CHAPTER II

RELATED STUDIES

Best (1963) considers survey of related literature as an important pre-requisite to actual planning and the execution of any research project. He supports his view by putting forward this statement, "...a familiarity with the literature in any problem area helps the students to discover what is already known what others have attempted to find out, what methods to attack have been promising and disappointing and what problems remain to be solved."

In order to create a practical background to the plan and procedure of the study in hand, it is but desirable to refer to the related studies on the subject. The present chapter is a humble attempt to refer to the most pertinent studies out of the huge relevant material which the investigator happened to go through while searching for the related literature. With these thoughts of eminent researchers and educationists this researcher, tried her best to comb the literature available in the field of her research and in related areas, with the aim of avoiding duplication and of making best use of the researches done in the past.

2.1 The Literature Surveyed Has Been Classified Under These Headings.

Studies on sociometric categories with respect to the
variables of intelligence, achievement, adjustment and socio-economic status come under the following headings:

- Intelligence and sociometry.
- Achievement and sociometry.
- Adjustment and sociometry.
- Socio-economic status and sociometry.

Studies on intelligence, achievement, adjustment and socio-economic status run under the following headings:

- Studies on intelligence and achievement.
- Studies on intelligence and adjustment (home adjustment, social adjustment, health & emotional adjustment, school adjustment and total adjustment).
- Studies on intelligence and socio-economic status.
- Studies on achievement and socio-economic status.
- Studies on adjustment (home adjustment, social adjustment, health & emotional adjustment, school adjustment and total adjustment) and socio-economic status.

Review Of The Related Studies

Gronlund (1939) contends that there is considerable interest in the relationship between sociometric results and the personal characteristics of the person choosing or being chosen on a sociometric test. From an educational standpoint
it is equally important to consider the relationship of sociometric results to such factors as intelligence, achievement, the possession of skills, age, physical appearance, interests, values, personality characteristics, socio-economic status, social cleavages and other educationally significant variables. In the present study four variables i.e., intelligence, achievement, adjustment and socio-economic status have been taken up. Although cause and effect are not always clear, this investigation should provide some insight into the personal factor which influences children's sociometric responses.

2.1.1 Studies On Intelligence And Sociometric Results:

A number of studies have been concerned with the relationship between intelligence and sociometric results. Where the sociometric test of individuals has been correlated with their intelligence test scores, low positive correlation have been generally obtained. Some typical correlation coefficients for various grade levels are indicated here:

<table>
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<tr>
<th>Study</th>
<th>Grade</th>
<th>N</th>
<th>Correlation (r)</th>
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<tbody>
<tr>
<td>Bonney (1943)</td>
<td>2</td>
<td>48</td>
<td>.32</td>
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<tr>
<td>Bonney (1944)</td>
<td>3</td>
<td>48</td>
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<td>Bonney (1944)</td>
<td>4</td>
<td>81</td>
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<td>Bonney (1944)</td>
<td>5</td>
<td>100</td>
<td>.45</td>
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<tr>
<td>Laughlin (1954)</td>
<td>6</td>
<td>525</td>
<td>.31</td>
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<tr>
<td>Laughlin (1954)</td>
<td>7</td>
<td>525</td>
<td>.27</td>
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These relatively small correlation co-efficients indicate that there is little direct relationship between intelligence and the degree of acceptance by the peers. This does not imply, however, that intelligence is not an important factor in sociometric choosing.

In studies of the social acceptance of mentally handicapped pupils in the regular elementary grades, Johnson (1950) and Johnson and Kirk (1950) reported that approximately two thirds of the mentally handicapped pupils were rejected on the basis of sociometric results. A study of social acceptance of pupils at the other end of the intelligence scale was conducted by Gallagher and Crowder (1957). The study indicates that although high intelligence is closely related to high sociometric status, some gifted pupils are not well accepted by their peers.

Studies conducted in classrooms with a normal range of intelligence tend to support the above findings. Bonney and Powell (1953) compared the IQ's of first-grade pupils with high and low sociometric status. The high status pupils had a median IQ of 113 and the low status pupils had a median IQ of 97. Another study by Bonney (1955) produced essentially the same results among second grade children. It is interesting to note in this latter study
that pupils with high sociometric status had a range in IQ from 111 to 135, whereas low status pupils had a range from 89 to 129. As suggested by Bonney, this indicates a greater tendency for a pupil of high intelligence to have low sociometric status than for a pupil of low intelligence to have high sociometric status. This view is also supported by Grossman and Wrighter (1948). They studied the relationship between intelligence and sociometric status among sixth-grade children and reported that the two variables were related up to a point, but that high intelligence did not assure high sociometric status.

Jenkins (1931) found that children tended to choose friends within a year of their own age and similar intelligence.

Potashin (1946) and Bonney (1946) both reported that intelligence enters into mutual relationship among school children. Those children who choose each other on a sociometric test tend to be more alike in intelligence than the children who do not choose each other.

The extent to which intelligence influences sociometric choices depends on the level of intelligence of the chooser as well as that of the chosen. This is brought out clearly in a study by Barbe (1954). He analysed the choice process of 244 elementary school children with IQ's ranging from 65 to 140. His results indicated that although there was
a general tendency to choose children of higher intelligence as friends, the slow-learning children tended to choose pupils of above average intelligence. Approximately 62 per cent of the slow-learning children chose friends from the below average group. None of them chose pupils with IQ's over 120 as friends. In contrast, 80 per cent of the bright children chose friends with above average intelligence.

Heber (1956) himself reported a study in which he compared the intelligence and social status of junior school children. He divided the group into three according to intelligence, and found that the children of high intelligence were, on the average, markedly higher in sociometric status than the children of low intelligence. He also found that children of low intelligence were far below average in sociometric status than those of high intelligence were above. He suggests that intelligence is important only up to a point in determining sociometric status, and that the relationship is likely to be exponential rather than rectilinear. Provided a child's intelligence is not markedly below normal, it seems to have little effect on his popularity with other children.

Gallagher and Crowder (1957) reported that the level of sociometric status achieved by a pupil seems to depend as much on the degree of intelligence possessed by the other group members as it does on his own level of intelligence.
Singh (1963) concluded that intelligence is related to the sociometric status. The boys who are highly chosen by their peers on a sociometric test are generally more intelligent. These findings are, by and large, true when boys are studied as a group and not individually. Calogero (1965) concluded from his study that the probability of acceptance is related to intellectual capacity.

Yamamoto (1966) investigated whether a child's level of intelligence or creative thinking is associated with his popularity. Correlations among the number of friends' nominations, creative thinking scores and intelligence scores were significant but low positive, while those among the number of non-friends' nominations and two variables were low negative and significant.

Shinkum (1966) found out that the social status in a group is related somehow to the level of intelligence of the group members. Persons with higher level of intelligence are likely to be more popular than those who are comparatively low in their level of intelligence.

Sharma (1968) conducted a study on 22 populars and 22 rejectees and came to the conclusion that popular students were highly intelligence.

Sharma (1970) investigated the relationship of intelligence to popularity and isolation. He found that the populars appeared to be superior in the ability (intelligence) measured by Raven's Progressive Matrices. The rank difference correlation between Sociometric status and intelligence was found to be .55 which was significant at 1% level.
Baboo (1973) carried out a sociometric study on secondary school students in relation to their intelligence, achievement and socio-economic status. The average composite coefficient of correlation was found to be +.362. This coefficient denotes low correlation between intelligence and social acceptance. The conclusion of this study is that there is positive and non-significant correlation between intelligence and social acceptance.

Singh (1975) studied the effect of intelligence on social acceptance. She gave the following results.

- The investigator found that intelligence was positively related to social acceptance. The students of high social acceptance were found to be superior in intelligence to those of low social acceptance. The difference between the two groups was statistically significant.

- The conclusion arrived at by computing coefficient of correlation (r = .14, r = .12) also supports the above findings. The correlation between social acceptance and intelligence was positive and also statistically significant in boys as well as girls, but it was low.

- Conclusion drawn on the basis of graph showed that with the increase in levels of intelligence there was
corresponding increase in the mean of social acceptance scores.

Modi (1976) conducted a study on stars, rejectees, isolates and their personality patterns, and came to conclusion that populars are emotionally more open than seclusive, intellectually they are more practical than speculative. But in imagination and activity populars and isolates were found equal. The difference on intelligence between populars and rejectees was significant at .01 level but no difference was found between isolates and rejectees.

Malik (1978) found out that on the dimension of intelligence the populars were higher than the neglectees, rejectees and isolates. Neglectees and isolates were equal in the scale and rejectees were found to have low intelligence.

2.1.2 Achievement And Sociometric Status:

The relationship between the sociometric status of pupils and their academic achievement is similar to that reported for intelligence, as might be expected. Where achievement test scores are correlated with sociometric status scores, a low positive relationship is generally indicated.

Studies by Bonney (1943) and Laughlin (1954) reported correlation coefficients ranging from .14 to .36 between
achievement in various school subjects and sociometric status, for grades two through seven. Lindsey and Urdan (1954) reported no relationship between sociometric status and achievement among college students. However, they did point out that there was a limited range of achievement in the group. Grossman and Wrighter (1948) reported that sixth-grade pupils with high sociometric status had significantly higher scores on a standardized reading test than those pupils with low sociometric status. Buswell (1953), in an extensive study of fifth and sixth grade pupils, reported that those pupils who were highly chosen on a sociometric test had significantly higher achievement in the basic subject skills than those pupils who were least accepted.

