had been reported in some studies on "field-dependence-independence". Witkin and Berry (1975) indicated that males score in a more field independence direction as compared to females.

Tyler (1976), in a study conducted on 4 to 8 years old, found distinct differences in cognitive style preferences, with males eliciting more analytical responses and females more relational or global ones. Perny (1976) reported sex to be significant factor, in the predicted direction, among black and white 6th graders. Similar results were reported by a number of other researchers as well (Gruen, 1955; Bieri, Bradburn and Galinsky, 1958; Gross, 1959; Katp, 1965; Witkin, Goodenough and Karp, 1976; Bogo, Winget and Gleser, 1970; DeRussy and Futch, 1971; Morf, Kavanaugh and Mcconville, 1971; Andrews and Brown, 1974; Migilligani and Barclay, 1974; and Vaught, 1975. In one study with children (Coates, 1974) and one with
undergraduate (Constantinople, 1974) females were found to be significantly more field independent than males. Also Kloner and Britain (1984) have reported that girls tended to be more field independent than boys.

Some studies did not report significant sex differences on the field-dependence-independence dimensions. Stanes and Gordon (1973) administered the Children's Embedded Figure Test to 7-8 years old children and obtained no sex differences. Dempsey (1975), in a comparative study of gifted and average students did not find any significant sex differences. Other studies by Gill, Herdther and Lough (1968), Bigelow (1971), Buseh and Simon (1972), Erginel (1972), DeFazio (1973), Bowd (1974b, 1976a), Crandall and Sinkeldom (1974), Sherman (1974), Lord and Jakabo-vice (1975), Circhini and Pizzamiglio (1975), Domass and Bulter (1976), Ghuman (1977) and Taylor (1977) reported no significant differences between the sexes on the field-dependence-independence dimensions.
In India, Pande (1970) administered EFT to 70 males and 70 females under graduates and reported the males to be significantly more field independent. Parlee and Rajgopal (1974) in a cross-cultural study of college students in USA and in India, presented similar evidence for both the cultures.

Sinha (1980) conducted a study on sex differences in psychological differentiation among different cultural groups. His findings showed that sex differences in cognitive style did not occur consistently among less acculturated nomadic groups. He found that male and female differences were small and insignificant among the transitional Birhors and agricultural Drans. Urban boys were, however, significantly higher on field-independence than girls.

Puspa (1981) found that there were no significant sex difference in cognitive styles. Sharma and Triptish (1982) found that boys were more field-independent than girls. Pandey and Pandey (1985) found that males were more field independent.
AGE AND COGNITIVE STYLE

In the first major report of researches on field dependence, Witkin et al. (1954) presented data on the relationship between age and field dependence. Of particular interest is their finding that field independence increased sharply between the age of 10 to 13 years. A slight increase in field dependence occurred between the ages 13 and 17 years. There was no significant difference in the field independence of the 17 year olds and a group of adults with a mean age of about 20 years.

Witkin, Goodenough, and Karp (1967) reported an increase in field independence of children with increasing age, until the age of approximately 17 years.

Crandale and Sinkeldom (1964), in a study of correlates of field-independence, obtained a significant correlation of .74 between performance on a modified EFT and age for a sample of 50 school children ranging in age between 6 years 10 months to 12 years 5 months.
Berry (1971) employed community samples of Australian Aborigines and reported a trend of increasing field independence between ages 10 to 30 with a reduction in the field independence thereafter. Kagan and Klein (1973) tested Guatemalan children aged 4, 5, 6, 7 & 8 and noted consistent increase in field independence. Mitchelmore (1974) found that the male and female Jamaican school children, drawn from grades 1, 2, 5, 7 & 9, there had been an increase in field independence from the first to ninth grade on the EFT. Witkin, Price-Williams et al. (1974), used CEFT and concluded that a significant age effect existed for all the groups in Holland, Italy and Mexico. Holtzman (1976) demonstrated for Mexican children, a consistent and significant increase in field independence as measured by EFT. In India, Puspa (1981) reported that the children showed improvements in their cognitive styles with increase in the age and grade.

COGNITIVE STYLE AND EDUCATIONAL PRACTICE

As expected the field-dependence-independence phenomena had implications for the
schooling and education. Frencher (1973) conducted a study to determine if the cognitive style of students influenced the educational achievement of students after the influence of I.Q. was partialled out. He reported that the traits found in the field-independence were compatible with all areas of achievement.

