

**INFLUENCE OF CERTAIN PARENTAL VARIABLES
ON ACADEMIC ACHIEVEMENT OF
ELEMENTARY SCHOOL PUPILS**

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2001

DECLARATION

I, Abdul Gafoor. K., do hereby declare that this thesis, "INFLUENCE OF CERTAIN PARENTAL VARIABLES ON ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL PUPILS" has not been previously formed the basis for the award of a Degree, Diploma, Title or Recognition.

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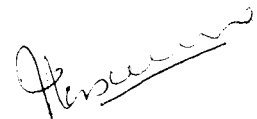

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C E R T I F I C A T E

Certified that the thesis "INFLUENCE OF CERTAIN PARENTAL VARIABLES ON ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL PUPILS" is a record of bonafide study and research carried out by **Mr. Abdul Gafoor. K.**, under my supervision and guidance and that it has not been previously formed the basis for the award of a Degree, Diploma or Recognition.



Dr. C. Naseema

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INTRODUCTION

Abdul Gafoor. K. "Influence of certain parental variables on academic achievement of elementary school pupils " Thesis. Department of Education, University of Calicut, 2001

INTRODUCTION

-
- ❖ Need and Significance
 - ❖ Statement of the Problem
 - ❖ Definition of Key Terms
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INTRODUCTION

Elementary schools in general are moderating the influence of family background. It is alleged that schools are often a threat to the home in at least two sense; in undermining parental influences and family values and substituting the different and perhaps alien influence of teachers (Musgrove, 1966).

A variety of other circumstances have also undermined the family. The last half of the twentieth century has witnessed profound changes in family life through out the world. Transition from agrarian to industrial economies, rapid advances in technology and automation and breakdowns in traditional family structures have had ineradicable effects on the homelife of the families. Stable, hierarchical organization of family have in many cultures given away to radical changes (Fuligni & Stevenson, 1994). The social changes include urbanization, geographical migration, social mobility, social services, changes in labour force, growth in technology and rapidity of social change which give children an advantage over their parents. Family changes include a reduction in family size, fewer households with more than two generations and an increase in the number of mothers who work outside home (Coleman, 1987; Kellaghan et al. 1993). As a consequence, factors outside the home come to play more important roles in children's life. Hence it is said that parents have less influence than earlier, on the behaviour of the children.

In spite of all these, family is our most successful social institution. The basic socialising and nurturing institution in a society is the family, which can be considered the smallest school. Parents can make a great difference and education in the home can become the platform on which the school can build higher achievement. Parents are their children's first

teachers and the only teachers who remain with a child for a long period of time. Obviously, as the child grows into adolescence and adulthood, other social institutions increasingly compete with or supplement family influences. However, a person's family continues to effect the individual significantly.

Different aspects of students' home background do have different degrees of influence on his or her academic achievement. If a young person lives in a place where encouragement and support are provided for the study, where active support is given to learning, where facilities are available, then that child is in a better position to raise his or her academic achievement. Johnstone and Jiyono (1983) observes that factors such as this are more influential in effecting achievement levels than are traditional socio-economic status factors.

Most professionals recognise that two of the most influential systems in an individuals' development are the family and the school. The central functions of both are the nurture and education of the children. Both parents and teachers are concerned with the child's welfare, but the parents' relationship with the child is more personalised than that of teachers. The notion of parents and teachers as partners in childrens' education is not entirely new, and it is generally accepted that families and schools cannot operate in isolation without detrimental effects to the children (Kaplan, 1971). Thus home and the school, two dominant forces in the life of the student should merge. The need for good relation between parents and the school is summed up by Midwinter's (1975) warning that, "no matter how much you do inside the school, you can make virtually no impact at all without the informed support of the home".

Hence parents should keep up with their children, should know where they are, and how they are getting on in their studies, should look into their

books, give an eye to their written work, be ready with an opinion, a hint, a word of encouragement.

NEED AND SIGNIFICANCE

Academic achievement is of paramount importance, particularly in the present socio-economic and cultural contexts. Obviously in the school, great emphasis is placed on achievement right from the beginning of formal education. Academic achievement has now become the determinant of academic quality of a person.

Johnstone and Jiyono (1983) reports that many studies have been undertaken in an effort to identify the main determinants of academic achievement, including school based factors and out of school factors. Common to a large number of studies is the consistent finding that the home background is an important determinant of the level of achievement. What is not clearly determined is just how important the home background factors are.

The educational achievement of children begin from the home. Children learn much from their parents during first five years of life. In the beginning of life, what children learn is grounded in what parents teach. The influence of family on children's educational experience has a curious place within the field of education. On the one hand, the issue has dominated the field. On the other hand, until recently, research on this issue focussed primarily on educational outcomes, very little attention was paid to the 'processes' through which these educational patterns are created and reproduced (Lareau, 1987).

How the young child learns to think, use language, feel about himself and others, view the world and his place in it, are all significantly affected by

the way parents interact with him. The importance of mother-child relationship as the focus of interactional research has gradually been extended to include fathers as well (Fogelman, 1976; Lambert & Hart, 1976). The existence of a strong relation between adult and child must be regarded, on the whole, as social capital beneficial for the development of the child.

Most parents have a recognizable style of interacting with their children, though of course there can be differences between two parents in one family. Professionals such as teachers can fall into the trap of equating a parenting style with the behaviour a child is manifesting. For example, while distinguishing language codes of more or less privileged classes, Bernstein (1963) noted that teachers use syntactic elaborate codes similar to middle class and upper class families and less privileged groups are disadvantaged by more restricted codes used in their families. Laosa and Henderson (1993) suggested that more research is needed to examine how the socialization process interacts with other levels of environmental ecology to create and maintain differences in academic learning.

Parents' interaction with the child is significant because of its pervasiveness, influencing the early development of relationships, language, interests, task oriented behaviours etc., extending from birth to maturity uninterrupted; the amount of parent-child interaction is greater than with any other adult, the degree of involvement of the parent is greater than any other adult with child, and the extreme variability including neglect and abuse to extremes of parental acceptance, involvement and stimulation (Schaefer, 1972).

Hence, the starting point of all education is the early life of the child, carved out by the genius of parents under the bracing environments of parental roof. Thus home provides an important educational foundation on

which child's formal school learning is built. Home factors such as parent's education, occupation, parental involvement, mother's employment, parental absence and the size of the family play vital roles in the achievement of children. Thus conceptualization of the home background has expanded to include important factors such as parental belief systems and parental involvement. A proper understanding of students' achievement calls for an investigation into these factors.

Schaefer (1972) observes that an awareness of major role of parent as educator is emerging from child development research. Accumulating research on parent behaviour also suggest the need to develop a system of education which recognise the major educational role of parents. He continues that academic achievement of disadvantaged group will not be improved by education through schools, without the support of parents. Discontinuity between home and school has been proposed as a major cause of poor academic achievement among low income populations (Laosa, 1982). Erbe (1991) also points out that home-school partnership is a significant factor in student achievement, particularly in schools often described as disadvantaged.

Parental involvement in child's education is important for other reasons also. All parents care about their children's welfare. The premise that 'all parents care' is the spur to action by teachers and others to find ways for encouraging and welcoming traditionally indifferent parents into a partnership (Wolfendale, 1992). Parents want to do what they believe to be good in their child's best interests. Parents are also the primary educators of, and experts on their children; and parent and teacher skills complement one another. Parents often have vital information and insights concerning their children; and the teachers and other professionals have not made the best use of them. Having a partnership allow educators to tap a rich source of cultural

and personal experience. Above all, all parents have a right to be involved and to contribute to their children's education.

Relationship between parents and schools were frequently distant and strained. Teachers complaint that parents are unco-operative; and parents, schools as distant and remote. Sociologist Willard Waller's early observation in 1932 that parents and teachers are "natural enemies" due to the qualitatively distinct relationship each maintains with the same child is consistent with this. The perceived distance between the home and the school can lead to interactions between parents and school staff, characterised by defensiveness, lack of co-operation and at times, open aggression and conflict. Tucker and Dyson (1976) have pointed out how a feeling of alienation between parents and teachers can leave the child with the burdensome role of primary communicator between home and school. Children need to see parents and teachers engaged in a co-operative enterprise on their behalf.

Research has shown that one of the ways to increase students achievement is to involve their families (Chaukin, 1993; Henderson & Berla, 1994). Establishing partnership with families has many benefits for schools and families, but Epstein says, "the main reason to create such partnership is to help all youngsters succeed in school . . ." (1995). Few countries have clearly established policies and procedures for improving home school collaborations, at national level. As a result, the nature and scope of such co-operation tend to vary widely between and within schools.

One of the reason for lack of systematic parental involvement is that, while the benefits of parental involvement in their children's education seem obvious, there has been little research to document the utility of the various forms this can take (Fuligni & Stevenson, 1994). Also, there are inconsistencies of the research findings regarding the value of parental

involvement and family influence. For example, the family's influence in children's learning according to Karther (1996) accounts for 80 percent of variance in students' academic performance. But studies by Yang and Boykin (1994), Naftchi (1995) and Rath and Saxena (1995) found no significant relationship between parental involvement and achievement. Sojourner and Kushner (1997) found a negative, though very low relation between parent involvement and students' achievement. Greater nurturance, also, was found associated with poorer academic performance (Williams, 1996).

Likewise, Heyneman (1980) rejected the belief that the strongest influence on achievement always come from the home background. On the basis of experience with the International Association for the Evaluation of Educational Achievement (IEA) project, Postlethwaite (1980) reported that there is only a weak relationship between home background and school achievement in developing countries. In India, Srivastava (1996) found that different aspects of parent-child relationship have varying effects on academic achievement. Sufficient research has not been carried out to permit identification of factors that might account for the divergent findings from developing countries (Kellaghan, 1994).

Moreover, a society which is becoming more and more open has given parents a new significance in their child's life. In an open society, the possibility of downward mobility for their children galvanize high status parents into frenzied activity. The lure of high status through achievement quickens the interest of low status parents in their children's educational progress and capital. Though the parents realize to a certain degree that they had an influence on their children's learning, they need the encouragement and clarification of the benefits of their efforts and of their roles as teachers. But, Macbeth (1989) stated that the area of home based learning is "an under researched and probably under estimated facet of child's educational

experience". Ramirez and Douglas (1989) noted that little research has been done on some aspects of the parental involvement. Further research is needed for examining the effectiveness of substantial parental involvement activities to determine what type of activities have a positive impact on student learning (Yang & Boykin, 1994).

In addition, a great deal of recent attention has been focussed on providing parents with training to help them modify their children's learning. Under District Primary Education Programme launched by government of India, such attempts have gained a new vigour. When parents learn how to teach their children, they tend to give more individual attention to their children (Steffy, 1985). The children see that their parents value education and are motivated to achieve by that perception. After reviewing studies by Gray and Klaus (1970), Sandler et al. (1973), Andrews et al. (1975) and Kogan and Gordon (1975); in 1982 Mitzel concluded that positive changes have been shown in parents' teaching styles, their interaction with children and in provision of more stimulating home environment, due to changes in parental education and occupation. It is also said that more highly educated mothers have greater success in providing their children with cognitive language skills that contribute to early success in school. According to Coleman (1994) education of a parent become available to the child only if the relationship of child to the parent is sufficiently strong that the human capital is transmitted. Hence the investigator included parental education and occupation also in the variables for the study.

As cited earlier, as a function of gradual change, in recent years the structure of family has altered. However, relatively little sustained research has been undertaken to investigate the effects of these changes on the education of the children (Husen & Postlethwaite, 1985). For instance, child rearing practices of working mothers were found to differ from those of non-

working mothers (Rita, 1979). Father involvement in families with working and non-working mothers was also significantly different. The researches on the relationship of mother's employment and educational achievement of children were inconclusive; with some studies showing association (David, 1992; Vandell & Remanan, 1992; Mukerji & Sharma, 1993; Panda and Samal, 1995; Wolfer and Meon 1996) and some other studies showing no association (Muralidharan, 1990; Abbot, 1991; Taluja, 1993; Beyer, 1995; Paulson, 1996; Minnalkodi, 1997). Hence the investigator wish one dimension of the study to be the influence of maternal employment on academic achievement.

In many parts of Kerala State a considerable proportion of male parents being away from home as employees in West-Asian Arabian countries, teaching of students from these home create special problem. Thus, parental absenteeism is a major issue in education of the children. Hence the investigator want to find the influence of parental absenteeism on academic achievement.

The feature of good home, which is least in doubt, according to Musgrove (1966) is its size. In general, the small family produces the most intelligent children. It may be because in small family the child is in touch with his parents and habitually uses more grown-up language and ideas than he would, if he were lost in a cloud of siblings. Tiwari (1979) identified family size as one of the significant factors contributing to parental attitudes. According to Davidson (1985) parents can spent more on child's education in smaller families. Hence family size is a variable that can have relation both to academic achievement of children and parental involvement in their children's education, that is variables of interest in this study. Thus family size is also included in the scope of this study.

Dramatic changes in the structure, functions and lifestyles of families through out the world require a rethinking of the parental involvement practices. At the same time, compelling research evidence points to the significant influence of families on children's short and long term educational outcomes. There are a number of variables that need to be researched before we can definitely ascribe criteria for success through parental involvement (Raban & Greekie, 1989; Toomey, 1992). One parent factor cannot be identified as more important than others in influencing children's school performance (Hess et al. 1984). Hence the investigator studies the influence of a set of parental variables, including parental involvement, parental education, parental employment, parental absenteeism and family size, on academic achievement.

Most parents exhibit interest in and they are capable of assisting the child's education at least at the primary school level. Since there is a tendency that this involvement progressively decreases toward higher classes, the investigator decided to conduct this study among pupils at upper primary level .

Keeping in view all these matters, this study is an effort to find out the influence of different parental variables on academic achievement of elementary school pupils.

Difference of the Study from Earlier Studies

The present study is characterised by the focus on home-based parental behaviours and activities which may influence students' achievement. The variables considered in the study include parental acceptance, parental aspiration, parental encouragement, parental attention, parental guidance, parental influence, parental decision-making, provision of physical facilities and care to physical fitness of child. These are important

because of high adult literacy in Kerala which imply that parents are capable of helping their children at least at primary grades. Also, unlike foreign countries, our schools do not usually permit direct intervention of parents in classroom as teachers or aids to teachers.

The socio-educational context in Kerala present a peculiar scenario with many fathers working away from home in foreign countries. Many of the mothers also seek employment outside the home due to the higher level of education among women. The present study takes into account these, and investigate the influence of father's as well as mother's education, employment and absenteeism on the academic achievement of elementary pupils of Kerala. Instead of a fragmentary approach, the study adopts a comprehensive approach. It ascertains the influence of an array of parental variables on pupils' achievement, simultaneously.

STATEMENT OF THE PROBLEM

The problem for the study is stated as "INFLUENCE OF CERTAIN PARENTAL VARIABLES ON ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL PUPILS".

DEFINITION OF KEY TERMS

Parental Variables

In the present study the term 'parental variables' denotes a group of parent related variables including parental involvement in child's education, father's education, mother's education, parental education, father's employment, mother's employment, parental employment, father's absenteeism, mother's absenteeism, parental absenteeism and family size.

Parental involvement in this study is an aggregate of nine variables viz., parental acceptance, parental aspiration, parental attention, parental encouragement, parental guidance, parental influence, parental decision-making, parental provision of physical facilities and parental care to physical fitness of child.

Academic Achievement

According to Good (1973) Academic Achievement is knowledge attained or skills developed in the school subjects, usually designated by test scores or by marks assigned by teachers or both.

In the present study Academic Achievement stands for the total score obtained for a pupil on a General Academic Achievement Test on the basic concepts of Malayalam, Science, Social Studies and Mathematics of Standard VI pupils.

Elementary School Pupils

'Elementary education' according to Good (1973) is the period of formal education beginning in childhood, usually at the age of 5 to 7 years, and ending approximately with adolescence; defined as including grades 1 to 8. In Kerala, elementary school is that school which provides first seven years of formal education.

Elementary school pupils are the pupils studying in standard 1 to standard VII. The present study is concerned only with VIth standard pupils studying in upper primary schools which include standards V to VII.

VARIABLES

The variables of the present study are as follows:

Dependent Variable

In the present study Academic Achievement is treated as the dependent variable.

Independent Variables

The following set of parent related variables are considered as the independent variables for the study.

- i. Parental Acceptance
- ii. Parental Aspiration
- iii. Parental Attention
- iv. Parental Encouragement
- v. Parental Guidance
- vi. Parental Influence
- vii. Parental Decision-making
- viii. Parental Provision of Physical Facilities
- ix. Parental Care to Physical Fitness of Child
- x. Parental Involvement
- xi. Parental Income
- xii. Father's Education
- xiii. Mother's Education
- xiv. Parental Education
- xv. Father's Employment
- xvi. Mother's Employment
- xvii. Parental Employment
- xviii. Father's Absenteeism
- xix. Mother's Absenteeism
- xx. Parental Absenteeism
- xxi. Family size.

OBJECTIVES

The objectives of the study are stated as follows:

1. To estimate the extent of relationship between each of the Parental Variables and Academic Achievement for the total sample and subsamples based on sex and socio-economic status of pupils and locale and type of management of their schools.
2. To test whether there is significant difference in the relationship of each of the Parental Variables with Academic Achievement, of the relevant subsamples based on sex and socio-economic status of pupils and locale and type of management of the schools.
3.
 - (i) To estimate R, the multiple correlation between the Academic Achievement and the significant Parental Variables.
 - (ii) To identify the significant Parental Variables in predicting Academic Achievement.
 - (iii) To estimate the relative efficiency of the significant Parental Variables in predicting Academic Achievement.
4. To test whether significant difference exists in the mean scores of Academic Achievement of the elementary school pupils based on different levels of the following Parental Variables:
 - (i) Parental Involvement
 - (ii) Parental Income
 - (iii) Father's Education
 - (iv) Mother's Education
 - (v) Parental Education
 - (vi) Father's Employment

- (vii) Mother's Employment
- (viii) Father's Absenteeism
- (ix) Mother's Absenteeism and
- (x) Family Size.

HYPOTHESES

The hypotheses set for the study are as follows:

1. There will be significant relation between each of the Parental Variables and Academic Achievement for the total sample and subsamples based on sex and socio-economic status of the pupils and locale and type of management of their schools.
2. There will be significant difference in the relationship of each of the Parental Variables with Academic Achievement of the relevant subsamples based on sex and socio-economic status of the pupils and locale and type of management of the schools.
3.
 - (i) The multiple correlation between the predictor (Parental) variables and Academic Achievement will be significant.
 - (ii) Academic Achievement can be predicted from one or more of the significant Parental Variables.
 - (iii) The relative efficiency of the significant Parental Variables in predicting the Academic Achievement will be different.
4. There will be significant difference in the mean scores of Academic Achievement of the elementary school pupils based on different levels of the following Parental Variables:
 - (i) Parental Involvement
 - (ii) Parental Income

- (iii) Father's Education
- (iv) Mother's Education
- (v) Parental Education
- (vi) Father's Employment
- (vii) Mother's Employment
- (viii) Father's Absenteeism
- (ix) Mother's Absenteeism and
- (x) Family Size.

METHODOLOGY

Sample

The study is conducted on a sample of 800 standard VI pupils drawn from eight revenue districts of Kerala, adopting proportionate stratified random sampling technique.

Tools

The data necessary for the study is collected using the following tools prepared for the study.

- (i) General Academic Achievement Test (for standard VI pupils)
- (ii) Parental Involvement Rating scale (PIRS)
- (iii) General Data Sheet

Statistical Techniques Used

- (i) Two tailed test of significance of difference between means
- (ii) Pearson's product moment coefficient of correlation
- (iii) The coefficient of contingency, C.
- (iv) Test of significance of difference between correlations
- (v) Stepwise regression analysis (by ANOVA approach)
- (vi) The multiple correlation R and the coefficient of determination, R^2

SCOPE OF THE STUDY

The present study venture to estimate the relationship of Parental Involvement, Father's Education, Mother's Education, Parental Education, Father's Employment, Mother's Employment, Parental Employment, Father's Absenteeism, Mother's Absenteeism, Parental Absenteeism and Family Size with Academic Achievement of elementary school pupils. It will be also ascertain the relationship of the different components of Parental Involvement, viz., parental acceptance, parental aspiration, parental attention, parental encouragement, parental guidance, parental influence, parental decision-making, parental provision of physical facilities and parental care to physical fitness of child, with the Academic Achievement of these pupils.

The study seek to detect whether the relation between the Parental variable and the Academic Achievement differ, between boys and girls, rural and urban school pupils, private and government school pupils and amongst the pupils of high, average and low socio-economic status groups. The study will identify which among the select parental variables are adequate to significantly predict the academic achievement of the elementary school pupils, and which variables are not capable of it. The study will derive a multiple regression equation using which academic achievement can be predicted from a set of Parental variables. The study will find out also the relative efficiency of the Parental Variables in predicting Academic Achievement.

Thus the study will furnish information to learn what types of parental behaviour, activities and qualities will help to enhance the achievement of pupils in elementary schools of Kerala; and which demographic factors connected with parents incite high achievement and which ones predispose

the child for a low achievement among the pupils. This will help the teachers, administrators and parents to take better decisions and actions to promote student achievement.

LIMITATIONS OF THE STUDY

The present study has the following limitations.

- (i) In order to make the study compact enough only 21 variables (as mentioned in the 'Variables' section of this chapter) are selected as Parental Variables. There may be other Parental Variables (For eg. Parents' Intelligence) which may have an influence on academic achievement of pupils.
- (ii) The study is on the influence of parental variables on general Academic Achievement. The influence of parent related variables on the achievement in specific subjects viz., languages, science, social studies and mathematics, separately are not included in this study.
- (iii) Though the population of the study is Elementary School Pupils, the sample is restricted to VIth standard pupils only.
- (iv) In this study Academic Achievement is taken as the score obtained on a General Academic Achievement Test, including basic concepts of Malayalam, Science, Social Studies and Mathematics. Other two languages Hindi and English are not considered because these languages are introduced at 5th standard of upper primary school, and hence the pupil will not be proficient enough to read, comprehend, and answer a standardised achievement test in these languages. For this reason tangible achievement differences in these languages will only be developing at this stage of schooling.

In spite of the above limitations, the investigator hopes, this study will culminate in a better understanding of the parental factors related with the academic achievement and will yield valuable contributions for theory and practice of elementary education.

ORGANISATION OF THE REPORT

The report of the study is organised in five chapters. Chapter I presents the need and significance of the study, statement of the problem, definition of key terms in the statement of the problem, variables, objectives and hypotheses of the study, methodology and scope and limitations of the study.

Chapter II consists of theoretical overview of the parental variables related to education and a detailed review of studies on the relation of parental variables with Academic Achievement.

Chapter III presents the methodology used for the study in detail. It comprises description of variables, tools used for the collection of data, sample used, data collection procedure and consolidation and the statistical techniques used for the analysis.

The analysis of the data is presented in the Chapter IV. Apart from objectives, hypotheses and preliminary statistical analysis of the data, it presents the results of correlational analysis, multiple regression analysis, and comparison of means.

Chapter V deals with the major findings, conclusions, educational implications and suggestions for further research in the area.

REVIEW OF RELATED LITERATURE

Abdul Gafoor. K. "Influence of certain parental variables on academic achievement of elementary school pupils " Thesis. Department of Education, University of Calicut, 2001

REVIEW OF RELATED LITERATURE

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- ❖ Theoretical Overview of Parental Variables Related to Education
 - ❖ Studies on the Relation of Parental Variables with Academic Achievement
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REVIEW OF RELATED LITERATURE

Effective research is based on past knowledge. In this chapter the researcher's attempt is to determine what others have learned about similar problems. Studies that show substantial agreement as well as conflicting situations helps the researcher to sharpen and refine understanding of existing knowledge in the area. The related studies helped the researcher to put the problem in proper context.

The literature surveyed by the investigator is classified under two major heads. The first part gives an overview of the literature on parental variables, that have been studied and theorised, in relation with academic achievement. Along with this, there is description of the concept of parental involvement as put forward by previous investigators. The second part of this chapter presents the studies relating each parental variable with academic achievement, under separate sub headings. Finally, there is a discussion of general trends shown by the studies reviewed and a conclusion is made.

The reviewed literature is presented under the following major headings:

- I. Theoretical overview of Parental Variables Related to Education.
- II. Studies on the Relation of Parental Variables with Academic Achievement.

I. THEORETICAL OVERVIEW OF PARENTAL VARIABLES RELATED TO EDUCATION

The influence of parents is transmitted to children in different ways. These range from the effects of the objective physical environment in which the child lives, to the subjective psychological environment created by parents

through their child rearing practices. Parents normally accept a basic obligation – that they provide for children's physical needs, relating to food, clothing, nutrition and health, that they teach basic social skills; and that they lay the foundation for, and support, children's school learning. According to one estimate, the family's influence on children's learning accounts for 80 percent of variance in students' academic performance (Karther, 1996).

Until the 1970s, interest of researchers related with parental influences on education, centered on determining the relation between school learning and demographic factors, such as socio-economic status, family size and birth order. Although demographic factors remain of interest, the major concern is no longer the description of correlates of school learning, but the analysis of processes where by demographic and other variables exerts their effects (Fuligni & Stevenson, 1996). When demographic factors are studied, they are likely to be those that are relevant to contemporary situations such as mother's working status, father's presence in the home and the time spent in different types of parent-child interactions.

Progress from the use of status measures of the homes to one's that describe processes in and outside the home has increased considerably the explanatory value of parental variables in accounting for scholastic achievement. These analyses provide greater insights into the parental factors that impact on school achievement.

The theoretical overview of the parental variables related to education is presented under four headings, viz., (1) Socio-economic variables (2) Family configuration variables (3) Parental process variables and (4) other parental characteristics. In addition to this, an outline of the concept of Parental Involvement as put forward by the previous researchers is also presented.

(1) Socio-Economic Variables

Among the early parental factors studied were parental occupation, level of parental education, parental income and the prestige of bread winner's occupation, which were then categorised into levels of "social class" or socio-economic status.

Relationship between family variables and scholastic performance tend to be higher at the elementary school level than at the secondary school level. It has been found that children from a high socio-economic background are more likely than children from a low socio-economic background to remain at school to the secondary stage. This is true even when children's level of general scholastic ability is controlled (Greaney & Kellaghan, 1984; Halsey et al., 1980; Sewell & Hauser, 1976). For example, Sewell and Hauser found that socio-economic variables accounted for 15 percent of variance in educational attainment.

Efforts to explain differences in school attainment in terms of social class have attempted to identify characteristics on which social classes can be distinguished. It has been suggested that the values of the members of lower social class groups which tend to emphasize conformity to external prescriptions rather than self direction, are likely to affect children's approaches to school learning (Kohn, 1963).

Parents in the upper middle class used a variety of resources to promote their children's educational achievement. These resources included the activities such as spending time in their children's classroom and talking to teachers; spending money on tutors in problem subjects; using their status and education to argue with and influence teachers to change their children's reading or mathematics group or some other aspect of classroom programme and working with their children on both school and school like tasks at home.

Not only did these parents have time, money, education and status that help them get what they wanted from the system, but also the experience and confidence to expect to get what they wanted (Bracey, 1996; Lareau, 1989). Working class parents tend to blame themselves or their children for school problems and find the school difficult to challenge. Social capital thus consists primarily of relationships of various categories of adults to the child.

Family school relationships and inequalities in educational opportunities are distinct for working class and middle class families. Although the educational values of the two groups of parents did not differ, the ways in which they promoted educational achievement did. In the working class community, parents turned over the responsibility for education to the teacher. In the middle class community, however, parents saw education as a shared enterprise and scrutinised, monitored and supplemented the school experiences of their children (Lareau, 1987).

The most frequently supported conclusion that can be drawn from a review of the literature on the effects of maternal employment on children since 1960s is that, taken by itself, a mother working outside the home has no universally predictable effects on a child (Abbot, 1991). Some researchers have hypothesized that maternal employment may result in negative effects that emerge in adolescents. But frequent shared activities between mother and child may compensate for disruptive features of mother's work and may transmit psychological benefits of work to children (Moorehouse, 1991). It is also highlighted that family processes differ, also as a function of work circumstances.

Thus level of social class or socio-economic status is positively but not very strongly related to a variety of measures of scholastic ability and achievement. Children who come from homes in which parents have been

educated to a high level perform better on such measures. High educational attainment of parents were found to be associated with better school performance of their children (Patrick, 1993). It is also true that more highly educated mothers have greater success in providing their children with the cognitive language skills that contribute to early success in school, than less well educated mothers (Benjamin, 1993).

In studies that used income as the index of family circumstances, variation in background has been found to account for an average of under 10 percent variance in a variety of measures of school performance. An average of about four percent variation in school performance was found in studies that used occupation as the family index (White, 1982).

The influences of the parents, as measured by socio-economic background on scholastic achievement may not be as great in developing countries, particularly in low income one's as it is in industrialized countries. In a study of achievement in science in India, 27 percent of variance was attributable to variation in school factors, while only three percent was attributable to variation in background characteristics (Heyneman & Loxley, 1983).

(2) Family Configuration Variables

Family configuration deals with the structural aspects of families. The interaction between family configuration variables (eg. Family size) and achievement can be quite complex so that the influence of anyone of them may be modified by the other characteristics.

Some parents have difficulty in meeting basic (eg. nutritional) needs of children, while on a wider scale, there is extensive data to suggest that the effectiveness of many homes in providing conditions conducive to the

educational development of children is impaired by a variety of changes that are taking place in society. Among the social changes that affect family structure and relationships are urbanization, migration and changes in labour force (including an increase in the number of women who work). Family changes include a reduction in size, fewer households with more than two generations and an increase in the number of mothers who work outside the home (Coleman, 1987; Kellaghan et al., 1993). Social support networks in communities have also weakened, as reflected in isolation of mothers, who may receive little or no support from child's father or from other family members.

More and more children are living with only one parent (usually the mother) while the proportion of families in which both husband and wife are working has gone up sharply. Adequate arrangements may be made to deal with the problem of working or lone parents. However, such family conditions are often associated with other factors including poverty, neglect, sickness, lack of adult protection and nurturance which tend to be unsupportive of children's formal education (Hodgkinson, 1991).

In single mother households the children may be adversely affected in their educational attainment because of the economic deprivation common to such households, the stress caused by family separation and socialization problems attributable to lack of male role models (Raley, 1991).

Often, a negative correlation between family size and educational achievement is reported. The amount of variance accounted for by family size ranged between four and ten percent. But increased spacing between children reduces the normal decrement in scholastic performance, associated with increase in family size. The effects of family configuration variables are more marked in homes in which father has a low occupational level (Heer, 1985;

Kellaghan et al., 1983). Parents have fewer resources, material and psychological, to extend to individual child in larger families than in smaller families (Anastasi, 1956).

An explanation of the effects of family size and birth order on children's intellectual development is to be found in the "intellectual level" of the home during the course of the child's development. If the family's intellectual level is defined as the average of the current intellectual ability of all family members including parents and children at any given time, then the birth of one additional child will result in a drop in the average intellectual level of the family (since the new born child's intellectual level is very low) and in a diminution of the general educational environment. It is suggested that this will have negative consequences for the intellectual development of children (Kellaghan, 1994).

(3) Parental Process Variables

The complexity of interaction between parents and children have inspired a number of investigators to explore the differences in children's preparation for, and guidance through the learning tasks of the schools. The findings of many individual studies which focussed on the role of particular process variables point to the importance of a range of factors embracing expectations and aspirations, reinforcement and structure in the home. The six process variables (Dave, 1963) which are associated with student achievement are:

- (i) achievement press (eg., high parental expectations and aspirations);
- (ii) language (eg., opportunities for language development and the use of complex level and varied styles of language);

- (iii) academic guidance (eg., availability and quality of help provided by the family on matters relating to school work);
- (iv) activeness (eg., parents are involved with children in a variety of activities, apart from ones with direct scholastic implications);
- (v) intellectuality (eg., children are provided with opportunities for thinking and imagination in daily activities) and
- (vi) work habits (eg., degree of routine and structure in home management and the emphasis on the regularity in the use of time and space)

The intellectual environment of the home was defined by three press variables that were labelled as press for achievement motivation, language development and provisions for general learning (Wolf, 1964). When combined into a predictor set, the measures were associated with nearly 49 percent of the variation in intelligence test scores. The family contexts which were assessed by three dimensions that were categorised as structural, attitudinal and process (Keeves, 1972) had moderate to strong associations with achievement.

The degree of parental guidance and control and the amount of emotional support and encouragement, that parents give to their children are two important parental process variables (Baumrind, 1973). A series of studies revealed small but consistent effects of child-rearing practices on children's academic performance (Benjamin, 1993; Dornbusch et al., 1987; Steinberg et al., 1991). Students from "authoritative" households (those high in support and control) tended to have the highest grade points, than that of the students in "authoritarian" (low in support, high in control) households. Thus moderate amounts of parental control along with positive emotional support help to produce a sense of competence and confidence in children.

A distinction is made between two modes of cultural transmission from parents: osmosis, where "nurturance, interdependence and close physical proximity provide exposure to adult values and instil a readiness on the part of the child to imitate, accept and internalise such values" and teaching, where "direct instruction, frequent dialogue and explanations are used" (Hess & Azuma, 1991). Children's success in school may depend, in part on the extent to which parent child interaction matches the style of instruction in school. In attempting to reduce the discord between styles of teaching (by parents and teachers), efforts have been made to involve parents more closely in the activities of schools.

Highly socialized parents encourage independence and are individualistic in their achievement orientation, where as low socialized parents encourage dependence and are collectivistic (Majoribanks, 1992). Parents raising their children in a climate of affection and responsiveness, using clear and explicable rules, providing developmentally enhancing and autonomy granting environments, are more likely to have children with positive self concept, who are emotionally stable, well accepted by their peers and academically successful (Belsky, 1990). Existence of a strong relation between adult and child must be regarded, on the whole, as social capital beneficial to the development of the child (Bourdieu, 1977).

More direct ways in which parents can influence school learning are through cognitive stimulation and assistance with school work. Simply having children read to their parents improves children's reading skills. Parents' provision of out of home experiences, including taking children for shopping, visiting zoos, museums and libraries can stimulate cognitive development. More subtle is the influence of beliefs and attitudes of parents on their children (Goodnow & Collins, 1990; Miller, 1988). Studies have documented how beliefs held by parents affects children's development and

how these in turn, are related to their success in school. One focus have been on parental expectations and their satisfaction with their children's academic progress. High expectations by parents are critical in establishing high levels of motivation for achievement, children cease to be motivated to work harder when they believe they are already meeting the standards set by their parents (Chen & Uttal, 1988). Parents' aspirations act as a threshold variable. such that until a mean value of parents' aspiration was attained, there were positive relationship between the parental scores and adolescent attainments.

The influence of direct assistance by parents on children's school work is little understood. The primary way in which this interest is expressed is through the supervision of homework and the creation of an environment conducive to study.

Research has shown that one of the most promising ways to increase students' achievement is to involve their families (Chaukin, 1993; Erbe, 1991; Henderson & Berla, 1994). The family participation in education is twice as predictive of academic learning as family socio-economic status (Walberg, 1984). The main reason to create home-school partnership is to help all youngsters succeed in school and in later life. Thus policy makers and educators agree that parent involvement in children's education is closely linked to children's school success (Nord, 1998). Parents influence children's achievement through verbal and non-verbal communication of their expectations about education, participating in school activities and helping with homework (Balli, 1996). Students at all grade levels do better academic work and have more positive school attitudes, higher aspirations and other positive behaviours, if they have parents who are aware, knowledgeable, encouraging and involved (Epstein,1992). The parental influences on education is concluded by Kellaghan et al. (1993) that what is important for

children's development is not so much what parents are (eg., in terms of socio-economic status) as what they do.

The influence of direct assistance by parents on children's school work is little understood (Fuligni & Stevenson, 1994). Further research is needed for examining the effectiveness of substantial parental involvement approaches to determine what types of activities have a positive impact on learning (Grolnick et al., 1997; Laosa & Henderson, 1993; Ramirez & Douglas, 1989; Yang & Boykin, 1994).

(4) Other Parental Characteristics

Little attention has been paid to the physical environment (provided by parents) as a contributor to the school progress. Homes in many developing countries lack even the most fundamental necessities including adequate food and fresh water. It is hard to imagine how children living in these unhealthy environments can learn effectively at the school. The dramatic differences between the rural people who lack nearly all modern conveniences and those in the cities are accompanied by differences in children's ability to accomplish in schools.

Maternal behaviour and attitudes when children are four years of age have been found to be related to school readiness, and to school achievement when children are 12 years of age (Hess et al., 1984). According to Hess, one parent factor cannot be identified as more important than others in influencing young children's school performance. Parent behaviours and attitudes that contribute to young children's school experiences are extricably interwoven in daily exchanges between parent and child.