Differences in scholastic averages between pupils with high and low sociometric status were reported by Brown (1954) for the high school level. The most accepted students had higher scholastic averages than those in the least accepted group. Feinberg (1953) reported the same results for a study of 2000 adolescent boys, and Ohlsen and Dennis (1951) reported similar results for college students.

According to Gronlund (1959) the relationship between sociometric status and achievement tends to follow the pattern reported for intelligence. It seems likely that
achievement is related to social acceptance up to a point. Beyond that, other factors determine whether or not an individual is highly accepted by his peers.

Bonney (1946) and Smith (1944) reported that both elementary and secondary school pupils tended to choose associates who were similar to themselves in achievement. Thus, when the relation between school achievement and sociometric position is being considered the level of achievement of the choosers as well as that of the chosen must be considered.

Bonney (1955) and Smith (1945) found that students who ranked high sociometrically and were socially active tended to show higher level of achievement than those who ranked low.

Loeb (1941) investigated factors which might be related to degree of social acceptability. He reported that the children whose rank achievement in high school subjects was above their rank in mental age were found to have significantly higher acceptability scores.

Laughlin (1952) found that academic achievement and chronological age were of less importance in determining social acceptance or rejection.

Bhargava (1964) found the following results:
(1) The correlation between achievement and social status was positive. It was high i.e., .50 in the case of XB. Therefore, the results showed that the girls who achieved high score academically were accepted most in the group. It was low i.e., .24 in case of IXC which showed low positive relationship between achievement and social status which meant that those who achieved high score had a slight tendency to be popular among the group.

(2) Most of the stars tended to exceed the average by higher achievements.

(3) Isolates tended to be low in their achievement.

Gulati (1965) found out the impact of academic conditions on social acceptance. In the two schools she investigated the fact that the highest percentage of choices are given to the academic field. The study reveals that social acceptability has not played so important a role in Lady Irwin School as in Government School. It appears from the conditions of the school that the students of Government School have no other criteria of value judgement, except the concrete examination results, while Lady Irwin School Children have plenty of activities to see and judge a person in the variety of situations.

Sharma (1970) conducted a study on thirty two populars
and twenty seven isolates on a three criteria – three choice sociometric questionnaire and found out that the populars on the average scored higher in the scholastic achievement than the isolates.

In Bayti’s study (1972) scholastic achievement had nothing to do with social acceptance. However, no consistent relationship was found between the social acceptance and scholastic achievement in the study.

Baboo (1973) found a composite coefficient of correlation .43 with regard to relationship between social acceptance of the students and their academic achievement. Thus it was concluded that there was positive correlation between social acceptance and achievement.

2.1.3 Adjustment And Sociometric Status:
Adjustment as a variable has been taken up for investigation because of its close relationship with the personality patterns of different sociometric groups.

Bonney (1955) and Bonney & Powell (1953) systematically observed the behaviour of children with high and low sociometric status at the first and second grade levels. The purpose of both studies was to determine how the social behaviour of sociometrically high and sociometrically low children differed. At the first-grade level, there was a significant difference between children of high and low
sociometric status in five areas of social behaviour. The children with high sociometric status more frequently conformed to classroom requirements, smiled more often, participated more frequently in cooperative group activity, made more voluntary contributions to the group, and associated with more children during free play and activity periods. In general these findings indicate that the highly chosen were more active and flexible in their social relations than were the children with low sociometric status. Similar results were reported for the second grade level. Children with high sociometric status were observed to talk more frequently, to laugh and giggle more, to participate more frequently in cooperative group activity, and to play with other children more frequently.

Olson (1949) compared the behaviour descriptions of teachers with pupils' sociometric status scores in ten classrooms at the elementary school level. The children receiving the largest number of choices were described most frequently as being dependable, well adjusted, friendly, quiet and good-natured; while those receiving the fewest choices were described as being shy, bossy, sulky, ill or new to class. The characterizations of pupils with high and low sociometric status clearly indicated a difference in social adjustment.
In an intensive study of five pupils with high sociometric status, at the elementary school level, Bonney (1947) obtained results somewhat similar to those reported by Olson (1949) when the total adjustment was considered, the highly chosen pupils were clearly superior in adjustment to the pupils with low sociometric status.

Jennings (1950) conducted a study at the adolescent level. The highly chosen girls were described most frequently as being cooperative, having an even disposition, displaying initiative and exhibiting behaviour which contributed to the harmony and effectiveness of group living. In contrast, the underschosen girls were characterised by socially disagreeable behaviour characteristics. The house mothers indicated that they most frequently exhibited quarrelsome, complaining, nervous, aggressive, domineering and attention seeking behaviour.

Kidd (1951) reported that the men who were rejected on a sociometric test were most frequently described as being domineering, belligerent noisy and exhibiting other types of attention-seeking and generally inconsiderate behaviour.

Schoeppe and Havighurst (1952) indicated the extent to which acceptance by peers was related to the achievement of other development tasks. They found that the correlations
between the establishment of good peer relations and adjustment on the other development tasks indicated a rather close relationship between peer acceptance and general social development.

Bonney, Hoblit and Dreyer (1953) compared the sociometric status of men in a college dormitory with the behaviour descriptions of resident counselors. They indicated better social adjustment for those individuals who were highly chosen on a sociometric test.

Bonney (1943) reported significant differences among fourth-grade pupils with low sociometric status on the basis of a number of behaviour characteristics. Pupils with high sociometric status were found to be significantly superior on both personal and social behaviour descriptions. They were characterised most frequently by their peers as being tidy, good looking, happy, friendly and cheerful. In their social relations they were described as being enthusiastic, daring, active in recitations, at ease with adults, welcomed by other class members and as exhibiting leadership in groups.

Kuhlen and Lee (1943) conducted a study, similar to Bonney's, at the sixth, ninth and twelfth-grade levels and reported similar results. Laughlin (1954) correlated
sociometric results with the behaviour descriptions of peers and found that the same behaviour characteristics related to high sociometric status. Gronlund and Anderson (1957) compared the characteristics of socially accepted, socially rejected and socially neglected pupils in a junior high school population. When these three groups were compared on the basis of responses to a "guess who" form, important differences were noted. The socially accepted pupils were generally characterised as possessing socially desirable behaviour characteristics. Specific characteristics such as good looks, tidiness, friendliness, likeableness, enthusiasm, cheerfulness, initiative and sense of humour stood high on the list. In contrast the socially rejected pupils were not only overlooked on these positive characteristics, but they were also frequently described as possessing the opposite attributes. Thus, they were characterised by their peers as being not good-looking, untidy, not likeable, restless, and talkative.

Young and Cooper (1944) also recorded that the more extroverted children were more popular than others, and that popularity was linked with a stronger feeling of belongingness to the group, the expression of more acceptable social standards, and superior school relations.

Northway and Wigdor (1947) and Loban (1953) reported
that the most sensitive adolescents were more popular. This seemed to suggest that the most popular classroom personality is the happy, friendly, extrovert who understands and considers the feelings of others.

An important aspect of social acceptability is its relationship to maladjustment and delinquency. That acceptance by others is a strong factor making for a good personal adjustment was shown by Potashin (1946).

It is evident from studies by Grossman and Wrighter (1948), McClelland and Ratcliff (1947) and Kuhlen and Bretsch (1947) that children who are not well-accepted by their classmates often have more social problems and show more nervous symptoms than the average. Kuhlen and Collister (1952) go so far as to suggest that social maladjustment may be to some extent important that it results in their actually leaving school earlier than their better-adjusted contemporaries.

Hallworth (1952) found no evidence that grammar school children of average sociometric status were less neurotic than those of high or low status but this does not agree with the findings of Northway and Wigdor (1947). The unaccepted group appeared to be more severely disturbed than either of the others.

As opposed to these results, Thorpe (1953) found out
that neuroticism was not of paramount importance in differentiating popular from unpopular pupils. When intelligence was partialed out, the importance of neuroticism was increased but its influence was still not high.

Northway (1944) found out that although the pupils with low sociometric status are generally characterised by inadequate adjustment to their social environment, yet the specific problems of social adjustment vary considerably from one individual to another.

In a study at second grade level, Fuller and Baune (1951) found that pupils with low sociometric status had more problem tendencies.

A number of studies have related sociometric results to personal adjustment as measured by personality and mental health questionnaires. Bonney (1953), Powell (1948), Forlano and Wrightstone (1951), Lodge (1951), Greenblatt (1950, 1953), Lindsey and Urdan (1954), Satterlee (1955) and Tindall (1955) found low positive relationship with the total scores on various adjustment questionnaires with pupils' sociometric status scores and Singer (1951), Bonney, Hoblit & Dreyer (1953), Nowell (1953), and Fox and Segel (1954) indicated a complete lack of relationship. Grossman & Wrighter (1948) reported that Sixth grade pupils who were
highly chosen on a sociometric test had significantly higher adjustment scores on the California Test of Personality than those pupils who were rejected on the sociometric test. Scandrette (1953) reported that eighth grade pupils with high sociometric status had better personal adjustment than pupils with low sociometric status. Scandrette (1952) noted that pupils with low sociometric status tended to feel insecure in their school relations. Similar results were noted by Bjerstedt (1956) for Swedish school children.