Smith (1973) studied the influence of cognitive style on intelligence and reading comprehension. He reported that cognitive style test can provide useful information on reading comprehension. Robinson (1974) found that cognitive styles were differentially related to school learning both for boys and girls.

Anderson (1974) conducted a study to determine the correlations between field-dependence-independence and academic achievement in third, fourth, fifth and sixth grade pupils. He reported that the cognitive style is an accurate predictor of achievement among these pupils. Witkin and Berry (1975) suggested that urbanisation and exposure to formal education with its emphasis on analytical functioning facilitates greater field independence.
Kagan et al. (1975) studied field dependence and school achievement by taking 135 students from 2nd, 4th and 6th grade. Results indicated that field independence was significantly correlated with the reading and mathematics achievement. A number of investigators have demonstrated that the performance on various versions of EFT is related to non-social types of scientific achievement like Mathematics, Natural Science, Geometry etc. (Span (1973; Satterly, 1976).

Witkin, Moore, Goodenough and Cox (1975) in their extensive review, pointed that there is not a high correlation between field-independence and over-all scholastic achievement, but specially field-independence subjects can achieve a very high grade.

Cheep (1976) conducted a study to findout the relationship between cognitive style and the attainment of success by the selected dis-advantaged, by using CEFT and Wide Range Achievement Test (WART). He concluded that cognitive style was related to the subject's
abilities to more successfully cope with the demands of their environment.

Wuhl (1977) studied the interactions between cognitive style and the method of science instruction and the effect of these on the acquisition of science concepts in school children. Children representing two third grade and two fourth grade classes were designated as field dependent or field independent based on CEFT scores. The main effects of the cognitive style were found significant at the two grade levels.

Ghuman (1977) conducted an exploratory study of Witkin's dimensions in relation to social class, personality factors and Piagetian tasks. He found that there was significant correlation between CEFT and cognitive tasks.

Satterly (1979) found that field-independence shared a small amount of variance with achievement after controlling the general ability.

Studies by Buriel (1978), Vaidya and Chansky (1980), Witkin and Astilla (1980), and
Sharma and Ahuja (1982) on school children in different cultures, have shown that overall higher scholastic achievement among the field independent subjects even after the variances due to the intelligence were removed.

Bonhomme (1980) investigated the relationship among the methods of instruction, the cognitive styles and the English reading achievement of 300 first graders of low SES who had attended Kindergarten in New York city. He reported that field independent children were able to achieve greater gains in reading than the field dependent children.

In India Ghosh and Massey (1978) did not find any significant effect of schooling on cognitive style. Sinha (1979) found that school going children were more field independent than the non-school going children.

Sharma and Triptish (1982) found that high achievers were more field-independent than their low-achieving counterparts. Chatterjee and Paul (1984) attempted to measure the correlation between field independence and
science proficiency. Results indicated that urban subjects were more field independent and had better science proficiency than the rural group.

Sinha (1988) investigated the influence of industrial and urban environments and formal schooling on psychological differentiation with the help of Story-PEFT. She found significant main effects of industrial and urban exposures, and of formal schooling on the scores of S-PEFT.

SUMMARY

In the light of the above reviewed researches, it seems evident that the cognitive styles related to age, grade, social background, sex, and cultures. These may also relate to school characteristics. A more systematic study of cognitive styles should therefore be made to identify the relationship between school characteristics and cognitive style scores.

III. STUDIES FOCUSING ON FRUSTRATION

The study of frustration is important because of its close relation with the
understanding of normal and abnormal behavior. Researchers have examined frustration reactions in relation to theoretical foundation, reliability, validity, special population; such as athletes, handicapped, mentally retarded and delinquents. Studies have also dealt with scholastic aspect and personality. Some of the relevant studies have been reviewed below.

McCary (1950) found a change and modification in reaction to frustration patterns of individuals with educational experience and age. Spach (1951) reported that there were no sex differences in the type or direction to aggression when the comparisons were based on the scoring of the P-F test as a whole.