Parental attitudes were found to account for more of the variation in children's school achievement (28 percent) than the home circumstances (20

percent). Parental attitudes were largely independent of home circumstances, though they were conditioned by them to some extent (Peaker, 1967).

Economic hardship, social and personal stress, low self-esteem and unrealistic expectations of child-rearing form the causes of family violence in modern society. Researches on child maltreatment lead to the conclusion that maltreated children tend to be more aggressive, show more behavioural problems, are less emphatic, have more troubled peer relationships and perform lower on cognitive tasks (Gelles & Conte, 1990).

Strained couple relationships and interparental conflict also seem to have a negative impact on children's personality development, although more prospective longitudinal studies are needed to disentangle causes and effects. Siblings who are treated differently by their parents tend to develop poorer and more conflictual relationships among themselves and also show more adaptational problems as adolescents (Dunn & Stocker, 1989).

Finally, more research is needed to examine how the socialization process by parents interacts with other levels of the environmental ecology to create and maintain differences in academic learning, scholastic motivation and movement through schooling process (Laosa & Henderson, 1993).

CONCEPTUAL OUTLINE OF PARENTAL INVOLVEMENT

In text books on the history of education parents are conspicuously absent; they appear to exist only in relation to their primary legal duty to send children to school. As the state provided education became widespread through out 20th century parents were never encouraged to linger in the school after depositing their children at the school gates. School-parent relationships traditionally were limited to the one way transfer of information and advice from teachers to parents. Extensive contact between schools and

parents typically occurred only when problems arose regarding a child's school behaviour. During the 1970s and 1980s, however, schools began to encourage parents to come beyond the school gate on a more regular basis. In the 1990s legislative changes in several countries increased parents' right to be involved in educational decision-making. Parents views are invited when decision affecting their children are made.

The degree of parental involvement varies widely. In some cases, teachers simply want to inform parents about their educational procedures and practices. In other cases, parents are urged to become familiar with their children's daily assignment and progress. This may consist of attending parent teacher meetings or of communicating daily with the teacher through notebooks which children carry back and forth between home and school. Even within individual schools, relationships are typically much stronger with some parents than with others.

There is lack of clarity and agreement about key definitions and concepts: words such as involvement, collaboration, partnership, home visitors and family support are used with very different meanings among researchers and policy makers (Davies et al., 1992).

Parents sometimes participate in activities to assist teachers, administrators and children in classrooms and other areas of the school. They also help organise and attend student performances and school events. At home, parents monitor or assist their children in learning activities that can be co-ordinated with school based instruction and ensure that suitable conditions are provided for home work. Activities may be relatively informal, such as reading to children or visiting places of local interest.

Parental involvement refers to some degree of participation at all major aspects of education programme; planning, execution, evaluation and

modification. Decision-making responsibilities shared by parents become a crucial aspect of parental involvement. It emphasises an active and meaningful participation by parents in child's education. The levels of parental involvement described on the continuum reveal a status of minimal involvement to virtually complete control of education programmes. The different levels indicate a shift from a passive role of parents being listeners to an active role of being participants.

The major works reviewed in the area of parental involvement includes that of Gordon (1969), Sinclair (1980), Wolfendale (1983 & 1992), Oregon Department of Education (1990), Macbeth (1995) and Akimoff (1996).

Based on an extensive review of parent behaviours that have been found to be related to intellectual development and academic achievement, Hess (1969) identified three dimensions of parent-child relationship viz., intellectual relationship, affective relationship and interaction patterns. Intellectual relationship comprises demand for high achievement, maximisation of verbal interaction with the child, maternal teaching behaviours and diffuse intellectual stimulation. Affective relationship include warm affective relationship with the child and feeling of high regard for the child and self. Interaction patterns are characterised by pressure for independence and self-reliance, clarity and severity of disciplinary rules and use of conceptual rather than arbitrary regulatory strategies.

Parental involvement, according to Gordon (1969) has components such as parents as audience, parents as teachers of children, parents as reference, parents as volunteers in classroom, parents as trained aids and parents as participants in decision-making.

Parental roles in the classroom education of children include parents' role as supporters, service givers, facilitators, teacher aids, volunteers, policy makers and partners in the operation of the classroom (Schaefer, 1970).

The structural dimension measuring physical and environmental level, the process dimension measuring home activities, especially those related to learning; and attitudinal dimension measuring support for education from parents differ in their degree of impact on achievement (Keeves, 1972). This suggest the need for more precise definition of particular background variables influencing achievement from home.

Parental participation in actual instruction and its relation to student achievement was considered by Sinclaire (1980). Parental involvement was classified into four categories-parents as clients, parents as producers, parents as consumers and parents as governors. When parent is seen as a client, he is serving the public relation function for the school. Membership in PTA is an example. When parents serve in the role of producers, they are viewed as offering support to the instructional programme. This support can take the form of volunteers, paraprofessionals, aids, hall monitors, tutors and advisors. Parent serving in the producer role can effect student achievement. Parents as consumers are usually participants in the adult education classes offered at the local school facility. The role of parents as governors is exemplified by parent involvement in the governance of the school.

In an attempt to describe a whole range of parenting functions Wolfendale (1983) listed the following responsibilities. The parents (1) provide means of survival (2) provide emotional support and endorsement (meet secondary needs) (3) provide the setting in which personal development take place (4) provide an environment in which exploration and hypothesis testing takes place (5) provide a frame of reference against and in which

exploration outside the home can take place (6) provide a protective environment for the young (7) provide opportunities and direction for the growth of independent functioning and self organization (8) act as models (of language, social and emotional behaviours) (9) train and guide their young towards understanding of and adherence to, social norms (controls and restraints) (10) act as possessors and transmitters of knowledge and information about the world, and (11) act as decision-makers and arbiters of decisions, minute by minute and in the longer term.

Parental involvement agenda during the 1970s and 1980s comprised of parents coming into school, parents as educators at home, home-school links (including written communications, home-school councils and home visiting), community education (school-community links), parents as governors and managers, parents and special educational needs (eg., parental involvement in assessment) and parental representation in local and national groups (Wolfendale, 1992).

Those studies which have examined parental involvement in education generally take one of the three major conceptual approaches to understanding variation in levels of parental participation (Lareau, 1987). Accordingly, culture of poverty thesis states that lower class culture has distinct values and forms of social organization. The researchers of this approach suggest that lower class and working class parents do not value education highly. Some accuse schools of institutional discrimination, claiming that they make middle class families feel more welcome than working class and lower class families (Lightfoot, 1978; Ogbu, 1974). Institutional differentiation, particularly the role of teacher leadership is another critical link in parental involvement in school (Epstein & Becker, 1982). A third perspective for understanding varying level of parental involvement draws on the work of Bourdieu and the concept of cultural capital. Bourdieu (1977) argues that

schools draw unevenly on the social and cultural resources of the members of the society. Schools utilize particular linguistic structures, authority patterns and types of curricula; and that children from higher social locations enter schools already familiar with these social arrangements. Bourdieu maintains that the cultural experiences in the home facilitate children's adjustment to schools and academic achievement. According to Lareau (1987) many factors – parents' educational attainment, the amount of non-working time parents can invest in their children's schooling etc affect the kind and degree of parental involvement.

The different ways in which parents can be involved covers the parental roles as audience, unseen partner, parent education, parents as teachers, parents as support resources, parent in governance and policy making (Ramirez & Douglas, 1989).

In 1990, Oregon Department of Education, United States, defined parental involvement in a child's education as consisting of schools and parents working together to achieve maximum educational growth for their children. Parents are described as the critical link between their children and school, and it is demonstrated that parents' attitude and behaviour influence children's school achievement. According to the department, parental involvement occurs when parents: (1) receive and react to the information provided by the school (2) provide information to the school (3) serve on advisory committees (4) participate in complaint resolution (5) serve as school volunteers (6) participate in home visitations, and (7) assist in teaching.

The most frequent type of involvement of parents in the school is attending the conferences with teachers, attending school sponsored events, and participation in fund raising project for the school (Lopez, 1992).

Parents' beliefs, aspirations and actions affect their children's growth and acquisition of literacy (Spiegel, 1992). Spiegel found that parents of successful readers: (1) want their children to succeed (2) impart a sense of importance of education and high expectations to their children (3) impart a love of reading and a sense of value of reading to their children (4) like, enjoy and respect their children (5) willing to spend time, money and effort to nurture their literacy (6) know what is going on in their children's school (7) believe that they can have an impact on their children's literacy development (8) tend to provide children's material in their homes (9) read to their children often (10) serve as role models and, (11) provide effective interactions which assist their children in learning.

According to Illinois state Board of Education (1993) parental involvement ranged from parents' encouragement of their children in the home, to intense parent-school partnerships in which parents are involved in every aspect of educational process. Parent involvement fall within the following major categories: (1) parent-child relationships in the home (2) parent training or involvement in performance contracts and (3) parent-school-community partnerships. Manitoba Department of Education (1994) also give somewhat identical categories.

The following measures could be adopted by parents to help their children to learn at home. They can: monitor homework assignments to make certain that they are completed satisfactorily, view the national and international news at least twice a week with children, encourage viewing of television with academic content and participate with children in post-programme discussion of theme and issues, provide learning resources in the home - books, magazines and maps - and read and discuss them with children, guide children to productive use of free time which should include monitoring and limiting their viewing TV, seek opportunities to examine and

discuss school curriculum related ideas with children and encourage school teachers and administrators to establish clear and challenging standards about what all students should know (Patrick, 1993).

The main contribution of family to the child's success in school is made through parent-child relationship. Parents must be interested in their children's activities. Parents must communicate high expectations for school and home performance, in addition to giving role models to their children (Williams, 1994).

Five parental dimensions of schooling were identified by Macbeth (1995). They were (i) parents as clients having legal responsibilities for child's education (ii) parents as co-educators of children in parallel with teachers (iii) family based learning influence on school attainment (iv) teachers as agents of the education authority checking upon parents' fulfilment of duties and (v) parents as stake holders in their child's school.

Parents can help children develop an interest in school by: (1) identifying role models (2) stressing the importance of high academic goals and insisting that students do not put limits on themselves (3) encouraging students to interact with teachers and participate actively in the class (4) demonstrating the usefulness of science and mathematics in daily life (5) urging children to enroll in extracurricular programmes (6) helping children to locate question-answering services for homework (7) help, finding tutors and programmes to suit child's needs, and (8) participating in learning activities (Schwartz, 1995).

Parental involvement is conceived as including parents attending parent teachers conferences, open houses and classroom activities and events; keeping in touch with the teacher through phone calls and notes; volunteering in the classroom and helping a guest speaker. Parents demonstrate their

involvement, also by reviewing the child's school work, reading with the child and monitoring the child's academic progress (Akimoff, 1996).

Theoretical Dimensions Considered for the Present Study

The concept of parental involvement as put forward by the above researchers led the investigator to arrive at the following nine components which are appropriate in the particular socio-economic and cultural context of the Kerala State. The components included in the parental involvement in this study are parental acceptance of child's education, parental aspiration, parental attention, parental encouragement, parental guidance, parental influence, parental decision-making, parental provision of physical facilities and parental care to physical fitness of child.

II. STUDIES ON RELATION OF PARENTAL VARIABLES WITH ACADEMIC ACHIEVEMENT

Based on the parental variables selected for the study, the reviewed studies on the relation of parental variables with academic achievement are classified under the following headings.

(i) Parental Acceptance and Academic Achievement

Twillie et al. (1991) studied the relationship between parental attitudes and student achievement. Seventy one teachers from the elementary schools in Memphis (Tennessee) and 30 parents of students from one school responded to a parent-teacher attitudinal questionnaire. There was relatively low correlation between student gains in English and Mathematics and parental attitudinal changes, indicating that the relationship between these factors is not significant.

In a study conducted by Usha (1991) of certain socio-familial correlates of secondary school science achievement, it was found that family acceptance of the child has a significant effect on science achievement.

Waddin and Gaonkar (1993) considered the educational status of the rural teenage girls and the associated factors, using 300 subjects. It was found that large proportion of girls belonged to the low education group than boys. Two of the associated factors identified by the investigators were that, the parents were not in favour of education and occupation of girls and parents placed low value on the education of girls compared to boys.

The main effect of parents' sex bias and family acceptance of child on achievement in physical science was investigated on a sample of 850 students studying in class IX, selected from four revenue districts of Kerala. This study, by Pillai and Usha (1994) revealed that the main effect of parents' sex bias on achievement in physical science was highly significant, the variation among the mean achievement scores of boys and girls were due to their parents' sex bias in education and when the child was accepted in the family there was not much difference in achievement scores of boys and girls.

The sex difference in parent-child relationships of low and high achievers was explored in a sample comprising 100 high achieving students and 100 low achieving students, by Kang et al. (1995). The sample comprised 50 boys and girls in each group, in age group of 6-8 years and their parents from the schools of Ludhiana. Parents were found to be less accepting towards their low achieving male children.

An investigation using a sample of 360 senior secondary level students and their parents in Delhi, conducted by Khan (1996) found that there is significant difference in learning difficulties and English language

performance of students whose parents had different attitudes towards learning of English.

Pettit (1996) found that rejected children were more likely to come from low socio-economic families in which restrictive discipline was used and were more aggressive and less academically skilled than accepted children.

A slight positive relationship between mathematical aptitude and family acceptance of education was found by Raju (1996). High and average mathematical ability groups had no significant difference in the mean scores of family acceptance of education.

Hundred failed and passed students were matched on a family relation inventory score by Agarwal (1997). It was found that passed students received more parental acceptance.

Maternal acceptance in relation to children's social functioning and school adjustment was studied over a period of four years, by Chen (1997) in a Shanghai sample. Academic achievement positively predicted maternal acceptance. Maternal acceptance and rejection contributed to the development of children's behavioural and social problems, but did not predict later academic achievement.

(ii) Parental Aspiration and Academic Achievement

The relationship between parental aspiration and the child's achievement was examined by Muralidharan (1990), in a sample of school going children in Delhi, studying in classes I, II and V. Through a multistage sampling 644 children were selected. The relationship between the mothers' aspiration and child's achievement is not only significant in the younger age group, but also in the older age group, though not to the same extent.

Keith et al. (1992) examined the following specific components of parent involvement: aspirations, home structure, discipline and school activity participation. Data on 21,835 students and their parents were derived from the National Educational Longitudinal Study of 1988 (U.S.). Parental educational aspirations had a positive effect on overall achievement.

The influence of parent's expectations and short-term goals on their children's achievement was enquired into by Phillips (1992). A total of 180 parents of students in grades two to six were surveyed. Findings showed that substantial differences in achievement were related to parental expectations, goals and school involvement. Parent goals emerged as strong predictor of achievement gains, especially in the analysis of female minority lower income students.

Factors influencing under-achievement of U.S. students, among other things, identified by English (1993) included low parent expectations and standards.

The life course from mid-adolescence to young adulthood of females characterised at age 16 as under-achievers or over-achievers was traced by Gustafson (1994). It was found that, compared to the overachievers, the under achievers came from families with lower assessment of the daughters' academic achievement, lower aspirations and conflicted relationship with parents.

Okagaki et al. (1995) found that parents of high achieving and low achieving Mexican American fourth and fifth graders had similar beliefs about the importance of education and similar expectations for their children's educational attainment.

In an exploration of the psychological influences through which efficacy beliefs affect academic achievement, Bandura *et al.* (1996) found that parents' sense of academic efficacy and aspirations for their children, among other things, influenced scholastic achievement of their children.

The relationship of parents' educational expectations to the academic achievement of inner city children at-risk of school failure was enquired by Gill and Reynolds (1996). A group of 745 sixth grade African-American children who had completed information on parent variables and child outcome measures were selected from a larger data set. Parents reported educational expectations for their children's future success on a seven point Likert scale. Children also reported their perceptions of parent expectations. Results indicated that parents expectations were moderately correlated with children's educational achievement of mathematics and reading. Children's perception of parent expectations also added significantly to the variance in their achievement.

Mother's beliefs about their children's educational and occupational future, and its relationship with academic achievement was studied by Powell and Peet (1996). A sample of 141 mothers and their first or fourth grade children participated in the study. The study found that the children of mothers who believed the child would attain the amount of education needed for the ideal and expected job had significantly higher report card grades and standardised achievement scores.

The relation of Chinese parenting style to only children's academic achievement was considered by Xie (1996). Subjects were 186 middle class parents of fifth and sixth graders of age 10-13 years, from one Beijing elementary school. Regression analysis indicated that the higher the parents' expectation of their children, the better the children's academic achievement.

In a comparison of achievement and aspiration of New Zealand , Chinese and European high school students, Chung et al. (1997) found that parental pressure has a negative effect on Chinese students' perception of their abilities.

(iii) Parental Attention and Academic Achievement

The relation of adolescent achievement with their parents' demandingness, responsiveness and commitment to achievement was studied in 80 ninth grade students (Paulson, 1994). The students completed questionnaires regarding the parental variables. Boys' reports of both maternal and paternal parenting significantly predicted their achievement. Girl's reports of parenting did not predict their achievement.

Downey (1995) reported that among over 24,000 eighth graders in the National Educational Study, U.S; the lower academic achievement of students in step families relative to those in intact two-parent families was largely explained by difference in parents' attention in children's school and non-school activities, along with parents' economic and cultural resources.

The relationship between marital adjustment of parents and children's functioning at school was investigated by Westerman and La-luz (1995). Marital adjustment was significantly related to two achievement measures viz., grades and teacher reports of school performance.

On a family relation inventory score, Agarwal (1996) matched hundred failed and passed students. It was found that failed students got significantly more magnitude of parental concentration as well as parental avoidance. The passed students received proper protection and were hardly avoided by their parents, while the failed students were mostly unwanted, unprotected and neglected by parents.

Two hundred male and hundred female undergraduate students were selected from two colleges of Arrah town. Prolonged deprivation scale, approval motive scale and sentence completion test were administered in classroom situation (Singh, 1997). Correlation analysis of data revealed that 'n-achievement' correlated negatively with prolonged deprivation ($r = -0.37^*$).

A study was conducted by Singh 1998, to find out the relationship of achievement scores of the students to deprivation. The sample consisted of 200 students of both the sexes studying in Class VI in the middle schools of U.P. To measure the deprivation, students' Deprivation Scale, on five areas, viz., social, emotional, economic, educational and parental deprivation was used. Students belonging to high, average and low levels of deprivation demonstrated significant differences ($P \leq 0.01$) in their scholastic achievement.

(iv) Parental Encouragement and Academic Achievement

The effect of parental encouragement on educational development of secondary school pupils was studied by Agarwal (1986). It was found that high achieving group has high parental encouragement; and that, parental encouragement is more in urban areas and in favour of girls.

Grolnick et al. (1991) investigated the relationship among children's perception of their parents' motivation and school performance for 456 children in grade three through six. It was found that perceived maternal support and involvement are associated with perceived competence and understanding, where as parental support is related to perceived competence and autonomy.

Influence of family environment and parental encouragement on educational aspiration and academic achievement of secondary school pupils

was studied by Rajput in 1992. Educational aspirations and academic achievement of students were found to be positively influenced by parental encouragement. It was also found that urban students have high parental encouragement than their rural counterparts.

Illinois State Board of Education (1993) reported a research on parent behaviours and attitudes at home which promotes children's learning. The study indicated that parental encouragement of positive attitude toward education and high expectation for student success have a profoundly positive effect on student achievement.

In a longitudinal study of 101 children at ages 9 and 10, Gottfried et al. (1994) used structural equations path models. The study supported predictions that children's academic intrinsic motivation is positively related to parental encouragement of task endogeny and negatively related to parental provisions of task extrinsic consequences.

Roweton (1994) identified statistically significant predictors of first year retention among freshmen in a rural college. Of the nine factors found to be affecting college selection and persistence, three were parent related viz., emotional support from family, parental encouragement and parental financial support.

South Korean students scored better than students from 18 other countries on mathematics and science achievement tests. Sorenson (1994) explained this that in South Korea, economic and social status of one's family is directly related to educational levels; this plus intense pressure from parents motivates students to score well.

In a study of the sex difference in parent child relationships of low and high achieving children, using a sample of 100 each of high and low achieving

students in the age groups of 6-8 years and their parents from the schools of Ludhiana, Kang et al. (1995) found that significant sex difference existed in parent-child relationship in three of the dimensions among high achievers viz., encouragement-discouragement, democratic-authoritarian and tolerance-hostility. Parents encouraged high achieving girls than high achieving boys.

Agrawal (1997) compared the difference in parental encouragement among various educational groups of urban and rural adolescents, using a sample of 250 urban and rural secondary school boys of Garhwal region. Parental encouragement and educational development were found positively related with each other. The higher development group got more amount of parental encouragement than the rural boys of same category.

A study of cognitive and non-cognitive factors which facilitate or hinder mathematics achievement, conducted by Hagedorn et al. (1997), found that students who needed no remedial mathematical placement had parents with higher education, came from families with a higher total income and received more encouragement to pursue higher education.

The effect of absence of maternal encouragement and its influence on scholastic achievement of adolescents was studied by Agrawal (1998) in a sample drawn from Garhwal region which constituted 500 school going adolescents, 250 with mothers and 250 without mothers. The students were assigned to three educational categories on the basis of educational profile based on four previous exams viz., higher, middle and lower educational groups. The t-tests of significance of difference between means revealed that the group of mother-present adolescents in all the three educational categories showed to have more magnitude of encouragement than the mother absent groups.

(v) Parental Guidance and Academic Achievement

Tizard and Hewison (1980) reported that reading achievement of six and seven year olds is strongly associated with whether or not parents regularly heard their children read.

The effect of after-school supervision by parents on eighth graders' academic performance was studied by Muller et al. (1991). The analysis of data from the National Educational Longitudinal Study (U.S.) of 1988, relating to a total sample size of 20,491 students showed that those students left unsupervised by parents for long periods of time receive lower grades than those in other groups.

The family interaction and home socialization, concerning education issues, was observed and appraised by Delgado (1992), using six Mexican-American families with six children in grade two. It was found that the strengths of the families have important relevance for education, regardless of the different ways the parents exercised their roles, particularly with regard to homework.

A longitudinal study on the link between home variables, mainly maternal support, and later school achievement in spelling, reading and arithmetic was conducted by Tiedemann and Faber (1992) found that maternal support significantly affected competencies and academic achievement.

Third graders with high achievement levels were observed while they worked with their parents on problems, by Wagner and Phillips (1992). The children's perception of their academic competence were related to the father's warmth during the work on the problems.

Ginsberg and Bronstein (1993) examined the familial factors in relation to 93 fifth graders' motivational orientation and academic performance. High parental surveillance of homework; parental reaction to grades, that included negative control, uninvolvement, or extrinsic reward; and over- and under-controlling family styles were found to be related to children's extrinsic motivational orientation and low academic performance.

In a study among the ninth standard pupils of Kerala, Mumthas (1993) found a significant relation between tutoring at home and achievement in mathematics.

Through a longitudinal study of 81 boys and their families when the boys were in 6th and 10th grades, Feldman and Wood (1994) explored the correlates of parent's expectations about adolescent son's behavioural autonomy. It was found that father's timetable for privileges at preadolescence predicted son's midadolescent academic outcomes, whereas mothers' timetable did not.

A study of the effect of household, community and school factors on the enrollment, retention and achievement of scheduled tribes children at primary level, conducted by Ambasht and Rath (1995) found that help received from the family had significant effect on the achievement of students, both in language and mathematics.

The role of parental support in children's need satisfaction and academic achievement was explored by Chowdhury and Muni (1995). The sample comprised 50 boys and girls studying in VII, VIII, and IX standards, with a mean age of 13.5 years. It was found that the pupil who rank average in academic achievement were getting more parental support.

Huang (1995) explored some of the factors that differentiate learning environments that influences the academic achievement of Asian-American students. Subjects were 1527 eighth graders from the NELS of 1988 (U.S.). Girls had more favourable perception of parental guidance than did boys. Language minority students reported less parental guidance than students from English speaking families, and this was coupled with lower achievement in reading and science standardised test scores.

In a sample of Mexican American fourth and fifth graders and their parents, Okagaki *et.al.* (1995) found that parents of high achievers were more likely to feel that they could help their children succeed, and to model reading skills at home.

The effect of parent directed intervention on child's personality dimensions was studied by Lavakare et al. (1996). The study was conducted on a randomly selected sample of 20 boys and girls of 6 to 8 years age and their mothers. It was revealed that parent directed intervention is effective in improving child behaviour. According to this study, maternal care is the most important predictor of delinquency in childhood and adolescence.

Ellinger and Beckham (1997) attributed the driving force behind South Korea's "education mania" to the take charge Korean mother, who ensures that youngsters complete homework, provide instructional help and oversees attendance at supplemental enrichment activities.

The influence of early supportive parenting on children's school adjustment was examined by Pettit et al. (1997). It was found that supportive parenting (maternal warmth, inductive discipline and positive involvement) predicted school adjustment including behaviour problems, social skills and academic performance in grade 6. Highly supportive parenting, according to

the investigators, mitigated the effect of family adversity on later behaviour problems.

The factors that led to the successful achievement of African-American male students were identified by Ross in 1998. The nurturing was at the centre of the young Black males' ability to survive and to overcome obstacles. The bonding of the adolescent to a person who provides strong guidance and who is positive role model gives the young man a sense of responsibility. Over all, the study showed that someone has to care for the student.

The effect of tutoring at home on achievement in mathematics of secondary school pupils was examined by Sumangala (1998) in a sample of 750 standard IX pupils. A questionnaire on home tutoring in mathematics was used. The findings was that home tutoring in mathematics, whether by parents or by siblings has significant positive but low effect on achievement in mathematics.

(vi) Parental Influence and Academic Achievement

While distinguishing language codes of more or less privileged classes, Bernstein (1963) notes that teachers use elaborate syntactic codes similar to middle class and upper class families, and less privileged groups are disadvantaged by more restricted codes used in their families.

In a study of the equality of educational opportunity Coleman (1966) found out that differences in home and class background affect school achievement more than differences in school.

Tracing the career development of 557 females from central Sweden, who were participants in the Individual Development and Adjustment Longitudinal Study, when they were in grade 6, Gustafson and Magnusson

(1991) established that parental values exert a strong influence on females' educational outcomes, independent of parents' socio-economic status.

Wilson et al. (1991) in a study of high school and beyond data for 1,332 male and 1,608 female Africans found that father's influence is an important predictor of African American male's post secondary education attainment.

In a study of the factors that influence educational performance in four districts of rural Appalachian Virginia and Kentucky, Bromhall and Johnson (1992), found that the value that the youth place on education is influenced by parents' valuation of education.

Using the data collected from 36 college juniors and seniors, via a questionnaire and structured interview, Griggs et al. (1992) examined the factors that influence the academic and vocational development of African-American and Hispanic youth. The study identified, among other influences, that most of the subjects have laid a major role for parental influence in their development, in the form of modelling a work ethic, being generally supportive and communicating expectations for achievement.

The phenomenon and the problems involved in the drop-out was studied indepth by Misra (1992) from drop-outs' perspective. The sample of the study comprised 239 drop-outs of grade V, 239 heads of households and 18 head masters. Among the social factors responsible for the students' drop out were lack of parental awareness toward education of the child, lack of control of parents over their children, harsh behaviour of parents, lack of family support in government schools and engagement of children in paid work to supplement family income.

A study of influence of parents' expectations and short-term goals on their choice of activities and their children's achievement, by Phillips (1992),

surveyed a total of 180 parents of students in grade two to six. Finding showed that substantial differences in achievement were related to parental expectations, goals, activities and school involvement. Parent controlled activities were negatively related to achievement and parent conference attendance was significantly related to achievement. Parent goals emerged as strong predictors of achievement gains in female minority low-income students.

Thakur (1993) studied the impact of home and school environment in the phenomenon of wastage occurring in primary education, using the data from 100 primary school teachers of the Abohar subdivision. It was found that the school environment was 43.5% responsible and home environment was 56.5 percent responsible for the wastage.

Home environment and psychological development of pre-school children of South India was studied by Kapur et al. (1994). The finding was that psychosocial development including language development was more closely associated with stimulating child rearing practices than factors such as residence, income, or parental education.

Strom et al. (1994) examined parent influence as perceived by 93 gifted junior high school students and their 172 parents. Multivariate analysis of variance of scores by both groups, on the Parent Strengths and Needs Inventory found significant effect for child's school performance on parent effectiveness.

Parent's satisfaction with their children's school performance and parents' value for their children's academic success were examined by McGrath and Repetti (1995) as variables that may influence children's perception of academic success or failure. Results indicated that parents' satisfaction with their children's school work was associated with children's perception of

academic competence, but is independent of children's actual school performance. In general the data suggested that parents' attitudes toward their children's school performance may directly or indirectly shape children's perception of their own academic competence.

Poverty driven household factors like domestic work, sibling care, parental inability to bear extra tuition costs, parental illiteracy and helping parents in their occupation were found to be major constraints against girls education (Nayar, 1995).

Cooksey and Fondell (1996) found that shared activities between fathers and their children are associated with children's academic achievement.

The extent to which the parental attitude affects pupils' learning of English as a second language was examined by Khan (1996) in a sample of 360 senior secondary level students and their parents in Delhi. There was significant difference in learning difficulties and language performance of students whose parents had different attitudes toward learning of English.

Rath *et al.* (1996) using a stratified proportionate random sample of 96 head teachers, 408 teachers and 1882 students of grade V drawn from 100 schools of Hissar district of Haryana concluded that family environment of the students was found to have substantial effect on mathematics and language achievement at school level, as a contextual variable.

Teachman (1996) maintained that familial influence played an important role in academic achievement, but questioned the specifics of that relationships.

A study on children of two to four years in a laboratory nursery school was conducted by Duhan and Kaur (2000) for assessing their existing

behavioural problems and provide counselling to their parents. Home visits and interview of parents were conducted through a case-study approach. It was found that family is the main source of children's behavioural patterns.

(vii) Parental Decision-making and Academic Achievement

Investigation of Gupta into the factors related to girls' drop-out in Meerut district, in 1982, revealed that 76.98 percent of drop-outs considered their father responsible for dropping out.

Centre for Urban Education Studies (CUES) conducted a study into the family co-operation in the development of literacy which revealed that the main reason for parental indifference in their ward's studies is the diffidence about their own ability to help the children (Griffiths & Hamilton, 1984).

Brown et al. (1993) found that specific parenting practices such as monitoring, encouragement of achievement and joint decision-making were significantly associated with specific adolescent behaviours, including academic achievement.

Home interviews with 30 Puerto Rican families in eastern Pennsylvania, conducted by Soto (1993) revealed that parents of higher achieving children in grades K-2 preferred that their children have a native language environment at home and in school, to a greater extent than did families of lower achieving children.

Sharma *et. al.* (1996) studied 50 working, out-of-school children in the age group of 6-14 years and their parents. The investigator reported that many of these parents felt that education in school would not help their children to earn a livelihood. The teachers of neighbouring schools blamed the parents for the neglect of education.

(viii) Parental Provision of Physical Facilities and Academic Achievement

The relationship between facilities provided at home for language development and children's achievement in school was studied by Muralidharan (1970). The sample was 664 students studying in classes I, II and V of schools of Delhi. It was found that significant correlation existed between facilities provided at home and child's achievement in reading, for all the age groups.

While studying the wastage and stagnation in lower primary schools of Kozhikode district, Leelavathy (1983) found that the important factors associated with these problems included lack of learning facilities at home, socio-economic background of parents and negative attitude of parents toward education.

Some socio-familial correlates of basic language skills in the mother tongue of secondary school pupils of Kerala were studied (Kelu, 1990) in a sample of 1000 standard IX pupils. It was found that there is no significant relation between learning facilities at home and score on total language skills. But the correlation of basic language skills with parental educational level, parental occupational level, parental income level and family acceptance of education were found to be significant.

Effects of family characteristics on Indian primary school children's academic learning was studied by Desai (1991) using a sample of students who dropped out before completing primary schooling. It was found that educational supplies and home sanitary facilities were related to academic performance.

Lazer (1992) studied the geographic competence of students, using the data from nine countries. In each country, a representative sample of 13 year olds were selected, with a total of 3,300 students. There was consistent relationship between books in the home and geographic achievement of students.

In an investigation on the role of ecology, quality of schooling and home environment on psychological differentiation of Indian children, Misra and Tiwari (1992) found that physical environment of the home was significantly related to school learning.

Debaz (1994) studied the effects of various student characteristics on measures of student achievement. Students in grade seven through grade 12 were included in this meta-analytic study. Positive relation was found between science achievement and the availability of educational items at the home.

A study designed to find out why minority cultural groups are under represented in science and mathematics related fields and why do students of these groups have low achievement scores, conducted by Peng et al. (1995), used data from 1988 eighth grade cohort of National Educational Longitudinal Study (U.S). The study had shown that a larger percent of minority students come from families which have fewer learning materials at home, their parents more likely than others to have low educational levels and to be unemployed.

In a nation-wide study, Shukla (1995) assessed the level of achievement of children at the end of primary school in the mother tongue and numeracy. The sample comprised 65,871 pupils drawn randomly from 4700 schools in 23 Indian states and the U.Ts. The child's home background, facilities for learning and educational environment at home influenced learning of school

related tasks. The investigator concluded that no generalization could be made regarding the mutual role of home and school related variables vis-a-vis differences in achievement.

The family background and late childhood factors that influence the educational attainment of young Latino men were examined by Pandilla (1996). It was observed that educational resources in the home has a strong effect on the total years of schooling completed.

Raju (1996) found that there existed slight positive relationship between mathematical aptitude and home learning facility. It was also found that there existed significant difference in mean scores of home learning facility between high, average and low mathematical aptitude groups.

(ix) Parental care to Physical Fitness of Child and Academic Achievement

The relationship between child health and learning was studied by Zill (1990). The investigator found the influence of economic disparities in child's health status, health limitations, frequency of medical care and nutritional status. The paper is concluded by noting that there is link between child health and educational outcomes. But even substantial progress in improving children's health status could not be relied to alter, dramatically, group differences in academic achievement.

American Academy of Paediatrics (1992) conducted a study of the perceptions of 250 Kindergarten through grade 3 teachers and 250 teachers in fourth through sixth grades concerning the relationship between their students' health and academic performance. Of the respondents, 94 percent agreed that children's overall health was very important to school performance.

The relation between child health and educational achievement was explored by Behran and Lavy (1994) using the data from Ghanaian Living Standard Measurement Study. The result showed that child health does not significantly affect child's cognitive development through school attainment. The paper concluded that, in the case of Ghanaian LSMS and other similar studies, there is no evidence of an impact of the observed range of child health on child cognitive attainment.

A study of the effect of nutrient supplementation on cognitive development of preschool children was conducted by Sharma and Sharma (1995), in 200 three to four years age children from four schools of Indore city. It was found that the marginal intake of nutrients causing the subclinical deficiencies could interfere with the biochemical functions of CNS and this could be associated with poorer performances on cognitive activities.

Gomes and Batista (1997) explored a data set from three north eastern states of Brazil to investigate the complementarities of health with school attainment and cognitive achievement. The results demonstrated the value of students' visual acuity and highlighted the role of good nutrition.

Shrestha (2000) studied the causes of non-enrolment of children in Bhaktapur district of Nepal. It was found that the main causes of non-enrolment of the children included the negative social norms such as not to educate girls, poverty, parental unawareness of education and bad health of children.

(x) Parental Involvement and Academic Achievement

The relationship between parental involvement in a client role, self-concept of child and achievement of students was investigated by Watson (1977). It was found that child's self concept was improved by parent

involvement, but found no relationship between parental involvement and achievement.

Muralidharan (1990) studied the relationship between parent child relationship and academic achievement in a sample of school going children in Delhi, studying in class I, II and V. Through a multistage sampling 664 children were selected. The result showed that there is significant correlation between mother-child interaction and the child's achievement in the younger age group, but not in the older age groups.

The impact of parental involvement on the overall condition of the Washington public school buildings and the impact of this on student achievement was examined by Edwards(1991). Results indicated that the size of the school's PTA budget is positively related to the condition of school building, which in turn is related to academic achievement.

Erbe (1991) examined the relationship between parent participation and academic achievement in elementary schools using statistics from Chicago public schools. The questionnaire assessed the extent of parental participation in school. The result showed that the level of involvement between parent and school is significantly related to achievement in both mathematics and reading.

Five family and home environmental factors that affect students' achievement, and whose effects may be altered through intervention, as identified by Christenson et al. (1992) were parent expectations, structure for learning, home affective environment, discipline and parent involvement.

School, family and community factors related to the academic success of economically disadvantaged Appalachian students were studied by Henry et

al. (1992) in a sample of 245 middle school students. It was found that family interaction is a critical factor linked to school performance.

The influence of parental involvement on eighth grade students' achievement was studied by Keith et al. (1992). The study examined the following specific components of parental involvement, aspirations, home structure, discipline and school activity participation. Data on 21,835 students and their parents were derived from the NELS (1988). Findings indicated that parental involvement in their children's homework had a substantial effect on achievement test scores. Parental educational aspirations had a positive effect on overall achievement. Student's perception of parental involvement were more important than were parents reports of participation.