Bedoian (1953) reported that pupils with high sociometric status had significantly higher mental health scores than pupils with low sociometric status. Similar findings were reported by Baron (1949; 1951), for pupils in eleven, fifth and sixth grade classrooms. He noted that the high status pupils tended to feel more self-confident, more physically adequate, more secure in their school relationships, and gave indications of greater emotional stability than low status pupils. The results were similar for boys and girls, with the exception that low status girls indicated the presence of nervous symptoms which did not appear in low status boys.

Kuhlen and Bretsch (1947) compared the personal problems felt by pupils with high and low sociometric status. Although there was a little difference between the total
number of problems checked by the high and low status pupils, the pupils with low sociometric status checked more personal problems "often" than the pupils with high sociometric status. Keislar (1954) reported that the pupils with high and low sociometric status both checked approximately the same number of problems. Although the high status pupils tended to check more specific problems, there was little difference between the two groups.

Greenblatt (1950) also noted that friends tended to be similar in mental health status.

Bhargava (1965) designed a study to explore the interpersonal relationship of girl students and its relation to personality traits. She found that most of the stars tended to exceed the average by social participation and better mental health. The isolates tended to be emotionally disturbed, lacked social skills and were self bound.

Sharma (1970) conducted a study on thirty two populars and twenty-seven isolates on a three criteria - three choice sociometric questionnaire. He found the following results:

(a) Pupils having higher sociometric status (Populars) had a better adjustment than the isolates in five areas - home, health, social, emotional, school and on the whole (Total Personality adjustment).

(b) The populars and isolates reported more problems in school life as compared to family life. Also the isolates
Prasad (1966) reported a study on "A comparative study of Personality Patterns of two adolescent groups with socially acceptable and non-acceptable Behaviour Patterns." He found the following results of the study on the basis of the analysis of data:

- There were significant differences in the Personality patterns of the two groups and their social and family adjustment.
- The social adjustment of the socially acceptable group was higher as against the socially non-acceptable group. Chi-square test was significant at .05 level.
- Family adjustment of the two groups did not show significant differences.

Mathur (1966) investigated the personality characteristics of persons whom the students liked and disliked the most. It was found out that in case of liked characteristics both the boys and the girls preferred the same qualities such as good in studies, good character, good in games and obedience and good manners. In the case of the disliked characteristics the boys condemned bad temper, dishonesty, weakness in studies and disobedience while the girls disliked quarrelling, indiscipline, immorality and laxity in character.
Arora (1967) found that the star seems not only to be popular, but also well adjusted, in comparison to the other groups though he is not very much emotionally stable but that is the common characteristic of all groups. In sociability stars are very high.

Sharma (1968) came to the conclusion that popular students were having good personality and they were more adjustable in school and neighbourhood, than rejectees. So far as adjustment at home was concerned both (populars and rejectees) were equal. Populars were self confident, responsible, regular and cooperative.

Gaffar (1971) has also concluded that socially accepted students are more active, creative, good spokesmen and helpful. Bayti (1972) found that traits acceptable among the pupils were in order of good habits, studies, seatmate and neighbour, assistance in studies, clever, good conduct, industrious, punctual, old classmate, good looking and cheerful and so on.

According to Sagar (1972) the traits of the
accepted students (Boys as well as girls) are cooperative nature, sweet temper, honesty, very good habits, selflessness, friendly disposition, likable nature and cheerful outlook. The disliked traits of the rejectees by the both sexes are: Thinking superior, unappealing nature, vanity, and ill humour.

Arora (1975) found that popularity and rejection had no relationship with neurotic components. Good behaviour and seriousness towards the work were the traits to shape populars whereas dependency and fickle mindedness were the characteristics of rejectees.

Malik (1978) reported that populars are emotionally more open, more practical, more dynamic in activity and combinative in imagination than the other groups namely, rejectees, neglectees and isolates.

The studies quoted above indicate that students with high sociometric status possess socially
desirable tenderness, while the students with low sociometric status are rejected due to their unpleasant and gloomy appearance. Hence sociometric results provide useful clues regarding the adjustment of the students within a class group.

These studies indicate the difference of personality patterns and hence adjustment of populars and others but whether the other categories on the sociometric dimension are also different from each other on the variable of adjustment, has not been spelled out clearly by the preceding researches. The study of the populars, rejectees, neglectees and isolates may perhaps yield useful results. Adjustment as a variable has been taken up for the investigation because of its close relationship with the personality patterns of different sociometric groups.

2.1.4 Socio-Economic Status and Sociometric Status

Another variable considered significant for the present study pertains to socio-economic status of the pupils. This has been taken up in view of reported positive relationship
According to Oronlund (1959) the socio-economic status a family holds in a community, as determined by occupation, income, type of house, and other objective and subjective criteria has been shown to influence sociometric results. In general there appears to be a tendency for children to choose associates with a similar socio-economic background or one slightly higher than their own. In accordance with this choice pattern, children from homes with a high socio-economic position tend to attain higher sociometric status among their peers than children from homes with a low socio-economic position. This relationship between socio-economic status and sociometric results is not consistently found in all sociometric studies, but appears to be the dominant trend reported.

Cook (1945) conducted a study in "The Crestview School", the results showed that a majority of the choices went to own sex and equal status level. Inspection of all sociograms of two year study showed that upper class children received far more than their fair share of top status choices. Upper class children were mostly preferred as best friends. There
was a tendency to choose friends from their own social class level.

Like Cook, Neugarten (1946) also noted a greater tendency for students to choose associates from a higher socio-economic level than that of their own. She reported that sociometric choices tended to be directed towards students whose socio-economic class level was the same or higher than that of the chooser.

Abrahamson (1952) found that the students from higher social class backgrounds tended to receive higher social class acceptance scores.

Sociometric studies by Bonney (1946), Smith (1944); and Lundberg and Beasley (1948) have consistently shown that students at the elementary, secondary, and college levels tend to choose associates who have a socio-economic status similar to their own. An analysis of friendship patterns among an entire high school population, by Hollingshead (1949), revealed similar results.

Stendler (1949) studied the sociometric choice pattern of elementary school children from various socio-economic class levels and noted a general tendency for pupils to choose companions from their own socio-economic level. He noticed that boys and girls tended to make similar choices with regard to the socio-economic level of the children chosen.
As opposed to the above view Brown and Bond (1955) reported that boys and girls have different patterns of sociometric choices. They found no relationship between socio-economic level and sociometric choices for boys but they found a very high correlation of .82 for the girls. This shows that girls are more influenced by socio-economic status when choosing their friends. However, this finding is not supported by any other study.

Studies by Brown (1954), Stendler (1949), Cook (1945), Neugarten (1946), and Grossman and Wrighter (1948) have shown a consistent tendency for children from homes with a higher socio-economic position to have higher sociometric choice status. Where rejection choices were included, Neugarten (1946), and Stendler (1949) reported that children from homes with the lowest socio-economic position tended to be rejected most frequently on the sociometric test. Although studies by Bonney (1944) supported these general findings, he noted numerous exceptions when individual cases were analysed. Some children from homes of relatively low socio-economic status were highly chosen on the sociometric test, because they possessed physical skills, pleasing personal traits, or other social assets.

A number of sociometric studies do not support the above results. Davis (1957), Dahlke (1953), and Young and
Cooper (1944) reported no relationship between children's socio-economic status and the socio-economic level of their parents.

The extent to which socio-economic status influences a child's popularity among his fellows has been the subject of a number of investigations. Smith (1945) noted that among older adolescents those taking part in extra-curricular activities tended to be of higher socio-economic status, but this is not direct evidence that they were also more popular than the average. Gustad (1952) too, found a general tendency for home factors such as the level of socialisation and socio-economic level to affect social participation. Grossman and Wrighter (1948) considered that the effect of socio-economic status was limited, and that as long as a child was not from a home of below lower middle class it made little difference to his social acceptability at school. Very low family social status appeared to be a disadvantage, but apart from that children took little notice of the family level of their fellows. Becker and Loomis (1948) considered that personal characteristics rather than family background were the determiners of a child's popularity at school, and they found that this was very markedly true in the case of children who were rejected or neglected by others.
Singhal (1960) gave the following results:

- There is definite relationship between the socio-economic status and the social acceptance and rejection of the adolescents. Youngsters from higher socio-economic status tend to get more acceptance scores and children from lower socio-economic status tend to get more rejection scores.

- In the in-group relationships there is a tendency on the part of the girls to give more choices to the girls of their own socio-economic status.

- The star or the most popular comes from the high group and rarely from the middle group. There are greater number of isolates in the lower group.

Oulati (1965) found out the factors influencing social acceptability of the students of classes VII and X. Socio-economic status was one of the factors influencing social-acceptability of the students.

Baboo (1973) found out that there is low degree of correlation between social acceptance and socio-economic status. The average composite coefficient of correlation is .27 which denotes low relationship. The average coefficient was found in this study to be statistically significant at .01 level because of small number of cases.
Singh (1975) studied the effect of socio-economic status on social acceptance. The investigator found that socio-economic status was positively related to social acceptance. The students of high social acceptance were found to be superior.

2.1.5 Studies On Intelligence And Achievement

A good number of studies of varying nature have been made at the school and college level to discover to what extent intelligence contributes to the success of a student in his scholastic achievement. Scientific investigations have reported the correlations between the two to be ranging from .90 to .10 (Green and Farquhar, 1965). The majority of the investigators have reported the correlations to be within the range of .50 to .70 (Freeman, 1942; Dibble, 1967 and Pandey and Singh, 1970).