Mishra (1953) opined that increasing industrialisation, urbanisation, and spread of education may reduce the intensity of rigid and unfortunate inter-caste attitudes in India. The total identity of the SC and Non-SC young adults can be changed by providing similar educational and residential environment to them.
Stoltz and Smith (1959) employed the children's form of the P-F study over 167 elementary school pupils and observed no significant sex differences. Age differences were confirmed. Moore and Schwartz (1963) used the Adult form of the P-F study. They explored the sex of the frustrated persons in the pictured situations and discovered no consistent sex differences in their sample of 201 college students.

Rosenzweig and Braun (1970) used an adolescent form of the Rosenzweig P-F test and attempted to investigate sex and age differences among 224 tenth and twelfth grade high school students. They examined the differences in responses to situations in which adults or, alternatively peers were represented as frustrators. Some sex differences were found. Age differences were not significant in this restricted age range (two years).

Sinha (1971) studied the relationship between personality adjustment and reaction to frustration. Subjects were stratified as highly adjusted (HA) and poorly adjusted (LA) on the
basis of Mittal's Adjustment Inventory. Their responses to the P-F test indicated that the HA group gave significantly more M and O-D responses and less E responses.

Ferrieri (1971) investigated the relation between "perceptual style" and reaction to frustration. He administered the P-F study and Witkin's EFT over 19 male subjects of 14-16 years of age. The correlation between the scores indicated that field-dependence was a general characteristic of reaction to frustration.

Sinha (1973) administered an Indian adaptation of the P-F test to 100 students of class VII with mean age of 12 years. They were stratified according to sex and achievement. Results indicated that the non-achievers gave significantly more E and O-D responses and less N-P and E responses than the achievers. The GCR scores were also higher for the achieving group indicating their better adjustment. Sex affected the results differentially. The non-achieving boys gave more E responses than the non-achieving girls. Girls gave more I and E-D and
less N-P and E responses than boys. Jan(1975) reported that reaction to frustration was mainly influenced by group size and instruction.

Mellina(1977) studied the relationship between social motivation and modality of reaction to frustration as a function of age, sex and social class. The results indicated that children's age, social and cultural characteristics were found to affect the results significantly. He did not find any sex differences. Sharma and Sharma(1977) administered an Indian Version of the P-F Test to 50 boys and 50 girls. Sex differences were significant for the direction of aggression and super-ego pattern. Rosenzweig(1978) reported that developmentally from childhood through adolescents, the adults are expected to display higher EA and ED responses and higher IA, MA and NP responses at young adulthood. Mehta(1979) suggested the importance of social values, home and social conditions, parental practices, educational system as well as the importance of such intervening variables as sense of isolation, frustration, burden and dependence in youth. Rao and Singh(1981) administered the P-F
study to 150 female and 150 male subjects. Two age groups were taken (5-9 years and 13 years). The findings revealed that age and income levels were significant predictors of reaction to frustration. But sex differences affected the scores differentially with age.

Rauchfleisch (1981) has attempted to study the age and sex related changes in reaction to frustration among children and adolescents. No significant sex differences were found in reaction to frustration. However, age groups did vary in their reactions. Bhan (1984) administered the Rosenzweig P-F Test to 1148 boys and 1023 girls of class VIII and 562 boys and 549 girls of the 1st year degree course. He found that boys were more aggressive than girls. Further, he concluded that children and adolescents from lower economic groups were aggressive than the ones from high economic groups. Dubey and Joshi (1985) administered the Indian adaptation of Rosenzweig P-F Test to 144 SC adolescents and 158 Non-SC male adolescents. The results indicated that there were no significant differences on any reaction patterns
between SC and Non-SC adults.

Biswas (1989) observed significant sex-differences in E, M, I, and GCR. In brief, girls had stronger tendencies to point out the presence of frustrating obstacles insistently than those of the boys.

The above available researches indicated that the reaction to frustration was related to age, sex and cultural background of the sample. It may also be related to the types of schooling. The research at this point is inconclusive. A more systematic study should be undertaken to measure the effect of schooling characteristics on reaction patterns to frustration.

IV. STUDIES FOCUSING ON SOCIOMETRY

Researches which probed into the relationship of variables like sex, age, SES, personality, academic achievement, etc. in relation to sociometric status have been reviewed in this section.

Bhogle (1966) has reported that sex
differences were not significant in sociometric scores. Minocha (1966) found that sociometric choices were significantly affected by the socio-economic levels of students. Ahluwalia and Bhargava (1968) reported that sociometric status appeared to have some relationship to background factors such as religion, family size, fathers' income and occupation. Ordinal position seemed to have no noticeable relationship with sociometric status. The sociometric status was found positively related to chronological age and academic achievement.