Paulson (1992) explored the relation of adolescents' and parents' perception of parental demands, responsiveness and commitment to achievement with adolescents' school achievement. The subject were ninth grade students and their parents. Boy's reports of both their mothers' and fathers' parenting characteristics significantly predicted the boys' achievement in school. Parents' own reports of their parenting characteristics did not predict achievement of their sons. Girls' reports of their parents' parenting characteristics did not; but father's report of parenting did predict girls' achievement.

Reynolds (1992) found little correspondence among parents', teachers' and children's ratings of parental involvement in children's education. Teacher's ratings exhibited a higher correlation with children's reading and mathematics achievement in grades two and three, than did children's and parents' ratings.

The relationship of students' perception of parents' and teachers' involvement to student motivation was studied by Stiller and Ryan (1992). The sample comprised 402 boys and 353 girls studying in seventh and 8th grades. Findings indicated that teacher and parent involvement were primary predictors of academic achievement. Although teacher influences were more predictive of academic outcomes than those of parents, parents have an additional and important bearing on student experience.

The influence of factors, including parental use of nurturant behaviour and child's household duties on the academic performance of at-risk African American students were studied by Taylor *et al.* (1992). Respondents provided information on a total of 566 students. Nurturance, control, demand, punishment and household responsibilities were selected as independent variables. These variables were comprised of composite scores on relevant items from the National Survey of Family and Household Questionnaire. The analysis showed that both high nurturance or high punishment were important for academic success. The best combination appeared to be high nurturance and high punishment. The worst combination is low nurturance with low punishment. Child's household responsibilities were negatively related to academic performance.

Kojima and Miyakawa (1993) studied 91 fifth and sixth graders, along with their teachers, in order to demonstrate how social support system is related to academic achievement. Boys with low support from their fathers ranked low in academic achievement and teacher's ratings. For girls low support from thier mothers was correlated with low teacher ratings.

The academic achievement of 168 inner city children who were making the transition from the primary to the upper primary grades, enrolled in public schools of Washington were examined (Marcon, 1993) in relation to

whether their parents were involved or non-involved with the school. Children whose parents had been involved with the school during their children's second year in school had higher grades and higher achievement test scores at the end of the fifth year in school.

The relationship between parental child rearing behaviour and adolescent academic performance was examined by Melby (1993) in 393 seventh graders from rural two parent families. Results indicated that academic competence was positively related to nurturing and involvement indicators.

The impact of parent involvement on student performance in catholic and public schools was examined by Muller (1993), using 24,599 eight graders. Strong verbal relationship between parent and child was an important factor of student academic performance in both types of schools. Parental regulation of children's extra curricular activities appeared to contribute to improved achievement for public school children.

In a survey of parents of 174 gifted students, Waugh et al. (1993) identified specific parenting skills that the respondents felt had influenced their children's personal and social development. Skills identified include support and help; respect, valuing, honesty; praise, encouragement, rewards; strong work ethic and high expectations; love and affection; and communication and talking.

The level of mother's involvement in enriching the family environment and its impact on children's academic achievement was examined by Dharmadasa (1994), in a study of 25 uneducated, unemployed mothers whose children were in fourth grade, in Kandy district of Sri Lanka. Lack of motivation, lack of family support for formal learning and household chores were identified as major parent related factors hindering achievement.

The relationship between parental involvement in their children's schooling and academic achievement, in 300 eleven to fourteen years olds was examined by Grolnick and Slowiaczek (1994). Findings showed that children who are confident in school may actually push parents to become actively involved in school.

In a study of the influence of parental involvement on the academic achievement, using a sample of 1,714 eighth grade Mexican American children, Keith and Lichtman (1994) found that parental involvement did influence subjects' academic achievement.

Leveque (1994) examined the school performance and involvement of native parents in the school life of their children. The case study used participant observation, ethnographic interview and documentary analysis. The strongest link between educational opportunities and native student achievement was found in the involvement of parents in the design and implementation of the programmes.

In an analysis of the national survey data (U.S.) Thomson (1994) found that parental behaviours, especially parental support, had small effect on child's educational outcome.

The relationship between the attendance of parents of low achieving students at scheduled school meetings and conferences and the student performance in reading and language arts was studied by Yang and Boykin (1994). Data were gathered from 73 schools in Dallas school district. Parents' attendance rate at the annual parent meeting was used to indicate the level of parental involvement. No evidence was found to suggest that high parent attendance rate is directly related to improvement in student's reading performance.

The lower academic achievement of students in the step families, relative to those in intact two parent families was studied by Downey (1995), among 24,000 eighth graders in the NELS. It was attributed to the differences in parents' involvement in children's school and non-school activities, along with parents' economic and cultural resources.

The factors which influenced the academic success of 50 Mexican-Americans, who received higher degrees from prestigious universities were examined by Gandara (1995). The study considered the effects of parent-child interactions, family structure, parental support and encouragement, parenting style and parent involvement in school on academic success and educational attainment. The parents of most of these subjects were doing precisely the right things in regard to instilling in their children achievement motivation, a strong work-ethic and belief in education as the key to advancement.

The result of the parental interviews conducted by Hickman et al. (1995) indicated that significant relationship existed between academic achievement and home based parent participation.

Parents' view of their involvement with their children in school activities and at home, the degree of parental involvement and the effect of parental involvement on children's academic achievement were investigated by Naftchi (1995), using a survey of 212 parents, from 96 Chicago schools. Parents reported much higher levels of involvement at home than at school. No significant positive relationship was found between parental involvement and student achievement in reading and mathematics.

The effect of pupil and school level variables on the achievement of SC/ST students was studied by Rath and Saxena(1995), in a sample of 5292 SC/ST and 17,771 non SC/ST students studying in classes IV/V of eight states

in India. It was found that parental involvement reduced the SC/ST students' achievement gap in language to some extent in Karnataka. In Kerala, parental involvement was negatively associated with the language achievement of SC/ST students.

Singh and Saxena (1995) studied the effects of pupils' background on their mathematics and language achievement. The sample of the study comprised 23,700 students, randomly selected from 1746 schools of different states. Parental involvement had shown a positive association with achievement in some of the states.

The effects of parent-child relationships upon the academic achievement of class V children as perceived by them was investigated by Srivastava (1995) on a sample of 200 randomly selected children of the primary schools located in Tehri town. Parent-child Relationship Questionnaire (by R.P. Singh) was used to collect data. Excessive love and discipline affected pupils' academic achievement, the normal love and discipline brought positive effect. The perception of parent-child relationship, over all, affected the pupils' academic achievement.

A correlational study conducted by Yap and Enoki (1995) with 10 Honolulu schools found that significant relationships existed between home-based parental involvement activities and student performance on norm-referenced tests.

Akimoff (1996) examined how teachers perceive the academic and behavioural performance of students whose parents are involved in the school, compared to the performance of students whose parents are not involved. The results indicated that parental involvement is essential in helping children achieve optimum success in school. Parental involvement, according to Akimoff, gives a message to children about the importance of

their education, keeps the parent informed of the child's performance and helps the school accomplish more.

In a longitudinal study of 54 rural Swazi elementary students, Booth (1996) found that a child's progress to grade five without repetition was predicted by eight factors together; including father presence or absence, time and help available for homework, parent reading, child being read to at home and regular break-fast.

A study focussed on identifying factors that would enhance the probability of college attendance among African-American students, by Brown and Madhere (1996), using the data drawn from 1,394 high school students, found that the best avenue for improving students' chances for success depended upon active parental involvement beginning early and continuing through and beyond high school.

In a study of the relationship between cognitive development of infants and their home environment, Chhikara and Kumari (1996) used a sample of 80 rural two year old infants of both sexes, randomly selected from one village. When sex aspects of home environment was analysed separately, it was found that 'Maternal Involvement with the child' did not exhibit significant correlation with cognitive development.

The relation of parental involvement and empowerment to elementary school students' test performance was examined by Griffith (1996). Surveys of parents and data on student achievement and on school and student characteristics indicated that parent involvement consistently correlated with student performance, even when controlled for school or student characteristics.

Neibrzydowski (1996) studied home factors influencing attainment among 30 high ability and 30 low ability children from preschools in Glowno, Poland. Parents of children from the high ability group attached more importance and made more efforts to stimulate the development of their children than the parents of children from low ability group. This was best shown in such factors as setting a good example in performing professional duties, creating opportunities for involving the child in discussion, good emotional contact, vocabulary development, concentration on the child and child's involvement with nature.

Parent involvement in three areas of child development was investigated using 200 parents, with an interview schedule and parent-child interaction scale, by Roopshri and Gaonkar (1996). The study revealed that parental involvement increases with educational level of parents and decreases with family size.

The effect of perceived parent-child relationship on academic achievement of standard V children was investigated by Srivastava in 1996. It was found that different aspects of parent-child relationship has varying effect on academic achievement.

Syamsunder's study (1996) on a representative sample of 480 standard IX pupils revealed that the comparison of the mean scores of high and average achievers in Hindi with reference to parental involvement exhibits significant difference at 0.05 level and with reference to family acceptance of the child shows significant difference at 0.01 level. Comparison of mean scores of high and low as well as average and low achievers in Hindi, with reference to parental involvement and family acceptance of the child showed significant mean difference at 0.01 level.

Williams (1996) examined Ojibwa families for relationship between quantity and quality of father involvement in child rearing and children's academic performance. It was found that more time spend by father was associated with better academics for boys, while greater nurturance was associated with poorer academic performance.

In a qualitative study, Ebner, et al. (1997) examined the supportive parental behaviours of academically successful children from low income families, which had one or more children with above average academic performance. Three major findings were emerged from the study. First, parents instilled the importance of education in their children and associated success with education through setting high expectations for school; saving money for children's education and acting as a role model in acquiring education. Second, the parents assumed the role of teacher through reading, story-telling, problem solving and exposing children to different learning experiences. Third, parents acted as a crucial link between school and home through meeting with teachers early in the year and participating in the school related activities.

Misra (1997) investigated into the affective dimension of environmental situations of different types of family backgrounds, which have differential impact on the career of a student. It was observed that students belonging to the successful group of public and semi-government schools had attributed their success, among other things, to co-operation from parents.

The influence of parents' involvement with homework as a moderator variable in the relation between children's cognitive abilities and their school achievement was tested by Nadon and Normandeau (1997). Participants were 55 French speaking second graders and their parents. A negative relation between the duration of primary parent involvement with homework and

children's achievement in French and mathematics was observed. Quality of involvement with homework was positively related to achievement.

The school and non-school factors related to the educational attainment of African - American students were examined by Sojourner and Kushner (1997) using NELS database. Five predictors of mathematics and reading achievement were used in a multiple regression analysis. Parental involvement was found to be negatively related to mathematics and reading achievement, though the magnitude of relationship was very small.

The factors associated with father's and mother's involvement in their children's schools was examined by Nord (1998) among children in Kindergarten through 12th grade in two parent and single parent families. The findings are drawn from data from the National Household Educational Survey (NHES) of 1996. The findings noted that children in elementary schools are more likely than children in middle or high schools to have parents who are highly involved in their schools. In two parent households children are more likely to do well academically, to enjoy the school and are less likely to have ever repeated a grade or to have been suspended or expelled, if their fathers have high involvement in their school.

A study was taken up by Rani and Reddy (1999) with the aim of involving parents in training to help their mildly mentally retarded children in learning self care and play skills. Thirty parents were involved in training their 4-8 years children, selected randomly from Manovikas special school of Vizianagaram district of Andhra Pradesh. The study employed pre-test, post-test design. The result of paired t-test of significance of difference between pre-test and post-test scores revealed that the children who received training from their mothers in learning self-care and play skills improved significantly at the end of the intervention.

The relationship between parent-child interaction and academic performance of 8th standard students was studied by Taj and Bharghava (1999). A proportional stratified sample of 100 boys and girls were selected. The study indicated that the higher the parental interaction, the higher the academic performance ($r=0.651^{**}$) and the children with higher parental interaction were found to have higher academic performance ($t= 2.397^*$).

(xi) Parental Education and Academic Achievement

When parents learn how to teach their children they tend to give more individual attention to their children (Steffy, 1985). The children see that their parents value education and are motivated to achieve by that perception and the child's achievement is improved.

In a study of certain socio-familial correlates of achievement in Hindi using a sample of 500 students of Kottayam district, George (1989) found that achievement in Hindi and parental education are related in the case of subsamples based on locale and sex.

Some socio-familial correlates of basic language skills in the mother tongue of secondary schools of Kerala were studied in a sample of 1000 standard IX pupils by Kelu (1989). The investigator found that parental educational level and achievement in total language skills related significantly at 0.05 level, but the relation was negligible ($r= 0.070^*$).

The link between selected family demographic factors, home environment and academic performance was studied by Lohani and Mohit (1990). The investigators found that positive relationship exist for variables such as education of mother and education of father with academic performance.

Muralidharan (1990) studied the relationship between variables related to socio-economic status of parents and achievement of children in school. The sample was 664 students of class I,II and V of schools in Delhi. Both father's and mothers' education were found to be significantly related with achievement in reading and arithmetic. Mother's education related with child's achievement more than fathers' education, and the relationship decreased as the child advanced in education.

The effect of family characteristics on Indian primary school children's academic learning was studied by Desai (1991) in a sample of students who dropped out before completing primary schooling. It was found that literary status and schooling completed by father is related to academic performance of children.

In a study among 66 rural Louisiana ninth graders, Gaspard and Burnett (1991) found that 52 percent of variability in grade point average was explained by gender, school-self-esteem, father's educational attainment, whether student lived with parents, number of younger siblings and participation in extra-curricular activities.

The study of Bhatnagar and Sharma (1992) indicated that children whose parents attended school performed at a significantly higher level than children whose parents did not attend school.

Using three long term studies of American high school students during 1972, 1980 and 1988, Drazen (1992) conducted an investigation into the relation of family factors to the student achievement. The result indicated that the most potent factor in student achievement in reading during 1972 and 1988 was level of parent's education. In mathematics achievement also, both 1972 and 1988 data suggested parental education and family income as factors important in affecting it.

Through a survey of 791 university seniors Isaac et al. (1972) investigated the relationship of their parents' educational background and gender to their own plans for post-graduation. A strong effect of same sex parents' educational level on educational aspiration was noted.

In a study of the problems of girls' education in Dhenkanal district of Orissa and comparative analysis of various factors influencing female education, Ray (1992) surveyed ten percent of the total primary, middle and secondary schools in the district. It was found that parent's education had a positive and direct influence on the number of years completed by a female child in the school. Mother's education was found to be more influential than father's education.

A study of the socio-familial correlates of secondary school science achievement, by Usha (1992) using 850 pupils of standard IX from four revenue districts of Kerala, revealed that parent's educational level (both father and mother) significantly associated with the physical science achievement.

Data from a 20 year longitudinal study of 125 males and 126 females born to Black mothers in a Baltimore hospital between 1966-68 was analysed by Baydar et al. (1993) to identify early childhood, middle childhood and early adolescence determinants of functional literacy. Family environmental factors identified as being predictive of literacy included maternal education along with family size and income.

Using the data from field notes, interviews with teachers, students and administrators and a two wave panel survey of both rural and urban third year students, in Japan, Le Tendre (1993) found significant interaction among students' gender, parental educational levels and student aspirations and attainments during the transition period from middle school to high school.

Mental development as a function of maternal economic status, literary and occupational level was studied by Mukerji and Sharma (1993), in a sample of 100 children. A high degree of association between the mental development of children and literary status of mother was found.

Mumthas (1993) found a significant relation between parental education and achievement in mathematics of standard IX pupils of Kerala.

While examining the social factors associated with early grade retention in U.S., Byrd and Weitzman (1994) found low maternal education to be independently associated with increased risk of grade retention.

In a meta-analytic study of the effects of various student characteristics on measures of student achievement, using students in grade seven, Debaz (1994) found positive relationship between science achievement and mother's education.

Palafox et al. (1994) analysed the achievement data for over 20,000 Mexican primary school pupils, which showed that mathematics and Spanish achievement were significantly related to having better educated parents.

The study done on a sample of 520 secondary school pupils of the backward area and 290 secondary school pupils of non-backward area, Sheeja (1994) found that there existed significant relation between concept attainment in biology and parental education for backward and non-backward samples.

Investigation about the relationship between intellectual abilities and socio-economic status of parents in a multiple random sample of 300 pupils in Vellore town of North Arcot Ambedkar district of TN, Venugopal (1994) found that achievement is related to parental education status.

In a study of the effect of household factors on the achievement of ST children at primary level, Ambasht and Rath (1995) found that parents' education had significant effect on the achievement of students both in language and mathematics.

In an assessment of the achievement levels of students of West Bengal at the end of class IV, using a district-wise sample of 882 school from 17 districts drawn by random sampling technique, Guha et al. (1995) found that the impact of mother's education on learner's achievement appeared to be greater than father's education.

Investigating into the reason of lower achievement test scores of minority cultural group students in United States, Peng et al. (1995) found that a larger percent of these students had likeliness to their parents to be less educated than others.

Rath and Saxena (1995) studied the effect of pupil and school level variables on the achievement of a sample of 17,771 non-SC/ST students studying in class IV/V selected from eight Indian states. It was found that mother's education played a major role in the achievement of these students.

The effect of pupils' background on their mathematics and language achievement was studied by Singh and Saxena (1995) in an extensive sample of 23,700 students and 4879 teachers who were randomly selected from 1746 schools of different states. It was found that mother's and father's education had a positive association with pupils' achievement and were mostly consistent across states.

In a study to identify the role of different factors in demand for education, Srinivasan (1995), using a sample drawn from three talukas from Dharmapuri and Tirunalveli districts of Tamilnadu, found that in both rural

and urban areas father's and mother's education decided their children's education.

The study done by Thampuratty (1995) with a sample of 771 pupils of standard IX in Kerala, selected by stratified sampling technique, revealed that the mean scores of parental education of creative high achievers were significantly higher than those of creative low achievers.

The factors which affect the learner's achievement of government and private schools in Kerala was examined by Varghese (1995). A total number of 3089 students drawn by multistage random sampling designs from 113 schools of three educationally backward districts of Kerala - Malappuram, Kasaragod and Wayanad. It was found that children belonging to poorer social background and with less educated parents lagged behind others in achievement.

Campbell (1996) investigated how selected family factors might be differentially related to primary grade achievement in reading and mathematics, in 167 children from low income families. Family factors were contrasted in first graders who scored in the highest and the lowest quartile on test of reading and mathematics. Children who did well in reading had better educated mothers.

In a comparison of the achievement of three samples of students designated at-risk for school failures and one sample deemed not-at-risk, Ferguson (1996), followed a transitional first grade school readiness programme (SRP) population from pre-kindergarten through first grade to identify contextual factors associated with student progress. Successful SRP students had high initial achievement test scores and mothers with higher levels of education than non-successful SRP students.

Differential predictors of the educational achievement status of homeless children were studied by Holden and Danseco (1996). The results of the study provide support for maternal educational level as important predictor of academic achievement in school aged homeless children and adolescents.

A study using data from 347 seventh graders and their parents, done by Melby and Conger (1996), found that parental educational level was related to involvement and academic performance.

Nagalakshmi (1996) studied the relationship between problem solving ability in mathematics and parents' educational qualification using a sample of 1000 students of class X, selected from schools of Hyderabad. It was found that, the higher the qualifications of the parents, the better was the performance of the students in problem solving ability in mathematics.

Upadhyay et al. (1996) studied numeracy and reading readiness of entrants to Class I in relation to environmental factors using a random sample of 297 children from Delhi, and found that mother's education have contributed significantly to reading and numeracy readiness.

Children's competencies in the context of family resources and their home activities was studied in a sample of 307 children in the Wellington region of New Zealand. In this study Wylie et al. (1996) found that family income and mother's educational qualification were most strongly associated with differences in levels of children's competencies.

The relation of parents' educational level to only children's academic achievement in China was studied by Xie (1996), in a sample of 186 middle class parents of fifth and sixth graders of 10-13 years age, from one Beijing

elementary school. The study found that there was no relationship between parents' educational level and school achievement.

A study conducted on a sample of 276 rural girls of standard X in Faridkot district of Punjab, by Kaur and Goyal (1997), found no significant association between parents' education and academic aspiration of children.

Minnalkodi (1997) in a sample of randomly selected 900 students of standard IX in Cuddalore educational district, found that children belonging to parents of differing educational levels differed significantly in their achievement.

The causes of under achievement in mathematics of standard VIII pupils were ascertained by Patel (1997) in a sample of 500 pupils from six schools of Gandhi Nagar, selected using stratified cluster sampling technique. It was found that socio economic level of parents, in terms of parental income, occupation and education had high impact on the student achievement.

Ahamed (1998) in a sample of 120 students belonging to the age group of 13 to 18 years, selected from Jorhat district of Assam, found that parental education was highly effective in bringing differences in achievement motivation among adolescents.

The influence of certain personal social factors on selected personality dimensions of rural children of Andhra Pradesh was studied by Madhaviatha and Umadevi (1998) in a sample of 992 six to eighteen year old students selected from government school and colleges of the state. Results showed the insignificant relation between father's education and academic achievement ($r=0.0617, 0.0222, 0.0151$) in coastal Andhra, Rayalaseema and Telengana. Of the three correlations obtained between mother's education and academic

achievement, in the above three regions, only that of coastal Andhra was found significant ($r=0.1084, 0.0459, 0.0775$ respectively).

An investigation on the relation of the intellectual abilities with selected personal social variables in three regions of Andhra Pradesh was conducted by Madhavalatha and Mayuri (2000) in a sample of 878 children covering the age group 6-18 years. Correlational analysis showed that intellectual ability was significantly related to father's education and mother's education.

(xii) Parental Employment and Academic Achievement

A study on the link between selected family demographic factors, home environment and academic performance conducted by Lohani and Mohite (1990) found positive relationship between occupation of father and academic performance in schools subjects.

Muralidharan (1990) found that 12 out of 18 correlations obtained between father's occupation and, reading and arithmetic achievement of students of class I, II and V were significant. The correlations tend to decrease as the child's age increase. As regards the mother's occupation none of the correlations obtained with the reading and arithmetic achievement of children were significant.

The effect of maternal employment status on 63 adolescent girls in the area of academic achievement was examined by Abbot (1991). The results showed no difference in achievement outcomes for girls whose mothers were employed full time, employed part-time and not employed.

While examining the effect of family characteristics on Indian primary school children's academic learning, in students who dropped out before

completing primary schooling, Desai (1991) found that father's work and academic performance of children were related.

David (1992) compared the influence of working and non-working mothers of high socio-economic status on self-concept and achievement motivation among their adolescent girls. The children of working mothers were found to be more intelligent, mentally healthy, emotionally stable and possessed good personal habits. They were also motivated for higher jobs in comparison to girls of non-working mothers.

In a study on certain socio-familial correlates of secondary school science achievement in a sample of 850 standard IX pupils selected from four revenue districts of Kerala, Usha (1992) found that parent's occupational level is significantly associated with physical science achievement.

Vandell and Ramanan (1992) found that early (during the child's first three years) and recent (during the pervious three years) maternal employment were associated with less family poverty and higher scores on measures of home environment. Early maternal employment predicted second grade children's mathematics achievement and recent maternal employment predicted their reading achievement.

Mental development as a function of maternal economic status, literary, occupation and feeding pattern was studied by Mukerji and Sharma (1993), in a sample of 100 children. A high degree of association between mental development of children and occupation of mother was found.

Comparison on mean n-achievement scores of children of working and non-working mothers was done, in a sample of 260 children of 6-10 years age, belonging to Aligarh city, by Taluja et al. (1993). The study showed that children of working mothers scored slightly higher than children of non-

working mothers. However, the difference in their mean scores was not significant.

The effects of maternal employment on academic achievement among white male secondary students were studied by Bogenschneider and Steinberg (1994). It was found that upper middle class and middle class boys reported lower grades when their mothers were full time workers.

In a sample of 770 standard nine pupils of Kerala, Girija (1994) found positive relationship between occupation of father and academic achievement in mathematics.

The study done by Sheeja (1994) on a sample of 520 secondary school pupils of the backward areas and 290 secondary school pupils of non-backward areas of Malappuram district, found that there was significant relation between concept attainment in biology and parental occupation for backward and non-backward samples.

Investigating about the relationship between intellectual abilities and socio-economic status of parents, in a sample of 300 pupils of Vellore town of Tamil Nadu, Venugopal (1994) found that achievement of middle school pupils is related to parental occupation.

The effect of parenting style and maternal employment on children's academic achievement was studied by Beyer (1995). It was found that maternal employment has little direct effect on child's academic achievement. The study suggested that maternal employment affects parenting style, which in turn affect children's academic achievement.

Panda and Samal (1995) compared the adolescent daughters of working and non-working mothers on their personality and academic achievement. The sample of the study comprised 60 adolescent girls each of working and

non-working mothers studying in class VIII, IX and X, selected randomly from high schools of Bhubaneswar. The daughters of working and non-working mothers were found to be equal in the achievement of Oriya, Sanskrit and Social Studies, but differed in achievement of Mathematics, Science and English.

The effect of pupil and school level variables on the achievement was studied by Rath and Saxena (1995) using a sample of 17,771 non SC/ST students studying in classes IV/V, selected from eight Indian states. Probing on pupils's background variables revealed that father's occupation played a major role on the achievement of these students.

A study conducted by Sindhu (1995) using a sample of 510 pupils of standard IX showed that the main effect of parental occupation on achievement in biology is not significant.

The effect of pupils' background on their mathematics achievement was studied by Singh and Saxena (1995). The sample comprised 23,700 students who were selected from 1,746 schools, adapted from Baseline Assessment Studies. It was found that father's occupation had a positive association with pupil's achievement and were mostly consistent across states.

With a sample of 771 pupils of class IX in the secondary schools of Kerala selected by stratified sampling technique, Thampuratty (1995) found that mean scores of Parental occupation of creative high achievers was significantly higher than that of creative low achievers.

Children's achievement behaviours was studied in relation to mother's total weekly work hours and psychological work involvement by Goldberg et al. (1996). Results indicated that high numbers of weekly work hours were

associated with poorer teacher ratings of children's grades, school work habits and aspects of personality conducive to achievement.

Gupta et al. (1996) studied the incidence of learning disabilities at the end of class II, in schools of Schore block of Madhya Pradesh. The sample comprised 20 learning disabled children each in Hindi and arithmetic. The investigator reported that the sample children had parents with low occupational status.

The relationship between problem-solving ability in mathematics and parental occupation was studied by Nagalakshmi (1996), in a sample of 1000 standard X students selected from schools of Hyderabad. The study found that subjects whose fathers were gazetted officers or intellectuals excelled in performance with reference to problem-solving ability in mathematics.

In an investigation of parenting characteristics that mediate relation between maternal employment factors and achievement using 240 ninth graders and their parents, Paulson (1996) found that maternal employment did not influence adolescent achievement or parenting style.

In a sample of 700 students of standard IX of ten schools from three districts of Kerala state, Raju (1996) found that there existed significant positive relationship between parental occupational level and mathematical aptitude.

Wolfer and Moen (1996) examined how temporal and status aspects of mother's jobs during daughter's early childhood, preadolescence and adolescence affect rate that daughters leave school. Findings suggested that part-time maternal employment during any point in childhood increases likelihood that black but not white daughters will remain in school.

Minnalkodi (1997) in a randomly selected sample of 900 students of standard IX in Cuddalore educational district of Tamil Nadu found that occupational status of parents did not affect the achievement.

The causes of underachievement in mathematics of pupils studying in standard VIII was studied in a stratified cluster sample of 500 pupils, from six school of Gandhi Nagar. Patel (1997) in this study found that level of parents' occupation had a large impact on the achievement.

Taylor et al. (1997) examined differences in family functioning and resources, parenting style and child outcomes in low income families in which mothers were and were not employed. Children of employed mothers scored higher on the Applied Problem subscale of Woodcock Johns Tests of Achievement, but not on the Letter-Word Identification Test, even when controlling for other family factors as covariates with maternal employment.

In a study of the influence of certain personal social factors on selected personality dimensions of rural children of Andhra Pradesh, Madhaviatha and Umadevi (1998) included 992 boys and girls in age of 6-18 years, from government schools and colleges of coastal Andhra, Rayalseema and Telengana. The results indicated that significant correlation existed between father's occupation and academic achievement in Andhra region but not in other two zones ($r_s = 0.1326^*$, 0.1113, 0.0170). The correlation between mother's occupation and academic achievement was significant but negative in Rayalseema, but not in other regions ($r_s = -0.0846$, -0.1729^* , 0.0367).

In a proportionate stratified sample of 871 secondary school pupils of standard IX, Ayishabi and Kuruvilla (1999) found that achievement motivation, a strong determinant of academic performance, is unaffected by maternal employment in Kerala.

Sunitha et al. (1999) studied the association of mother-child interaction and language development of children of employed and unemployed mothers, in a sample of 60 children, 30 each of employed and unemployed mothers from day-care centres located in Hyderabad. It was found that there is significant difference ($t=2.94$) in the language development of employed mother's children ($M=18.9$) and unemployed mother's children ($M=14.87$).

(xiii) Parental Income and Academic Achievement

Muralidharan (1990) in 664 school children of Delhi drawn by multistage random sampling, found that father's income is positively correlated with reading and arithmetic achievement.

The relationship between parental income and academic achievement of children in a developing area, Transkei was determined by Cherian (1991). The study concluded that among children of low socio-economic status, parental income had a positive relationship with achievement.

A study of student achievement and its relation to family and community poverty, using three long-term studies of American high school students in 1972, 1980 and 1988, conducted by Drazen (1992) found that in 1972 and 1988, the most important factors affecting mathematics achievement were parental education and family income.

School, family and community factors related to the academic success of economically disadvantaged Appalachian students were studied in a sample of 245 middle school students by Henry et al. (1992). It was found that economic characteristics had little power to differentiate high and low achievers.

Certain socio-familial correlates of secondary school science achievement were studied by Usha (1992) using a sample of 850 standard IX pupils selected from four revenue districts of Kerala. It was found that

income level of father is significantly associated with physical science achievement.

The data from a 20 year longitudinal study of 125 males and 126 females born to black mothers between 1966 and 1968 was analysed (Baydar, 1993) to identify early childhood, middle childhood and early adolescent determinants of functional literacy. Family environment factors identified as being predictive of literacy in middle childhood included family income.

Mukerji and Sharma (1993) studied mental development as a function of maternal economic status, literacy, occupation and feeding pattern in a sample of 100 children. A high degree of association between mental development of children and income status of parents was found.

Youth Cohort Study III (British) data was used to explore the influence on young pupil's attitude toward school and their examination performance at age 16. In this study (1993) higher parental income was found to significantly affect academic performance.

Using a sample of 770 standard IX pupils of Kerala, Girija (1994) studied the interaction effect of creativity, attitude towards problem solving and the social position on the achievement in mathematics of secondary school pupils. One of the findings was that there is significant relation between income of father and achievement in mathematics.

In a study of concept attainment in biology in relation to some social-familial variables of secondary school pupils of the backward areas of Malappuram district, Sheeja (1994) used 520 pupils from backward area and 290 pupils from non-backward areas. There was significant relation between concept attainment in biology and parental income for backward as well as non-backward areas.

Venugopal (1994) investigated the relationship of socio economic status of parents with achievement of middle school pupils. The sample was 300 pupils drawn by multiple random sampling technique, from Vellore town of Tamil Nadu. It was found that parental income was related to achievement.

Parental income as declared on financial aid statements, in a sample of 192 medical students, were related with mean scores on the Medical College Admission Test in U.S. (Fadem et al. 1995). Results showed significant positive relationship between test scores and parental income for all groups, but particularly for minority women.

Hart and Risley (1995) found that the most important factors related to language achievement are the economic advantage of children's home and the frequency of language experience. Children who were born into homes with fewer economic resources learn fewer words, have fewer experiences with words in interaction with other persons and acquire vocabulary more slowly.

The study conducted by Sindhu (1995) using a sample of 510 pupils of standard IX, on the relationship of cognitive style and selected sociological variables on achievement in biology, found out that the main effect of parental income on achievement in biology is not significant even at 0.05 level of significance.

While studying the socio-economic status of creative high achievers and creative low achievers in mathematics with a sample of 771 pupils of class IX of the secondary schools of Kerala, Thampuratty (1995) found that the mean score of parental income of creative high achievers were significantly higher than that of creative low achievers.

The relationship between parental income and problem solving ability in mathematics was studied by Nagalakshmi (1996) in a sample of 1000

students of standard X, from the schools of Hyderabad. The study revealed that increase in parental income was associated with higher performance regarding problem solving ability in mathematics.

Pandilla (1996) examined the family background and late childhood factors that influence the educational attainment of young Latino men. The study observed that father's income has strong effect on the total years of schooling completed.

Wylie et al. (1996) studied children's competencies in context of family resources and their home activities in a sample of 307 children in the Wellington region of New Zealand. Family income and mother's educational qualifications were most strongly associated with differences in level of children's competencies.

In a longitudinal study, Grundmann (1997) investigated the influence of social class on academic achievement. Social class was defined by the nature of parents' work, education and income. Results indicated that social class had a large impact on educational performance and academic achievement.

Minnalkodi (1997) in a study on randomly selected 900 students of standard XI in Cuddalore educational district found that differing income level of parents did affect the achievement level of students.

Pani and Parida (2000) studied the effect of culture and sex on cognitive development of primary level children, in a sample of 60 grade IV pupils. The study supported the view that variation in a variety of psychological processes such as learning, perception and motivation occur as a function of individual's culture, social class and economic status.

In a study of the development of social concepts in relation to home and school variables, Sundaram (2000) used a sample of 90 students studying in eighth standard from the middle schools. It was found that there is a deep influence of socio-economic status in the development of social studies concepts which was significant at 0.01 level.

Vaghela (2000) in a study of academic achievement in relation to SES, used a randomly selected sample of 100 students of IXth standard of secondary schools of Anand district of Gujarat. It was found that significant relation existed between school examination scores and SES of students.

An investigation of the intellectual abilities with selected personal social variables in three regions of Andhra Pradesh was conducted by Madhavilatha and Mayuri (2000) in a sample of 878 children covering the age groups 6-18 years. Correlational analysis showed that intellectual ability was significantly related to father's education and mother's education.

(xiv) Parental Absenteeism and Academic Achievement

Among 66 rural Louisiana ninth graders, Gaspard and Burnett (1991) found that 52 percent of variability in grade point average was explained by gender, school self esteem, father's educational attainment, whether students lived with parents, number of younger siblings and participation in extra-curricular activities.

Raley (1991) examined the effect of family composition on high school graduation and level of completed education. Study findings show that divorce and child-bearing out of wed lock do contribute negatively to educational attainment. Single mother households according to Raley adversely affect the educational attainment of children because of economic deprivation, the stress caused by family separation and socialization problem attributable to lack of male role models.

Effects of father absence and mother absence on the grades and standardised test scores of high school students were studied by Mulkey et al. (1992). The study concluded that students from single parent homes are less willing or less able to meet academic standards.

Smith (1992) in a study of effects of parental separation collected data on 1,747 seventh and ninth graders and investigated why girls lag behind in science achievement. It was found that the female disadvantage is larger among those with separated parents regardless of which parent.

After an ethnographic study, Feldmann and Rafferty (1993) assessed the family constellations of ninth graders through cluster analysis. Family constellation (presence of mother and father at home) served as independent variables in a general linear model used to assess the grade point average. Females appeared to perform most poorly in family units characterised by mother's presence and father's absence, but males perform best in groups where mother and/or maternal relatives were present.

Leung (1993) conducted a study to determine if family configuration was a factor in student's perception of parental behaviours that support school work. A sample of 838 students in grade six through twelve were surveyed. Result showed that students from intact, two parent homes perceived greater parental concern and support for their school work and greater parental help with their school work than students from single mother or step father families. These results, consistent with those of other researchers suggest that school performance is related to family configuration.

In a study of 180 Bophuthatswana adolescents to determine the effects of living in a boarding school or with family, Maqsdud and Coleman (1993) found that there is significant higher achievement motivation scores for

adolescents living with family, indicating that parents have a strong influence on the development of achievement motivation in their children.

Downey (1994) examined educational outcomes of eighth graders of whom 409 were in single father, 3483 were in single mother and 14,269 were in biological two parent families. It was found that children from single father and single mother families performed roughly the same in school, but both were out performed by the children from two parent families.

The effects of family configuration, income and child gender on academic achievement, in 239 children in grades three through five were examined by Kaiser (1994). It was found that children of single parents scored lower on reading and language measures in grade four than children in two parent families.

Thomson et al. (1994) in an analysis of national survey data found that compared to other family types, children living with both biological or both adoptive parents had the best academic outcomes.