Chaunoey (1929) found a correlation of 0.593 between intelligence and achievement of 9th grade students. With the age held constant, the correlation was reduced to .553. With SES held constant, the correlation became .572; and when age and SES were both held constant, the correlation dropped further to .541. From this one study it appears that, at least for the ninth grade the correlation between achievement and intelligence is but little influenced by age & S.E.S. John (1930) collated the results of almost 400 studies, conducted at elementary school level, all indicating
high positive correlations, averaging around 0.6 between I.Q. scores and achievement scores. The detail is given in table 2.1. It was found by Murray (1938) that the tests of intelligence were correlated with a criterion of success in the secondary schools to the extent of .70. Cohler (1941) studied a group of elementary school children and found a correlation of .58 between the mental age and the achievement age. McClelland's study (1942) showed that a combination of intelligence, a qualification examination and the teacher's estimates could predict success in secondary schools to the extent of 0.804. According to Emmett (1945) intelligence came to be the best predictor of achievement. The multiple correlation of the battery (Moray House Tests - a battery of three) with the teachers assessment was about .743.

Pintner (1945) brought together a table of correlations showing the relationship between intelligence test scores and high school marks. These coefficients ranged between 0.28 and 0.60 with a few below 0.40. Louttit (1947) reported median coefficients of correlation between intelligence-test scores and achievement in different subjects found by a number of investigators as follows:

- Reading 0.60
- Arithmetic 0.55
- Spelling 0.50
- Handwriting 0.40
<table>
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<tr>
<th>No. of studies</th>
<th>Study Code</th>
<th>School grade</th>
<th>N</th>
<th>Number of r's</th>
<th>Range of r )</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>43</td>
<td>-</td>
<td>-</td>
<td>106</td>
<td>0.51 to 0.72</td>
</tr>
<tr>
<td>5</td>
<td>43</td>
<td>-</td>
<td>-</td>
<td>77</td>
<td>0.13 to 0.91</td>
</tr>
<tr>
<td>8</td>
<td>43</td>
<td>-</td>
<td>-</td>
<td>306</td>
<td>-0.15 to 0.91</td>
</tr>
<tr>
<td>-</td>
<td>31</td>
<td>6</td>
<td>156</td>
<td>1</td>
<td>0.66</td>
</tr>
<tr>
<td>-</td>
<td>31</td>
<td>6-8</td>
<td>60</td>
<td>1</td>
<td>0.79</td>
</tr>
<tr>
<td>-</td>
<td>20</td>
<td>7-8</td>
<td>140</td>
<td>1</td>
<td>0.85</td>
</tr>
<tr>
<td>-</td>
<td>20</td>
<td>8</td>
<td>140</td>
<td>1</td>
<td>0.81</td>
</tr>
<tr>
<td>-</td>
<td>9</td>
<td>8</td>
<td>113</td>
<td>1</td>
<td>0.57</td>
</tr>
<tr>
<td>-</td>
<td>16</td>
<td>8</td>
<td>78</td>
<td>1</td>
<td>0.64</td>
</tr>
<tr>
<td>-</td>
<td>7</td>
<td>age 7-14</td>
<td>689</td>
<td>1</td>
<td>0.73</td>
</tr>
</tbody>
</table>
In a study, Carter (1948) found out the highest correlation of .78 between intelligence and achievement. Gough (1949) originally suggested Is (intelligence efficiency), Ac (Academic via conformity) and Ai (Achievement via independence) would be especially related to school achievement. Lennon (1950) found a correlation (the average of correlations for the subjects) of .67 in grades VII and IX and of .72 in grade VII. Ellis (1951) reported that differences in achievement were due to the differences in IQ and in associated mental age. He has given a range of correlations from .40 to .75. Lindquist (1951) has reported that the median correlation of tests, such as the CEEA scholastic aptitude tests, with freshman grades falls near .45.

Cain et al (1952) have summarised the results of a number of research studies. Some of their important observations are given below:

"The instrument most widely used for predicting general scholarship at the secondary school level is still the intelligence test. The average correlation of intelligence and high school achievement in general is slightly less than 0.50. For more than 300 co-efficients of correlation gleaned from studies concerned with the relationship between intelligence and achievement in various school subjects, the medians were calculated: Science 0.44"
Many studies (Wolking, 1955; Shinn, 1956; Wallman, 1957) have related measures of I.Q. to measures of achievement and such studies on the average indicated a correlation of approximately 0.70 between I.Q. and achievement.

Rossi et al. (1959) analysed the studies on the relationship between intelligence and achievement at high school level reported by Lee & Lee (1936), Woody (1944), and Chauncey (1929). The summary of the correlations between intelligence and high school achievement in different subjects is given in Table 2.2.

**TABLE 2.2**

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Number of r's</th>
<th>Lower r</th>
<th>Highest r</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>9</td>
<td>0.33</td>
<td>0.66</td>
</tr>
<tr>
<td>Mathematics</td>
<td>11</td>
<td>0.33</td>
<td>0.69</td>
</tr>
<tr>
<td>Social Studies</td>
<td>26</td>
<td>0.25</td>
<td>0.74</td>
</tr>
<tr>
<td>Modern Language</td>
<td>5</td>
<td>0.16</td>
<td>0.33</td>
</tr>
<tr>
<td>Latin</td>
<td>5</td>
<td>0.17</td>
<td>0.39</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
<td>0.30</td>
<td>0.52</td>
</tr>
<tr>
<td>Commercial</td>
<td>4</td>
<td>0.01</td>
<td>0.18</td>
</tr>
<tr>
<td>Home Economics</td>
<td>3</td>
<td>0.12</td>
<td>0.41</td>
</tr>
<tr>
<td>Industrial arts</td>
<td>3</td>
<td>0.10</td>
<td>0.16</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>2</td>
<td>0.22</td>
<td>0.30</td>
</tr>
<tr>
<td>Total achievement</td>
<td>1</td>
<td>0.59</td>
<td>0.99</td>
</tr>
</tbody>
</table>
Rossi et al (1959) summarise the findings of the different studies on the correlations between total achievement and various attributes for eighth graders in the following table:

**TABLE 2.3**

**SUMMARY OF CORRELATIONS BETWEEN TOTAL ACHIEVEMENT AND PUPIL ATTRIBUTES FOR THE EIGHTH GRADE**

<table>
<thead>
<tr>
<th>Eighth grade Pupil Attributes</th>
<th>Zero order</th>
<th>Achievement variance explains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.496</td>
<td>.246</td>
</tr>
<tr>
<td>IQ</td>
<td>.571</td>
<td>.325</td>
</tr>
<tr>
<td>School Attitudes</td>
<td>.320</td>
<td>.102</td>
</tr>
<tr>
<td>S.E.S.</td>
<td>.240</td>
<td>.058</td>
</tr>
</tbody>
</table>

The important observations of this analysis are given below:

The massive findings under this category are that a student's intelligence relates more strongly to his achievement level than to any other characteristic. Surveying the large number of studies it was found that between forty and sixty per cent of the variance among students could be accounted for by variations in the IQ levels. Furthermore, holding the IQ constant, the correlations between achievement and other characteristics are uniformly reduced in size. This finding holds good
for both the elementary and high school levels."

McClelland (1942) found that the tests of intelligence correlated with a criterion of success in the secondary school to the extent of .70. Aaron (1949) correlated the measures of intelligence to general High School achievement. The correlation ranged from .25 to .65 with a median of .48.

Froehlich & Hoyt (1959) have given an overall picture and stated:

"In general, studies indicate that when these two measures (intelligence and achievement) are correlated, the coefficients can be expected to range from 0.30 to -0.80 with most of them at or near 0.55, the middle of the range."

Fleschere (1963), Klausmeier and Weirsma (1964) and Edwards and Tyler (1965) found that there was a high correlation about (0.70) between IQ and achievement.

Gough (1965) used the achievement via conformity and achievement via independence scale, with positive weights, and flexibility, with a negative weight, to predict
academic achievement in a sample of Italian school children. Snider (1966) and Linton (1967) found that the CPI (California Psychological Inventory) distinguished achievers from under-achievers in a Canadian High School setting. Hughes (1968) stated that reading copying and comprehensive copying strength were highly comparable with the variables of IQ and reading achievement in the prediction of grades.

In a study of McCandless & Roberts (1972), intelligence and standardized achievement test standing have a correlation of 0.45 for the total population but of -0.35 for advantaged white boys and of 0.80 for disadvantaged white girls.

Jacobs (193?) investigated that the differential aptitude test (DAT) and the verbal reasoning test were correlated significantly with Grade Point Average (GPA). Norton (197?) found the total DAT battery to be significantly related to science achievement. Frankel (1960) suggests that scholastic aptitude tests can be regarded as the most satisfactory predictor of academic success. He found that achievers (those whose school
performance was commensurate with their intelligence) have a significantly higher score on verbal reasoning and numerical ability than the underachievers (those whose academic performance was poorer than their intelligence scores).

According to Anderson's (1960) ability gradient theory, the IQ could be expected to have an effect on academic achievement up to a certain threshold IQ level, where further increases in the IQ would have no further effect on achievement but where creativity would begin to have an effect (Such a situation be a special case of interaction between the IQ and the creativity variables).