Many researchers such as Jain (1968), Malhotra (1970), Gautam (1971), and Badami and Tripathy (1984) reported that the sociometric choices depended upon several personality factors, intelligence, achievement and skills, and social factors—community structure, social experiences, residential proximity and existing social conditions.

Sharma (1970) conducted a study over some isolates and populars. The main findings were: (1) The populars and the average, scored higher than the isolates in the final school
examination: (ii) The populars had a better adjustment than the isolates in the five areas—home, health, social, emotional and school: (iii) Parental income for populars is higher than isolates.

Gautam (1970) found that age and socio-economic status are not so closely related to sociometric status. He found a positive relationship between sociometric status and socio-economic status. Age is also found related to the sociometric indices. Pathak (1973) compared the populars, neglectees, isolates on socio-school adjustment pattern. The findings were that populars were superior to their counterpart peers, neglectees, isolates and rejectees in their social adjustment in school. Badami and Badami (1973) studied the amount and kind of relationship that existed between the group status of an individual pupil and the school achievement in the Junior High Schools. A significant relationship was observed between sociometric status and various levels of school achievement. Rao and Banerjee (1973) found that stars showed better adjustment, intelligence,
more classroom trust and higher creativity level as compared to other children.

Sharma (1974) designed a study to find out the sociometric status of children in different schools in terms of cognitive and non-cognitive factors. She found that the accepted students showed better adjustment and higher intelligence. Bal (1974) found that the popularity among peers is significantly related to both intelligence and academic achievement. When the potent relationship of intelligence with academic achievement is held constant, then popularity failed to show relationship with academic achievement. Sharma (1975) found that populars were more aggressive and overt, whereas rejectees were found to be more submissive. Sharma (1975) reported that academic achievement was not a worthwhile determinant of sociometric status.

Basu and Sarkar (1978) attempted to study the relationship of sociometric status with intelligence, academic achievement and neuroticism. It was observed that sociometric status was positively related to academic
achievement. Nair (1978) reported that isolates come from the low socio-economic classes and that the stars were from all classes, though many are from the upper strata of the society. Rajput (1979) found that stars had better scholastic achievement, more aggressive behaviour and social participation.

Kundu and Biswas (1981) reported that social behaviour was one of the determinants of social acceptance and significant in forming and maintaining stable friendships in the peer group.

Chopra (1984) conducted a study on socio-economic status of the family and social acceptability of the students among their class fellows. The results showed that there was a positive relationship between socio-economic status of families and social acceptability of students by their class fellows.

McGuire (1984) attempted to study the aggression and sociometric status among pre-school children. The results showed that the highly aggressive male children were unpopular rather than popular, while highly aggressive
female children tend to be popular rather than unpopular. Nagy (1985) conducted a path analytic study of the influence of community isolation on student achievement. The results showed that a link existed between isolation and achievement of the students.

SUMMARY

The above research review indicated that the sociometric status was related to sex, age, SES, personality and academic achievement. But research on institutional characteristics and its relation to sociometric status was lacking, although it was important.

V. STUDIES FOCUSING ON ACADEMIC ACHIEVEMENT

Academic achievement is of paramount importance, particularly in the present socio-economic and cultural contexts. Researchers have been trying to identify different correlates of academic achievement.

The studies in the area of academic achievement were reviewed by Dave (1968) in the Third Indian Year Book of Educational Research.
The review indicated the relationship of achievement to various factors like sex, intelligence, physical health, SES and leisure time activities. Gorden (1975) reported that students were likely to feel stress pertaining to their institution and academics. Desai (1979) and Hirunval (1980) found a positive relationship between institutional characteristics and academic achievement of pupils. Subrahmanyam's (1981) study highlighted the importance of conditions at school. Multiple regression analysis of the data showed that personal characteristics of the children contributed to a large extent to their reading achievement and between the two factors, namely, school condition and home condition, an improvement in school condition was likely to lead to better achievement. In another study Srinivasa Rao and Subrahmanyam (1982) reported similar results.

Chopra (1982) reported that students' home, health, social and emotional adjustment, students' study habits, and their attitude towards education are positively related to academic achievement.
Academic and scholastic performance was found to be negatively affected by social disadvantage. Singh (1976), Panda (1977), and Ushasri (1980) had shown that scholastic achievement of disadvantaged children was lower as compared to the advantaged children.