The family structure's influence on standardised test scores of first and second grade children with respect to family resources was studied by Entwisle and Alexander (1995). It was found that two parents in the home did not affect growth in the standardised achievement score during school sessions.

Hunsaker et al. (1995) found a negative correlation between single parenting and low academic achievement, though the presence of extended family members appears to overcome this problem.

Children of parents in the military services, according to Applewhite and Mays (1996) have adapted to parental separation as parents balance the demands of family and job responsibility.

A longitudinal study of 54 rural Swazi elementary students conducted by Booth (1996) found that a child's progression to grade five without grade retention was predicted by eight factors together. One among these eight factors was father's presence or absence at home.

Wadsby et al. (1996) studied the influence of divorce on children's grades. The grades earned by children of divorcees (N=74) and by control group children were similar. Study indicated that divorce alone does not significantly lower grades.

A study was conducted on a sample of 500 school going adolescent students of Garhwal region, 250 with mothers and 250 without mothers, to know about the effect of absence of maternal encouragement and its influence on scholastic achievement of adolescents. The two groups were well matched regarding the age, SES and IQ. The students were assigned to three different educational categories - higher, middle and lower educational development groups. This study by Agrawal (1998) showed that the groups of mother present adolescents in all three educational categories receive more magnitude of encouragement than mother absent groups.

(xv) Family Size and Academic Achievement

Cherian (1991) compared relationship between family size and academic achievement of children from broken and intact families among Black African children, between the ages of 13 and 17 years. Results indicated a negative relationship between family size and academic achievement regardless of broken or intact families.

The geographic competence of students was studied by Lazer (1992) using the data from nine countries. From each country, a representative

sample of 13 year olds were selected, with a total of 3,300 students. There was consistent relationship between family size and geographic achievement.

In a longitudinal study, Baydar et al. (1993) analysed data from a 20 year longitudinal study of 125 males and 126 females born to black mothers between 1966 and 1968, to identify early childhood, middle childhood and early adolescence determinants of functional literacy. Family environmental factors identified as predictive of literacy included family size, in early childhood.

Falbo and Poston (1993) surveyed 4000 third and sixth graders and their parents and teachers, from four Chinese provinces. It was found that, although only children scored higher on tests of verbal ability than first-born and later-born children, other measures of academic and personality development were similar between the groups.

The influence of size of the family on the educational status of boys and girls was studied by Waddin and Gaonkar (1993). The sample comprised 300 subjects, with equal number of boys and girls, selected using random sampling technique from the schools of Dharward Taluka. It was found that the educational status of girls as well as boys reduced as the size of the family increased.

The study done by Sheeja (1994) on a sample of 520 secondary school pupils of the backward area and 290 secondary school pupils of non-backward area revealed that there is significant relation between concept attainment in biology and family size for backward and non-backward samples.

Gill and Kang (1995) ascertained the role of family size on behavioural problems of preschool children, on a purposive sample of 200 preschool children and their parents. It was found that the association of urban family size with different behavioural problems of preschool children were

significantly high. It was also found that delinquent behaviours of young children were positively associated with the large family size, where as anxiety and attention problems were not found to have any significant relation with the family size.

In an evaluation of attainment level of primary students of West Bengal, using a district-wise random sample of 882 schools from 17 districts with 20 fourth standard students from each school, Guha et al. (1995) found that students from small families performed better than moderate or large sized families.

Kawakami et al. (1995) conducted a study to provide a profile of variables related to the status of students-at-risk of failure in the public high schools in American affiliated Pacific region. Data were collected from 394 student records, 411 students (194 at-risk and 217 not-at-risk), 304 families, 18 principals, 350 teachers and 79 community leaders. Significant result was obtained for the relationship between students-at-risk and family size.

Characteristics of high ability students who were identified as high achievers were compared with students of similar ability who underachieved in school. In this study, Reis et al. (1995) used qualitative methods to examine the perception of students, teachers, staff and administrators concerning academic achievement. No relationship was found between family size and under achievement.

In a study of the structure and socio-economic factors of family and their relationship to the demand for education, Srinivasan (1995) found that the per-pupil expenditure of education is guided by total number of school going children in the family, in both rural and urban areas.

Campbell (1996) studied how selected family factors might be differentially related to primary grade achievements in reading and

mathematics in 167 children from low income families. Family factors were contrasted in first graders who scored in the highest and the lowest quartile on tests of reading and mathematics. Children who did well in reading were from small families.

Pandilla (1996) found that educational attainment of young Latino children's is strongly effected by the number of siblings in the family at late childhood.

The academic aspirations of class X rural girls was studied by Kaur and Goyal (1997) in a sample of 276 rural girls students from Faridkot district of Punjab. There was no significant association between family size and academic aspirations of these children.

The impact of the number of siblings per family on student achievement in the ninth grade science was studied by Wang and Brei (1997). Findings indicate that the science achievement of students with one or no sibling was significantly different from those with two or more siblings. No significant difference was found between single child and a child with one sibling.

Influence of certain personal social factors on selected personality dimensions of rural children of Andhra Pradesh was studied by Madhavalatha and Umadevi (1998) in a sample of 992 boys and girls in age of 6-18 years, from government schools and colleges of coastal Andhra, Rayalaseema and Telengana. It was found that the relation between academic achievement and family size is insignificant, for all the three regions ($r_s = -0.0371, 0.0033, -0.0397$).

Madhavalatha and Mayuri (2000) in an investigation on the relationship of intellectual abilities with selected personal variables in three regions of Andhra Pradesh, used a sample of 878 children covering the age groups 6-18 years. It was found that intellectual ability is significantly predicted by family size and socio-economic status in Telengana region.

To get an immediate view of the studies reviewed, a summary of the reviewed studies is presented in Table 1.

TABLE 1
Summary of the Studies Reviewed

Variables studied	Studies showing association between variables	Studies not showing association of variables
✓ Parental acceptance and Achievement	Usha*, 1991 Waddin & Gaonkar*, 1993 Pillai & Usha*, 1994 Kang et al. *, 1995 Pettit, 1996 Raju*, 1996 Khan*, 1996 Chen, 1997 Agarwal*, 1997	Twillie, 1997
Parental aspiration and Achievement	Muralidharan *, 1990 Keith et al. 1992 Phillips, 1992 English, 1993 Gustafson, 1994 Bandura et al., 1996 Gill & Reynolds, 1996 Powell and Peet, 1996 Xie, 1996 Chung <i>et al.</i> 1997	Okagaki et al., 1995
Parental attention and Achievement	Paulson, 1994 Downey, 1995 Westerman & Laluz, 1995 Agarwal*, 1996 Singh*, 1997 Singh *, 1998	
Parental encouragement and Achievement	Agarwal*, 1986 Grolnick et al., 1991 Rajput*, 1992 ISBE, 1993 Gottfried et al., 1994	

Variables studied	Studies showing association between variables	Studies not showing association of variables
Parental guidance and Achievement	Roweton, 1994 Sorenson, 1994 Kang et al., 1995 Agrawal*, 1997 Hagedorn et al., 1997 Agrawal *, 1998	
Parental influence and Achievement	Tizard & Hewison, 1980 Muller et al., 1991 Delgado, 1992 Tiedmann & Faber, 1992 Wagner & Phillips, 1992 Ginsberg & Bronstein, 1993 Mumthas*, 1993 Felman & wood, 1994 Ambasht & Rath*, 1995 Chowdhury & Muni*, 1995 Haung, 1995 Okagaki et al., 1995 Lavakare et al., 1996 Pettit, 1997 Ellinger & Beckham, 1997 Ross, 1998 Sumangala*, 1998 Bernstein, 1963 Coleman, 1966 Gustafson & Magnusson, 1991 Wilson et al., 1991 Broomhall & Johnson, 1992 Griggs et al., 1992 Misra*, 1992 Phillips, 1992 Takur*, 1993 Kapur et al. *, 1994 Strom et al., * 1994 Mc. Grath & Repetti, 1995 Nayar*, 1995 Cooksey & Fondell, 1996 Khan*, 1996	

Variables studied	Studies showing association between variables	Studies not showing association of variables
Parental decision-making and Achievement	Rath et al.*, 1996 Teachman, 1996. Duhan & Kaur*, 2000	
✓ Parental provision of physical facilities and Achievement	Gupta*, 1982 Griffiths & Hamilton, 1984 Brown et al., 1993 Soto, 1993 Sharma et al.*, 1996 Muralidharan*, 1970 Leelavathy*, 1983 Kelu*, 1989 Desai*, 1991 Lazer, 1992 Misra & Tiwari*, 1992 Debaz, 1994 Peng et al., 1995 Shukla *, 1995 Pandilla, 1996 Raju*, 1996	Lavy, 1994
Parental care to physical fitness of child and Achievement	Zill, 1990 American Academy, 1992 Sharma & Sharma*, 1995 Gomes & Batista, 1997 Shrestha, 2000	
Parental involvement and Achievement	Watson, 1977 Muralidharan*, 1990 Edwards, 1991 Erbe, 1991 Christenson et al., 1992 Henry et al., 1992 Keith et al., 1992 Paulson, 1992 Reynolds, 1992 Ryan, 1992 Taylor, 1992 Kojima & Miyakawa, 1993 Marcon, 1993 Melby, 1993	Yang & Boykin, 1994 Naftchi, 1995 Rath & Saxena*, 1995 Chhikara & Kumari*, 1996

Variables studied	Studies showing association between variables	Studies not showing association of variables
	Muller, 1993 Waugh et al., 1993 Dharmadasa, 1994 Grolnick & Slowiaczek, 1994 Keith & Litchman, 1994 Leveque, 1994 Thomson, 1994 Downey, 1995 Gandara, 1995 Hickman et al., 1995 Singh & Saxena*, 1995 Srivastava*, 1995 Yap & Enoki, 1995 Akimoff, 1996 Booth, 1996 Brown & Madhere, 1996 Griffith, 1996 Niebrzydowski, 1996 Syamsundar*, 1996 Williams, 1996 Misra*, 1997 Normandeau, 1997 Sojourner & Kushner, 1997 Nord, 1998 Rani & Reddy*, 1999 Taj & Bharghava*, 1999	
Parental education and Achievement	Steffy, 1985 George*, 1989 Kelu*, 1989 Bhatnagar & Shaung*, 1992 Drazen, 1992 Isaac et al., 1992 Usha*, 1992 Le Tendre, 1993 Mumthas*, 1993 Palafox et al., 1993 Sheeja*, 1994 Venugopal*, 1994 Peng et al., 1995	Xie, 1996 Kaur & Goyal*, 1997

Variables studied	Studies showing association between variables	Studies not showing association of variables
Father's education and Achievement	Thampuratty*, 1995 Varghese *, 1995 Melby & Conger, 1996 Nagalakshmi*, 1996 Minnalkodi*, 1997 Ahmed*, 1998 Lohani & Mohite*, 1990 Muralidharan*, 1990 Desai*, 1991 Gaspard & Burnette, 1991 Ray *, 1992 Guha <i>et al.</i> *, 1995 Singh & Saxena *, 1995 Srinivasan*, 1995 Madhavalatha & Mayuri*, 2000	Madhavalatha & Umadevi*, 1998
Mother's education and Achievement	Lohani & Mohite*, 1990 Muralidharan*, 1990 Ray*, 1992 Baydar et al., 1993 Mukerji & Sharma*, 1993 Byrd & Weitzman, 1994 Debas, 1994 Guha et al.*, 1995 Rath & Saxena*, 1995 Singh & Saxena*, 1995 Srinivasan *, 1995 Campbell, 1996 Ferguson, 1996 Holden & Dranseco, 1996 Upadhyay et al.*, 1996 Wylie et al., 1996 Madhavalatha & Mayuri*, 2000	Madhavalatha & Umadevi*, 1998
Parental employment and Achievement	Desai*, 1991 Usha*, 1992 Sheeja*, 1994 Venugopal *, 1994 Gupta et al.*, 1994	Sindhu*, 1995 Minnalkodi*, 1997 Madhavalatha & Umadevi*, 1998

Variables studied	Studies showing association between variables	Studies not showing association of variables
Father's employment and Achievement	Raju*, 1996	
	Wolfer & Meon, 1996	
	Patel*, 1997	
	Lohani & Mohite*, 1990	
	Muralidharan*, 1990	
	Girija*, 1994	
Mother's employment and Achievement	Rath and Saxena*, 1995	
	Singh and Saxena*, 1995	
	Nagalakshmi*, 1996	
	David, 1992	Muralidharan*, 1990
	Vandell & Ramanan*, 1992	Abbot, 1991
	Mukerji & Sharma*, 1993	Taluja*, 1993
	Bogenschneider & Steinberg, 1994	Beyer, 1995
	Panda & Samal*, 1995	Paulson, 1996
	Goldberg <i>et al.</i> *, 1996	Ayishabi & Kuruvilla*, 1999.
	Gupta*, 1996	
	Wolfer & Meon, 1996	
	Taylor et al., 1997	
	Madhavalatha & Umadevi*, 1998	
Sunitha*, 1999		
Parental income and Achievement	Muralidharan*, 1990	Henry et al., 1992
	Cherian, 1991	Sindhu*, 1995
	Drazen, 1992	
	Usha*, 1992	
	Baydar et al., 1993	
	Mukerji & Sharma*, 1993	
	Girija*, 1994	
	Sheeja*, 1994	
	Venugopal*, 1994	
	Fadem et al., 1995	
	Hart and Risley, 1995	
	Thampuratty*, 1995	
	Nagalakshmi*, 1996	
	Pandilla, 1996	
	Wylie et al., 1996	

Variables studied	Studies showing association between variables	Studies not showing association of variables
	Minnalkodi*, 1997 Pani & Parida*, 2000 Sundaram*, 2000 Vaghela*, 2000	
Parental absenteeism and Achievement	Gaspard & Barnett, 1991 Mulkey et al., 1992 Smith, 1992 Maqsd & Coleman, 1993 Kaiser, 1994 Thomson, 1994 Hunsaker et al., 1995	Entwisle & Alexander, 1995 Applewhite & Mays, 1996
Father's absenteeism and Achievement	Raley, 1991 Feldmann & Rafferty, 1993 Leung, 1993 Downey, 1994 Booth, 1996	
Mother's absenteeism and Achievement	Downey, 1994 Agarwal*, 1998	
Family size and Achievement	Cherian, 1991 Lazer, 1992 Baydar et al., 1993 Waddin & Gaonkar, 1993 Sheeja*, 1994 Gill and Kang*, 1995 Guha et al., 1995 Kawakami et al., 1995 Srinivasan*, 1995 Campbell, 1996 Pandilla, 1996 Wang & Brei, 1997 Madhavilatha & Mayuri*, 2000	Falbo & Poston, 1993 Reis et al., 1995 Kaur & Goyal*, 1997 Madhavilatha & Umadevi*, 1998

Note: * indicates studies conducted on Indian sample.

GENERAL TRENDS SHOWN BY THE STUDIES REVIEWED

The studies reviewed helped the investigator to reach the following assumptions. The reviewed studies related with parental involvement consider only one or a few aspects of the involvement only. The studies that take into consideration the various aspects of involvement at a time, are very few. Also, the works done in this area are relatively less in our country, and especially so in Kerala. The studies also show that there is cultural influences on the relation of parental involvement with academic achievement. In different socio-economic contexts, the effects of various aspects of parental involvement on academic achievement may vary. The parental process variables such as parental encouragement, parental guidance, parental influence and parental decision-making are found to be relatively new in educational research literature in our country. Most of the studies done in these area are in the second half of 1990s. This shows that parental involvement in child's education is an emerging area of educational research in India. But during the same period of time, there was a flux of studies on parental involvement in the west.

In the case of socio-economic related variables there is a developing trend to see the effect of mother-related and father-related variables separately on academic achievement. Hence studies are forthcoming on father's education, mother's education and father's employment. But there are contrasting views on the effect of mother's employment on children's academic achievement. Except for this, the influence of rise in the level of socio-economic variables is generally positive on academic achievement.

In the area of the relation of parental absenteeism with academic achievement of pupils, there is lack of enough studies on the effect of father's and mother's absenteeism on students' achievement in our country; even

though such studies are of much interest to others. In the case of family size there are conflicting results, about its relationship with academic achievement. Two recent studies (Kaur & Goyal, 1997; Madhavalatha & Umadevi, 1998) see no significant relationship between family size and academic achievement, though the general trend is otherwise.

Conclusion

The understanding of the relations of parental variables to school learning is fragmentary and incomplete, despite its practical importance to policy makers. Moreover, what is known about these relationships come primarily from studies undertaken in the west, which are often of little value in our socio cultural setting. The means by which the economic and social status variables influence school learning is far from clear. There is high need for further expansion of research in this area. It is critical that research informs policy makers and practitioners as to which strategies are more likely to yield positive outcome, within short and long term. One parent factor cannot be identified as more important than others, in enhancing young children's school performance. Parent behaviours and attitudes that contribute to young children's school experiences are inextricably interwoven. The same time, research points to the significant influence of parents on young children's school outcomes.

METHODOLOGY

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METHODOLOGY

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- ❖ Variables
 - ❖ Tools Used for Collection of Data
 - ❖ Sample Used for the Study
 - ❖ Data Collection and Consolidation
 - ❖ Statistical Techniques Used for Analysis
-

METHODOLOGY

The study as stated earlier, is to investigate the influence of certain parental variables on academic achievement of elementary school pupils. This chapter is a detailed description of the variables studied, tools used and procedures employed in sample selection, data collection and statistical techniques used in analysis of the data. Each of these are given under separate headings below.

VARIABLES

The variables of the present study are described below.

Dependent Variable

As the influence of parental variables on academic achievement is being studied, the dependent variable of the study is Academic Achievement, of elementary school pupils.

Academic Achievement in this study stands for the total score obtained for the pupil on the General Academic Achievement Test on basic concepts of Malayalam, Science, Social studies and Mathematics.

Rationale for selecting the dependent variable

Achievement is a virtue in and of itself. Academic success contributes to good social and school adjustment. Achievement at primary grades puts on the child a stamp of status – whether superior, mediocre, inferior, which consequently sets the trend for and, help to determine the future academic endeavours and social status of the individual to a considerable extent. All those connected with the educational field are interested in determining what factors influence achievement and such studies have great significance. The

investigator also wants to know the factors influencing academic achievement at elementary school level which is the foundation on which the future academic pursuits of the individual is laid. Hence, Academic Achievement is taken as dependent variable.

Independent Variables

Rationale for selecting independent variables

Major forces associated with the educational attainment is to be found within the home. It has become a truism that parents influence their children's behaviours. Children's performance at school also is influenced by parental attitudes and actions. Parents vary in the nature and extent of the involvement with the academic activities of their children. The theoretical overview and studies reviewed helped the investigator to identify the parent related factors influencing the achievement. The parent's acceptance of the child and education, their aspirations regarding the child, the attention they pay to the child's education, encouragement and guidance they provide, the way they influence as role models for academic activities of the child, their decisions regarding the education of child, provision of physical facilities and care for physical fitness of child, all influence the education of child. These parental activities vary in their ability to influence the Academic Achievement. The researcher feel that it will be worthwhile to identify which of these factors influence Academic Achievement significantly and to what extent.

Parents' income, mother's and father's education and family size are some other parent related factors which mediate the children's achievement. Mother's employment and mother's and father's absence from home are present day social conditions which might impact achievement of their

children. Hence the investigator wanted these factors also to be considered as independent variables for the study.

Thus independent variables of the present study are 21 Parental Variables, each one of which is described below.

i) Parental Acceptance

It is the extent or degree to which the parents accept, agree to, approve, tolerate and co-operate with the pupil and his or her educative activities related with school, as perceived by the child.

In the present study it is denoted by the sum score obtained for the pupil on the six items measuring parental acceptance, in the Parental Involvement Rating Scale(PIRS).

ii) Parental Aspiration

According to Page & Thomas (1977) aspiration means "ambition of an individual; in educational usage usually seen as academic, social or occupational and concerned with performance, prestige and status". Parental Aspiration is the desires, higher aims, hopes, intentions, purposes etc., keenly pursued by the parents through the education and related activities of the child, as the child perceives it.

Parental Aspiration in this study is determined by the sum of the scores obtained for the pupil on the eight items measuring it in the PIRS.

iii) Parental Attention

Parental Attention means the extent of attentiveness, consideration, vigilance, concern, regard etc. that the father and mother together give to the child and to his or her educative activities.

Here, it is measured by the sum of the scores obtained for the pupil on the nine items on Parental Attention included in the PIRS.

iv) Parental Encouragement

The quantity of encouragement, inspiration, incitement, stimulation etc. given by the parents to rouse or promote educative activities of the child is termed as Parental Encouragement here.

It is determined by the sum of scores obtained for the pupil on 13 items on Parental Encouragement of child's education, included in Parental Involvement Rating Scale.

v) Parental Guidance

Good's (1973) dictionary of education defines child guidance as the process of helping children to meet and master developmental tasks. Parental Guidance, in the present study, means the direct educative or instructive activities of the parents on the child through various activities such as teaching and training at home, helping and supervising in homework, regulating and controlling behaviours, advising, counselling etc.

The sum of the scores obtained for the pupil on the 18 items on Parental Guidance in Parental Involvement Rating Scale represents this variable in the present study.

vi) Parental Influence

Influence, relationship; according to the international dictionary of education (Page & Thomas, 1977) is any social relationship in which a person, whether through personality, role or prestige, produces an effect upon others which changes their behaviour in his/her desired direction. Parental Influence is a measure of the extent to which the parents are the moral power, agents

working invisibly, instrumental in effecting and promoting the education of the child (as models, examples, standards etc.).

It is quantified as the score obtained for the pupil on the seven items on Parental Influence in Parental Involvement Rating Scale.

vii) *Parental Decision-making*

The activities of parents as decision-makers about the education of the child is denoted as Parental decision-making. The impact of this upon the education of child, as perceived by the child, is measured by four items in Parental Involvement Rating Scale. The sum of scores obtained, on these items represents parental decision-making in the present study.

viii) *Parental Provision of Physical Facilities*

It is a measure of the quantity of physical facilities such as reference materials, reading or learning room, journals and newspapers, learning materials as books, pen and other material facilities, provided by the parents in support of the education of the child.

In the present study it is assessed by the sum of scores obtained for the pupil on eight items on physical facilities in Parental Involvement Rating Scale.

ix) *Parental Care to Physical Fitness of Child*

This means the extent to which the parents take special attention to the physical health of the child. In this study it is denoted by the sum of scores on three items on parental care to physical fitness in Parental Involvement Rating Scale.

x) Parental Involvement

To involve means 'to become emotionally concerned', 'to have an effect on someone or something', 'to cause (someone) to take part or implicated in it.' According to Oregon State Department of Education (1990) 'parent involvement in a child's education consists of schools and parents working together to achieve maximum educational growth for their children.' Parental involvement means the extent of participation, involvement and contribution of parents in the educational attainments of child (as child perceive them) through direct explicit activities and indirect emotional behaviours.

In the present study Parental Involvement is denoted by the total score obtained by the pupil on the Parental Involvement Rating Scale.

xi) Parental Income

Parental income is the total monetary earnings of parents from different means. In this study it is taken as the average monthly income of both parents together.

xii) Father's Education

It is the quantity or level of education achieved (or lack of it) through formal or non-formal means, by the father of the child. In the present study it is denoted as the score obtained by adding five score each, for every stage (viz., illiterate, lower primary, upper primary, secondary, higher secondary, graduate or post graduate) of education attended by the father of the child.

xiii) Mother's Education

It is the quantity or level of education achieved (or lack of it) through formal or non-formal means, by the mother of the child. In the present study it is denoted by the score obtained by adding five score each for every stage

(viz., illiterate, lower primary, upper primary, secondary, higher secondary, graduate or post-graduate) of education attended by the mother of the child.

xiv) Parental Education

It is the average of the quantity or level of education attained by father and mother of the child.

xv) Father's Employment

It denotes the occupation which is the major means of income of the father of the child. It may range from unemployment through unskilled, semiskilled, skilled, semiprofessional, professional to highly professional occupations.

xvi) Mother's Employment

It denotes the occupation, which is the major means of income of the mother of the child. It may range from unemployment through unskilled, semiskilled, skilled, semiprofessional, professional to highly professional occupations.

xvii) Parental Employment

It is the average of the score obtained for father's employment and mother's employment.

xviii) Father's Absenteeism

Absenteeism means the failure to attend regularly. Father's absenteeism is the duration or rate of absence of the father from the place of residence of the child.

xix) Mother's Absenteeism

It is the duration or rate of absence of the mother from the place of residence of the child.

xx) Parental Absenteeism

It is the average of the rate of absence of the father and mother from the place of residence of the child.

xxi) Family Size

It denotes the number of members present in a family, including parents and their offsprings.

Basal Variables

In addition to the above discussed dependent variable and independent variables, sex and socio-economic status of the pupil and locale and type of management of the school were selected as basal variables for forming subsamples.

Rationale for selecting the basal variables

Sex of the child and socio-economic status will have impact on the way the parents deal with the child and the way the child reacts to the parental behaviours. Also, the influence of the Parental Variables on Academic Achievement of the child is probable to change from one sex to the other and for different socio-economic groups. Similarly, locale and management of the school is likely to affect the nature and extent of Parental Involvement on educational activities of the child. Pupils from urban or rural schools and private or government schools are in need of different types of parental behaviours. Hence the relation of each of the Parental Variable with Academic Achievement may vary according to locale and management of the

schools. Hence, sex and SES of pupils and locale and type of management of their schools are considered as basal variables in the present study.

TOOLS USED FOR COLLECTION OF DATA

The data necessary for the study is collected by administering the following tools developed by the investigator with the help of his supervising teacher.

1. General Academic Achievement Test (for standard VI pupils).
2. Parental Involvement Rating Scale (PIRS).
3. General Data Sheet.

1. GENERAL ACADEMIC ACHIEVEMENT TEST

This test is prepared by the investigator with the help of his supervising teacher, to measure the Academic Achievement of the pupils studying in standard VI. The test is intended to measure the achievement of basic concepts in Malayalam, Science, Social studies and Mathematics of standard VI. The items on each subject is grouped under separate subtests. Hence there are four subtests, measuring achievement of Malayalam, Science, Social Studies and Mathematics respectively.

Planning for the test

While planning the test due consideration was given to factors like content coverage, coverage of educational objectives and range of item difficulty. Content domain of the test include basic concepts of Science, Social Studies and Mathematics included in curriculum of standard VI pupils. This content domain is so large that only a sample of elements can be tested at one time. A genuine attempt is made to get a representative sample of items. Content coverage was ensured by including atleast two test items from every unit of the above subjects in standard VI.

In the case of subtests, Malayalam items are constructed taking into consideration that in upper primary schools there can be pupils who are studying languages other than Malayalam as the first language. Hence the item content in that subtest are not text book oriented.

As the pupils studying in standard VI will only be getting proficient enough to read, comprehend and answer the items of a standardised achievement test in English and Hindi, these two languages are not included in the test, though they form part of VIth standard curriculum.

The items of the General Academic Achievement Test are based on the first three levels of cognitive domain described by Bloom and his associates (1956), viz., Knowledge, comprehension and application. The higher order abilities viz., analysis, synthesis and evaluation are not considered for the test because the pupil of standard VI will be only 11+ years of age. Taking into account the low age level of the pupils, only multiple choice test items with three choices were included in the test. For norm-referenced purposes, tests that are too easy or too difficult will produce score distributions that make it hard to identify reliable inter individual differences (Ebel & Frisbie, 1991). Hence the goal of the investigator was to use items with moderate difficulty.

While deciding on the number of items in the test, coverage of content domain was the prime consideration. Yet the investigator wanted the final test to be administered in an hour, having around 60 items, with equal items in each subtest. Hence double the number, ie, 120 items are to be included in the draft test. Each subtest, thus carries 30 items in the draft form of General Academic Achievement Test.

With these decisions regarding content coverage, coverage of instructional objectives, type of items, difficulty level of items and number of

items, a blue print for the draft test was prepared. The blue-print of the (draft) General Academic Achievement Test is presented in Table 2.

TABLE 2
Blue-Print of the General Academic Achievement Test

Sl. No.	Content	Objectives			Total
		Know-ledge	Compre-hension	Applica-tion	
1.	Basic concepts of Malayalam Language	8	16	6	30
2.	Basic concepts of Science	6	15	9	30
3.	Basic concepts of Social Studies	7	16	7	30
4.	Basic concepts of Mathematics	8	14	8	30
Total		29	61	30	120

Note: All items are multiple choice items.

Based on the blue print, in each subtest more than 30 items were prepared. While preparing items help was sought from experts in the respective subjects. Items were edited on the basis of discussion with supervising teacher. During the editing process certain items were deleted; thus the number of items were reduced to 30 in the draft test.

Each subtest in the draft General Academic Achievement Test with content area and illustrative example of items are described below.

Subtest I

The section is intended to measure the proficiency of performance of pupils in Malayalam. The items are related to the basic skills and abilities of using Malayalam language to have attained in lower primary level. The items are not based on the text book of standard VI as there can be pupils who are

studying other languages such as Arabic, Sanskrit, Kannada etc. as the first language.

One item each, measuring the objectives of Knowledge, Comprehension and Application are illustrated below.

Knowledge:

താഴെ കൊടുത്തവയിൽ ശരിയായ പദം ഏത് ?

(No. 15)

- a ബുട്ടി b ബുധി c ബുദ്ധി

Comprehension

അതിയായ ആഗ്രഹം എന്നതിനെ ഒറ്റപ്പദമാക്കുക.

(No. 13)

- a അതിയാഗ്രഹം b അത്യാഗ്രഹം c അതിഗ്രഹം

Application

“മിന്നുനതെല്ലാം പൊന്നല്ല” എന്ന ചൊല്ലിന്റെ സാരം എന്ത് ?

- a പുറം മോടിയിൽ വിശ്വസിക്കരുത്.
b എല്ലാ സ്വർണവും തിളങ്ങുകയില്ല
c മിന്നലില്ലാത്തതും സ്വർണമാവാം

(No. 25)

Subtest II

This section measures the achievement of pupils in the basic concepts of science. Items are prepared on the concepts of every unit in the science syllabus of standard VI and a few items are from the units of standard V. The illustrative items are given below.

Knowledge:

What is the scientific name for man? (No.1)

- a. Cocos nusifera b. Homo sapiens c. Oriza Sativa

Comprehension:

Which element is present in sugar along with hydrogen and oxygen?

(No.16)

- a. Nitrogen b. Silicon c. Carbon

Application:

What is the advantage of treads on tyres of vehicles? (No.19)

- a. help decrease friction b. help increase friction c. help increase speed

Subtest III

This section is intended to measure the proficiency of performance of pupils in basic concepts of social studies. Items are included from every unit of the standard VI social studies syllabus.

The illustrative items are given below:

Knowledge:

Who contributed Vedas and Puranas? (No.1)

- a. Aryans b. Dravidians c. Greeks

Comprehension:

What do you mean by 'pre-historic age'? (No.13)

- a. The period after man started the study of history.

- b. The period after the compendium of history.
- c. The period before the compendium of history.

Application:

What is the relative position of sun, moon and earth during solar eclipse? (No.8)

- a. Sun-earth-moon
- b. Sun-moon-earth
- c. Earth-sun-moon

Subtest IV

This section deals with the basic skills and concepts related to mathematics. The items are prepared based on the basic concepts in Mathematics, learned upto the end of standard VI. The illustrative items are given below.

Knowledge:

How many sides are there in a triangle? (No.2)

- a. 1
- b. 2
- c. 3

Comprehension:

If $m=3$, what is the value of $2m + 7$? (No.3)

- a. $9m$
- b. 13
- c. $13m$

Application:

If a rod of length 6.4 m is cut into 16 pieces of equal length, then, what will be the length of each piece? (No.4)

- a. 0.04 metre
- b. 0.4 metre
- c. 4 metre

A copy of the draft form of General Academic Achievement Test and scoring key are presented as Appendix I and II respectively.

Scoring

Three responses are given to each item. A score of 'one' will be given to the correct response and 'zero' for incorrect response.

Try-out of the test

The test was tried out on a sample of 370 pupils of standard VI, selected from eight schools of eight revenue districts of Kerala, viz., Thiruvananthapuram, Kollam, Kottayam, Thrissur, Palakkad, Malappuram, Kozhikode and Kannur. The sample was carefully selected, giving proportionate representation to the sex of the pupils and locale and type of management of the schools. The test was administered during January-February 1998.

Item analysis

During this step, difficulty level and discrimination power of the items were computed. The responses of 370 pupils were scored and arranged in ascending order from bottom to top based on total score, obtained by the pupil. Hundred pupils of the highest score (top 27 percent) and 100 pupils of the lowest score (bottom 27 percent) were taken to form the upper and lower groups.

Discrimination index of each item was calculated using the formula
$$\frac{U - L}{N}$$

Where,

- U = number of right response, for the item, in the upper group
- L = number of right response, for the item, in the lower group
- N = 100

Difficulty index (DI) of each item was calculated using the formula, $\frac{U+L}{2N}$

The indices of discrimination and difficulty of the items are presented in Table 3.

TABLE 3
Result of the Item Analysis
of the General Academic Achievement Test

Item No.	Discrimination index	Difficulty index	Item no. in Final Test	Item No.	Discrimination index	Difficulty index	Item no. in Final Test
SUBTEST - I				SUBTEST - II			
1.	0.51	0.68	--	1	0.20	0.90	--
2.	0.61	0.60	1	2	0.35	0.53	1
3.	0.57	0.71	2	3	0.58	0.46	10
4.	0.59	0.69	--	4	0.24	0.40	--
5.	0.48	0.70	7	5	0.22	0.48	--
6.	0.19	0.24	--	6	0.18	0.16	--
7.	0.53	0.60	8	7	0.33	0.55	2
8.	0.48	0.75	--	8	0.25	0.26	--
9.	0.44	0.47	--	9	0.31	0.55	3
10.	0.65	0.53	3	10	0.25	0.40	--
11.	0.63	0.58	4	11	0.44	0.41	4
12.	0.44	0.70	--	12	0.48	0.60	5
13.	0.34	0.81	--	13	0.21	0.31	--
14.	0.50	0.60	6	14	0.32	0.40	6
15.	0.32	0.84	--	15	0.19	0.51	--
16.	0.35	0.81	9	16	0.41	0.43	8
17.	0.50	0.48	5	17	0.48	0.54	7
18.	0.37	0.33	--	18	0.09	0.34	--
19.	0.48	0.62	11	19	0.30	0.51	9
20.	0.31	0.69	--	20	0.19	0.33	--
21.	0.42	0.26	10	21	0.49	0.60	11
22.	0.21	0.46	--	22	0.27	0.51	--
23.	0.36	0.82	--	23	0.22	0.48	--

Item No.	Discrimination index	Difficulty index	Item no. in Final Test	Item No.	Discrimination index	Difficulty index	Item no. in Final Test
24.	0.32	0.84	--	24	0.36	0.64	12
25.	0.62	0.53	12	25	0.32	0.25	13
26.	0.54	0.41	13	26	0.36	0.74	14
27.	0.49	0.64	14	27	0.44	0.47	15
28.	0.63	0.56	15	28	0.38	0.47	16
29.	0.49	0.62	16	29	0.26	0.38	--
30.	0.24	0.63	--	30	0.19	0.84	--
SUBTEST - III				SUBTEST - IV			
1.	0.25	0.64	--	1	0.06	0.96	--
2.	0.20	0.51	--	2	0.33	0.82	1
3.	0.51	0.47	1	3	0.30	0.40	2
4.	0.17	0.42	--	4	0.26	0.32	--
5.	0.41	0.45	3	5	0.30	0.41	3
6.	0.21	0.34	--	6	0.60	0.44	5
7.	0.24	0.64	--	7	0.30	0.48	4
8.	0.03	0.45	--	8	0.14	0.60	--
9.	0.12	0.62	--	9	0.41	0.70	6
10.	0.17	0.51	--	10	0.15	0.32	--
11.	0.33	0.42	4	11	0.32	0.60	7
12.	0.37	0.49	5	12	0.47	0.46	12
13.	0.38	0.56	6	13	0.10	0.36	--
14.	0.27	0.38	--	14	0.26	0.38	--
15.	0.39	0.53	7	15	0.20	0.39	--
16.	0.49	0.45	8	16	0.41	0.46	8
17.	0.51	0.40	2	17	0.08	0.39	--
18.	0.40	0.53	9	18	0.38	0.65	9
19.	0.22	0.64	--	19	0.05	0.06	--
20.	0.25	0.23	--	20	0.30	0.45	10
21.	0.59	0.61	10	21	0.58	0.55	11
22.	0.55	0.56	11	22	0.25	0.53	--
23.	0.16	0.27	--	23	0.43	0.38	13

Item No.	Discrimination index	Difficulty index	Item no. in Final Test	Item No.	Discrimination index	Difficulty index	Item no. in Final Test
24.	0.27	0.65	--	24	0.09	0.19	--
25.	0.18	0.39	--	25	0.42	0.44	14
26.	0.40	0.44	12	26	0.33	0.43	15
27.	0.37	0.43	13	27	0.25	0.34	--
28.	0.50	0.40	14	28	0.13	0.20	--
29.	0.39	0.59	15	29	0.59	0.56	16
30.	0.34	0.72	16	30	0.12	0.12	--

Preparation of the final test

Items having satisfactory discrimination index and average difficulty index were selected for the final test. According to Ebel and Frisbie (1991) good norm-referenced achievement test items should have indices of discrimination of 0.30 or more. Hence only items, having this level of discrimination power were selected for final test. In the case of difficulty index items having DI of around 0.50 are selected, but priority was given to select items with desirable discrimination index than the difficulty index. As there was scarcity of items having both values at desirable levels, some of the items having difficulty index above and below moderate level were also included in the test. In this way, in final test, 16 items were included in each subtest. Thus together in four subtests there are 64 items in General Academic Achievement Test. The whole test is to be answered in 75 minutes. A copy of the final test, its English version (except for subtest-I) and scoring key are presented as Appendix III, IV, and V respectively.