Yamamoto (1961) also found that the IQ beyond 120 had no effect on the academic achievement of high creative group. Holland (1961) reported that creative performance was generally unrelated to scholastic achievement and aptitude among students of superior scholastic aptitude. Ahrens (1962) obtained lower creativity-achievement correlations from a 'normal' IQ group than from studies with high IQ groups.

Getzels & Jackson (1962) demonstrated that a group
of individuals whose measured creative ability was in the top 20% of their school and whose measured intelligence was in the lower 80% was equivalent in achievement to a group whose measured creativity was in the lower 80% (But both groups were superior in achievement to the population from which they were drawn. Torrance (1962) found that only six out of eight replications confirmed Gatsell's and Jackson's results. The existence of an I.Q. threshold was also contradicted in studies showing strong correlation between measures of intelligence and academic achievement for high IQ groups (Hosteller, 1963).

Ciocelli (1965) found that when the effects of I.Q. were statistically controlled, there were significant correlations between a composite creativity score and reading, arithmetic and language achievement. Wellwark & Kogan (1965) reported a number significant relationship between achievement and the I.Q. scores. Edwards and Tyler (1965) found that students with the I.Q. scores in the upper third of their sample had higher achievement scores than pupils who were in the upper third on creativity measures.

Feldhusen et al (1965) reported significant correlations among standard achievement scores in mathematics, science, social studies and reading, verbal and quantitative ability measures, and tests of originality, ideational fluency and
flexibility among junior high school pupils. Feldhusen et al (1971) concluded from a study that there were significant relationships among creativity scores, intelligence scores, and academic achievement.

Millham et al (1971) reviewed studies on the relationship of intelligence to conceptual learning and stated that performance was contingent upon the complex interaction of subject variables and the organization and structure of learning tasks. Clifford and Clearly (1972) in a study found that in each grade level, there was a significant positive correlation between internality and performance. For boys this relationship was stronger than that found between performance and IQ; for girls the IQ correlated more highly with performance than did internality.

At the college level, studies by Thurstone (1925), McPhail (1925), Toops (1926) and Edds and McCall (1933) have reported a significant correlation, ranging from 0.315 to 0.600 between intelligence and scholastic success. Butsch (1939) has suggested that by assigning differential weights to the components, the prediction of success could be improved in the courses of Engineering, Journalism, Business Administration and Liberal arts. A review of literature from 1930 to 1937, concerning factors affecting college grades
was published by Harris (1940). He concluded that the correlation between intelligence and grades ranged from 0.33 to 0.64. Rosenfield & Nemzek (1938), Keys (1940) and Billhartz & Huston (1941) found correlations ranging from 0.21 to 0.35 between general intelligence and college grades. Hartson and Sprow (1941) and Durflinger (1943) have also reported a significant correlation between intelligence and scholastic success.

Crawford (1946) stated that typical correlations with school or college averages which run between 0.40 and 0.50.

Travers (1949) has stated that, in general, multiple r's of 0.6 or 0.7 are obtained at most universities between freshmen grades and predictive batteries comprising secondary school grades achievement and tests of intelligence or scholastic aptitude. Carter (1950) reported that intelligence influenced academic achievement significantly, the correlation being about 0.51.

Lennon (1950) found a number of correlations between intelligence and school subjects among children of different grades. A part of his results relevant to this study is given below:
TABLE 2.4
CORRELATION BETWEEN INTELLIGENCE AND VARIOUS SCHOOL SUBJECTS

<table>
<thead>
<tr>
<th>Subjects</th>
<th>VIII</th>
<th>IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>.85</td>
<td>.84</td>
</tr>
<tr>
<td>Word Meaning</td>
<td>.86</td>
<td>.82</td>
</tr>
<tr>
<td>Arithmetic Fundamental</td>
<td>.65</td>
<td>.57</td>
</tr>
<tr>
<td>Arithmetic Problems</td>
<td>.65</td>
<td>.55</td>
</tr>
<tr>
<td>Spelling</td>
<td>.61</td>
<td>.56</td>
</tr>
<tr>
<td>English</td>
<td>.52</td>
<td>.61</td>
</tr>
<tr>
<td>Literature</td>
<td>.77</td>
<td>.67</td>
</tr>
<tr>
<td>History &amp; Civics</td>
<td>.71</td>
<td>.69</td>
</tr>
<tr>
<td>Geography</td>
<td>.71</td>
<td>.72</td>
</tr>
<tr>
<td>Science</td>
<td>.62</td>
<td>.51</td>
</tr>
</tbody>
</table>

These correlations indicate that intelligence as...
measured by intelligence tests is fairly associated with
general scholastic success especially in subjects that
demand linguistic ability and the acquisition and manipulation
of abstract ideas. It is found that, at the secondary level
there is a pronounced tendency for the pupils with high
IQ to be also the high achievers.

Freeman (1950) on the basis of many studies pointed out
that the relationship between intelligence and achievement
varies between .40 and .60 with a central tendency of .50.

Voluminous research work in the past has established
that grades in school depend to a great extent on intelligence.
Studies by Hollingworth & Cobb (1923), Terman and others (1925),
Carrell (1930), Sanford (1952), Wadsworth (1959), Gowan (1955),
Hammond and Cox (1967) and several others have reported that
superior intelligence is associated with high academic
achievement.

As far back as in nineteen thirties, Strang (1937) made
detailed reviews of research literature confirming the
significant role played by intelligence in educational attainment.
Recently, scientific investigations in the related field,(for
Sheffield, 1966 and Vernon, 1970) have given considerable weight
to intelligence as a major influencing factor in the domain
of academic achievement. A few of the studies cited below
will bear testimony to this effect.

Super (1949), on the basis of the summary of the review of various studies, concluded that 'r' between intelligence and achievement ranged from .30 to .80 at school level. At college level, however, this range lowered down from .20 to .70.

Craford and Burnham (1946) reported the range of 'rs' between the two to be .60 to .65. Cuppens (1967) studied Dutch High School subjects with Dutch version of the DAT intelligence and GPA (r = .28) and DAT intelligence and DAT achievement (r = .31). Lewis (1967), while making a multivariate analysis of variables associated with academic success within a college environment, found that mental ability was not significantly related to academic achievement. Gams (1968), in his studies, established the fact that one of the best predictors of academic achievement was the verbal version of the scholastic aptitude test. Rattan and MacArthur (1968) reported a highly significant 'r' of .57 between achievement and progressive matrices. Simpson (1970) revealed the fact that there was a 50.3 per cent congruence between IQ and GPA ranking. Divan (1970), obtained 'r' of .46 and Dhallwal (1971) found an 'r' of .52 between intelligence and criterion variable of achievement. The above studies undoubtedly
show positive and significant relationship between academic achievement and intelligence. But, at the same time, these studies reveal lot of variation in 'r' between the two variables.

In one of the studies conducted by Green and Farquhar (1965), they obtained exceptionally low and non-significant negative 'r' of -.01 between verbal aptitude and achievement of Negro males. They, however, observed a highly significant 'r' of .62 with white males, while making use of the same instruments. Palechano (1972) also pointed out that intelligence was not systematically related to academic performance.

Shukla's correlations (1953) between intelligence and scholastic achievement in Gujarati, English, second language, History, Geography, Mathematics and Science of the S.S.C. class have been 0.71, 0.52, 0.33, 0.46, 0.45, 0.62, and 0.46 respectively.

Dosajh (1958) calculated correlations between progressive matrices and three school subjects (Mathematics, General Science and Language) of boys and girls who appeared in the middle standard examination
in 1958. These have been 0.6 for mathematics, 0.6 for general science and 0.39 for the first language. Rai (1958) reported the following correlations between intelligence and different subjects of Class VIII; Hindi 0.59, English 0.54, History 0.47, Geography 0.45, Maths 0.38 and Arts 0.02.

Jawan (1958 & 1959) revealed a positive correlation of 0.143 between progressive matrices test and examination marks significant at .01 level and he found a 'r' of 0.34 between intelligence (Mohsin's verbal intelligence test) test scores and achievement.

Dash (1959) stressed the importance of intelligence in achievement. Mishra et al (1960) reported a correlation of 0.31 between intelligence test scores and school achievement.

In a study by Kundu (1962) scores on three intelligence tests (abstract intelligence test, intelligence test, concrete intelligence test) were correlated with scores in Bengali, English, Hindi, Sanskrit, Mathematics, History, Geography and Science. The correlations ranged between -0.106 and 0.499.
The importance of intelligence in academic achievement has been brought out by Tripathi (1962). Rao (1965) found a correlation of .80 between IQ and achievement. Joshi & Pathak (1966) stressed the role played by general intelligence along with certain group factors in the performance of school subjects.

In a study, Hundal et al (1972) found that the correlation between the two measures of academic achievement and intelligence test scores was positive and moderately high. While discussing fluid and crystallized intelligence, Singh and Hundal (1973) stated that both these abilities (intelectual development and skills and skills & concepts) involved performance commonly said to indicate intelligence.

Chothia (1954) found a positive and significant bearing of intelligence on the prediction of success in college.