Differences have been observed in the educational achievement of children from tribal and non-tribal background (Gokulnathan and Mehta, 1972); Caste (Rath, 1974); religion (Mehta and Mehta, 1974); and SES (Singhal, 1975; Singh, 1978; Khanna, 1980).

Girija and Bhadra (1976) found that environmental factors seemed to exert considerable influence on the performance of students. This view was supported by earlier work of Coleman (1966, 1975).

In recent years, time spent in learning and its relationship to achievement have evoked considerable research interest. Borg (1980) reported that the time spent in learning had a considerable impact on academic achievement.
Chatterjee and Paul (1981) found higher scholastic achievement among the better adjusted and field-independent children than the poor adjusted. Osuala (1981) attempted to study the parental influences on academic achievement of students. It was found that children of counselled parents not only improved in their school work during the period of consultation but also continued to improve during the following years.

Nandy and Singhal (1981) in a study on motivational context of educational achievement among the poor, found that parental expectations, parental occupation, home environment, and attitude and motivational processes resulted in differential educational achievement.

Aruna (1981) conducted a study on the factors influencing the achievement of SC/ST children. The major findings of the study were: (i) The academic achievement of SC/ST students studying in standard VII was significantly lower than that of general students; (ii) The academic achievement of SC/ST boys was superior to that
of girls: (iii) the academic achievement was significantly related to sex, general adjustment and education of father or guardian. Reddy (1981) attempted to study the interrelationships among organizational climate of secondary schools, SES of students and their academic achievement. He observed that there was positive correlation between the SES of the students and their academic achievement.

Basow (1984) attempted to study the effect of ethnic group differences on educational achievement. He found that factors relating to the meaning of achievement were more important in understanding ethnic group differences in achievement in Feji than the measures of individual achievement orientation.

Bisht (1984) found that in the sphere of academic achievement, sex differences existed. Male students were found having higher academic achievement than female students. No age difference was obtained on academic achievement score, probably, due to the absence of broad differences between the two age groups.
Gettinger (1984) conducted a study on achievement as a function of the time spent in learning and time needed for learning. He found that time needed for learning contributed significantly to achievement, and its direct effect was greater than that of time spent in learning.

Thompson (1985) investigated the relative influence of the environment on educational performance. The results demonstrated overwhelmingly close associations between the home environment and variations in educational performance as compared to the minimal influences of the school and neighbourhood environments; that within the home environment, the parents and not the material surroundings, were the important influence; that parental behaviours and not parental attitudes were the important predictors of educational performance; that the best individual environmental predictors of academic performance were home literacy, educational ambition and socio-economic efficiency.
Krishnamacharlu (1989) studied the impact of socio-economic and occupational status of parents on scholastic achievement of their children. He reported that so far as the social status was concerned, children belonging to forward communities secured better percentages of marks than the children belonging to SC and ST communities.

Oakland and Stern (1989) conducted a study on variables associated with reading and math achievement among a heterogeneous group of students. They reported that discrepant achievement was not found to be unique to a particular race, level of intelligence, gender, age and family size.

Verma and Swami (1990) have attempted to study the effect of cognitive style and academic motivation on scholastic achievement of economically disadvantaged. They reported that field-independent cognitive style facilitated the scholastic achievement of economically disadvantaged children.
SUMMARY

The review of above studies indicated that academic achievement was influenced by many personal, environmental and institutional factors. Studies were needed to investigate the complex relationships among personal and institutional characteristics and academic achievement of the children from various social groups.

To sum up, the review of literature suggests that the cognitive functioning—conservation and cognitive style, affective adjustment—frustration and sociometric status are important determinants of academic achievement and educational development. The studies are available on urban and semi-urban samples. In case of tribals, some of the factors like school setting, especially tribal schools, cognitive functioning of the children in these schools, adjustment of the subjects, the pattern of reactions to the frustrating situations and academic achievement of tribal children in different school conditions should have relevance for educational development. It is
felt that the integrated information on these complex and important aspects is lacking. The present study, therefore, had been planned to find out whether there were any significant differences in cognitive functioning, affective adjustment and academic achievement of tribal children in tribal and integrated schools and non-tribal children in integrated schools and how best these can be explained.