Reliability

The reliability of the total test and subtests were found out by split-half method. For this, the test as well as subtests were divided into equivalent halves and the scores of the two equivalent halves were correlated by Karl Pearson's Product Moment Coefficient of Correlation. From the reliability of half tests, the reliability of the General Academic Achievement Test and the subtests were worked out by Spearman-Brown formula, viz.,

$$r_{xx} = \frac{2r_{hh}}{1+r_{hh}} \quad (\text{Brown, 1976})$$

where, r_{xx} = the reliability of the whole test

r_{hh} = the reliability of the half tests

The reliability coefficients (r_{xx}) thus obtained are presented below.

Test	r_{xx} (N=40)
General Academic Achievement Test	0.90
Subtest I	0.88
Subtest II	0.75
Subtest III	0.88
Subtest IV	0.81

Validity

The test was constructed with adequate sampling regarding the content and instructional objectives of the subjects concerned. Thus it possess adequate content validity. The face validity of the test was ensured by consulting experts in the field of subject areas concerned, during the test preparation.

Empirical validity of the test and its subtests were established by correlating the test scores with two external criteria, viz., average of two school examination marks and teacher rating of student's achievement. Thus two types of criterion validity were established for the total test and subtests as well. The coefficients of validity thus obtained are given in Table 4.

TABLE 4
Validity Coefficients of General Academic Achievement Test and Subtests

Test	Coefficient of Validity	
	School examination mark as criterion (N=45)	Teacher rating as criterion (N=45)
General Academic Achievement Test	0.75	0.80
Subtest I	0.75	0.78
Subtest II	0.83	0.68
Subtest III	0.60	0.68
Subtest IV	0.75	0.71

The values of the reliability and validity of the test show that General Academic Achievement test is a valid tool for measuring academic achievement.

2. PARENTAL INVOLVEMENT RATING SCALE (PIRS)

This tool is prepared by the investigator with the help of his supervising teacher. PIRS is intended to measure the involvement of parents in their children's education.

Prior to the development of PIRS the investigator reviewed the available related literature. No other scale of the nature was available as a reference for constructing a scale of parental involvement. Hence the investigator made use of the suggestions given in several works including Hess (1969), Gordon (1969), Keeves (1972), Sinclair (1980), Wolfendale (1983 & 1993) and Husen *et al.* (1994). The investigator had useful discussion with school teachers and experts in the field of education in addition to the consultation with his supervising teacher. The review of the related literature, concept of parental involvement as described by the above mentioned authors and the discussions helped the investigator to identify nine components of parental involvement in children's education.

Each of the nine components of Parental Involvement are described below. Under each component statement numbers marked with asterik denote negative items.

1. Parental Acceptance

Parental acceptance is the extent or degree to which the parents accept, agree to, approve, tolerate and co-operate with the child and his/her educative activities. The statements under this category measures the child's perception of the extent to which his parents agree with the schooling and related activities.

There are 6 items in this category. The statement numbers are 1, 11*, 20, 28, 44* and 61.

Examples:

1. My parents like my schooling (No.1)
2. My parents have enough knowledge to recognise the importance of education (No.20).

2. Parental Aspiration

Parental aspiration denotes the desires, higher aims, hopes, intentions, purposes etc. keenly pursued by the parents through the education and related activities of the child. The statements under this category measure the desire or ambition expressed by parents, as perceived by the child in connection with child's education.

There are 9 items under this category. The statement numbers are 4, 14*, 31, 42, 50, 55, 72, 76* and 92.

Examples:

1. My parents have great expectation regarding my studies (No.4).
2. My parents are of the view that education will not fetch a job (No.14*)

3. Parental Attention

The extent of attentiveness, consideration and vigilance of pupils' education, concern, regard etc. for the child exhibited by parents is denoted as parental attention. The statements under this category measure whether the pupil is obtaining the normal benefits to be derived from adequate contact with and attention from the parents.

There are eleven items in this category. The statement numbers are 3*, 13*, 30*, 38*, 46*, 54*, 69*, 79*, 10*, 19* and 27.

Examples:

1. My parents' absence affect my studies (No.3*)
2. Quarrelling between parents affect my studies (No.38*)

4. Parental Encouragement

It is the quantity of encouragement, inspiration, stimulation, etc. given by the parents, to rouse or promote the educative activities of the pupil, as perceived by the child. The statements under this category give a measure of inspiration given by the parents for the child in his/her education through material and non-material rewards and communication.

The statement numbers are 2, 12, 22, 23*, 29, 34, 35*, 36*, 37, 45, 51*, 58, 63, 67, 68*, 73*, 77*, 80 and 89*.

Examples:

1. On passing the examination my parents reward me with gifts (No.37).
2. My parents do not ask about marks scored in examinations (No.77*)

5. Parental Guidance

Here, the direct educative or instructive activities of the parents on the child through various activities such as teaching and training at home, helping and supervising in homework, regulating and controlling child's behaviours, advising, counselling etc. are involved. The statements under this category measure such direct helps given by parents in pupil's learning.

There are 21 items under this category. The item numbers are 5, 15, 21*, 25*, 32*, 39, 41*, 56, 57, 62*, 64, 65*, 66*, 70*, 71, 74, 75, 78*, 81, 84*, 85.

Examples:

1. Everyday, my parents will enquire about homework (No.5)
2. My parents do not correct my notebooks (No.65*)

6. Parental Influence

Here the parents act as moral power, agents working invisibly, instrumental in effecting and promoting the education of the child.

There are nine items in this category. The statement numbers are 6, 16, 24, 33*, 40*, 43*, 53*, 59 and 60.

Examples:

1. Education of my parents and their related achievements are a source of inspiration to me (No.16)
2. Reading habits of my parents have created reading habit in me (No.24)

7. Parental Decision-making

The impact of the decisions of parents, concerning the child's education as perceived by the child is included here.

The five items under this category are 8*, 17*, 48*, 83* and 87*.

Examples:

1. My parents do not consider my opinion when taking decisions regarding my education (No.8*)
2. My parents are not able enough to take decisions regarding my studies (No.48*)

8. Parental Provision of Physical Facilities

This category measures how far parents are providing physical facilities conducive to learning.

There are nine statements under this category. The item numbers are 7*, 47*, 49, 52*, 82, 86*, 88, 90* and 91*.

Examples:

1. At my home, facilities for study are less (No.52*)
2. My parents become angry if I ask for note books, workbooks, pen, pencils etc. (No.90*)

9. Parental Care to the Physical Fitness of Child

The care taken by parents in physical health of the child, is a condition influencing learning. This category measures the extent to which parents take special attention to the physical health of the child.

There are three statements under this category. The statement numbers are 9, 18, and 26.

Examples:

1. My parents take me to doctor whenever I get ailments (No.9)
2. My parents see that my diet is balanced with leafy vegetables, cereals, fruits, milk etc. (No.26)

The draft scale thus consisted of 92 statements of which 44 are positive and 48 are negative statements. The draft Parental Involvement Rating Scale is given as Appendix VI.

Mode of answering

Against each statement of the Parental Involvement Rating Scale three responses viz., 'always true', 'sometimes' and 'never true' are given. Against each statement pupil have to put a 'X' mark, in the column under appropriate response.

Scoring

For each positive statement a score of '2', '1' or '0' is to be given, respectively for the responses always true, sometimes and never true. For negative statements scoring is reversed. The scores on all the 92 items are added together and the total score is considered as the measure of Parental Involvement. The score obtained on the items belonging to each component will give a measure of that component of Parental Involvement.

Standardisation of the Scale

Statements for the final scale were selected on the basis of merit of the items, after item analysis. For this Parental Involvement Rating Scale was tried out on a sample of 370 standard VI pupils drawn by proportionate random sampling, from eight schools of eight revenue districts of Kerala viz., Thiruvananthapuram, Kollam, Kottayam, Thrissur, Palakkad, Malappuram, Kozhikode and Kannur. The responses of 370 pupils were scored, and arranged in ascending order from bottom to top based on the total score obtained by the pupils. Hundred pupils of the highest score and hundred pupils of the lowest score were taken to form the upper and lower groups. The discriminating power of each item was found by testing whether the obtained difference in mean scores between upper and lower groups is significant or not. For this, critical ratio (t-value) of each item was found out using the formula suggested by Edward (1957).

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{n_L}}}$$

where,

- \bar{X}_H = the mean score of upper group on a given statement
- \bar{X}_L = the mean score of lower group on the same statement
- S_H^2 = the variance of distribution of responses of upper group to the statement
- S_L^2 = the variance of distribution of responses of lower group to the statement
- n_H = the number of subjects in the upper group
- n_L = the number of subjects in the lower group

The t-values obtained for the statements in PIRS and the item number of statements in the final scale are presented in Table 5.

TABLE 5

**t-values Obtained for the Statements
in the Parental Involvement Rating Scale
and the Item Number of the Statements in the Final Scale**

Item No. (Draft)	Discrimination Power (t-value)	Item number (Final Scale)	Item No. (Draft)	Discrimination Power (t-value)	Item number (final scale)	Item No. (Draft scale)	Discrimination power (t-value)	Item number (Final scale)
1.	4.33	1	32	7.11	28	63	-2.40	--
2.	5.75	2	33	8.87	29	64	13.71	53
3.	9.00	3	34	7.00	30	65	3.70	54
4.	5.33	4	35	8.37	31	66	0.10	--
5.	2.86	5	36	10.0	32	67	1.25	--
6.	6.60	6	37	7.11	33	68	10.0	55
7.	7.89	7	38	8.75	34	69	4.57	56
8.	4.40	8	39	-7.11	--	70	6.56	57
9.	7.57	9	40	2.50	--	71	3.0	58
10.	-5.67	--	41	11.85	35	72	5.56	59
11.	9.88	10	42	11.12	36	73	9.33	60
12.	6.78	11	43	15.62	37	74	7.50	61
13.	3.90	12	44	7.88	38	75	8.12	62
14.	11.63	13	45	0.62	--	76	5.11	63
15.	7.38	14	46	14.85	39	77	3.20	64
16.	5.73	15	47	2.80	40	78	5.50	65
17.	12.63	16	48	2.50	--	79	10.63	66
18.	8.43	17	49	10.57	41	80	0.73	--
19.	8.18	18	50	3.66	42	81	7.33	67
20.	6.63	19	51	4.0	43	82	6.30	68
21.	0.80	--	52	12.71	44	83	7.40	69
22.	7.75	20	53	10.57	45	84	5.91	70
23.	9.11	21	54	6.70	46	85	5.67	71
24.	8.13	22	55	1.70	--	86	3.80	72
25.	8.78	23	56	4.22	47	87	7.33	73
26.	8.25	24	57	10.50	48	88	5.20	74
27.	-1.70	--	58	5.22	49	89	-1.91	--
28.	8.11	25	59	7.55	50	90	9.25	75
29.	2.56	--	60	-5.30	--	91	2.40	--
30.	8.11	26	61	6.37	51	92	7.56	76
31.	8.87	27	62	5.70	52	--	--	--

The final scale constitutes the items selected on merit of their t-values. According to Edward (1957) statements with t-values equal or greater than 1.75 can be selected. But, as the t-values obtained for the statements in PIRS are relatively high, the investigator selected statements with t-values equal or greater than 2.58 for the final scale; ie., these statements differentiates the upper and lower groups of parental involvement with one percent chance error.

Items belonging to each component of Parental Involvement represented by their item numbers in the final scale is given in Table 6.

TABLE 6

**Item-numbers of the Statements Belonging to
Different Components of Parental Involvement in the Final Scale**

Components	Item-numbers in the final scale	Number of items
Parental Acceptance	1, 10*, 19, 25, 38*, 51	6
Parental Aspiration	4, 13*, 27, 36, 42, 59, 63*, 76	8
Parental Attention	3*, 12*, 18*, 26*, 34*, 39*, 46*, 56*, 66*	9
Parental Encouragement	2, 11, 20, 21*, 30, 31*, 32*, 33, 43*, 49, 55*, 60*, 64*	13
Parental Guidance	5, 14, 23*, 28*, 35*, 47, 48, 52*, 53, 54*, 57*, 58, 61, 62, 65*, 67, 70*, 71	18
Parental Influence	6, 15, 22, 29*, 37*, 45*, 50	7
Parental Decision-making	8*, 16*, 69*, 73*	4
Parental Provision of Physical facilities	7*, 40*, 41, 44*, 68, 72*, 74*, 75*	8
Parental care to Physical Fitness of child	9, 17, 24	3

Note: * denotes negative item.

Thus there are 76 statements in the final scale, of which 35 are positive and 41 are negative items.

Reliability

The reliability of the scale and its components were established by test-retest method, and estimation of internal consistency. Internal consistency was estimated by calculating Cronbach's coefficient alpha, using the formula,

$$r_{kk} = \frac{k}{k-1} \left(1 - \frac{\sum Si^2}{S_x^2} \right) \quad (\text{Brown, 1976})$$

where,

- k = the number of items in the test
- $\sum Si^2$ = sum of the variances of the item scores
- S_x^2 = the variance of the test scores of all k items

Novick & Lewis (1967) have proved that, alpha is a lower bound to the reliability of a scale, ie, $r_{xx} \geq \alpha$. Thus the reliability of a scale can never be lower than alpha (Carmines & Zeller, 1979). The retest of the scale was conducted after three weeks from first administration. The results of the estimation of reliability by test-retest method and by using Cronbach's coefficient alpha, for the Parental Involvement Rating Scale and its components are presented in the Table 7.

TABLE 7
Test-Retest Reliability and
Cronbach's Coefficient Alpha for
Parental Involvement Rating Scale and its Components

Name of the scale or its components	Test-retest reliability N=40	Cronbach's coefficient alpha N=370
Parental Involvement Rating Scale (Whole)	0.92	0.91
Parental acceptance	0.70	0.50
Parental aspiration	0.60	0.54
Parental attention	0.74	0.61
Parental encouragement	0.73	0.64
Parental guidance	0.79	0.73
Parental influence	0.77	0.64
Parental decision making	0.71	0.53
Parental provision of physical facilities	0.67	0.50
Parental care to physical fitness of child	0.68	0.56

The reliability values obtained for PIRS are very high. The reliability values obtained for the components of PIRS are also substantial or high. Hence the scale and its components can be said to have reliability.

Validity

For estimating the validity of PIRS the researcher prepared a parallel Parental Involvement Rating Scale meant for parents, with the same content and components as in the original scale. This parallel scale was administered to parents and scores were derived for the total scale and its components. The validity of PIRS and its components were found out by correlating the scores obtained by PIRS with the score obtained on the parallel scale. The

coefficients of criterion-related validity thus obtained for the PIRS and its components are given below (N=32).

Parental Involvement Rating Scale (whole)	=	0.78
Parental Acceptance	=	0.73
Parental Aspiration	=	0.78
Parental Attention	=	0.62
Parental Encouragement	=	0.81
Parental Guidance	=	0.60
Parental Influence	=	0.83
Parental Decision-making	=	0.71
Parental Provision of Physical Facilities	=	0.66
Parental Care to Physical Fitness of Child	=	0.70

Cronbach (1969) has observed that it is unusual for a validity coefficient to rise above 0.60, though that is far from perfect prediction, and Nunnally (1978) agrees that even modest correlation (0.30) between a test and criterion can prove quite useful. Hence the validity coefficients obtained for PIRS and its components are highly satisfactory.

It is concluded that Parental Involvement Rating Scale is a reliable and valid tool for measuring the variables it intends to measure.

The final form of the Parental Involvement Rating Scale and its English version are presented as Appendix VII and VIII respectively.

3. GENERAL DATA SHEET

The general data sheet elicits background information regarding the pupil such as the sex of pupil, locale and type of management of the school, parental income, the level of father's and mother's education, father's and mother's employment, the rate of absence of father and mother, family

members and other guardians of the pupil, if any. As the pupil alone may not be competent to fill all the information in, pupils were directed to seek the help of their parents in the task. A copy each of the General Data Sheet and its English version are given as Appendix IX and X respectively.

Scoring of the data from General Data Sheet

The scores of the variables parental income, father's education, mother's education, parental education, father's employment, mother's employment, parental employment, father's absenteeism, mother's absenteeism, parental absenteeism, family size and socio-economic status (for classification purpose) were derived from information obtained through the General Data Sheet. The method followed in scoring these variables are described below.

a. Parental Income

The monthly income in rupees, as obtained from the General Data Sheet itself is taken as the Parental Income score.

b. Father's Education, Mother's Education and Parental Education

Father's and mother's education were classified into seven categories and scores were assigned based on the level of education attained, according to the norm presented below.

	Category	Education level of Father/Mother	Score
i)	Illiterate	Those who can't read or write	5
ii)	Lower primary education	Standards I to IV	10
iii)	Upper primary education	Standards V to VII	15
iv)	Secondary education	Standards VIII to X	20
v)	Higher secondary education	Pre-degree, +2, T.T.C, etc.	25
vi)	Graduation/Diploma	B.A; B.Sc., B.Com., or Diploma	30
vii)	Post-Graduation	M.A., M.Sc., M.Com, M.Ed., M.B.B.S., B.Tech, L.L.B. etc.	35

Parental Education score was obtained by calculating the average of Father's Education score and Mother's Education Score.

c. Father's Employment, Mother's Employment and Parental Employment

For scoring the above variables, different occupations obtained from the General Data Sheet were classified into seven categories, by adopting the convention used by the previous researchers. The different occupations, the categories to which they belong and the score assigned to each category are as follows.

Category	Occupation of Father/Mother	Score
i) Unemployed	: No wage earning work	5
ii) Unskilled	: Coolies, Ordinary labourers, Watchmen, Peon etc.	10
iii) Semi skilled	: Farmer, Small Scale merchants, Salesmen etc	15
iv) Skilled	: Mechanics, Plumbers, electricians, drivers, typists, photographers, carpenters, masons, document writers, constables, village officers, etc.	20
v) Semi professional	: Small land-lords, office clerks, minor business men, minor contractors etc.	25
vi) Professional	: Nurses, teachers, chemists, SI of police, AEO, DEO, sub registrars, and other officers of subdistrict level	30
vii) Highly professional	: Doctors, engineers, lawyers, high businessmen, college/university teachers, C.As, M.Ds etc.	35

The parental Employment score is obtained by taking the average of Father's Employment Score and Mother's Employment Score.

d. Father's Absenteeism, Mother's Absenteeism and Parental Absenteeism

The scores on Father's Absenteeism and Mothers Absenteeism were assigned in the following way.

Duration of absence	Score
i) No absence	'zero'
ii) Absence prolonging to a week	5
iii) Absence prolonging to a month	10
iv) Absence prolonging to a quarter of an year	15
v) Absence prolonging to six months	20
vi) Absence prolonging to an year	25
vii) Absence that lasts years	30

If a parent is no more the score of the other parent (or guardian) will be provided in that place.

The score on Parental Absenteeism is obtained by averaging the scores of Father's Absenteeism and Mother's Absenteeism.

e. Family Size

The score on Family Size is the sum score obtained by assigning one score each for every member in the family, including father, mother and their children.

f. Socio-Economic Status

Socio-Economic status of the pupils were calculated for forming subsamples viz., High, Average and Low Socio-Economic Status groups.

For this purpose, parental income was categorised into six levels and scores were assigned to each of the categories as given below.

	Income level	Score
i)	Income upto Rs.1000	5
ii)	Rs.1001 to 2000	10
iii)	Rs.2001 to 3000	15
iv)	Rs.3001 to 4000	20
v)	Rs.4001 to 5000	25
vi)	Rs.5000/- and upwards	30

The socio-economic status score was calculated by adding the score on Parental Education, Parental Employment and Parental Income.

SAMPLE USED FOR THE STUDY

The population under the study is the elementary school pupils of Kerala. Due to the large size of the population, it is impractical to study it as a whole. Therefore it was decided to take a representative sample of the population. To meet the representativeness in the sample selection, the investigator had to decide three major aspects of sampling viz., technique of sampling, factors to be considered for selecting the sample and the size of the intended sample.

Technique of Sampling

As the population consists of large number of pupils belonging to different strata based on sex of the pupils, locale of the schools and type of management of the schools, the investigator adopted stratified sampling method. Each stratum in the population is represented in the sample in the same proportion they have in population. Hence the technique adopted is proportionate stratified random sampling.

Factors Considered in Selection of the Sample

The following factors were taken into consideration while selecting the sample.

- i) Sex of the pupils
- ii) Locale of the schools
- iii) Type of management of the schools

According to the information available in Fifth All India Educational Survey (NCERT, 1992), in Kerala rural and urban primary schools are approximately in 9:1 ratio; and private and government schools are in 2:1 ratio. Hence the different strata of the population are represented in the sample in the following ratio:

Boys : Girls	=	1:1
Rural : Urban	=	9:1
Private : Government	=	2:1

Size of the Intended Sample

Krech and Crutchfield (1968) have observed that sample size of 500 would yield reasonably good results which would keep the error less than five percent. The investigator decided to have a sample of 900 pupils for the present study. This sample was to be drawn from sixteen schools of eight revenue districts, viz., Thiruvananthapuram, Kollam, Kottayam, Thrissur, Palakkad, Malappuram, Kozhikode and Kannur, giving representation to Travancore-Cochin and Malabar zones of Kerala State.

The break-up of the intended sample is given in Table 8.

TABLE 8
Break-up of Intended Sample for the Study

Boys	Girls	Private	Government	Rural	Urban
450	450	600	300	810	90
Total = 900					

DATA COLLECTION AND CONSOLIDATION

After the sample was finalised and adequate copies of tools were printed, a schedule for data collection was prepared by visiting the selected schools. The investigator met the heads of the schools and sought permission to collect the data. Investigator, also requested for the co-operation of the class-teachers of the classes from which data is to be collected.

As per the schedule prepared, the tools were administered in the selected schools. In each school a class was prepared for the testing, by giving a brief description of the purpose of the data collection. The investigator gave necessary instructions to the pupils. In the case of General academic Achievement Test time limit was strictly observed. The General Data Sheet to be completed with the help of parents were distributed in the presence of class-teachers, so that the teacher recollected them the next day morning itself. This reduced the chance to miss the tool by elapse of time.

As soon as data collection from each school was over, all the response booklets of individual pupil were put together and ordered according to serial number. Only the answer sheets that were complete in all aspects were chosen for the final sample. Thus the size of final sample was 800. Details of the school-wise distribution of the final sample is presented in Table 9.

TABLE 9

Details of the School-wise Distribution of the Final Sample

Sl. No.	Name of the school	Rural/ Urban	Private/ Government	No.of Boys	No.of Girls	Total
1.	C.P.H.S.S. Kuttikkadu	Rural	Private	24	25	49
2.	M.L.U.P.S. Marthandankara	Rural	Private	26	26	52
3.	N.S.S.U.P.S. Poovarani	Rural	Private	30	18	48
4.	N.S.S.H.S.S. Kuruvachal	Rural	Private	29	20	49
5.	A.U.P.S. Parappookkara	Rural	Private	24	23	47
6.	S.R.K.V. Puranattukara	Rural	Private	22	25	47
7.	T.H.S. Thrithala	Rural	Private	27	23	50
8.	M.S.M.H.S.S. Kallingalparamba	Rural	Private	26	35	61
9.	Farook HSS, Feroke	Rural	Private	26	26	52
10.	M.I.U.P.S. Kuttiyadi	Rural	Private	29	21	50
11.	St. Joseph's H.S.S. Thiruvananthapuram	Urban	Private	30	--	30
12.	G.H.S.S. Cotton Hill	Urban	Government	--	50	50
13.	G.U.P.S. Koodallur	Rural	Government	24	27	51
14.	G.U.P.S. Muthiraparamba	Rural	Government	38	25	63
15.	G.H.S. Kottila	Rural	Government	20	26	46
16.	G.U.P.S. Manhalampuram	Rural	Government	25	30	55

Subsamples

The size of the subsamples considered for the study are given below.

Subsamples	Size (N)
Boys	400
Girls	400
Rural School pupils	720
Urban school pupils	80
Private school pupils	535
Government school pupils	265
High SES group	103
Average SES group	659
Low SES group	38

After the scoring the scores were consolidated incorporating students' sex, locale and management type of school. The data was so entered that it enabled the statistical analysis by using a computer.

STATISTICAL TECHNIQUES USED FOR ANALYSIS

The following statistical techniques are used in the analysis of data.

As a first step of analysis of data, the important statistical constants such as mean, median, mode, standard deviation, skewness and kurtosis of the variables were determined. Major statistical analyses were carried out with the help of computer using SPSS programme.

Major statistical analyses employed are described below.

- a. **Two tailed test of significance of difference between means for large independent samples.**

The Critical Ratio (t) is calculated by using the formula.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}} \quad (\text{Best \& Kahn, 1989})$$

Where,

- \bar{X}_1 = the mean score of the first group
 \bar{X}_2 = the mean score of the second group
 S_1 = Standard deviation of the first group
 S_2 = Standard deviation of the second group
 N_1 = Size of the sample of the first group
 N_2 = Size of the sample of the second group

b. Pearson's Product-Moment Coefficient of Correlation

Coefficient of correlation is calculated from raw scores using the formula.

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2] [N\Sigma Y^2 - (\Sigma Y)^2]}} \quad (\text{Garrett, 1966})$$

where,

- ΣX = Sum of the X scores
 ΣY = Sum of the Y scores
 ΣX^2 = Sum of the squared X scores
 ΣY^2 = Sum of the squared Y scores
 ΣXY = Sum of the products of paired X and Y scores
 N = Number of paired scores

The obtained r is interpreted in terms of the following.

- (i) Test of significance of the correlations by Fisher's t -test (Best & Kahn, 1989).

This is done by checking whether the t -value obtained by the formula

$$t = \frac{r\sqrt{N-2}}{\sqrt{1-r^2}}, \text{ exceeds } 1.96 \text{ or } 2.58, \text{ for significance at } 0.05 \text{ level}$$

and 0.01 level respectively, where r is the obtained correlation coefficient in each case.

- (ii) The confidence interval of r

If the r value obtained is significant at 0.01 level, the 0.99 confidence interval of r is estimated using the formula, $(r \pm 2.58 \text{ SEr})$,

Where,

SEr , the standard error of $r = 1-r^2/\sqrt{N-1}$, r being the obtained coefficient of correlation.

If the r value obtained is significant only at 0.05 level or not significant, the 0.95 confidence interval of r is estimated using the formula,

$$(r \pm 1.96 \text{ SEr}),$$

where,

SEr = the standard error of r ,

r = the obtained coefficient of correlation

(iii) Verbal interpretation of r (Garrett, 1966)

The following criteria are used for verbally interpreting the degree of relationship between the variables.

r from 0.00 to ± 0.20 : indifferent or negligible relationship

r from ± 0.20 to ± 0.40 : low or slight relation

r from ± 0.40 to ± 0.70 : substantial or marked relationship

r from ± 0.70 to ± 1.00 : High to very high relationship

(iv) Shared variance : (Fox, 1969)

The formula for computing percentage variance shared between the variables is $r^2 \times 100$. The obtained value indicates the percentage of variation of the dependent variable that can be attributed to the variation in the independent variable.

c. The Coefficient of Contingency C.

Contingency coefficient is a technique to find out the extent of relation between two nominal variables. 'C' yields an index of correlation which under certain conditions is a good estimate of r.

In this study 'C' has been found from the values of χ^2 obtained by the test of independence. The formula used is

$$C = \frac{\sqrt{\chi^2}}{\sqrt{N + \chi^2}} \quad (\text{Garrett, 1966})$$

Where,

N = size of the sample

$$\chi^2 = \sum \left[\frac{(f_o - f_e)^2}{f_e} \right] \quad \text{in which } f_o \text{ is the frequency of}$$

observed data and ' f_e ' is the expected frequency of occurrence on the null hypothesis of independence.

If χ^2 is significant, the C obtained from the χ^2 is also said to be significant. C is estimated only in the case of significant χ^2 values. The appropriate Chi-square value for significance is found from the table of χ^2 for (r-1) (c-1) degrees of freedom in which r and c are the number of rows and number of columns respectively in the contingency table.

d. Test of significance of difference between correlations for large independent samples

The difference between correlations was tested for significance by finding out the critical ratio using the formula,

$$t = \frac{z_1 - z_2}{\sqrt{\frac{1}{N_1-3} + \frac{1}{N_2-3}}} \quad (\text{Garrett, 1966})$$

where,

z_1 and z_2 are the Fisher's equivalents of the correlation coefficients r_1 and r_2 respectively; N_1 and N_2 are the sizes of the groups compared.

The obtained critical ratio is treated as belonging to normal distribution. Depending upon whether the critical ratio exceeds ± 1.96 or ± 2.58 , the difference between the correlations is said to be significant at 0.05 level or at 0.01 level, respectively.

e. Stepwise Regression Analysis (by ANOVA approach) (Cohen, 1989)

This is a statistical technique to select the set of variables that best predicts the criterion variable and that eliminates superfluous predictor variables.

The input data for stepwise regression analysis are means and standard deviations of all the variables (criterion as well as predictor) and the correlation matrix of the criterion variable with the predictor variables. The predictor variables are entered one by one to see the extent of contribution of each variable in predicting the criterion variable. For this the predictor variable having the highest correlation with the criterion variable is entered first and the measures like Total Mean Sum of Square Variance, Regression Mean Sum of Square Variance, Residual Mean Sum of Square Variance, F-value, percentage of variance due to the variable entered, 'B' weight, Regression coefficient (β) and the respective standard error were calculated. A model of one step in the stepwise regression analysis is given in Table 10.

TABLE 10

Model of the Result of Stepwise Regression Analysis

Variable entered Xi			B =	
Multiple R =		$SE_R =$	Beta =	$SE_B =$
Percentage Variance =				
Source	DF	SS	MSS	F
Total	--			
Regression	--	--	--	--
Residual	--	--	--	--

The F-value enables us to see whether the regressor (predictor variable entered) is significant or not; ie, if the F-value exceeds the tabled value of 'F' for a particular level of significance and for the relevant degrees of freedom.

The predictor variable having the next highest partial correlation is entered in step-2. If the percentage variance contributed by the two variables is considerably higher than the percentage variance contributed by the first variable, it suggests that the second entered variable is also a significant predictor. If the R also has increased considerably from the previous R, this is a further evidence that the predictor variable second entered is significant in predicting the criterion variable.

Proceeding like this if we find that, in any of the succeeding step, neither the percentage variance, nor the R has increased, it is an indication that the variable entered last is not a significant predictor of the criterion variable. The analysis can be stopped at this stage and can be concluded that variables entered, except the last, are significant predictors.

f. The multiple correlation R and the coefficient of determination R²

The coefficient of determination R² and hence the multiple correlation R, between the criterion and predictor variables is computed in terms of β and r. The formula for this is,

$$R_1^2 (2,3, \dots, n) = \beta_{12.34 \dots n} r_{12} + \beta_{13.24 \dots n} r_{13} + \beta_{14.23 \dots n} r_{14} + \dots + \beta_{1n.234 \dots (n-1)} r_{1n}$$

where, '1' stands for the criterion variable and 2,3 ... for the significant predictor variables as found by regression analysis.

R^2 , the coefficient of determination also enables us to work out the relative efficiency of each significant predictor variable in predicting the criterion variable.

The term $\beta_{12.34 \dots n} r_{12}$ will give the efficiency of the predictor variable 2. The term $\beta_{13.24 \dots n} r_{13}$ will give the efficiency of the predictor variable 3 and so on.

ANALYSIS

Abdul Gafoor. K. "Influence of certain parental variables on academic achievement of elementary school pupils " Thesis. Department of Education, University of Calicut, 2001

ANALYSIS

-
- ❖ Objectives
 - ❖ Hypotheses
 - ❖ Preliminary Analysis
 - ❖ Relation of Parental Variables with Academic Achievement
 - ❖ Difference in the Relation of Parental Variables with Academic Achievement for Relevant Subsamples
 - ❖ Predictability of Academic Achievement from Parental Variables
 - ❖ Relative Efficiency of Significant Predictors of Academic Achievement
 - ❖ Difference in Academic Achievement for Various Levels of Select Parental Variables
-

ANALYSIS

The data collected from the sample were analysed statistically, with regard to the objectives of the study.

The objectives of the study are restated below for easy reference.

OBJECTIVES

1. To estimate the extent of relationship between each of the Parental Variables and Academic Achievement for the total sample and subsamples based on sex and socio-economic status of pupils and locale and type of management of their schools.
2. To test whether there is significant difference in the relationship of each of the Parental Variables with Academic Achievement, of the relevant subsamples based on sex and socio-economic status of pupils and locale and type of management of the schools.
3.
 - (i) To estimate R, the multiple correlation between the Academic Achievement and the significant Parental Variables.
 - (ii) To identify the significant Parental Variables in predicting Academic Achievement.
 - (iii) To estimate the relative efficiency of the significant Parental Variables in predicting Academic Achievement.
4. To test whether significant difference exists in the mean scores of Academic Achievement of the elementary school pupils based on different levels of the following Parental Variables:
 - (i) Parental Involvement

- (ii) Parental Income
- (iii) Father's Education
- (iv) Mother's Education
- (v) Parental Education
- (vi) Father's Employment
- (vii) Mother's Employment
- (viii) Father's Absenteeism
- (ix) Mother's Absenteeism and
- (x) Family Size.

HYPOTHESES

The hypotheses set for the study are as follows:

1. There will be significant relation between each of the Parental Variables and Academic Achievement for the total sample and subsamples based on sex and socio-economic status of the pupils and locale and type of management of their schools.
2. There will be significant difference in the relationship of each of the Parental Variables with Academic Achievement of the relevant subsamples based on sex and socio-economic status of the pupils and locale and type of management of the schools.
3.
 - (i) The multiple correlation between the predictor (Parental) variables and Academic Achievement will be significant.
 - (ii) Academic Achievement can be predicted from one or more of the significant Parental Variables.
 - (iii) The relative efficiency of the significant Parental Variables in predicting the Academic Achievement will be different.

4. There will be significant difference in the mean scores of Academic Achievement of the elementary school pupils based on different levels of the following Parental Variables
- (i) Parental Involvement
 - (ii) Parental Income
 - (iii) Father's Education
 - (iv) Mother's Education
 - (v) Parental Education
 - (vi) Father's Employment
 - (vii) Mother's Employment
 - (viii) Father's Absenteeism
 - (ix) Mother's Absenteeism and
 - (x) Family Size.

Details of the statistical analyses and discussions of results are presented in this chapter under the headings viz.,

- I. Preliminary Analysis
- II. Relation of Parental Variables with Academic Achievement
- III. Difference in the relation of Parental Variables with Academic Achievement of relevant subsamples
- IV. Predictability of Academic Achievement from the Parental Variables
- V. Relative efficiency of significant predictors of Academic Achievement
- VI. Difference in Academic Achievement for various levels of select Parental Variables

I. PRELIMINARY ANALYSIS

The essential descriptive statistics such as mean, median, mode and standard deviation which serve as inputs of further inferential analysis of

data, were calculated as the first stage of analysis. Also, the assumptions made in the use of product moment coefficient of correlation (Guilford,1978) and regression equation (Garrett, 1979) necessitates that distributions of the variables should be normal, or atleast, not badly skewed. Hence to understand the nature of distribution of the variables, skewness and kurtosis were also calculated. The values of mean, median, mode, standard deviation, skewness and kurtosis obtained for the variables under study are presented in Table 11.