Mehdi (1965) investigated differential factors in pupils' success in science, art and commerce courses at the higher secondary stage and demonstrated that differences did exist between the combinations of factors required for success in the three courses. His study brought out the utility of using tests of verbal meaning, inductive reasoning and numerical faculty for predicting academic success.
A battery of tests (composed of Paper Form Board Test, Abstract Reasoning Test, English Usage Test, Spelling Test and Vocabulary Test) was used for predicting college marks of Arts and Science students in a study made by Chatterji & Gupta (1960). The correlations ranged from 0.60 (between English marks and the test of vocabulary) to -0.295 (between mathematics and Paper Form Board Test) for the science group. For the Arts group, the correlation ranged from +0.485 (between English Usage Test and English marks) to -0.550 between Bengali and Abstract Reasoning Test). Low correlations were found by Rath (1959) between college marks of 275 graduate students and two intelligence tests, Progressive Matrices and Verbal intelligence. The highest coefficient of correlation in this study was found to be .293 between arithmetic marks and Progressive matrices scores.

Harayans (1962) found the pre-University examination to be the best predictor at the college level. He suggested that a combination of pre-University marks, the first term marks, the scores on Raven's Progressive Matrices Test and the verbal test of mental ability was likely to increase the predictive efficiency. Raina (1965) in an attempt to predict the success of teacher trainees, came to the conclusion that prediction could be improved by combining the matriculation marks with intelligence scores. Rastogi (1965) suggested
that the prediction of achievement at the college level was improved on the basis of interest and intelligence test scores. Kamat et al (1966) showed that general ability could explain 55% of the variance by the factor analysing marks obtained by 1,200 students.

A positive correlation of .422 was found between nonverbal intelligence and achievement and .462 between verbal intelligence and achievement by Passi (1971).

Desai et al (1970) and Sinha (1972) found intelligence to be positively related with school results. Mohan et al (1975) reported that intelligence as measured by progressive matrices scale is positively related with total educational attainment.

Dagur (1969) conducted a study on the topic, "Correlation between intelligence, interest & achievement." The sample consisted 100 students of six schools of Delhi. He constructed the achievement test himself. The questions were obtained from the pool of questions of the Department of Curriculum Development & Evaluation, N.C.E.R.T. To measure intelligence of the students Jalota's test was used. The correlation was found markedly significant. So it was concluded that achievement was substantially related with the intelligence (r = .52).

Bhatt (1971) found out that coefficient of correlation
is .33 between intelligence and achievement which is significant but not high.

Singh (1970) concluded that student's scholastic achievement in mathematics relates more strongly to intelligence than to any other pupil characteristics. This covers almost 50% of the total variance.

Bhatnagar (1967) observed that probably more intelligent students were more achievement oriented. Sachdeva (1968) found that intelligence as measured by intelligence tests (Ramal's Inventory) is closely associated with scholastic achievement. The correlation arrived at between them is .58. It is clear from the findings that intelligence is a great factor that contributes to low or high achievement in academic work.

Kulshreshtha (1956) has noticed a high positive relation between intelligence and scholastic attainment. Rastogi (1965) has found that interest and intelligence were related more with achievement and less with each other.

Dhand (1974) reported a close and significantly high relationship between intelligence and achievement. Bhasin (1974) also reported significant correlation between intelligence and achievement (r = .282).

According to Malik (1977) intelligence as measured by test of General Mental Ability by Jalota's test and
achievement are highly correlated. Their correlation being .435 in the intercorrelation matrix.

Mehra's study (1980) confirmed that there was a high positive relationship between intelligence and achievement.

2.1.6 Studies On Intelligence And Adjustment

Terman and others (1925) reported that good social adjustment tends to be associated with intelligence.

Baden (1943) showed that bright and dull children are characterised by different types of personal problems. It was observed in his study that intelligent people are capable of concerning themselves with more abstract matters and can get along with the society.

Nanda (1956) in her study has observed that the more intelligent students were better adjusted to the school and home environment as a whole, because they were achieving a greater measure of success and were thus
getting more recognition than the dull and the backward. But this does not imply that bright students do not have the problems. They have their problems too, but because of their broader background of experience and their ability to analyze these, they are often able to think about different ways of getting over them. They usually get over their difficulties far more easily than others.

Varma (1963) studied statistical relationship between intelligence and adjustments and reported the following 'r's:

- Home adjustment = .26
- School adjustment = .30
- Health adjustment = .27
- Social adjustment = .24

The composite r was .27 which was significant at .01 level of significance.

Saxena (1966) conducted a study on the topic "An investigation into the Personality Traits and Adjustment of the adolescent girls in relation with intelligence" and reported the following results concerning relationship between intelligence and adjustment.
The Pearson’s ‘r’ obtained against the four fields of adjustment are the following:

- **Home adjustment** = +.19
- **Health adjustment** = -.02
- **Social adjustment** = -.28
- **Emotional adjustment** = -.22

On the basis of this, the following conclusions were drawn about the adolescent girls:

- Their home adjustment is influenced in the positive direction with their intelligence level.

- Health adjustment is a factor much independent of intelligence.

- Their social adjustment and emotional adjustment is influenced by their intelligence level in the negative direction during the adolescent period.

- The Pearson’s ‘r’ against the total adjustment is only .07 which is not significant. This indicates that, on the whole intelligence contributes very little and equal to nil in bringing about the adjustment of girls during the adolescence period.

Shinkum (1966) submitted a research report to the Department of Psychological Foundation, N.C.E.R.T. on the topic "A Study of intelligence of socially accepted, socially neglected, and socially rejected children of Class VII of
local Institutions." She concluded that intelligence helped a person in making social adjustment or in maintaining the relationship with their peers.

Pal (1967) found out the relationship between intelligence and adjustment. He conducted the study on 370 students of different universities and colleges. The results and the findings which emerged out of the study show that intelligence and adjustment are positively correlated i.e., the higher the intelligence of an individual the greater his adjustment in his environment.

Tandon (1969) performed a study on the topic "An investigation into the adjustment problems of Exceptional girls of Delhi". He found that the below average group has many more problems as compared to above average group. The problems of the below average group centre around the home whereas those of the above average group centre around school. In most of the areas, the below average group has felt the problems more intensely than the above average group.

Kalra (1971) conducted a study on the topic "A comparative study of some personality correlates of intelligent and creative students". He found that the creative as well as intelligent boys suffer due to emotional problems more than due to other problems.
2.1.7 Studies On Intellligence And Socio-Economic Status

Jordon (1933) examined 1247 students of the school and realized the positive correlation between students' intelligence and parental occupation.

Jensen (1968) has shown that SES is correlated 0.35 to 0.40 with the IQ, the high SES children having higher IQ than their lower SES peers.

Edwards (1968) has quoted a number of studies in an article and has shown that the relationship between favourable attitudes and SES is far less marked than is the relationship between IQ & SES.

Vernon (1969) stated that there was only a limited support for the hypothesis that dominance in the home and the encouragement of initiative were associated with perceptual-spatial abilities.

Subnormal children from the low socio-economic status often appeared to be brighter than those from middle and high SES. Moreover, the I.Q. did not predict the associative learning ability of low SES subjects nearly as well as it did of high SES subjects, this has been shown in several studies (Jensen, 1970).

Guthrie (1971) in a study concluded that the high SES subjects were noticeably superior to the low SES subjects on all treatment conditions.
Majoribanks (1972) concluded that the environment measure counted for a large percentage of the variance in verbal number, and the total ability scores and the moderate percentage of the variance in reasoning ability scores. The average correlation between the social status characteristics and the ability scores was 0.38.

Anderson & Hanrahan (1972) indicated generally a higher IQ for subjects from higher socio-economic levels.

Sapra (1965) conducted a study on "Social adjustment of Government of India Merit Scholars". He reported that the merit scholars have some difficulty of adjustment within the peer-group in the initial years of their placement in public schools which is not due to their low socio-economic status, but may probably due to the strangeness of the environment.

Rao (1965) found that the income, education and occupation of the parents seem to be related to the intelligence of the pupils. This may indicate that intelligence is not merely an innate individual characteristic (a product of native endowment) but is to a large extent affected by environmental factors. SES is highly related to intelligence ($r = 0.49$).

According to Bhatt (1971) there exists positive
relationship between the cultural background (education of parents) and intelligence scores of the students, though the correlation, ($r = .20$) is low.

Mathur & Hundal (1972) found that there existed a close mutual relationship among factors of intelligence and family background. The correlation between the parents' income and intelligence was 0.46; and between the parents' education and intelligence, it was 0.79. They concluded that higher the family income, the higher was the intelligence. Also the higher the parents' education, the higher was the intelligence of the children.

Dixit (1973) conducted a study on 150 students of IX and X classes of New Delhi. This study was conducted on a selected sample of students of three groups of different socio-economic status. The following conclusions were drawn from the study:-

- The students belonging to the high socio-economic status group were found to be better and superior in intelligence level than those belonging to the low socio-economic status group.

- The level of intelligence was only higher when both the factors i.e., the factor of social status as well as that of economic status were taken into
consideration together. If both the statuses were higher or lower as the case might be, the level of intelligence tended to be higher or lower respectively. In case of both the statuses being at variance the intelligence was not markedly affected.

Bhasin (1974) reported positive and significant correlation \( (r = .165) \) at .05 level between intelligence and socio-economic status. Paul (1968) found no direct relationship between intelligence and socio-economic status.

2.1.8 Studies On Achievement And Adjustment

Many studies have been conducted to establish the relationship between achievement and adjustment.