TABLE 11

Basic Statistics of the Dependent Variable and the Parental Variables

Sl. No.	Variables	Mean	Median	Mode	S.D.	Skewness	Kurtosis
1.	Academic Achievement	31.63	31.00	27.00	9.21	0.35	-0.36
2.	Parental Acceptance	9.09	9.00	10.00	1.93	-0.46	-0.04
3.	Parental Aspiration	11.05	11.00	10.00	2.54	-0.11	-0.41
4.	Parental Attention	11.37	11.00	11.00	3.25	-0.27	-0.37
5.	Parental Encouragement	16.76	16.00	16.00	3.95	0.26	-0.52
6.	Parental Guidance	22.77	22.00	21.00	4.78	0.18	-0.42
7.	Parental Influence	9.75	10.00	10.00	2.60	-0.34	-0.37
8.	Parental Decision-making	4.75	5.00	4.00	1.83	-0.18	-0.47
9.	Parental Provision of Physical Facilities	10.13	10.00	10.00	2.67	-0.04	-0.34
10.	Parental Care to Physical Fitness of Child	4.97	5.00	6.00	1.16	-0.98	0.34
11.	Parental Involvement	100.67	100.00	101.00	18.68	0.27	-0.58
12.	Parental Income	2432.0	2000.00	2000.00	1218.00	0.73	2.06
13.	Father's Education	16.28	15.00	20.00	5.99	0.32	0.42
14.	Mother's Education	16.41	15.00	20.00	5.58	0.35	-0.06
15.	Parental Education	16.49	15.00	20.00	4.94	0.50	-0.25
16.	Father's Employment	14.64	15.00	10.00	6.01	0.36	0.72
17.	Mother's Employment	6.16	5.00	5.00	3.97	3.95	17.58
18.	Parental Employment	10.61	10.00	10.00	3.69	1.90	2.48
19.	Father's Absenteeism	6.25	0.00	0.00	11.42	1.40	0.10
20.	Mother's Absenteeism	0.36	0.00	0.00	2.77	9.16	87.98
21.	Parental Absenteeism	3.49	0.00	0.00	6.44	1.69	1.97
22.	Family Size	4.19	4.00	4.00	1.52	1.74	0.98

Note: N = 800

The relative position of mean, median and mode and the coefficient of skewness obtained reveals that the distribution of the variable Academic Achievement is slightly positively skewed. The low index of kurtosis (-0.36) indicates that the distribution is slightly leptokurtic. The smoothed frequency curve drawn for the data is presented in Figure 1, which suggests that this variable can be considered as almost normally distributed.

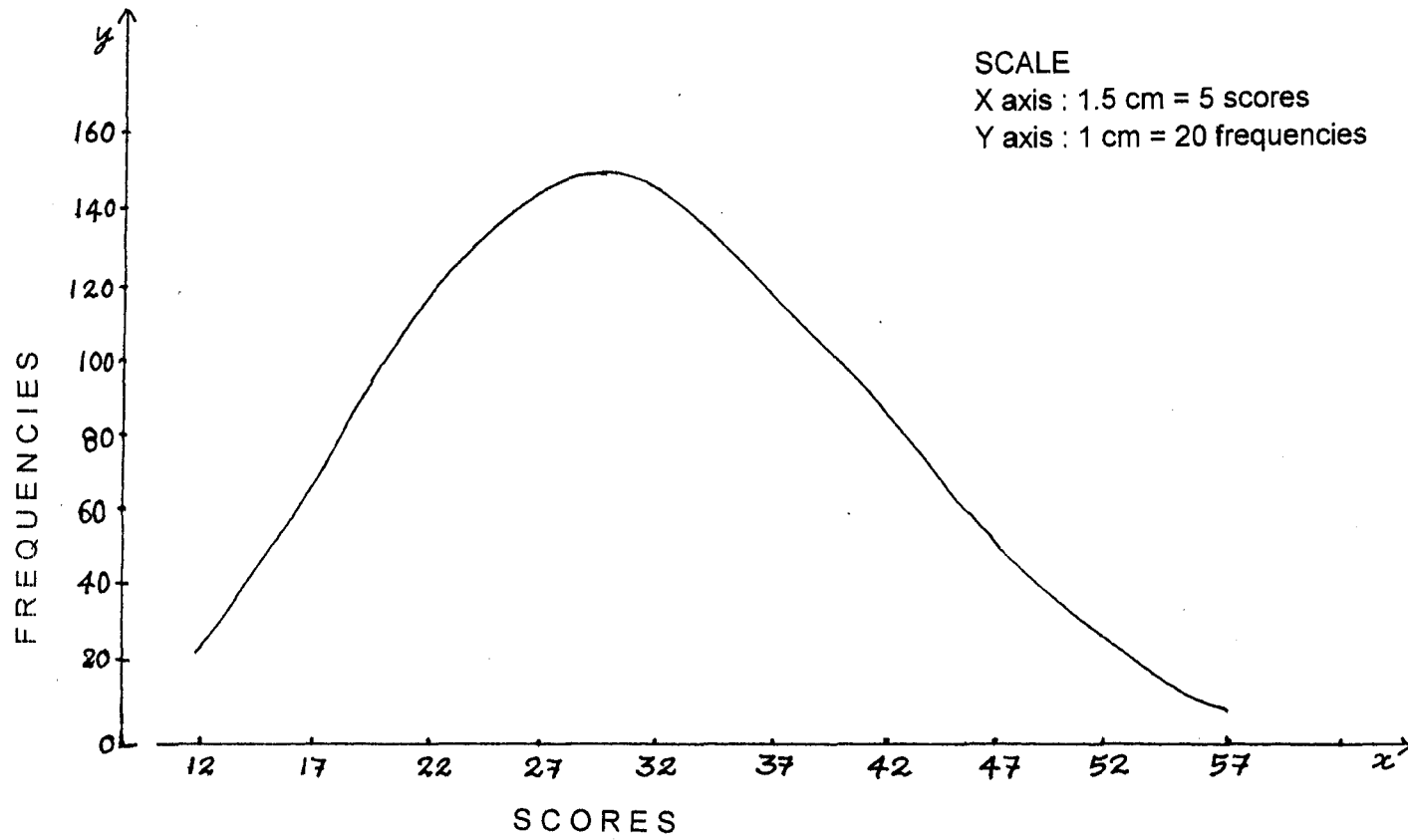


FIGURE 1. Smoothed frequency curve of Academic Achievement

Likewise, a glance at the mean, median, mode and the coefficient of skewness obtained for the independent variables, i.e., Parental Variables, also suggest that most of these variables are nearly normally distributed. Some of the variables are nearly normally distributed. Some of the variables such as Parental Income, Father's Education, Mother's Education, Parental Education, Father's Employment, Mother's Employment, Parental Employment, Father's Absenteeism, Mother's Absenteeism, Parental Absenteeism and family size are socio-personal in nature and it is unexpected for such variables to follow a purely normal distribution. Hence the investigator has sorted out only those variables which are very badly skewed. Thus the variables Mother's Employment and Mother's Absenteeism are identified as very badly skewed. The statistical techniques of Pearson's product moment coefficient of correlation and multiple regression analysis will not be applied to these two variables.

II. RELATION OF PARENTAL VARIABLES WITH ACADEMIC ACHIEVEMENT

The results of the estimation of the relationship of each Parental Variable with Academic Achievement are presented under two sections.

Section I : The nature and extent of relation between each Parental Variable (except Mother's Employment and Mother's Absenteeism) with Academic Achievement is estimated using Pearson's product moment coefficient of correlation.

Section II : As the distribution of variables Mother's Employment and Mother's Absenteeism are very badly skewed, coefficient of contingency C is calculated to find out the nature and extent of relation of these variables with Academic Achievement.

Section I

The relationship of each of the Parental Variables (except Mother's Employment and Mother's Absenteeism) with Academic Achievement for total sample and subsamples based on sex of the pupils (Boys/Girls), locale of the schools (Urban/Rural), type of management of schools (Private/Government) and socio-economic status (High SES/Average SES/Low SES) is estimated using Pearson's r . The obtained r is described in terms of size and direction of r , statistical significance of the coefficient (by Fisher's t -test), confidence interval of r and shared variance.

The relation of each of these Parental Variables with Academic Achievement is presented under separate headings.

i. Relation of Parental Acceptance with Academic Achievement

The result of the determination of Pearson's product moment coefficient of correlation between Parental Acceptance and Academic Achievement and the related indices, for total sample and subsamples are presented in Table 12.

TABLE 12
Details of the Relation Between
Parental Acceptance and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.11**	3.14	(0.03 to 0.19)	1.21
Boys	400	0.29**	6.03	(0.16 to 0.42)	8.41
Girls	400	-0.03	0.61	(-0.13 to 0.17)	0.09
Rural	720	0.22**	6.08	(0.13 to 0.31)	4.84
Urban	80	0.06	0.53	(-0.16 to 0.28)	0.36
Private	535	0.16**	3.77	(0.05 to 0.27)	2.56
Government	265	-0.03	0.49	(-0.15 to 0.09)	0.09
High SES	103	0.20*	2.05	(0.01 to 0.39)	4.00
Average SES	659	0.07	1.80	(-0.01 to 0.15)	0.49
Low SES	38	-0.08	0.48	(-0.40 to 0.24)	0.64

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 12 the following conclusions can be drawn regarding the relation between Parental Acceptance and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Acceptance and Academic Achievement ($r = 0.11$) is significant at 0.01 level. The obtained correlation is positive, but very low. Population r between these variables varies from 0.03 to 0.19. The shared variance (1.21) indicates that approximately one percent of variance of Academic Achievement is attributable to variance in Parental Acceptance.

In the subsample of Boys significant and positive but low correlation exists between Parental Acceptance and Academic Achievement ($r = 0.29$, $P < 0.01$). The population r lies in the interval 0.16 to 0.42 and the percent of variance of Academic Achievement attributable to variation in Parental Acceptance is 8.41. But in the subsample of Girls the relation between Parental Acceptance and Academic Achievement is negligible and not significant ($r = -0.03$, $P > 0.05$).

Significant and positive but low correlation exists between Parental Acceptance and Academic Achievement in the subsample of Rural School Pupils ($r = 0.22$, $P < 0.01$). Here, population r between the variables varies from 0.13 to 0.31 and the shared variance (4.84) is approximately 5 percent. But in Urban School Pupils the relation between Parental Acceptance and Academic Achievement is negligible and not significant ($r = 0.06$, $P > 0.05$).

The correlation obtained between Parental Acceptance and Academic Achievement in the subsample of Private School Pupils ($r = 0.16$) is significant at 0.01 level. This relation is positive, but very low. Here, the population r varies from 0.05 to 0.27 and the shared variance is 2.56 percent. In the subsample of Government School Pupils the correlation between Parental Acceptance and Academic Achievement ($r = -0.03$) is not significant at 0.05 level and this relation is negligible.

The correlation between Parental Acceptance and Academic Achievement in High Socio-Economic Status group is 0.20, which is significant at 0.05 level. This relation is positive, but low. The population r varies from 0.01 to 0.39 and approximately four percent of variance in Academic Achievement is attributable to variance in Parental Acceptance in high SES group. But, the correlation between Parental Acceptance and Academic Achievement in Average Socio-Economic group pupils ($r = 0.07$) and Low Socio-

Economic group pupils ($r = -0.08$) are not significant at 0.05 level and these correlations are negligible.

Thus, significant and positive correlation exist between Parental Acceptance and Academic Achievement in the total sample and subsamples of boys, rural school pupils, private school pupils and high socio-economic status group. The highest correlation between these variables is found in Boys.

ii. Relation of Parental Aspiration with Academic Achievement

The result of the calculation of Pearson's product moment coefficient of correlation between Parental Aspiration and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 13.

TABLE 13
Details of the Relation Between
Parental Aspiration and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.21**	6.05	(0.13 to 0.29)	4.41
Boys	400	0.34**	7.21	(0.24 to 0.44)	11.56
Girls	400	0.09	1.82	(-0.01 to 0.19)	0.81
Rural	720	0.29**	8.09	(0.20 to 0.38)	8.41
Urban	80	0.08	0.72	(-0.14 to 0.30)	0.64
Private	535	0.27**	6.49	(0.17 to 0.37)	7.29
Government	265	0.13*	2.13	(0.01 to 0.25)	1.69
High SES	103	0.28**	2.93	(0.04 to 0.52)	7.84
Average SES	659	0.18**	4.70	(0.08 to 0.28)	3.24
Low SES	38	0.08	0.48	(-0.24 to 0.40)	0.64

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 13 the following conclusions can be made about the relation between Parental Aspiration and Academic Achievement.

In the Total sample the correlation between Parental Aspiration and Academic Achievement ($r = 0.21$) is significant at 0.01 level. This correlation is positive but low. The population r between these variables lies in the interval (0.13 to 0.29). The shared variance (4.41) indicate that approximately four percent of variation in Academic Achievement is related to variation in Parental Aspiration.

In the subsample of Boys significant and positive but low correlation exists between Parental Aspiration and Academic Achievement ($r = 0.34$, $P < 0.01$). The population r varies from 0.24 to 0.44 and the percent of variance of Academic Achievement attributable to variance of Parental Aspiration is 11.56. But in Girls, the correlation between Parental Aspiration and Academic Achievement is negligible and not significant ($r = 0.09$, $P > 0.05$).

The correlation obtained between Parental Aspiration and Academic Achievement in the subsample of Rural School Pupils ($r = 0.29$) is significant at 0.01 level. This correlation is positive but low. The population r varies from 0.20 to 0.38 and the shared variance between the variables is 8.41. In the subsample of Urban School Pupils the coefficient of correlation between Parental Aspiration and Academic Achievement ($r = 0.08$) is not significant even at 0.05 level and this correlation is negligible.

Significant and positive but low correlation exists between Parental Aspiration and Academic Achievement in the subsample of Private School Pupils ($r = 0.27$, $P < 0.01$). Here the population r between Parental Aspiration and Academic Achievement lies from 0.17 to 0.37 and the shared variance (7.29) is approximately seven percent. But in the Government School Pupils the correlation between these variables ($r = 0.13$) is significant only at 0.05

level. This relation is positive, but very low. The population r varies from 0.01 to 0.25 and the shared variance between Parental Aspiration and Academic Achievement in government school pupils is 1.69 percent only.

The correlation between Parental Aspiration and Academic Achievement in High Socio-Economic Status group is 0.28 which is significant at 0.01 level. This relation is positive but low. The population r varies from 0.04 to 0.52. Approximately 8 percent of variance in Academic Achievement is attributable to Parental Aspiration in high SES group. In Average Socio-Economic Status group also, the correlation between Parental Aspiration and Academic Achievement ($r = 0.18$) is significant at 0.01 level. This relation is positive, but very low. Here the population r lies in the interval (0.08 to 0.28) and the shared variance is 3.24. In Low Socio-Economic Status group the correlation between Parental Aspiration and Academic Achievement ($r = 0.08$) is not significant at 0.05 level and this relation is negligible.

Thus, significant and positive correlation exist between Parental Aspiration and Academic Achievement in the total sample and in subsamples of boys, rural school pupils, private and government school pupils, and high and average socio-economic status groups. The highest correlation between these variables is found in Boys ($r = 0.34$).

iii. Relation of Parental Attention with Academic Achievement

The result of the calculation of Pearson's product moment coefficient of correlation between Parental Attention and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 14.

TABLE 14
**Details of the Relation Between
 Parental Attention and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.16**	4.61	(0.08 to 0.24)	2.56
Boys	400	0.27**	5.61	(0.14 to 0.40)	7.29
Girls	400	0.06	1.21	(-0.04 to 0.16)	0.36
Rural	720	0.21**	5.74	(0.12 to 0.30)	4.41
Urban	80	0.18	1.62	(-0.03 to 0.39)	3.24
Private	535	0.20**	4.71	(0.09 to 0.31)	4.00
Government	265	0.10	1.64	(-0.02 to 0.22)	1.00
High SES	103	0.25**	2.59	(0.01 to 0.49)	6.25
Average SES	659	0.14**	3.62	(0.04 to 0.24)	1.96
Low SES	38	-0.02	0.12	(-0.34 to 0.30)	0.04

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 14 the following conclusions are made regarding the relation between Parental Attention and Academic Achievement.

In the Total sample the correlation between Parental Attention and Academic Achievement (0.16) is significant at 0.01 level. The obtained relation is very low and positive. Population r between these variables varies from 0.08 to 0.24. The shared variance is 2.56, indicating 2.56 percent of variation in Academic Achievement is attributable to variation in Parental Attention.

In the subsample of Boys significant and positive but low correlation exists between Parental Attention and Academic Achievement ($r = 0.27$, $P < 0.01$). The population r lies in the interval (0.14 to 0.40) and the percent of

variance of Academic Achievement attributable to variation in Parental Attention is 7.29. But in the subsample of Girls, the correlation between Parental Attention and Academic Achievement is negligible and not significant ($r = 0.06$, $P > 0.05$).

Significant, positive but low correlation exists between Parental Attention and Academic Achievement in the Rural School Pupils ($r = 0.21$) at 0.01 level. In Rural School Pupil population, r between Parental Attention and Academic Achievement lies within the interval (0.12 to 0.30). The percent of variance shared between the variables is 4.41. But in the subsample of Urban School Pupils the relation between Parental Attention and Academic Achievement ($r = 0.18$) is not significant (at 0.05 level) and this relation is negligible.

The obtained correlation between Parental Attention and Academic Achievement in the subsample of Private School Pupils ($r = 0.20$) is significant at 0.01 level. This relation is positive but low. The population r varies in this subsample from 0.09 to 0.31 and the variance of Academic Achievement shared with Parental Attention is four percent. In the subsample of Government School Pupils the coefficient of correlation between Parental Attention and Academic Achievement ($r = 0.10$) is not significant at 0.05 level and this relation is negligible.

The correlation between Parental Attention and Academic Achievement in High Socio-Economic Status group pupils is 0.25 which is significant at 0.01 level. This relation is positive but low. The population r varies from 0.01 to 0.49. Approximately six percent of variance in Academic Achievement is attributable to variation in Parental Attention. In Average Socio-Economic Status group the relation between Parental Attention and Academic Achievement ($r = 0.14$, $P < 0.01$) is significant and positive, but negligible.

Here the population r varies from 0.04 to 0.24 and the shared variance between the variables is 1.96. But in Low Socio-Economic Status group the correlation ($r = -0.02$) of Academic Achievement and Parental Attention is negligible and not significant.

Thus, there is significant correlation between Parental Attention and Academic Achievement in the total sample and the subsamples of boys, rural school pupils, private school pupils and High and Average SES groups. The highest coefficient of correlation between the variables is obtained in Boys ($r = 0.27$).

iv. Relation of Parental Encouragement with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Encouragement and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 15.

TABLE 15
**Details of the Relation Between
 Parental Encouragement and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.39**	11.98	(0.31 to 0.47)	15.21
Boys	400	0.51**	11.83	(0.41 to 0.61)	26.01
Girls	400	0.27**	5.61	(0.14 to 0.40)	7.29
Rural	720	0.45**	13.55	(0.37 to 0.53)	20.25
Urban	80	0.11	0.98	(-0.11 to 0.33)	1.21
Private	535	0.48**	12.59	(0.39 to 0.57)	23.04
Government	265	0.24**	4.01	(0.09 to 0.39)	5.76
High SES	103	0.42**	4.64	(0.21 to 0.63)	17.64
Average SES	659	0.35**	9.54	(0.26 to 0.44)	12.25
Low SES	38	0.12	0.73	(-0.20 to 0.44)	1.44

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 15 the following conclusions are drawn regarding the relation of Parental Encouragement with Academic Achievement.

In the Total sample the coefficient of correlation between Parental Encouragement and Academic Achievement ($r = 0.39$) is significant at 0.01 level. This correlation is positive but low. Population r between these variables varies from 0.31 to 0.47 and the shared variance indicates that approximately 15 percent of variation in Academic Achievement is attributable to variation in Parental Encouragement.

In the subsample of Boys significant, positive and substantial correlation exists between Parental Encouragement and Academic

Achievement ($r = 0.51$, $P < 0.01$). The population r lies in the interval (0.41 to 0.61) and approximately 26 percent of variance of Academic Achievement is attributable to variation in Parental Encouragement. In the subsample of Girls the correlation between Parental Encouragement and Academic Achievement is (0.27) significant at 0.01 level. This relation is positive and low. The population r varies from 0.14 to 0.40 and the shared variance between the variables is 7.29.

Significant, positive and substantial correlation exists between Parental Encouragement and Academic Achievement in Rural School Pupils ($r = 0.45$, $P < 0.01$). The population r between the variables lies from 0.37 to 0.53. Approximately 20 percent of variance in Academic Achievement of this subsample is associated with variance in Parental Encouragement. In the subsample of Urban School Pupils the correlation between Parental Encouragement and Academic Achievement ($r = 0.11$) is not significant at 0.05 level and this correlation is negligible.

The correlation obtained between Parental Encouragement and Academic Achievement in the subsample of Private School Pupils ($r = 0.48$) is significant at 0.01 level. This relation is positive and substantial. The correlation between these variables in private school pupil population varies within the interval (0.39 to 0.57) and 23 percent of variance in Academic Achievement of this group is attributable to variance in Parental Encouragement. In the subsample of Government School Pupils the relation between Parental Encouragement and Academic Achievement ($r = 0.24$) is significant at 0.01 level. This correlation is positive but low. The population r lies somewhere from 0.09 to 0.39 and the shared variance is 5.76.

The correlation between Parental Encouragement and Academic Achievement in High Socio-Economic Status group ($r = 0.42$) is significant at

0.01 level. This relation is positive and substantial. The population r varies from 0.21 to 0.63 and 17.64 percent of variance in Academic Achievement of this subsample is attributable to variation in Parental Encouragement. In Average Socio-Economic Status group pupils significant and positive, but low, correlation exists between Parental Encouragement and Academic Achievement ($r = 0.35$, $P < 0.01$). The population r lies within the interval (0.26 to 0.44) and 12.25 percent of variance in Academic Achievement of these pupils is related to variation in Parental Encouragement. But in Low Socio-Economic Status group the correlation between these variables is ($r = 0.12$) not significant at 0.05 level and this relation is negligible.

Thus, significant and positive relation exists between Parental Encouragement and Academic Achievement in the total sample and subsamples of boys, girls, rural school pupils, private and government school pupils and high and average socio economic status group pupils. The highest coefficient of correlation obtained between these variables is found in Boys ($r = 0.51$).

v. Relation of Parental Guidance with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Guidance and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 16.

TABLE 16
**Details of the Relation Between
 Parental Guidance and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.34**	10.21	(0.26 to 0.42)	11.56
Boys	400	0.44**	9.76	(0.34 to 0.54)	19.36
Girls	400	0.24**	4.94	(0.11 to 0.37)	5.76
Rural	720	0.40**	11.65	(0.32 to 0.48)	16.00
Urban	80	0.16	1.44	(-0.05 to 0.37)	2.56
Private	535	0.40**	10.04	(0.31 to 0.49)	16.00
Government	265	0.26**	4.40	(0.11 to 0.41)	6.76
High SES	103	0.40**	4.37	(0.19 to 0.61)	16.00
Average SES	659	0.30**	8.09	(0.21 to 0.39)	9.00
Low SES	38	-0.07	0.42	(-0.39 to 0.25)	0.49

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 16 the following conclusions are reached regarding the relation between Parental Guidance and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Guidance and Academic Achievement ($r = 0.34$) is significant at 0.01 level. The obtained correlation is positive but low. Population r between the variables lies within the interval (0.26 to 0.42) and the shared variance (11.56) indicates that nearly 12 percent of variation in Academic Achievement is attributable to variation in Parental Guidance.

In the subsamples of Boys significant, positive and substantial correlation exists between Parental Guidance and Academic Achievement ($r = 0.44$, $P < 0.01$). The population r varies from 0.34 to 0.54 and the percent of

variance of Academic Achievement in boys attributable to variation in Parental Guidance is 19.36. In the subsample of Girls also significant and positive relation exists between Parental Guidance and Academic Achievement ($r = 0.24$, $P < 0.01$), but this relation is low. Here, the population r lies within the interval (0.11 to 0.37) and 5.76 percent of variance in Academic Achievement of girls is accounted by variation in Parental Guidance.

In the subsample of Rural School Pupils significant (at 0.01 level) and positive correlation exists between Parental Guidance and Academic Achievement ($r = 0.40$). This relation is substantial. Population r varies from 0.32 to 0.48 and 16 percent of variance in Academic Achievement of this subsample is attributable to variation in Parental Guidance. But in the subsample of Urban School Pupils the relation between Parental Guidance and Academic Achievement ($r = 0.16$) is not significant at 0.05 level and this relation is negligible.

The correlation obtained between Parental Guidance and Academic Achievement in Private School Pupils ($r = 0.40$) is significant at 0.01 level. This relation is positive and substantial. The r between Parental Guidance and Academic Achievement in private school pupils population lies within the interval (0.31 to 0.49) and 16 percent of variance in Academic Achievement of these pupils is attributable to variation in Parental Guidance. In the subsample of Government School Pupils the correlation between Parental Guidance and Academic Achievement ($r = 0.26$) is significant (at 0.01 level) and positive, but low. Here, the population r lies within 0.11 to 0.41 interval and shared variance between the variables is 6.76 percent.

The correlation between Parental Guidance and Academic Achievement in High Socio-Economic Status group pupils is 0.40, which is significant at

0.01 level. This relation is positive and substantial. The population r lies within the interval (0.19 to 0.61) and 16 percent of variance in Academic Achievement of this subsample is attributable to variation in Parental Guidance. In Average Socio-Economic Status group pupils the relation between these variables is ($r = 0.30$) significant at 0.01 level. This relation is positive but low. The population r varies from 0.21 to 0.39 and the shared variance between the variables is nine percent. In Low Socio-Economic Status group pupils the relation between Parental Guidance and Academic Achievement ($r = -0.07$) is negligible and not significant.

Thus, there is significant and positive correlation between Parental Guidance and Academic Achievement in the total sample, and subsamples of boys, girls, rural school pupils, private and government school pupils, and high and average socio-economic status group pupils. The highest correlation between these variables is 0.44, obtained in Boys.

vi. Relation of Parental Influence with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Influence and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 17.

TABLE 17
**Details of the Relation Between
 Parental Influence and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.23**	6.70	(0.15 to 0.31)	5.29
Boys	400	0.44**	9.76	(0.34 to 0.54)	19.36
Girls	400	0.05	1.00	(-0.05 to 0.15)	0.25
Rural	720	0.36**	10.38	(0.28 to 0.44)	12.96
Urban	80	0.17	1.53	(-0.04 to 0.38)	2.89
Private	535	0.37**	9.18	(0.27 to 0.47)	13.69
Government	265	0.06	0.98	(-0.06 to 0.18)	0.36
High SES	103	0.40**	4.37	(0.19 to 0.61)	16.00
Average SES	659	0.17**	4.45	(0.07 to 0.27)	2.89
Low SES	38	0.06	0.36	(-0.26 to 0.38)	0.36

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 17 the following conclusions are reached regarding the relation between Parental Influence and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Influence and Academic Achievement ($r = 0.23$) is significant at 0.01 level. The obtained correlation is positive and low. Population r between these variables varies from 0.15 to 0.31 and the shared variance (5.29) indicate that approximately five percent of variance of Academic Achievement is attributable to variation in Parental Influence.

In the subsample of Boys significant, positive and substantial correlation exists between Parental Influence and Academic Achievement ($r = 0.44$, $P < 0.01$). The population r lies in the interval (0.34 to 0.54) and the

percent of variance of Academic Achievement attributable to the variation in Parental Influence is 19.36. But in the subsample of Girls the correlation between Parental Influence and Academic Achievement ($r = 0.05$) is negligible and not significant.

Positive but low correlation ($r = 0.36$) exists between Parental Influence and Academic Achievement in the subsample of Rural School Pupils and this correlation is significant at 0.01 level. The population r between these variables varies from 0.28 to 0.44 and the shared variance is 12.96. But in the subsample of Urban School Pupils the correlation between Parental Influence and Academic Achievement ($r = 0.17$) is not significant at 0.05 level and the value of r is negligible.

The correlation obtained between Parental Influence and Academic Achievement in the subsample of Private School Pupils is 0.37, which is positive but low, and significant at 0.01 level. The r between Parental Influence and Academic Achievement in private school pupils' population lies within the interval (0.27 to 0.47) and 13.69 percent of their variance is shared between these variables. But in the subsample of Government School Pupils the relation between Parental Influence and Academic Achievement ($r = 0.06$) is not significant at 0.05 level and this r value is negligible.

The correlation between Parental Influence and Academic Achievement in High Socio-Economic Status group pupils is 0.40, which is significant at 0.01 level. This positive relation is substantial. The population r varies from 0.19 to 0.61 and 16 percent of variance is shared between the variables. In Average Socio-Economic Status group pupils the relation between Parental Influence and Academic Achievement ($r = 0.17$) is significant at 0.01 level. This relation is positive but low. The r between these variables in Average SES pupils' population lies within the interval (0.07 to 0.27) and only 2.89 percent

of variance in Academic Achievement of this group is attributable to variation in Parental Influence. But there is no significant relation between Parental Influence and Academic Achievement in the subsample of Low Socio-Economic Status group pupils ($r = 0.06$, $P > 0.05$) and this relation is negligible.

Thus, there exist significant relation between Parental Influence and Academic Achievement in the total sample and subsamples of boys, rural school pupils, private school pupils and high and average socio-economic status group pupils. The highest coefficient of correlation between these variables is found in Boys (0.44).

vii. Relation of Parental Decision-making with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Decision-making and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 18.

TABLE 18
**Details of the Relation Between
 Parental Decision-making and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.18**	5.19	(0.10 to 0.26)	3.24
Boys	400	0.25**	5.14	(0.12 to 0.38)	6.25
Girls	400	0.12*	2.41	(0.02 to 0.22)	1.44
Rural	720	0.18**	4.92	(0.09 to 0.27)	3.24
Urban	80	0.27*	2.48	(0.07 to 0.47)	7.29
Private	535	0.20**	4.71	(0.09 to 0.31)	4.00
Government	265	0.16**	2.65	(0.01 to 0.31)	2.56
High SES	103	0.33**	3.53	(0.10 to 0.56)	10.89
Average SES	659	0.14**	3.62	(0.04 to 0.24)	1.96
Low SES	38	0.07	0.42	(-0.25 to 0.39)	0.49

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 18 the following conclusions are made regarding the relation between Parental Decision-making and Academic Achievement.

In the Total sample the coefficient of correlation obtained between Parental Decision-making and Academic Achievement ($r = 0.18$) is significant at 0.01 level. The obtained correlation is positive but negligible. Population r between these variables lies within the interval (0.10 to 0.26) and the shared variance indicates that approximately three percent of variance in Academic Achievement is attributable to variation in Parental Decision-making.

In the subsample of Boys significant and positive but low correlation exists between Parental Decision-making and Academic Achievement ($r =$

0.25, $P < 0.01$). The correlation between these variables in boys' population lies within the interval (0.12 to 0.38). The percent of variance of Academic Achievement attributable to variation in Parental Decision-making is 6.25. In the subsample of Girls significant correlation (at 0.05 level) exists between Parental Decision-making and Academic Achievement ($r = 0.12$). This relation is positive, though very low. The population r varies from 0.02 to 0.22 and the shared variance between these variables is 1.44 percent.

Significant and positive, though very low, correlation exists between Parental Decision-making and Academic Achievement in Rural School Pupils ($r = 0.18$, $P < 0.01$). For this group, population r varies from 0.09 to 0.27 and here, the shared variance between Parental Decision-making and Academic Achievement is 3.24 percent. In the subsample of Urban School Pupils significant (at 0.05 level) correlation exists between Parental Decision-making and Academic Achievement ($r = 0.27$). This relation is positive but low. The population ' r ' lies within the interval (0.07 to 0.47) and 7.29 percent of variance of Academic Achievement of this group is attributable to variation in Parental Decision-making.

The correlation obtained between Parental Decision-making and Academic Achievement in the subsample of Private School Pupils is 0.20, which is significant at 0.01 level. This positive correlation is low. The population r varies from 0.09 to 0.31 and the shared variance between the variables is four percent. In the subsample of Government School Pupils the correlation between Parental Decision-making and Academic Achievement is 0.16, which is significant at 0.01 level. This relation is positive, though very low. The population r varies within the interval (0.01 to 0.31) and the percent of variance of Academic Achievement of government school pupils attributable to variation in Parental Decision-making is 2.56.

The correlation between Parental Decision-making and Academic Achievement in High Socio-Economic Status group pupils is 0.33 which is significant at 0.01 level. This relation is positive but low. Here, the population r is within the interval (0.10 to 0.56) with 99 percent confidence and the percent of variance shared between the variables is 10.89. In Average Socio-Economic Status group pupils the relation between Parental Decision-making and Academic Achievement is significant at 0.01 level ($r = 0.14$) and the relation is positive, though very low. The relation between these variables in Average SES group pupils' population is within the interval (0.04 to 0.24). Approximately two percent of variance of Academic Achievement in this group is attributable to variation in Parental Decision-making. But in the subsample of Low Socio-Economic Status group pupils the correlation between Parental Decision-making and Academic Achievement ($r = 0.07$) is not significant at 0.05 level and this relation is negligible.

Thus, there is significant and positive relation between Parental Decision-making and Academic Achievement in the total sample and the subsamples, except low socio-economic status group pupils. The highest correlation between these variables (0.33) is obtained in High Socio-Economic Status group pupils.

viii. Relation of Parental Provision of Physical Facilities with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Provision of Physical Facilities and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 19.

TABLE 19
Details of the Relation Between
Parental Provision of Physical Facilities and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.27**	7.95	(0.19 to 0.35)	7.29
Boys	400	0.38**	8.15	(0.28 to 0.48)	14.44
Girls	400	0.14**	2.82	(0.01 to 0.27)	1.96
Rural	720	0.31**	8.75	(0.22 to 0.40)	9.61
Urban	80	0.12	1.07	(-0.10 to 0.34)	1.44
Private	535	0.30**	7.29	(0.20 to 0.40)	9.00
Government	265	0.21**	3.48	(0.06 to 0.36)	4.41
High SES	103	0.33**	3.51	(0.10 to 0.56)	10.89
Average SES	659	0.25**	6.61	(0.16 to 0.34)	6.25
Low SES	38	-0.16	0.98	(-0.47 to 0.15)	2.56

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 19 the following conclusions are made regarding the relationship between Parental Provision of Physical Facilities and Academic Achievement.

In the Total sample the correlation between Parental Provision of Physical Facilities and Academic Achievement ($r = 0.27$) is significant at 0.01 level. This correlation is positive but low. Population r between the variables lies within the interval (0.19 to 0.35) and the shared variance (7.29) indicates that approximately seven percent of variance of Academic Achievement is attributable to variation in Parental Provision of Physical Facilities.

In the subsample of Boys significant and positive but low correlation exists between Parental Provision of Physical Facilities and Academic

Achievement ($r = 0.38$, $P < 0.01$). The population of r is within the interval (0.28 to 0.48). The percent of variance of Academic Achievement in boys, attributable to variation in Parental Provision of Physical Facilities is 14.44. In the subsample of Girls, significant and positive, though very low, correlation exists between Parental Provision of Physical Facilities and Academic Achievement ($r = 0.14$, $P < 0.01$). This correlation varies in girl's population within the interval (0.01 to 0.27) and 1.96 percent of variance is shared between these variables.

Significant and positive but low correlation exists between Parental Provision of Physical Facilities and Academic Achievement in the subsample of Rural School Pupils ($r = 0.31$, $P < 0.01$). In population of rural school pupils, this correlation lies within the interval (0.22 to 0.40). Approximately 10 percent of variance in Academic Achievement of this group is related with Parental Provision of Physical Facilities. But in the subsample of Urban School Pupils the correlation between these variables ($r = 0.12$) is not significant at 0.05 level and this correlation is negligible.

The correlation obtained between Parental Provision of Physical Facilities and Academic Achievement in the subsample of Private School Pupils ($r = 0.30$) is significant at 0.01 level. This relation is positive, but low. The population r lies within the interval (0.20 to 0.40) and nine percent of variance is shared between the variables. In the subsample of Government School Pupils significant and positive but low correlation exists between Parental Provision of Physical Facilities and Academic Achievement ($r = 0.21$, $P < 0.01$). Here, the population r varies within the interval (0.06 to 0.36). Only 4.41 percent of variance in Academic Achievement of government school pupils is attributable to variation in Parental Provision of Physical Facilities.

The correlation between Parental Provision of Physical Facilities and Academic Achievement in High Socio-Economic Status group pupils is 0.33, which is significant ($P < 0.01$) and positive. This is a low relationship. In this group, the population r between the variables is within the interval (0.10 to 0.56) and 10.89 percent of variance of Academic Achievement is attributable to variation in Parental Provision of Physical Facilities. In the subsample of Average Socio-Economic Status group pupils the relation between Parental Provision of Physical Facilities and Academic Achievement ($r = 0.25$) is significant at 0.01 level. The relation is positive but low. The population r varies from 0.16 to 0.34 and 6.25 percent of variance is shared between the variables. But in the subsample of Low Socio-Economic Status group pupils the correlation between Parental Provision of Physical Facilities and Academic Achievement ($r = -0.16$) is not significant at 0.05 level and this relation is negligible.