For instance, Burt (1917) and Terman (1925) thought that psychoneurotic traits were handicap in academic work.

Richmond (1929) found emotional maladjustment to be more often associated with poor performance.

White (1932) deduced that poor achievers were often handicapped by mental disorders of an anxiety type.

Stagner (1933) recognised only negligible relationships between the personality tests and the grade averages but felt that high emotionality tended to lower achievement.

Thompson (1934) pointed out that psychoneurotic scores were only slightly correlated with achievement.
Fischer (1943) concluded that emotional mal-adjustment and frustration led to greater under-achievement.

Assum & Levy (1947) found personal adjustment to be positively related to scholastic success.

Martin (1952) held personal mal-adjustment bordering on neuroticism as a characteristic of failing students.

Berger and Sutker (1956) concluded that students with high intellectual capacity and adequate personality adjustment achieved superior academic performance.

Bishton (1957) concluded that the characteristics of adolescents placed greater emphasis on the pupils' achievement in terms of social and emotional factors.

Heilbrun (1960) revealed that students with several difficulties would be less likely to succeed than those without handicaps.

A definite relationship was found to be existing between the levels of achievement and the related adjustment factor by Conti (1962).

Cattell and Butcher (1968) also met with considerable success in indicating the importance of personality factors in school achievement.

On the other hand, Evans (1930) reported no correlation between success in college and emotional stability, whereas Prescott (1938), Crow & Crow (1942) and Manguss & Woodward
(1949) stressed the importance of educational factors in scholastic success.

Sutton (1961) found that men with brilliant scholastic records were often not better emotionally adjusted than those with low academic achievement.

Suinn (1965) and Robinson (1966) reported anxiety to have a positive effect on academic achievement.

Gough (1949) obtained low but consistently negative correlations between the Brown Personality Inventory and five achievement tests. The tendency of 6th grade students was that more adjusted pupils secured lower achievement test scores.

Dana and Baker (1961) conducted a study on high school sample. They found that as adjustment increased, grade point average also increased. Jamuar (1961) found that the home, social and emotional adjustments are positively related to academic achievement.

Watley (1965) used Guilford Zimmerman Temperament Survey and reached the conclusion that the adjustment was significantly related to academic achievement in High school as well as college level. Bao (1963, 1965, 1967) showed in his studies that adjustment problems at school and college level led to underachievement. Ringness (1965), however, did not obtain much encouraging results. He did not come across gross adjustment difference among the academically successful
subjects who felt slightly more sense of personal worth believed that they had better family and school relations but possessed slightly more nervous symptoms.

At college level Griffiths (1945) studied the relationship between scholastic achievement and personality adjustment of men college students. He compared HPR (honour point ratio) with the Bell Adjustment Inventory scores. Adjustment scores of men with brilliant academic records were not significantly different from those of men on probation. Men with unsatisfactory 'Bell' scores had grade averages which were not significantly different from those of the ones with good adjustment.

Anderson and Spencer (1963) concluded that the prediction of academic achievement was not influenced by personal adjustment.

Garms (1968) showed that high achievers at college level concentrated and remembered more because of less emotional problems of adjustment.

Miller (1970) studied the factors in school achievement and social class. In his research report he quoted that Wiseman (1967) found that poverty population density, family size and poor health were associated with poor educational progress.

A viewpoint expounded by Altus (1947), Pierce (1962), Frank (1967), Buck (1969) and Delson (1972) confirms the fact
that one of the explanations of discrepant academic achievement lies in the fact that the adjustment of the students, deficient needs, perturbing problems and exacting demands may ill adjust the individuals in various areas of life and this may be detrimental to scholastic attainment.

Kumar (1963) developed an adjustment inventory in Hindi and used it to study the adjustments of higher secondary students and their class attainment and ultimately found a positive relationship between them.

Jha (1970) found that coefficient of correlation between composite adjustment scores and achievement scores turned out to be significant at .05 level. It was concluded that:

- The scholastic achievement seems to be dependent upon the total adjustment of the student i.e., if a student is well adjusted, it is more likely that he will be achieving high.

- The low positive value of 'r' suggests that scholastic achievement has definite but small relationship with the total adjustment of the students.

Chaudhry (1970) adapted and validated Mittal's Adjustment Inventory for College students and found that adjustment was closely related to one's achievement. In a project sponsored by the Indian Council of Social Science Research (1972), several
related studies in this field at different educational levels have been reported in 'A Survey of Research in Psychology' (For example, Bhatnagar, 1969; Rao, 1963, 1965 and George and Abraham, 1967). Badami & Goswami (1973) found social adjustment to be significantly associated with school achievement.

Chattopadhyay (1974) found the correlation of .423 for health and academic achievement.

Mehra (1980) found that the child's achievement affected the teachers' assessment in other aspects too, like that of social adjustment.

2.1.9 Studies On Achievement And Socio-Economic Status

Clark (1927) found that students whose parents had college education, ranked higher in scholarship. Bear (1928) found that the occupation of the parents was related to the academic success of the students. Chaucey (1929), in a study, concluded that the correlation between achievement and intelligence was but little influenced by age and socio-economic status. In Coleman's study (1940), the correlation between the socio-economic status and achievement was found to be 0.300 in the eighth and .353 in the ninth grade. However, when the I.Q. or the chronological age or both were held constant, the correlations between SES and achievement were sharply reduce but less so in the 9th than in the 8th grade. Nemzek (1940)
reported that the education of parents and their profession had no influence on the academic success of their children.

Gough (1946) determined the effect of socioeconomic status upon academic achievement and upon personality Inventory scores, on 127 six grade public school children. The correlation between socioeconomic status and achievement test scores clustered near .30, with the exception of arithmetic where the correlation was .07.

Tenman and Oden (1947) found that the under-achievers came from homes where the parents had lower education than the parents of achievers. The National opinion Research Centre (1947) established that the perception of the occupational prestige hierarchy was positively related to the socio-economic class.

Kimball (1953) found under-achievers, in general, had poor father-relationship. Malloy (1955) found that parents of high achievers had more positive attitudes. Drews and Teahan (1957) revealed that the educational values and the attitude of the parents also had an important bearing
The occupation of the parents was found to be related to the academic achievement of intellectually superior children in a study by Bissell (1957).

Siller (1957), in a study of the 6th grade, white children, found that children belonging to high socio-economic level did better than those belonging to low level on all tests of conceptual ability, particularly those involving verbal material. Gerberich (1957) found a correlation of 0.437 between achievement means and home index (an instrument which takes into account the style of life as well as the income, occupation and education) means for students in 55 towns. Furthermore, this socio-economic variable correlated with achievement even when the I.Q. was partialled out. Rossi et al (1977) established that the difference among individuals was also accounted for by S.E.S., i.e., the higher the occupation of the bread winner in the students family, the greater his level of achievement.

Frenkel (1960) found that the fathers of the achievers had more of formal education than their mothers. The underachievers, on the other hand had a significantly greater number of working mothers in the jobs, such as typists, clerks, receptionists. Frenkel (1960) found the socio-economic status to be positively related to academic success. The achievers belonged to a significantly higher scales of socio-economic strata. According to Brim (1960), many differences
exhibited by the pre-school children are the result of learning and can be attributed to the environment in which the children are raised. Impellizzeri (1961) stated that there is a correlation between the socio-economic status and the ultimate scholastic success. The educational background of the parents and the occupational level of the students' father have also been found to be related to the academic performance of the children. Research has shown a positive relationship between school grades and occupational level of students' father.

In a study by Pierce & Bowman (1962), the hypothesis that the high achieving students come from homes with a higher socio-economic status than the low achieving students was supported for the tenth grade girls, but rejected for the tenth grade boys. Curry (1962) observed that the socio-economic status had relatively no effect on children with higher I.Q. But the children coming from the higher S.E.S. had better scores on the whole.

Lindgren & Ouedes (1963) obtained a significantly positive relationship between the parents' education, social status and school marks. It has been found by Ausubel (1968) that typical relationships between the social status characteristics and the ability scores are represented by a correlation coefficient of 0.35.
Vane (1966) observed fairly high positive correlation between the achievement and socio-economic status of 272 negro and white children in an integrated high school district.

A report of the Central Advisory Council for Education (England) was published in 1967 and is popularly known as Plovden Report. It has long been known that achievement varies inversely with the size of the family. But in this study, it is evident that when the effect of the other variables is done away with, parental attitude is a more potent cause of difference in children's performance than family size.

Wendt (1967) gave the finding that high percentage of the low achieving school students was from the families where the fathers' occupation ranked low. Dibble (1967), while studying public high school students, minimised the importance of socio-economic status by finding out that though income of the family influences achievement but factors such as residence, status, status of the parents, family size, mother's education, all contribute very little to variance in achievement. Tulkins (1968) studied race, class, family and schoo
achievement of 389, 5th and 6th grade students. When social
class was controlled, racial differences were obtained on
achievement as well as family measures. However, when
family differences were statistically controlled, there were
no significant racial differences in achievement of the upper
socio-economic group. Conclusion was made that economic
differences account for achievement test scores.

Wheeler (1968) in his article on socio-economic status
and High school held that socio-economic status influences
achievement. The investigator has not made clear the exact
nature of relationship between socio-economic status and
achievement, though he asserts that a significant relationship
exists.