Thus, there is significant and positive relation between Parental Provision of Physical Facilities and Academic Achievement in the total sample and subsamples, except urban school pupils and low socio-economic status group pupils. The highest correlation obtained between these variables is ($r = 0.38$) in Boys.

ix. Relation of Parental Care to Physical Fitness of Child with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Care to Physical Fitness of Child and Academic Achievement, with related indices, are presented in Table 20.

TABLE 20
Details of the Relation Between Parental Care
to Physical Fitness of Child and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.08*	2.28	(0.01 to 0.15)	0.64
Boys	400	0.23**	4.73	(0.10 to 0.36)	5.29
Girls	400	-0.03	0.61	(-0.13 to 0.07)	0.09
Rural	720	0.20**	5.47	(0.11 to 0.29)	4.00
Urban	80	0.09	0.78	(-0.13 to 0.31)	0.81
Private	535	0.22**	5.24	(0.11 to 0.33)	4.84
Government	265	-0.08	0.70	(-0.20 to 0.04)	0.64
High SES	103	0.12	1.23	(-0.07 to 0.31)	1.44
Average SES	659	0.08*	2.07	(0.01 to 0.15)	0.64
Low SES	38	-0.09	0.55	(-0.14 to 0.23)	0.81

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 20 the following conclusions can be made regarding the relation between Parental Care to Physical Fitness of Child and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Care to Physical Fitness of Child and Academic Achievement ($r = 0.08$) is significant at 0.05 level. The obtained correlation is positive and negligible. Population r between these variables varies from 0.01 to 0.15 and the shared variance indicate that 0.64 percent of variance of Academic Achievement is attributable to variation in Parental Care to Physical Fitness of child.

In the subsample of Boys significant and positive but low correlation exists between Parental Care to Physical Fitness of Child and Academic Achievement ($r = 0.23$, $P < 0.01$). The population r varies from 0.10 to 0.36 and the percent of variance of Academic Achievement attributable to variation in Parental Care to Physical Fitness of Child is 5.29. But in the subsample of Girls the correlation between Parental Care to Physical Fitness of Child and Academic Achievement is negligible and not significant ($r = -0.03$, $P > 0.05$).

Significant and positive but low correlation exists between Parental Care to Physical Fitness of Child and Academic Achievement in the subsample of Rural School Pupils ($r = 0.20$, $P < 0.01$). For this subsample, population r between the variables varies from 0.11 to 0.29 and the variance shared between the variables is four percent. But in the Urban School Pupils the relation between Parental Care to Physical Fitness of Child and Academic Achievement is negligible and not significant ($r = 0.09$, $P > 0.05$).

The obtained correlation between Parental Care to Physical Fitness of Child and Academic Achievement in Private School Pupils ($r = 0.22$) is significant at 0.01 level. This correlation is positive but low. The population r varies, in this subsample, from 0.11 to 0.33 and the shared variance between the variables is 4.84. In the subsample of Government School Pupils the coefficient of correlation between Parental Care to Physical Fitness of Child and Academic Achievement ($r = -0.08$) is not significant even at 0.05 level and this relation is negligible.

The correlation between Parental Care to Physical Fitness of Child and Academic Achievement in High Socio-Economic Status group is 0.12, which is not significant at 0.05 level and this relation is negligible. In the subsample of Average Socio-Economic Status group, the correlation between Parental Care to Physical Fitness of Child and Academic Achievement ($r = 0.08$) is

significant at 0.05 level. This relation is positive, though negligible. The population r varies from 0.01 to 0.15 and the shared variance is 0.64. In the subsample of Low Socio-Economic Status Pupils, the relation between Parental Care to Physical Fitness of Child and Academic Achievement ($r = -0.09$) is negligible and not significant.

Thus, significant and positive correlation exist between Parental Care to Physical Fitness of Child and Academic Achievement in the total sample and the subsamples of boys, rural school pupils, private school pupils and average socio-economic status group pupils. The highest coefficient of correlation between these variables is obtained in Boys ($r = 0.23$).

x. Relation of Parental Involvement with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Involvement and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 21.

TABLE 21
Details of the Relation Between
Parental Involvement and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.33**	9.92	(0.25 to 0.41)	10.89
Boys	400	0.51**	11.83	(0.41 to 0.61)	26.01
Girls	400	0.17**	3.46	(0.04 to 0.30)	2.89
Rural	720	0.43**	12.80	(0.35 to 0.51)	18.49
Urban	80	0.16	1.42	(-0.05 to 0.37)	2.56
Private	535	0.44**	11.29	(0.35 to 0.53)	19.36
Government	265	0.19**	3.14	(0.04 to 0.34)	3.61
High SES	103	0.40**	5.66	(0.19 to 0.61)	16.00
Average SES	659	0.29**	7.74	(0.20 to 0.38)	8.41
Low SES	38	-0.01	0.06	(-0.33 to 0.31)	0.01

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 21 the following conclusions can be made regarding the relation between Parental Involvement and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Involvement and Academic Achievement ($r = 0.33$) is significant at 0.01 level. The obtained correlation is positive and low. Population r between these variables varies from 0.25 to 0.41 and the shared variance is 10.89, indicating that approximately eleven percent of variance of Academic Achievement is attributable to variation in Parental Involvement.

In the subsample of Boys significant correlation exists between Parental Involvement and Academic Achievement ($r = 0.51$) at 0.01 level. This relation is positive and substantial. The population r lies in the interval (0.41

to 0.61) and the variance shared between the variables is approximately 26 percent. In the subsample of Girls the relationship between these variables ($r = 0.17$) is significant at 0.01 level, but this relation is very low though positive. For girls, the population r varies from 0.04 to 0.30 and only 2.89 percent of variance is shared between Parental Involvement and Academic Achievement.

Significant, positive and substantial correlation exists between Parental Involvement and Academic Achievement in Rural School Pupils ($r = 0.43$, $P < 0.01$). For this subsample, population r varies from 0.35 to 0.51 and the shared variance between the variables is 18.49. But in the subsample of Urban School Pupils the relation between Parental Involvement and Academic Achievement is not significant and the correlation is negligible ($r = 0.16$, $P > 0.05$).

The correlation obtained between Parental Involvement and Academic Achievement in Private School Pupils ($r = 0.44$) is significant at 0.01 level. This relation is positive and substantial. The population r varies from 0.35 to 0.53 and the shared variance between the variables is 19.36. In the subsample of Government School Pupils the relation between Parental Involvement and Academic Achievement ($r = 0.19$) is significant at 0.01 level. This correlation is positive, though very low. Here, the population r lies in the interval (0.04 to 0.34). The percent of variance of Academic Achievement attributable to Parental Involvement is 3.61.

The correlation between Parental Involvement and Academic Achievement in High Socio-Economic Status group is 0.40. This positive and substantial correlation is significant at 0.01 level. Here, the population r varies from 0.19 to 0.61 and 16 percent of variance in Academic Achievement is attributable to variation in Parental Involvement. In Average Socio-

Economic Status group the correlation between Parental Involvement and Academic Achievement ($r = 0.29$) is significant (at 0.01 level) and positive, but low. The population r lies in the interval (0.20 to 0.38) and the shared variance between the variables is 8.41 percent. But in Low Socio-Economic Status group there is no significant relationship between Parental Involvement and Academic Achievement ($r = -0.01$, $P > 0.05$) and this relation is negligible.

Thus, significant and positive correlation exist between Parental Involvement and Academic Achievement in the total sample and subsamples of boys, girls, rural school pupils, private and government school pupils, and high and average socio-economic status groups. The highest correlation between these variables is obtained in Boys ($r = 0.51$).

xi. Relation of Parental Income with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Income and Academic Achievement, with related indices for total sample and subsamples are provided in Table 22.

TABLE 22
**Details of the Relation Between
 Parental Income and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.20**	5.77	(0.12 to 0.28)	4.00
Boys	400	0.25**	5.14	(0.12 to 0.38)	6.25
Girls	400	0.14**	2.82	(0.01 to 0.27)	1.96
Rural	720	0.19**	5.19	(0.10 to 0.28)	3.61
Urban	80	0.06	0.53	(-0.16 to 0.28)	0.36
Private	535	0.17**	4.01	(0.06 to 0.28)	2.89
Government	265	0.28**	4.73	(0.13 to 0.43)	7.84
High SES	103	-0.11	1.29	(-0.30 to 0.08)	1.21
Average SES	659	0.05	1.12	(-0.03 to 0.13)	0.25
Low SES	38	0.20	1.22	(-0.11 to 0.51)	4.00

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 22 the following conclusions are drawn regarding the relation between Parental Income and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Income and Academic Achievement ($r = 0.20$) is significant at 0.01 level. This correlation is positive but low. Population r between these variables varies from 0.12 to 0.28 and shared variance indicate that four percent of variance of Academic Achievement is attributable in Parental Income.

In the subsample of Boys significant and positive, but low correlation exists between Parental Income and Academic Achievement ($r = 0.25$, $P < 0.01$). The population r varies from 0.12 to 0.38 and 6.25 percent of variance in Academic Achievement is accounted by Parental Income. In the subsample of

Girls significant and positive but very low correlation exists between Parental Income and Academic Achievement ($r = 0.14$, $P < 0.01$). In girls' population r between these variables varies from 0.01 to 0.27 and approximately two percent of variance in Academic Achievement is accounted by Parental Income.

Significant and positive but very low correlation exists between Parental Income and Academic Achievement in the subsample of Rural School Pupils ($r = 0.19$, $P < 0.01$). Here the population r between the variables lies in the interval (0.10 to 0.28) and the shared variance is 3.61. But in the subsample of Urban School Pupils the relation between Parental Income and Academic Achievement ($r = 0.06$) is not significant at 0.05 level and this relation is negligible.

The obtained correlation between Parental Income and Academic Achievement in the subsample of Private School Pupils ($r = 0.17$) is significant at 0.01 level. This is positive but very low relation. Here the population r lies in the interval (0.06 to 0.28). Approximately three percent of variance in Academic Achievement is attributable to variation in Parental Income. In the Government School Pupils the relation between Parental Income and Academic Achievement ($r = 0.28$) is significant and positive but low. Here the population r varies from 0.13 to 0.43 and the percent of variance of Academic Achievement attributable to variation in Parental Income is 7.84.

The coefficient of correlations obtained between Parental Income and Academic Achievement in three subsamples based on socio-economic status of pupils, viz., High Socio-Economic Status group ($r = -0.11$), Average Socio-Economic Status group ($r = 0.05$) and Low Socio-Economic Status group ($r = 0.20$); are not significant even at 0.05 level.

Thus, significant and positive correlations exist between Parental Income and Academic Achievement in the total sample and subsamples of boys, girls, rural school pupils, private school pupils and government school pupils. The highest correlation between these variables is obtained in Government School Pupils ($r = 0.28$).

xii. Relation of Father's Education with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Father's Education and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 23.

TABLE 23
Details of the Relation Between
Father's Education and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.36**	10.94	(0.28 to 0.44)	12.96
Boys	400	0.37**	7.94	(0.27 to 0.47)	13.69
Girls	400	0.36**	7.72	(0.26 to 0.46)	12.96
Rural	720	0.32**	9.03	(0.23 to 0.41)	10.24
Urban	80	0.05	0.44	(-0.17 to 0.27)	0.25
Private	535	0.26**	6.25	(0.16 to 0.36)	6.76
Government	265	0.53**	10.12	(0.43 to 0.63)	28.09
High SES	103	0.07	0.72	(-0.12 to 0.26)	0.49
Average SES	659	0.31**	8.37	(0.22 to 0.40)	9.61
Low SES	38	0.23	1.42	(-0.08 to 0.54)	5.29

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 23 the following conclusions are drawn regarding the relation between Father's Education and Academic Achievement.

In the Total sample the coefficient of correlation between Father's Education and Academic Achievement ($r = 0.36$) is significant at 0.01 level. This correlation is positive, but low. Population r between these variables varies from 0.28 to 0.44 and the shared variance (12.96) indicates that nearly 13 percent of variance in Academic Achievement is accounted by Father's Education.

In the subsample of Boys significant and positive but low correlation exists between Father's Education and Academic Achievement ($r = 0.37$, $P < 0.01$). The population r between the variables varies from 0.27 to 0.47 and approximately 14 percent of variance in Academic Achievement of boys is attributable to variation in Father's Education. In the subsample of Girls also, significant and positive but low correlation exists between these variables ($r = 0.36$, $P < 0.01$). Here the population r varies from 0.26 to 0.46 and the variance shared between Academic Achievement and Father's Education is 12.96 percent.

Significant and positive but low correlation exists between Father's Education and Academic Achievement in the subsample of Rural School Pupils ($r = 0.32$, $P < 0.01$). Population r lies in the interval (0.23 to 0.41) and 10.24 percent of variance in Academic Achievement is attributable to variation in Father's Education. But in the subsample of Urban School Pupils the relation between Father's Education and Academic Achievement ($r = 0.05$) is not significant even at 0.05 level and this relation is negligible.

The correlation obtained between Father's Education and Academic Achievement in the subsample of Private School Pupils ($r = 0.26$) is significant at 0.01 level. This relation is positive but low. Here, the population r lies in

the interval (0.16 to 0.36) and the shared variance between the variables is 6.76. But in the subsample of Government School Pupils the relation between Father's Education and Academic Achievement ($r = 0.53$) is significant (at 0.01 level), positive and substantial. Here the population r varies from 0.43 to 0.63 and approximately 28 percent of variance in Academic Achievement of government school pupils is accounted by variation in Father's Education.

The relation between Father's Education and Academic Achievement in High Socio-Economic Status group pupils ($r = 0.07$) is not significant at 0.05 level and this relation is negligible. But in Average Socio-Economic Status group pupils there is significant correlation (at 0.01 level) between Father's Education and Academic Achievement ($r = 0.31$). This relation is positive but low. Here the population r varies in the interval (0.22 to 0.40). The percent of variance shared between the variables is 9.61. In the subsample of Low Socio-Economic Status group pupils though the correlation obtained is 0.23, this relation is not significant at 0.05 level.

Thus, there is significant and positive relation between Father's Education and Academic Achievement in the total sample and subsamples of boys, girls, rural school pupils, private and government school pupils and average socio-economic status group pupils. The highest correlation between these variables is found in Government School Pupils ($r = 0.53$).

xiii. Relation of Mother's Education with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Mother's Education and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 24.

TABLE 24
Details of the Relation Between
Mother's Education and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.40**	12.28	(0.32 to 0.48)	16.00
Boys	400	0.43**	9.43	(0.33 to 0.53)	18.49
Girls	400	0.39**	8.46	(0.29 to 0.49)	15.21
Rural	720	0.37**	10.67	(0.29 to 0.45)	13.69
Urban	80	0.24*	2.19	(0.03 to 0.45)	5.76
Private	535	0.34**	8.35	(0.24 to 0.44)	11.56
Government	265	0.51**	9.62	(0.39 to 0.63)	26.01
High SES	103	0.27**	2.82	(0.03 to 0.51)	7.29
Average SES	659	0.34**	9.27	(0.25 to 0.43)	11.56
Low SES	38	-0.08	0.48	(-0.40 to 0.24)	0.64

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 24 the following conclusions are made about the relation between Mother's Education and Academic Achievement.

In the Total sample the correlation between Mother's Education and Academic Achievement ($r = 0.40$) is significant at 0.01 level. The relation is positive and substantial. Population r between the variables varies from 0.32 to 0.48 and 16 percent of variance of Academic Achievement is attributable to variation in Mother's Education.

In the subsample of Boys significant, positive and substantial correlations exists between Mother's Education and Academic Achievement ($r = 0.43$, $P < 0.01$). The population r lies anywhere from 0.33 to 0.53 and the

percent of variance in Academic Achievement of boys accounted by variation in Mother's Education is 18.49. In the subsample of Girls the relation between Academic Achievement and Mother's Education is significant and positive, but low ($r = 0.39$, $P < 0.01$). Here the population r varies from 0.29 to 0.49 and the shared variance is 15.21.

Significant and positive, but low correlation exists between Mother's Education and Academic Achievement in the subsample of Rural School Pupils ($r = 0.37$, $P < 0.01$). The population r lies in the interval (0.29 to 0.45) and 13.69 percent of variation in Academic Achievement of rural school pupils is accounted by Mother's Education. In Urban School Pupils also, significant and positive, but low correlation exists between Mother's Education and Academic Achievement ($r = 0.24$, $P < 0.05$). Here the population r varies from 0.03 to 0.45 and shared variance between the variables is 5.76.

The correlation obtained between Mother's Education and Academic Achievement in Private School Pupils ($r = 0.34$) is significant at 0.01 level and this relation is positive and low. The population r lies in the interval (0.24 to 0.44) and here, the shared variance between Mother's Education and Academic Achievement is 11.56. In the subsample of Government School Pupils the correlation obtained between Mother's Education and Academic Achievement ($r = 0.51$) is significant, positive and substantial. The population r lies in the interval (0.39 to 0.63) and approximately 26 percent of variation in Academic Achievement of government school pupils is accounted by Mother's Education.

The correlation between Mother's Education and Academic Achievement in High Socio-Economic Status group pupils is 0.27 which is significant at 0.01 level. This relation is positive but low. The population r varies from 0.03 to 0.51 and 7.29 percent of variance in Academic

Achievement of these pupils is attributable to variation in Mother's Education. In the subsample of Average Socio-Economic Status group pupils the relation between Mother's Education and Academic Achievement (0.34) is significant (at 0.01 level) and positive but low. Here, the population r lies between 0.25 and 0.43, and 11.56 percent of variance in Academic Achievement is attributable to variation in Mother's Education. In Low Socio-Economic Status group pupils the relation between the above variables is not significant and negligible ($r = -0.08$, $P > 0.05$).

Thus, there is significant and positive relation between Mother's Education and Academic Achievement in total sample and the subsamples, except for Low Socio-Economic status group pupils. The highest correlation between these variables was obtained in Government School Pupils ($r = 0.51$).

xiv. Relation of Parental Education with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between parental Education and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 25.

TABLE 25
Details of the Relation Between
Parental Education and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.43**	13.35	(0.35 to 0.51)	18.49
Boys	400	0.45**	10.09	(0.35 to 0.55)	20.25
Girls	400	0.42**	9.21	(0.32 to 0.52)	17.64
Rural	720	0.40**	11.65	(0.32 to 0.48)	16.00
Urban	80	0.17	1.53	(-0.04 to 0.38)	2.89
Private	535	0.35**	8.60	(0.25 to 0.45)	12.25
Government	265	0.58**	11.62	(0.48 to 0.68)	33.64
High SES	103	0.20*	2.05	(0.01 to 0.39)	4.00
Average SES	659	0.38**	10.47	(0.29 to 0.47)	14.44
Low SES	38	0.08	0.48	(-0.24 to 0.40)	0.64

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 25 following conclusions are reached regarding the relation between Parental Education and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Education and Academic Achievement (0.43) is significant at 0.01 level. The obtained correlation is positive and substantial. Population r between these variables lies between 0.35 and 0.51 and the shared variance shows that approximately 18 percent of variation in Academic Achievement is attributable to variation in Parental Education.

In the subsample of Boys significant, positive and substantial correlation exists between Parental Education and Academic Achievement ($r =$

0.45, $P < 0.01$). The population r varies from 0.35 to 0.55 and more than 20 percent of variation in Academic Achievement of boys is accounted by variation in Parental Education. In the subsample of Girls also, the relation between these variables is significant, positive and substantial ($r = 0.42$, $P < 0.01$). The correlation between Academic Achievement and Parental Education in girl's population vary within the interval (0.32 to 0.52). Here the variance of Academic Achievement due to the variance in Parental Education is 17.64.

Significant, positive and substantial relationship exists between Parental Education and Academic Achievement in the subsample of Rural School Pupils ($r = 0.40$, $P < 0.01$). The population r varies within the interval (0.32 to 0.48) and 16 percent of variance of Academic Achievement in this group is attributable to variation in Parental Education. But in the subsample of Urban School Pupils there is no significant correlation (at 0.05 level) between Parental Education and Academic Achievement ($r = 0.17$) and this relation is negligible.

The r obtained between Parental Education and Academic Achievement in the subsample of Private School Pupils ($r = 0.35$) is significant at 0.01 level. This relation is positive but low. Here the population r varies from 0.25 to 0.45 and 12.25 percent of variance in Academic Achievement of these pupils is attributable to variation in Parental Education. In the subsample of Government School Pupils there is significant (at 0.01 level), positive and substantial relationship between Parental Education and Academic Achievement ($r = 0.58$). Here the population r varies within the interval (0.48 to 0.68) and 33.64 percent of variance of Academic Achievement of this subsample is related to variation in Parental Education.

There is significant and positive, but low correlation between Parental Education and Academic Achievement in High Socio-Economic Status group pupils ($r = 0.20$, $P < 0.05$). In the population this r varies within the interval (0.01 to 0.39). The percent of variance of Parental Education shared with Academic Achievement in this group is four. In Average Socio-Economic Status group pupils significant and positive, but low, correlation exists between Parental Education and Academic Achievement. This relation varies in population from 0.29 to 0.47 and approximately 14 percent of variance is shared between Parental Education and Academic Achievement. But in the subsample of Low Socio-Economic Status group pupils the relation between Parental Education and Academic Achievement is negligible and not significant ($r = 0.08$, $P > 0.05$).

Thus, there exists significant and positive relation between Parental Education and Academic Achievement in the total sample and subsamples, except of urban school pupils and low socio-economic status group. The highest correlation between these variables was found in Government School Pupils ($r = 0.58$).

xv. Relation of Father's Employment with Academic Achievement

The result of the determination of Pearson's product moment coefficient of correlation between Father's Employment and Academic Achievement, with related indices, for total sample and subsamples, are presented in Table 26.

TABLE 26
Details of the Relation Between
Father's Employment and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.30**	8.93	(0.22 to 0.38)	9.00
Boys	400	0.28**	5.82	(0.15 to 0.41)	7.84
Girls	400	0.34**	7.21	(0.24 to 0.44)	11.56
Rural	720	0.30**	8.46	(0.21 to 0.39)	9.00
Urban	80	0	0	(-0.22 to 0.22)	0
Private	535	0.23**	8.57	(0.12 to 0.34)	5.29
Government	265	0.44**	7.93	(0.31 to 0.57)	19.36
High SES	103	0.03	0.30	(-0.16 to 0.22)	0.09
Average SES	659	0.22**	5.81	(0.12 to 0.32)	4.84
Low SES	38	0.22	1.36	(-0.09 to 0.53)	4.84

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 26 the following conclusions are made regarding the relationship between Father's Employment and Academic Achievement.

In the Total sample the coefficient of correlation between Father's Employment and Academic Achievement ($r = 0.30$) is significant at 0.01 level. This relation is positive but low. Population r between these variables varies within the interval (0.22 to 0.38). Nine percent of variance of Academic Achievement is attributable to variation in Father's Employment.

In the subsample of Boys significant and positive but low correlation exists between Father's Employment and Academic Achievement ($r = 0.28$, $P < 0.01$). In boy's population, correlation between these variables varies from 0.15 to 0.41 and 7.84 percent of variance of Academic Achievement is shared

with Father's Employment. In the subsample of Girls also, significant and positive but low correlation exists between Father's Employment and Academic Achievement ($r = 0.34$, $P < 0.01$). Here the population r lies within the interval (0.24 to 0.44) and the variance shared between the variables is 11.56.

Significant and positive but low correlation exists between Father's Employment and Academic Achievement of Rural School Pupils ($r = 0.30$, $P < 0.01$). Here the population r varies from 0.21 to 0.39 and the nine percent of variance of Academic Achievement is attributable to Father's Employment in this subsample. But in the subsample of Urban School Pupils there is no relationship between Father's Employment and Academic Achievement ($r = 0$).

The correlation obtained between Father's Employment and Academic Achievement in the subsample of Private School Pupils is 0.23, which is significant at 0.01 level. This relation is positive but low. The population r falls within the interval (0.12 to 0.34) and 5.29 percent of variance of Academic Achievement, in this subsample, is attributable to variation in Father's Employment. In the subsample of Government School Pupils the relation between Father's Employment and Academic Achievement is significant (at 0.01 level), positive and substantial ($r = 0.44$). This correlation varies from 0.31 to 0.57 in government school pupils population, 19.36 percent of variance in Academic Achievement of these pupils is attributable to changes in Father's Employment.

In the subsample of High Socio-Economic Status Group pupils the relation between Father's Employment and Academic Achievement is not significant (at 0.05 level) and this relation ($r = 0.03$) is negligible. But in Average Socio-Economic Status group pupils the relation between Father's

Employment and Academic Achievement is significant and positive but low ($r = 0.22$, $P < 0.01$). Here the population r varies within the interval (0.12 to 0.32) and 4.84 percent of variance of Academic Achievement in this subsample is attributable to variation in Father's Employment. In the subsample of Low Socio-Economic Status group pupils though the correlation obtained between Father's Employment and Academic Achievement is 0.22, this relation is not significant even at 0.05 level.

Thus, there is significant and positive relationship between Father's Employment and Academic Achievement in the total sample and subsamples of boys, girls, rural school pupils, private and government school pupils and average socio-economic status group pupils. The highest correlation obtained between these variables (0.44) is in Government School Pupils.

xvi. Relation of Parental Employment with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Employment and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 27.

TABLE 27
**Details of the Relation Between
 Parental Employment and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	0.32**	9.52	(0.24 to 0.40)	10.24
Boys	400	0.32**	5.43	(0.19 to 0.45)	10.24
Girls	400	0.32**	5.43	(0.19 to 0.45)	10.24
Rural	720	0.30**	8.46	(0.21 to 0.39)	9.00
Urban	80	0.16	1.44	(-0.05 to 0.37)	2.56
Private	535	0.28**	6.74	(0.18 to 0.38)	7.84
Government	265	0.40**	7.05	(0.27 to 0.53)	16.00
High SES	103	0.31**	3.28	(0.08 to 0.54)	9.61
Average SES	659	0.18**	4.70	(0.08 to 0.28)	3.24
Low SES	38	-0.02	0.12	(-0.34 to 0.30)	0.04

Note: ** indicates coefficient of correlation significant at 0.01 level.

From Table 27 the following conclusions are drawn about the relation between Parental Employment and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Employment and Academic Achievement ($r = 0.32$) is significant at 0.01 level. This correlation is positive but low. Population r between the variables varies within the interval (0.24 to 0.40) and approximately ten percent of variance of Academic Achievement is attributable to variation in Parental Employment.

In the subsamples of Boys and Girls, significant and positive, but low correlations exist between Parental Employment and Academic Achievement. The r values obtained is 0.32 for both the subsamples, which is significant at 0.01 level. Population r varies from 0.19 to 0.45 and in both the subsamples

10.24 percent of variance in Academic Achievement is attributable to variation in Parental Employment.

Significant and positive but low correlation exist between Parental Employment and Academic Achievement in the subsample of Rural School Pupils ($r = 0.30$, $P < 0.01$). Here, the population r lies between 0.21 and 0.39 and nine percent of variance of Academic Achievement of this subsample is shared with Parental Employment. But in Urban School Pupils the relation between these variables is negligible and not significant ($r = 0.16$, $P > 0.05$).

The correlation obtained between Parental Employment and Academic Achievement in the subsample of Private School Pupils is 0.28, which is significant at 0.01 level. This relation is positive but low. In private school pupil population the correlation between Parental Employment and Academic Achievement varies within the interval (0.18 to 0.38) and nearly eight percent of variance is shared between these variables. In the subsample of Government School Pupils the relation between Parental Employment and Academic Achievement ($r = 0.40$) is significant (at 0.01 level), positive and substantial. This correlation varies from 0.27 to 0.53 in the population of government school pupils. The percent of variance in Academic Achievement of this subsample attributable to variation in Parental Employment is 16.

In High Socio-Economic Status group pupils the relation between Parental Employment and Academic Achievement is significant and positive but low ($r = 0.31$, $P < 0.01$). The correlation between these variables in High SES group population varies from 0.08 to 0.54 and the variance shared between these variables is 9.61. In the subsample of Average Socio-Economic Status group pupils the relation between Parental Employment and Academic Achievement is significant and positive ($r = 0.18$, $P < 0.01$) but this relation is very low. Here, the population r lies in the interval (0.08 to 0.28) and

approximately three percent of variance in Academic Achievement is attributable to Parental Employment. But there is no significant relation between Parental Employment and Academic Achievement ($r = -0.02$, $P > 0.05$) in the subsample of Low Socio-Economic Status group pupils.

Thus, significant and positive correlation is obtained between Parental Employment and Academic Achievement in the total sample and subsamples, except for urban school pupils and low socio-economic status group pupils. The highest correlation obtained between these variables is 0.40, in Government School Pupils.

xvii. Relation of Father's Absenteeism with Academic Achievement

The result of calculation of Pearson's product moment coefficient of correlation between Father's Absenteeism and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 28.

TABLE 28
Details of the Relation Between
Father's Absenteeism and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	-0.13**	-3.17	(-0.21 to -0.05)	1.69
Boys	400	-0.12*	-2.41	(-0.22 to -0.02)	1.44
Girls	400	-0.14**	-2.82	(-0.27 to -0.01)	1.96
Rural	720	-0.11**	-2.98	(-0.21 to -0.01)	1.21
Urban	80	0.16	1.44	(-0.05 to 0.37)	2.56
Private	535	-0.12**	-2.80	(-0.23 to -0.01)	1.44
Government	265	-0.16**	-2.65	(-0.31 to -0.01)	2.56
High SES	103	-0.27**	-2.82	(-0.51 to -0.03)	7.29
Average SES	659	-0.12**	-3.11	(-0.22 to -0.02)	1.44
Low SES	38	-0.12	-0.73	(-0.44 to 0.20)	1.44

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 28 the following conclusions are made regarding the relationship between Father's Absenteeism and Academic Achievement.

In the Total sample the coefficient of correlation between Father's Absenteeism and Academic Achievement ($r = -0.13$) is significant at 0.01 level. This correlation is negative and very low. The relation between the variables in the population varies from -0.21 to -0.05 . Shared variance (1.69) shows that approximately two percent of variance in Academic Achievement is attributable to variation in Father's Absenteeism.

In the subsample of Boys significant and negative but very low correlation exists between Father's Absenteeism and Academic Achievement

($r = -0.12$, $P < 0.05$). The r between these variables in boys population varies from -0.22 to -0.02 and 1.44 percent of variance is shared between these variables. In the subsample of Girls significant and negative but very low correlation exists between Father's Absenteeism and Academic Achievement ($r = -0.14$, $P < 0.01$). The correlation between these variables varies from -0.27 to -0.01 in the girls population and approximately two percent of variance in Academic Achievement is attributable to variation in Father's Absenteeism.

Significant and negative but very low correlation exists between Father's Absenteeism and Academic Achievement in the subsample of Rural School Pupils ($r = -0.11$, $P < 0.01$). In this subsample 1.21 percent of variance of Academic Achievement is accountable to variation in Father's Absenteeism and the population r varies within the interval (-0.21 to -0.01). But in the subsample of Urban School Pupils the correlation obtained between Father's Absenteeism and Academic Achievement ($r = 0.16$) is negligible and not significant (at 0.05 level).

In the subsample of Private School Pupils the correlation obtained between Father's Absenteeism and Academic Achievement is (-0.12) significant at 0.01 level. This relation is negative, but very low. The population r varies from -0.23 to -0.01 and 1.44 percent of variance in Academic Achievement of private school pupils is due to variation in Father's Absenteeism. In the subsample of Government School Pupils significant (at 0.01 level) negative but very low correlation exists between Father's Absenteeism and Academic Achievement ($r = -0.16$). Here the population r varies within the interval (-0.31 to -0.01) and 2.56 percent of variance in Academic Achievement is attributable to variation in Father's Absenteeism.

There is significant and negative, but low correlation between Father's Absenteeism and Academic Achievement in the subsample, High Socio-

Economic Status group pupils ($r = -0.27$, $P < 0.01$). In this, population 'r' varies from -0.51 to -0.03 and 7.29 percent of variance in Academic Achievement is attributable to variation in Father's Absenteeism. In the subsample of Average Socio-Economic Status group pupils the relation between Father's Absenteeism and Academic Achievement is significant and negative ($r = -0.12$, $P < 0.01$) but this relation is very low. Here the population r varies from -0.22 to -0.02 and 1.44 percent of variance in Academic Achievement is related to variance in Father's Absenteeism. But in the subsample of Low Socio-Economic Status Group pupils there is no significant correlation ($r = -0.12$) between Father's Absenteeism and Academic Achievement at 0.05 level and this relation is negligible.

Thus, there is significant negative relation between Father's Absenteeism and Academic Achievement in the total sample and subsamples, except of urban school pupils and low socio-economic status group pupils. The highest correlation obtained between these variables is -0.27 , in the subsample of High Socio-Economic Status group pupils.

xviii. Relation of Parental Absenteeism with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Parental Absenteeism and Academic Achievement, with related indices, for total sample and subsamples are presented in Table 29.

TABLE 29
**Details of the Relation Between
 Parental Absenteeism and Academic Achievement**

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	-0.13**	-3.71	(-0.21 to -0.05)	1.69
Boys	400	-0.11*	-2.21	(-0.21 to -0.01)	1.21
Girls	400	-0.15**	-3.02	(-0.28 to -0.02)	2.25
Rural	720	-0.12**	-3.25	(-0.21 to -0.03)	1.44
Urban	80	0.21	1.89	(0.00 to 0.42)	4.41
Private	535	-0.10*	-2.33	(-0.18 to -0.02)	1.00
Government	265	-0.18**	-2.98	(-0.33 to -0.03)	3.24
High SES	103	-0.23*	2.38	(-0.41 to -0.05)	5.29
Average SES	659	-0.12**	-3.11	(-0.22 to -0.02)	1.44
Low SES	38	-0.22	-1.36	(-0.53 to 0.09)	4.84

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 29 the following conclusions are drawn regarding the relation between Parental Absenteeism and Academic Achievement.

In the Total sample the coefficient of correlation between Parental Absenteeism and Academic Achievement ($r = -0.13$) is significant at 0.01 level. The obtained correlation is negative but very low. The relation between these variables varies in population from r values -0.21 to -0.05 and 1.69 percent of variance in Academic Achievement is attributable to variation in Parental Absenteeism.

In the subsample of Boys significant relation (at 0.05 level) exists between Parental Absenteeism and Academic Achievement ($r = -0.11$). The

relation is negative, but very low. The correlation between these variables in boys population is within the interval (-0.21 to -0.01) and 1.21 percent of variance in Academic Achievement is attributable to variation in Parental Absenteeism. In the subsample of Girls there is significant negative relation between Parental Absenteeism and Academic Achievement ($r = -0.15$, $P < 0.01$). But this relation is very low. Here the population r varies from -0.28 to -0.02 and 2.25 percent of variance of Academic Achievement is attributable to Parental Absenteeism.

Significant and negative, but very low correlation exists between Parental Absenteeism and Academic Achievement in the subsample of Rural School Pupils ($r = -0.12$, $P < 0.01$). The correlation between these variables in rural school pupil population lies within the interval (-0.21 to -0.03) and only 1.44 percent of variance of Academic Achievement of this group is attributable to variation in Parental Absenteeism. But in the subsample of Urban School Pupils relation between Parental Absenteeism and Academic Achievement is not significant (at 0.05 level) though the value obtained is 0.21.

The correlation obtained between Parental Absenteeism and Academic Achievement in the subsample of Private School Pupils (-0.10) is significant at 0.05 level. This relation is negative, but very low. Here, the population r varies from -0.18 to -0.02 and only one percent of variance of Academic Achievement of private school pupils is attributable to variation in Parental Absenteeism. In the subsample of Government School Pupils the relation between Parental Absenteeism and Academic Achievement is significant and negative ($r = -0.18$, $P < 0.01$) but this relation is very low. In government school pupil population, this relation varies within the interval (-0.33 to -0.03) and 3.24 percent of variation in Academic Achievement is attributable to variation in Parental Absenteeism.

The correlation between Parental Absenteeism and Academic Achievement in High Socio-Economic Status group pupils is -0.23 which is significant at 0.05 level. This negative relation is very low. In the population of High SES pupils the relation is within the interval $(-0.41$ to $-0.05)$ and 5.29 percent of variance of Academic Achievement is attributable to variation in parental Absenteeism. In the subsample of Average Socio-Economic Status group pupils the correlation between Parental Absenteeism and Academic Achievement ($r = -0.12$) is significant (at 0.01 level) and negative, but this relation is very low. Here the population r lies within the interval $(-0.22$ to $-0.02)$ and only 1.44 percent of variance is shared between these variables. But in the subsample of Low Socio-Economic Status group pupils, though the r obtained between Parental Absenteeism and Academic Achievement is -0.22 , this value is not significant at 0.05 level.

Thus, there is significant relation between Parental Absenteeism and Academic Achievement in the total sample, and subsamples, except urban school pupils and low socio-economic status group pupils. The highest correlation between these variables, obtained is -0.23 , in the High SES group pupils.

xix. Relation of Family Size with Academic Achievement

The result of the estimation of Pearson's product moment coefficient of correlation between Family Size and Academic Achievement, with related indices, for total sample and subsamples, are presented in Table 30.