Entwistle and Welsh (1969), while studying a large
sample of 2538 Aberdeen school children derived a tentative
conclusion that the correlation between SES and academic
attainment was higher among the bright students of both
sexes. The correlation between level of father's occupation
and academic achievement showed a high level of significance
which, however, lowered down when the factor of self-esteem of
children was controlled.

Miller (1970) maintained that the research literature
emphasized that the educational achievement of children from
middle class home was superior to that of children from manual
working class families.

Glick (1972), stated that research had clearly demonstrated that the children of all socio-economic depressed ethnic groups manifested deficiencies in achievement. Stedman & Adams (1972) support the view that the SES and some other factors are predictive of achievement. It was observed by Om & Das (1972) that in the average IQ level, the high SES sample did better than the low SES sample; in short memory this was reversed in the low IQ level.

Asbury (1973) found no association between achievement level in arithmetic and SES of rural white and black pupils. The relationship between social class and socio-economic status and achievement has been borne out by Banks and Finlayson (1973). Some socio-economic aspects, like family size, mother's occupation and income, significant in other studies, were not to be of importance in this study.

The study by Nuttal et al (1976) takes more factors into account and was designed to determine if in fact, family size, birth order, spacing and crowding have an effect on the academic achievement of boys and girls. The results indicated that family constellation variables are significantly associated with academic achievement even after intelligence is controlled.
However, the effects are sex-specific. For the girls, the fact of being first born is associated with higher grades while it is not for boys. For boys, family size is significantly associated with better grades in that small family boys do better. Even when IQ is controlled this effect holds.

There is tremendous research literature which gives evidence to the fact that superior socio-economic status leads to better school attainment (Rao, 1963; Fox, 1966 and Lunneborg and Lunneborg, 1968).

The studies of Deb (1958), Sharma & Kalra (1960), Sinha & Misra (1960) and Sinha (1960) have explored the role of sociological and psychological factors in the success of students of Engineering. Mishra et al (1960) reported a correlation of 0.59 between home environment and school achievement. In a study reported by Jamuar (1963), twenty background factors like the father's occupation, hobbies, future educational and vocational plans of the students etc. were positively related to the school achievement of the secondary school pupils.

Sethi (1961) pointed out that social status had definite bearing on the achievement of the students. Here
too, the degree, type and direction of relationship has been left unclassified.

Mathur (1963) studied the effect of socio-economic status. He concluded that the socio-economic status was significantly correlated with educational achievement, intelligence and the conduct of students. The results showed that Chi coefficient between achievement and SES was .70.

Chopra (1964) examined the relationship between the socio-economic status and academic achievement keeping the intelligence constant. He reported that due to stringent poverty nearly 96% of the students discontinued the study. The reason pertained to the poor economic status of the family on the basis of the size of the family, occupation and education of the guardians & heritage of the family (cultural level of the family). The students belonging to higher stratum showed significantly higher academic achievement.

Pillai (1965) studies the factors affecting achievement of pupils in secondary schools. The students revealed that the school average was influenced by the income of the family, educational status of parents etc. But he, too, has not specified the nature and direction of the relationship.
Bae (1965) found out a substantial positive correlation of 0.39 between SES and achievement. This shows that the parents' income, education and occupation influence the achievement of the pupils.

Jain (1967) studied the relationship between home environment and scholastic achievement. The basis of assessing the scholastic achievement was the marks of U.P. Board's High School Examination. 504 students of age group 13+ to 15+ of both sexes were selected from ten higher secondary schools of Allahabad. He concluded that the influence of home environment on achievement was positive and significant but socio-economic conditions seemed to have no relationship with school achievement. This study is significant in its efforts to separate family environment as differentiated from economic status.

Srivastava (1967) concluded that under-achievement was related to various background and personal factors like father's occupation, socio-economic status, size of the family etc. Whether, under-achievement is positively or negatively related to various background and personal factors is not clarified by the investigator.

Jha (1970) showed that there was no relationship between achievement and socio-economic status.

Bhatt (1971) investigated the relationship between cultural variables of home and academic achievement. He chose
The students of Class XI of Rajasthan State. He showed the following results:

The hypothesis was that the cultural atmosphere of homes should have some relationship with school marks of the students. This is confirmed by the study. Education of the father which plays a significant role in forming the cultural status of the family has got positive but low correlation with school marks. Higher the cultural background, higher the chances to secure good marks in the examination.

Kaushal (1971) studied the effect of family patterns on achievement and concluded that poor-economic standing of the family created a stimulus for better career orientation and competition than higher family economic levels.

Mathur & Hundal (1972) found that there existed a close mutual relationship among factors of achievement and family background. The correlations reported by them are 0.41 between the parents' income and achievement; 0.63 between the parents' education and achievement. They concluded that higher the family income, the higher was the achievement. Also, the higher the parents' education, the higher was the achievement.

Mohan (1972) stated that nearly all the books on educational psychology stressed the relevance of the socio-economic status of the family on the subsequent performance of the children. The higher level of SES is usually understood to provide for greater facilitation in education.
Pathak (1972) expressed the view that the educational background as well as financial condition of parents was better in case of high achievers.

Gupta (1973) summed up the outcome of a study to state that the parental occupation, the income status of the family and the facilities for studies (a table, chair, etc.) provided to the child at home had a high relationship with his scholastic achievement. The higher the occupational status of the parents and the income of the family, the higher the level of the child's academic achievement. Also the better the educative facilities provided to the child at his home the better the achievement.

Dutt & Sabharwal (1973) stated that the economic, educational and occupational levels of the father had a relationship with the achievement of a child.

Chattopadhyay (1974) showed the relationship between socio-economic status, values, achievement motivation and academic achievement. The correlation between socio-economic status and academic achievement was found to be .485. It has been observed that the students belonging to the higher stratum showed significantly higher academic achievement. Dhami (1974) reported statistically significant relationship between SES and scholastic achievement.

Kohli (1974) found that the socio-economic status can be accepted as a common correlate of academic achievement.
Bhasin (1974) found positive and significant relationship between achievement and socio-economic status \( (r = .257) \).

In the Varanasi Centre study (1974) the two independent sets of factors, the family background factors and school factors, were supposed to be acting upon the "intervening" variables such as intelligence, social maturity, moral development and social acceptance. These intervening variables were supposed to mediate between the independent variables and the dependent variables which were achievement and measurement of perceptual organisation ability of children. The results showed that the family influences are stronger than the school influence.

The same study conducted at the Hyderabad Centre (1974) attempted to focus its attention on variables in the home pertaining to the parents, in order to see how they affected scholastic achievement both in the rural and in urban areas. The results indicated that the correlation between socio-economic-cum-educational level of parents and the achievement in arithmetic was significant beyond .05 level. For language achievement, it was not significant though it was in the expected positive direction and no significant relationship was found between the parental orientation and the child's scholastic achievement.

Gupta (1975) reported a study of achievement in mathematics in relation to attitude towards mathematics and socio-economic status. He did not report a definite, clearcut
relationship between achievement and socio-economic status. Certain suggestive trends have been revealed. Upper lower and middle class children seem to be higher in achievement. High achievers come more from joint families and have more number of siblings older to them. High achievers have a better, more enriched (in terms of books, journals, paintings etc.) home environment even though they come from middle income group. High achievers are more confident, optimistic, have clearer plans for the future and ready to work hard.

Lungdeh (1977) found that socio-economic status and academic achievement were independent of each other. This may be due to the fact that in Shillong, there is more equal opportunity in education.

At the Delhi Centre, as reported by Murlidharan in a seminar held in 1977, the home variables - the socio-economic status of the families, parent-child relationship, parental aspirations, facilities for language development at home, etc. seemed to be making an impact on the child's achievement.

2.1.10 Studies On Adjustment And Socio-Economic Status

Gupta (1963) conducted a study on 120 students of Class X. The study was aimed to understand the social adjustment of adolescent pupils in relation to socio-economic factors in general. The following results were found:-
There was no statistically significant difference in the adjustment levels of the boys and girls.

There was significant difference in the social adjustment levels of the students of different subject-groups. The science-maths students of the class under investigation were having the highest adjustment scores. But this conclusion also was not highly reliable due to its being based on a very small sample.

There was no difference in the social adjustment levels of the students of different socio-economic backgrounds. Irrespective of the differences in income of the family, educational status of the parents, occupations of the parents and castes of the pupils adjustment, for the group as a whole, was not different.

Sapra (1965) undertook a study of social adjustment of Government of India Merit scholars in public schools and found that the social adjustment of the Government of India Merit scholars in public schools when interpreted in terms of acceptance or rejection by their peers, was not in anyway influenced by their low economic status.

Rai (1971) found out the various problems of students in colleges of Delhi in relation to their sex, socio-economic
background, educational streams and scholastic achievements.
The inventory covered five main fields of problems which were
educational, vocational, social, family and personal. The
study gave an indication of the fact that students coming from
low educational status had greater problems than those coming
from the high educational status and average educational status.

Badami and Goswami (1973) found social adjustment to be
significantly associated with the level of parental education.
Chattopadhyay (1974) found negative correlation i.e., -0.174
between health adjustment and socio-economic status.

The survey of these studies provides the necessary
context for the discussion of the results of the present
investigation in the light of the available researches. The
subsequent chapters contain the procedural details of sample,
tools, data-collection, analysis of results and the conclusions
and generalizations flowing from the research in hand.