TABLE 30
Details of the Relation Between
Family Size and Academic Achievement

Sample	N	r	Fisher's t	Confidence Interval	Shared Variance
Total	800	-0.34**	-10.21	(-0.42 to -0.26)	11.56
Boys	400	-0.28**	-5.82	(-0.41 to -0.15)	7.84
Girls	400	-0.40**	-8.67	(-0.50 to -0.30)	16.00
Rural	720	-0.32**	-9.03	(-0.41 to -0.23)	10.24
Urban	80	-0.23*	-2.09	(-0.44 to -0.02)	5.29
Private	535	-0.34**	-8.35	(-0.44 to -0.24)	11.56
Government	265	-0.34**	-5.86	(-0.48 to -0.20)	11.56
High SES	103	-0.30**	-3.18	(-0.53 to -0.07)	9.00
Average SES	659	-0.33**	-9.00	(-0.42 to -0.24)	10.89
Low SES	38	-0.22	-1.36	(-0.53 to 0.09)	4.84

Note: * indicates coefficient of correlation significant at 0.05 level.

** indicates coefficient of correlation significant at 0.01 level.

From Table 30 the following conclusions are made regarding the relation between Family size and Academic Achievement.

In the Total sample the correlation between Family Size and Academic Achievement ($r = -0.34$) is significant at 0.01 level. This relation is negative and low. The population r lies within the interval(-0.42 to -0.26) and the shared variance (11.56) shows that approximately 12 percent of variance in Academic Achievement is attributable to variation in Family Size.

In the subsample of Boys the relation between Family Size and Academic Achievement ($r = -0.28$) is significant (at 0.01 level) and negative, but low. The correlation between these variables in boys population lies within

the interval (-0.41 to -0.15) and 7.84 percent of variance of Academic Achievement is attributable to variation in Family Size. In the subsample of Girls, the correlation between Family Size and Academic Achievement ($r = -0.40$) is significant ($P < 0.01$), negative and substantial. In girls, the population r is within the interval (-0.50 to -0.30) and 16 percent of variation in Academic Achievement is attributable to variation in Family Size.

Significant and negative but low correlation exists between Family Size and Academic Achievement in the subsample of Rural School Pupils ($r = -0.32$, $P < 0.01$). Here, the population r varies from -0.41 to -0.23 and 10.24 percent of variance of Academic Achievement is attributable to Family Size. In the subsample of Urban School Pupils the relation between Family Size and Academic Achievement is significant and negative ($r = -0.23$; $P < 0.05$) but this relation is low. This relation between the variables varies from -0.44 to -0.02 in urban school pupil population. The variance of Academic Achievement related to Family size is 5.29 percent.

The correlation between Family Size and Academic Achievement in the subsamples Private and Government School Pupils is -0.34, which is significant at 0.01 level. The population r , between these variables, in private school pupils is within the interval (-0.44 to -0.24) and in government school pupils is within the interval (-0.48 to -0.20). In both the subsamples 11.56 percent of variance in Academic Achievement is attributable to variation in Family size.

In the subsample of High Socio-Economic Status group pupils there is significant (at 0.01 level) negative relation between Family Size and Academic Achievement ($r = -0.30$). This relation is low. Here the population r lies within the interval (-0.53 to -0.07) and 9 percent of variation in Academic Achievement of high SES group pupil is related to Family Size. In the

subsample of Average Socio-Economic Status group pupils there is significant (at 0.01 level) negative relation between Academic Achievement and Family Size, though the relation is low ($r = -0.33$). It is 99 percent confident that the correlation between these variables lies within the interval (-0.42 to -0.24), in the Average SES group pupils' population. But there is no significant relation between Family Size and Academic Achievement (at 0.05 level), in the subsample of Low Socio-Economic Status pupils, though the value of r obtained is -0.22.

Thus, there is significant negative relation between Family Size and Academic Achievement for the total sample and subsamples, except low socio-economic status group pupils. The highest correlation between these variables is obtained in Girls ($r = -0.40$).

Section II

Since the distributions of scores of Mother's Employment and Mother's Absenteeism are very badly skewed, relation between these variables and Academic Achievement was estimated using coefficient of contingency C .

The coefficient of contingency is calculated from the value of χ^2 , obtained by the test of independence. C is estimated only if the χ^2 is significant, because C is significant only if χ^2 is significant.

i. Relation of Mother's Employment with Academic Achievement

Since the distribution of scores of Mother's Employment is very badly skewed, instead of Pearson's product moment coefficient of correlation, coefficient of contingency C is used to find out the relation between Mother's Employment and Academic Achievement.

To calculate the χ^2 value, the data was made in the form of a 2x3 contingency table (Mother's Employment x Academic Achievement). For this

the distribution of scores of Academic Achievement was classified as High, Average and Low achievers using conventional procedure of σ distance from mean M. The Mother's Employment was categorised as unemployed and employed groups. The contingency table used for calculation of χ^2 is given in Table 31.

TABLE 31
**Contingency Table (Academic Achievement
 Vs. Mother's Employment) Used for Calculation of χ^2**

Groups	High Achievers	Average Achievers	Low Achievers	Total
Unemployed mothers	(123.90) 114	(461.55) 472	(112.55) 112	698
Employed mothers	(18.10) 28	(67.45) 57	(16.45) 17	102
	142	529	129	800

Note: χ^2 obtained is 8.08.

The χ^2 value obtained (8.08) is greater than the value required for significance at 0.05 level (5.99) but less than 9.21, the chi-square value required for significance at 0.01 level. Hence the χ^2 value obtained is significant at 0.05 level.

Since the χ^2 obtained is significant, coefficient of contingency C was calculated using the formula,

$$C = \sqrt{(\chi^2) / (N + \chi^2)}$$

The coefficient of contingency C obtained is 0.10.

This (C = 0.10) indicates negligible but significant relation between Mother's Employment and Academic Achievement.

ii. Relation of Mother's Absenteeism with Academic Achievement

Since the distribution of scores of Mother's Absenteeism is very badly skewed, instead of Pearson's product moment coefficient of correlation, coefficient of contingency C is used to find out the relation between Mother's Absenteeism and Academic Achievement.

To calculate the χ^2 value, the data was made in the form of 2x3 contingency table (Mother's Absenteeism x Academic Achievement). For this the distribution of the scores of Academic Achievement was classified as High, Average and Low achievers using conventional procedure of σ distance from mean M. The Mother's Absenteeism was categorised as 'No Absenteeism' and 'Mother's with Absenteeism' groups. The contingency table used for calculation of χ^2 is given in Table 32.

TABLE 32

Contingency Table (Mother's Absenteeism Vs. Academic Achievement) Used for Calculation of χ^2

Groups	High Achievers	Average Achievers	Low Achievers	Total
Mothers with 'No Absenteeism	(138.27) 137	(515.11) 519	(125.61) 123	779
Mothers with Absenteeism	(3.73) 5	(13.89) 10	(3.68) 6	21
	142	529	128	800

Note: χ^2 obtained is 3.65.

The χ^2 value obtained (3.65) is less than the value required for significance at 0.05 level, i.e., 5.99. Hence the chi-square value obtained is not significant even at 0.05 level. This means that Academic Achievement is

independent of Mother's Absenteeism. Hence there is no significant relationship between Mother's Absenteeism and Academic Achievement.

As the χ^2 value obtained (3.65) is not significant, coefficient of contingency will not be significant and so it is not calculated.

III. DIFFERENCE IN THE RELATION OF PARENTAL VARIABLES WITH ACADEMIC ACHIEVEMENT OF RELEVANT SUBSAMPLES

The coefficients of correlations, between each of the Parental Variables (except Mother's Employment and Mother's Absenteeism) and Academic Achievement, obtained for relevant subsamples viz., boys and girls, rural and urban school pupils, private and government school pupils, and high, average and low SES groups, were compared using two tailed test of significance of difference between r 's, for large independent groups. For this, Fisher's z -test of significance of difference between r 's; by converting r 's into equivalent z 's; was used. Comparison of r 's between the subsamples are presented below.

i. Comparison of r 's for Boys and Girls

The data and results of comparison of r 's, between Parental Variables and Academic Achievement, obtained for boys and girls are presented in Table 33.

TABLE 33

**Details of Tests of Significance of Difference in r 's Between
Parental Variables and Academic Achievement for the Sex Groups**

Parental Variables	Boys (N=400)		Girls (N=400)		Critical Ratio (t)
	r	z	r	z	
Parental Acceptance	0.29	0.30	-0.03	0.03	4.71**
Parental Aspiration	0.34	0.35	0.09	0.09	3.71**
Parental Attention	0.27	0.28	0.06	0.06	3.14**
Parental Encouragement	0.51	0.56	0.27	0.28	4.00**
Parental Guidance	0.44	0.47	0.24	0.24	3.28**
Parental Influence	0.44	0.47	0.05	0.05	6.00**
Parental Decision-making	0.25	0.26	0.12	0.12	2.00*
Parental Provision of Physical Facilities	0.38	0.40	0.14	0.14	3.71**
Parental Care to Physical Fitness of Child	0.23	0.23	-0.03	0.03	3.71**
Parental Involvement	0.51	0.56	0.17	0.17	5.57**
Parental Income	0.25	0.26	0.14	0.14	1.57
Father's Education	0.37	0.39	0.36	0.38	0.14
Mother's Education	0.43	0.46	0.39	0.41	0.71
Parental Education	0.45	0.48	0.42	0.45	0.43
Father's Employment	0.28	0.29	0.34	0.35	0.85
Parental Employment	0.32	0.33	0.32	0.33	0
Father's Absenteeism	-0.12	0.12	-0.14	0.14	0.28
Parental Absenteeism	-0.11	0.11	-0.15	0.15	0.57
Family size	-0.28	0.29	-0.40	0.42	1.86

Note: * indicates significance at 0.05 level.

** indicates significance at 0.01 level.

Table 33 reveals that critical ratios obtained for difference in the correlations of Academic Achievement with Parental Acceptance, Parental Aspiration, Parental Attention, Parental Encouragement, Parental Guidance, Parental Influence, Parental Provision of Physical Facilities, Parental Care to Physical Fitness of Child and Parental Involvement for Boys and Girls (i.e., 4.71, 3.71, 3.14, 4.00, 3.28, 6.00, 3.71, 3.71 and 5.57 respectively) are significant at 0.01 level. The critical ratio obtained in the case of Parental Decision-making (2.00) is significant beyond 0.05 level. This suggests that the nature of relation of Academic Achievement with parental involvement variables is different for boys and girls.

The critical ratios obtained for Parental Income, Father's Education, Mother's Education, Parental Education, Father's Employment, Parental Employment, Father's Absenteeism, Parental Absenteeism and Family Size are less than 1.96. This indicates that there is no significant difference in the relation of Academic Achievement with these parental variables, between boys and girls. Hence the nature of relation of Academic Achievement with these nine variables is almost alike in boys and girls.

ii. Comparison of r 's for Rural and Urban School Pupils

The data and results of comparison of r 's, between the Parental Variables and Academic Achievement obtained for rural and urban school pupils are presented in Table 34.

TABLE 34

**Details of Tests of Significance of Difference in r 's Between
Parental Variables and Academic Achievement for the Locale Groups**

Parental Variables	Rural Sample (N=720)		Urban Sample (N=80)		Critical Ratio (t)
	r	z	r	z	
Parental Acceptance	0.22	0.22	0.06	0.06	1.60
Parental Aspiration	0.29	0.30	0.08	0.08	2.20*
Parental Attention	0.21	0.21	0.18	0.18	0.30
Parental Encouragement	0.45	0.48	0.11	0.11	3.70**
Parental Guidance	0.40	0.42	0.16	0.16	2.60**
Parental Influence	0.36	0.38	0.17	0.17	2.10*
Parental Decision-making	0.18	0.18	0.27	0.28	1.00
Parental Provision of Physical Facilities	0.31	0.32	0.12	0.12	2.00**
Parental Care to Physical Fitness of Child	0.20	0.20	0.09	0.09	1.10
Parental Involvement	0.43	0.46	0.16	0.16	3.00**
Parental Income	0.19	0.19	0.06	0.06	1.30
Father's Education	0.32	0.33	0.05	0.05	2.80**
Mother's Education	0.37	0.39	0.24	0.24	1.50
Parental Education	0.40	0.42	0.17	0.17	2.50*
Father's Employment	0.30	0.31	0	0	3.10**
Parental Employment	0.30	0.31	0.16	0.16	1.50
Father's Absenteeism	-0.11	-0.11	0.16	0.16	2.70**
Parental Absenteeism	-0.12	-0.12	0.21	0.21	3.30**
Family size	-0.32	-0.33	-0.23	-0.23	1.00

Note: * indicates significance at 0.05 level.

** indicates significance at 0.01 level.

As per Table 34, critical ratios obtained for difference in the r'_s , between Academic Achievement and Parental Encouragement, Parental Guidance, Parental Involvement, Father's Education, Father's Employment, Father's Absenteeism and Parental Absenteeism obtained for rural and urban school pupils (i.e., 3.70, 2.60, 3.00, 2.80, 3.10, 2.70 and 3.30 respectively) are significant at 0.01 level. The critical ratios in the case of Parental Aspiration, Parental Influence, Parental Provision of Physical Facilities and Parental Education (i.e., 2.20, 2.10, 2.00, and 2.50 respectively) are significant at 0.05 level. This indicates that there is significant difference between rural and urban school pupils in the relation of Academic Achievement with Parental Aspiration, Parental Encouragement, Parental Guidance, Parental Influence, Parental Provision of Physical Facilities, Parental Involvement, Father's Education, Parental Education, Father's Employment, Father's Absenteeism and Parental Absenteeism.

There is no significant difference between urban and rural school pupils, in the relation of Parental Acceptance, Parental Attention, Parental Decision-making, Parental care to Physical Fitness of Child, Parental Income, Mother's Education, Parental Employment and Family size with Academic Achievement i.e., the nature of relation of Academic Achievement with these variables can be considered almost alike for rural and urban school pupils.

iii. Comparison of r'_s for Private and Government School Pupils

The data and result of the comparison of r'_s , between Parental Variables and Academic Achievement, obtained for private and government school pupils are presented in Table 35.

TABLE 35
Details of Tests of Significance of
Difference in r 's Between Parental Variables and
Academic Achievement for Private and Government School Pupils

Parental Variables	Private School Pupils (N=535)		Govt. School Pupils (N=265)		Critical Ratio (t)
	r	z	r	z	
Parental Acceptance	0.16	0.16	-0.03	-0.03	2.53*
Parental Aspiration	0.27	0.28	0.13	0.13	2.00*
Parental Attention	0.20	0.20	0.10	0.10	1.33
Parental Encouragement	0.48	0.50	0.24	0.24	3.73**
Parental Guidance	0.40	0.42	0.26	0.27	2.00*
Parental Influence	0.37	0.39	0.06	0.06	4.40**
Parental Decision-making	0.20	0.20	0.16	0.16	0.53
Parental Provision of Physical Facilities	0.30	0.31	0.21	0.21	1.33
Parental Care to Physical Fitness of Child	0.22	0.22	-0.08	-0.08	4.00**
Parental Involvement	0.44	0.47	0.19	0.19	3.73**
Parental Income	0.17	0.17	0.28	0.29	1.60
Father's Education	0.26	0.27	0.53	0.59	4.26**
Mother's Education	0.34	0.35	0.51	0.56	2.80**
Parental Education	0.35	0.37	0.58	0.66	3.86**
Father's Employment	0.23	0.23	0.44	0.47	3.20**
Parental Employment	0.28	0.29	0.40	0.42	1.73
Father's Absenteeism	-0.12	-0.12	-0.16	-0.16	0.53
Parental Absenteeism	-0.10	-0.10	-0.18	-0.18	1.06
Family size	-0.34	-0.35	-0.34	-0.35	0

Note: * indicates significance at 0.05 level.

** indicates significance at 0.01 level.

Table 35 shows that the critical ratios for difference between the correlations, of Academic Achievement with Parental Encouragement, Parental Influence, Parental Care to Physical Fitness of Child, Parental Involvement, Father's Education, Mother's Education, Parental Education and Father's Employment for private and government school pupils (i.e., 3.73, 4.40, 4.00, 3.73, 4.26, 2.80, 3.86 and 3.20 respectively) are significant at 0.01 level. Critical ratios obtained in the case of Parental Acceptance, Parental Aspiration and Parental Guidance (i.e., 2.53, 2.00, 2.00 respectively) are significant at 0.05 level. This indicates that significant difference exists between private and government school pupils in the relation of Academic Achievement with these, eleven parental variables.

The critical ratios obtained for difference between the correlations of Academic Achievement with Parental Attention, Parental Decision-making, Parental Provision of Physical Facilities, Parental Income, Parental Employment, Father's Absenteeism, Parental Absenteeism and Family Size obtained for Private and Government School pupils are not significant at 0.05 level. That means, the nature of relation of these variables with Academic Achievement can be considered almost alike for private and government school pupils.

iv. Comparison of r 's for High, Average and Low SES Groups

The data and results of paired comparison of r 's, between Parental Variables and Academic Achievement, obtained for High, Average and Low Socio-Economic Status groups, are presented in Table 36.

TABLE 36
**Details of Tests of Significance of Difference in r_s Between
 Parental Variables and Academic Achievement for High, Average and Low SES Groups**

Parental Variables	High SES Group (N=103)		Average SES Group (N=659)		Low SES Group (N=38)		Critical Ratio (t) obtained for paired comparison		
	r	z	r	z	r	z	High Vs. Average SES Group	High Vs. Low SES Group	Average Vs. Low SES Group
	Parental Acceptance	0.20	0.20	0.07	0.07	-0.08	-0.08	1.18	1.56
Parental Aspiration	0.28	0.29	0.18	0.18	0.08	0.08	1.00	1.11	0.59
Parental Attention	0.25	0.26	0.14	0.14	-0.02	-0.02	1.09	1.47	0.94
Parental Encouragement	0.42	0.45	0.35	0.37	0.12	0.12	0.73	1.74	1.47
Parental Guidance	0.40	0.42	0.30	0.31	-0.07	-0.07	1.00	2.58**	2.24*
Parental Influence	0.40	0.42	0.17	0.17	0.06	0.06	2.27*	1.89	0.65
Parental Decision-making	0.33	0.34	0.14	0.14	0.07	0.07	1.82	1.42	0.41
Parental Provision of Physical Facilities	0.33	0.34	0.25	0.26	-0.16	-0.16	0.73	2.63**	2.47*
Parental Care to Physical Fitness of Child	0.12	0.12	0.08	0.08	-0.09	-0.09	0.36	1.11	1.00
Parental Involvement	0.40	0.42	0.29	0.30	-0.01	-0.01	1.09	2.26*	1.82
Parental Income	-0.11	-0.11	0.05	0.05	0.20	0.20	1.45	1.63	0.88
Father's Education	0.07	0.07	0.31	0.32	0.23	0.23	2.27*	0.84	0.53
Mother's Education	0.27	0.28	0.34	0.35	-0.08	-0.08	0.64	1.89	5.88**
Parental Education	0.20	0.20	0.38	0.40	0.08	0.08	1.82	0.63	1.88
Father's Employment	0.03	0.03	0.22	0.22	0.22	0.22	1.72	1.00	0
Parental Employment	0.31	0.32	0.18	0.18	-0.02	-0.02	1.27	1.79	1.18
Father's Absenteeism	-0.27	-0.28	-0.12	-0.12	-0.12	-0.12	1.45	0.84	0
Parental Absenteeism	-0.23	-0.23	-0.12	-0.12	-0.22	-0.22	1.00	0.05	0.59
Family size	-0.30	-0.31	-0.33	-0.34	-0.22	-0.22	0.27	0.47	0.71

Note: * indicates significance at 0.05 level.
 ** indicates significance at 0.01 level.

Table 36 shows that critical ratios obtained for difference in the correlation of Academic Achievement with Parental Influence and Father's Education, obtained for High and Average SES groups (i.e., 2.27 and 2.27) are significant at 0.05 level. Correlations of Academic Achievement with no other Parental Variable under study differ significantly in between High and Average SES groups.

Table 36 also shows that, the critical ratios obtained for difference in correlations of Academic Achievement with Parental Guidance and Parental Provision of Physical Facilities, for High and Low SES (i.e., 2.58 and 2.63 respectively) are significant at 0.01 level. The t-value obtained for the difference in correlations of Parental Involvement with Academic Achievement, in High and Low SES groups (2.26) is significant at 0.05 level. Correlations of Academic Achievement with no other parental variable under study (except Parental Guidance, Parental Provision of Physical Facilities and Parental Involvement) show significant difference in between High and Low SES groups.

As per Table 36 the critical ratio obtained for difference in correlations of Mother's Education with Academic Achievement, for Average and Low SES groups (i.e., $t = 5.88$) is significant at 0.01 level. The t-values obtained for comparison of correlations, between Academic Achievement and Parental Guidance and Academic Achievement and Parental Provision of Physical Facilities, for Average and Low SES groups (i.e., 2.24, 2.47 respectively) are significant at 0.05 level. Correlation of Academic Achievement with no other Parental Variable under study (except parental Guidance, Parental Provision of Physical Facilities and Mother's Education) shows significant difference, in between Average and Low SES groups.

IV. PREDICTABILITY OF ACADEMIC ACHIEVEMENT FROM THE PARENTAL VARIABLES

This part of the analysis deals with the identification of independent variables (Parental Variables) which may best predict Academic Achievement. It also estimates the relative efficiency of each predictor variable (parental variable) in the prediction of Academic Achievement. The technique followed for this is stepwise regression analysis (by ANOVA approach) for which computation was done with the help of a computer.

In the present study all the nineteen indices of correlation of the criterion variable (Academic Achievement) with the predictor variables (parental variables) are significant. Hence the investigator used all these 19 Parental Variables as predictor variables for regression analysis.

The predictor variables used for stepwise regression analysis (ANOVA approach) are given below. These are,

1. Parental Acceptance
2. Parental Aspiration
3. Parental Attention
4. Parental Encouragement
5. Parental Guidance
6. Parental Influence
7. Parental Decision-making
8. Parental Provision of Physical Facilities
9. Parental Care to Physical Fitness of Child
10. Parental Involvement
11. Parental Income
12. Father's Education
13. Mother's Education

14. Parental Education
15. Father's Employment
16. Parental Employment
17. Father's Absenteeism
18. Parental Absenteeism
19. Family Size

The input data used for the stepwise regression analysis i.e., Means and Standard Deviations of all the variables used in analysis are given in Table 37 and correlation matrix of the criterion variable with the predictor variables in Table 38.

TABLE 37
Means and Standard Deviations of the
Variables Used in Multiple Regression Analysis

Sl. No.	Variables	Mean	Standard Deviation
	<u>Criterion Variable</u>		
1.	Academic Achievement (Y)	31.63	9.21
	<u>Predictor Variables</u>		
2.	Parental Acceptance (X ₁)	9.09	1.93
3.	Parental Aspiration (X ₂)	11.05	2.54
4.	Parental Attention (X ₃)	11.37	3.25
5.	Parental Encouragement (X ₄)	16.76	3.95
6.	Parental Guidance (X ₅)	22.77	4.78
7.	Parental Influence (X ₆)	9.75	2.60
8.	Parental Decision-making (X ₇)	4.75	1.83
9.	Parental Provision of Physical Facilities (X ₈)	10.13	2.67
10.	Parental Care to Physical Fitness of Child (X ₉)	4.97	1.16
11.	Parental Involvement (X ₁₀)	100.67	18.68
12.	Parental Income (X ₁₁)	2432.00	1218.00
13.	Father's Education (X ₁₂)	16.28	5.99
14.	Mother's Education (X ₁₃)	16.41	5.58
15.	Parental Education (X ₁₄)	16.49	4.94
16.	Father's Employment (x ₁₅)	14.64	6.01
17.	Parental Employment (X ₁₆)	10.61	3.69
18.	Father's Absenteeism (X ₁₇)	6.25	11.42
19.	Parental Absenteeism (X ₁₈)	3.49	6.44
20.	Family Size (X ₁₉)	4.19	1.52

TABLE 38
Correlation Matrix of the Criterion (Academic Achievement) and the Predictor (Parental) Variables

Variables (Criterion Variable)	Correlation Coefficients (N = 800)																			
	Y	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉
Academic Achievement (Y)	1.00																			
Parental Acceptance (X ₁)	0.11	1.00																		
Parental Aspiration (X ₂)	0.21	0.51	1.00																	
Parental Attention (X ₃)	0.16	0.43	0.34	1.00																
Parental Encouragement (X ₄)	0.39	0.51	0.57	0.52	1.00															
Parental Guidance (X ₅)	0.34	0.53	0.58	0.58	0.69	1.00														
Parental Influence (X ₆)	0.23	0.53	0.56	0.49	0.64	0.66	1.00													
Parental Decision-making (X ₇)	0.18	0.29	0.30	0.47	0.46	0.46	0.36	1.00												
Parental Provision of Physical Facilities (X ₈)	0.27	0.37	0.40	0.49	0.51	0.57	0.46	0.42	1.00											
Parental Care to Physical Fitness of Child (X ₉)	0.09	0.50	0.48	0.28	0.42	0.45	0.54	0.19	0.34	1.00										
Parental Involvement (X ₁₀)	0.33	0.68	0.71	0.73	0.84	0.88	0.79	0.59	0.70	0.58	1.00									
Parental Income (X ₁₁)	0.20	0.04	0.01	0.04	0.14	0.12	0.10	0.06	0.08	0.01	0.10	1.00								
Father's Education (X ₁₂)	0.36	0.07	0.13	0.10	0.22	0.23	0.17	0.11	0.12	0.05	0.20	0.36	1.00							
Mother's Education (X ₁₃)	0.40	0.11	0.20	0.13	0.31	0.31	0.25	0.16	0.21	0.10	0.29	0.32	0.53	1.00						
Parental Education (X ₁₄)	0.43	0.12	0.19	0.13	0.32	0.31	0.25	0.15	0.19	0.10	0.29	0.39	0.84	0.86	1.00					
Father's Employment (X ₁₅)	0.30	0.05	0.07	0.04	0.17	0.16	0.09	0.09	0.11	0.00	0.14	0.50	0.56	0.39	0.51	1.00				
Parental Employment (X ₁₆)	0.32	0.07	0.07	0.05	0.21	0.15	0.12	0.11	0.14	0.04	0.16	0.60	0.44	0.43	0.51	0.76	1.00			
Father's Absenteeism (X ₁₇)	-0.13	0.06	0.00	0.09	-0.05	-0.01	-0.02	-0.03	0.00	0.04	0.01	0.11	0.04	-0.04	-0.01	0.12	0.02	1.00		
Parental Absenteeism (X ₁₈)	-0.13	0.09	0.01	0.10	-0.02	-0.01	0.00	-0.01	0.02	0.05	0.03	0.12	0.01	-0.04	-0.02	0.07	0.04	0.93	1.00	
Family Size (X ₁₉)	-0.34	0.02	-0.15	0.08	-0.21	-0.10	-0.10	-0.04	-0.03	-0.02	-0.10	-0.11	-0.28	-0.35	-0.37	-0.15	-0.18	0.08	0.07	1.00

The coefficient of correlation between the Academic Achievement (criterion variable) and Parental Variables (Predictor variables) also are given separately in Table 39.

TABLE 39
Coefficients of Correlation of
Academic Achievement with Parental Variables

Sl. No.	Parental Variables (Predictor Variables)	r
X ₁	Parental Acceptance	0.11
X ₂	Parental Aspiration	0.21
X ₃	Parental Attention	0.16
X ₄	Parental Encouragement	0.39
X ₅	Parental Guidance	0.34
X ₆	Parental Influence	0.23
X ₇	Parental Decision-making	0.18
X ₈	Parental Provision of Physical Facilities	0.27
X ₉	Parental Care to Physical Fitness of Child	0.09
X ₁₀	Parental Involvement	0.33
X ₁₁	Parental Income	0.20
X ₁₂	Father's Education	0.36
X ₁₃	Mother's Education	0.40
X ₁₄	Parental Education	0.43
X ₁₅	Father's Employment	0.30
X ₁₆	Parental Employment	0.32
X ₁₇	Father's Absenteeism	-0.13
X ₁₈	Parental Absenteeism	-0.13
X ₁₉	Family Size	-0.34

The indices of correlation reported in Table 39 indicates that the predictor variable, Parental Education (X₁₄) has the highest correlation (r =

0.43) with the criterion variable (Academic Achievement) and hence it was selected to enter first in the analysis.

Step I

The result of the step I analysis is given in Table 40.

TABLE 40
Results of Step I Regression Analysis

Source	DF	SS	MSS	F
Variable entered : X_{14} (Parental Education)				
Multiple Correlation (r)	=	0.43	$SE_r = 0.03$	
Percentage Variance ($r^2 \times 100$)	=	18.64		
Beta ₁₄ (β_{14})	=	0.43	$B_{14} = 0.80$	$SE.B_{14} = 0.06$
Constant	=	18.37		
Source	DF	SS	MSS	F
Total	799			
Regression	1	12616.37	12616.37	182.78
Residual	798	55082.11	69.03	

The results shown in Table 40 shows that the index of predictability is 0.43. The percentage of variance accounted for the variable Parental Education (X_{14}) in predicting Academic Achievement is 18.64.

The 'B' weight of this variable in writing the regression equation is 0.80. The standard error of B is 0.06.

The F-value obtained in the test of significance of the predictor is 182.78 ($P < 0.01$) for (1,798) df. It is therefore to be concluded that Parental Education (X_{14}) is significant in predicting the criterion variable (Academic

Achievement) as the ~~obtain~~ value for (1,798) degrees of freedom exceed the tabled F value 6.66.

The equation to the regression line in this case is

$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14})$ where Y' is the predicted value of Y , the criterion variable.

i.e., $Y' = 31.63 + 0.80 (X_{14} - 16.49)$, which when simplified reduces to,

$$Y' = 0.80 X_{14} + 18.44$$

This equation suggests that for unit increase in the variable Parental Education (X_{14}), the Academic Achievement (Y) increases by 0.80 units.

Step II

Step II analysis enable to see whether there is significant increase in the percentage variance accounted for the predictor variable added to the equation in the second step.

The second predictor input variable is the one which has the highest partial correlation with the criterion variable. In this case the variable is Parental Encouragement (X_4).

The results of this analysis are shown in Table 41.

TABLE 41
Results of Step II Regression Analysis

Variables entered : X_{14} and X_4 (Parental Education and Parental Encouragement)				
Multiple Correlation (R)	=	0.505	$SE_R = 0.03$	
Percentage Variance ($R^2 \times 100$)	=	25.59		
Beta ₁₄ (β_{14})	=	0.34	$B_{14} = 0.64$	$SE.B_{14} = 0.06$
Beta ₄ (β_4)	=	0.28	$B_4 = 0.65$	$SE.B_4 = 0.07$
Constant	=	10.21		
Source	DF	SS	MSS	F
Total	799			
Regression	2	17324.64	8662.32	137.05
Residual	797	50373.84	63.20	

The result of the step II analysis (Table 41) reveals that the percentage variance accounted for Parental Education and Parental Encouragement in predicting Academic Achievement is 25.59.

The results further suggests that by adding X_4 to X_{14} , R has changed from 0.43 to 0.505, and hence the percentage variance raised from 18.64 to 25.59, the increase in percentage variance being 6.95.

Here $F = 137.05$ ($P < 0.01$) for (2,797) df.

This suggests that the regressor X_4 (Parental Encouragement) is also significant in predicting Academic Achievement, since the calculated F-value exceeds the tabled F-value ($F = 4.63$) for (2,797) df.

The 'B' weights of the two variables X_{14} (Parental Education) and X_4 (Parental Encouragement) are 0.64 and 0.65 respectively. The standard errors of B_{14} and B_4 are 0.06 and 0.07 respectively.

The equation to the regression line for predicting Academic Achievement by means of the predictor variables X_{14} (Parental Education) and X_4 (Parental Encouragement) is

$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4)$, where Y' is the predicted values of Y , the criterion variable.

$$\text{i.e., } Y' = 31.63 + 0.64 (X_{14} - 16.49) + 0.65 (X_4 - 16.76).$$

On simplifying, this equation reduces to,

$$Y' = 0.64 X_{14} + 0.65 X_4 + 10.19$$

This equation suggests that for unit increase in X_{14} (Parental Education), the increase in Y is 0.64 units when the effects of X_4 is held constant and that for unit increase in X_4 (Parental Encouragement) the Academic Achievement increases by 0.65 units, only when the effect of the variable X_{14} is nullified.

Step III

A third step analysis was taken up to see whether there is any increase in the percentage variance accounted for the predictor variables. The third predictor input variable having the highest partial correlation with the criterion variable is Family Size (X_{19}).

The results of step III analysis is given in Table 42.

TABLE 42
Results of Step III Regression Analysis

Variables entered : X_{14} , X_4 and X_{19} (Family Size)

Multiple Correlation (R) = 0.532 $SE_R = 0.03$
 Percentage Variance ($R^2 \times 100$) = 28.37

Beta₁₄ (β_{14}) = 0.28 $B_{14} = 0.52$ $SE.B_{14} = 0.06$
 Beta₄ (β_4) = 0.26 $B_4 = 0.61$ $SE.B_4 = 0.07$
 Beta₁₉ (β_{19}) = -0.18 $B_{19} = -1.09$ $SE.B_{19} = 0.20$
 Constant = 17.38

Source	DF	SS	MSS	F
Total	799			
Regression	3	19203.98	6401.33	105.07
Residual	796	48494.50	60.92	

The results of step III analysis (Table 42) shows that when the third predictor variable, Family Size (X_{19}) was entered R became 0.532 with percentage variance as 28.37. This R is significant, as indicated by the low value of SE_R . The multiple correlation of the three variables with Academic Achievement is 0.532 and the percentage variance accounted by the three predictor variables, viz., Parental Education, Parental Encouragement and Family Size in predicting the Academic Achievement is 28.37.

This further suggests that by adding variable X_{19} (Family Size) to X_{14} and X_4 , the multiple correlation R has increased from 0.505 to 0.532 and the percentage variation has increased from 25.59 to 28.37. The increase in R and the percentage variance thus is 0.027 and 2.78 respectively.

Here, $F = 105.07$ ($P < 0.01$) for (3,796) df.

The calculated F value exceeds the tabled F-value (3.80) at 0.01 level for (3,796) df. This suggests that the predictor variable X_{19} (Family Size) is also significant at 0.01 level, in predicting Academic Achievement.

The 'B' weights of the variables X_{14} , X_4 and X_{19} are 0.52, 0.61 and -1.09 with standard errors 0.06, 0.07 and 0.20 respectively.

The equation to the regression line for predicting Academic Achievement using the predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement) and X_{19} (Family Size) is:

$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19})$, where Y' is the predicted value of Y , the criterion variable.

i.e., $Y' = 31.63 + 0.52 (X_{14} - 16.49) + 0.61 (X_4 - 16.76) - 1.09 (X_{19} - 4.19)$.

On simplifying, the equation reduces to,

$$Y' = 0.52X_{14} + 0.61 X_4 - 1.09 X_{19} + 17.41$$

Step IV

The fourth predictor variable, i.e., one having the highest partial correlation with criterion variable (Academic Achievement) is X_{18} (Parental Absenteeism). The result of step IV regression analysis is shown in Table 43.

TABLE 43
Results of Step IV Regression Analysis

Variables entered : X_{14} , X_4 , X_{19} and X_{18} (Parental Absenteeism)

Multiple Correlation (R) = 0.543 $SE_R = 0.03$
 Percentage Variance ($R^2 \times 100$) = 29.51

Beta₁₄ (β_{14}) = 0.28 $B_{14} = 0.53$ $SE.B_{14} = 0.06$
 Beta₄ (β_4) = 0.26 $B_4 = 0.60$ $SE.B_4 = 0.07$
 Beta₁₉ (β_{19}) = -0.17 $B_{19} = -1.05$ $SE.B_{19} = 0.20$
 Beta₁₈ (β_{18}) = -0.11 $B_{18} = -0.15$ $SE.B_{18} = 0.04$
 Constant = 17.75

Source	DF	SS	MSS	F
Total	799			
Regression	4	19978.56	4994.64	83.21
Residual	795	47719.92	60.02	

The result of step IV regression analysis in Table 43 shows that the multiple R between the criterion variable Academic Achievement and the four predictor variables, viz., Parental Education, Parental Encouragement, Family Size and Parental Absenteeism is 0.543. The percentage variance accounted for the four predictor variables is 29.51. By adding the variable X_{18} (Parental Absenteeism) to X_{14} , X_4 and X_{19} , R has raised from 0.532 to 0.543 and the percentage variance has increased from 28.37 to 29.51. The increase in R and percentage variance being 0.011 and 1.14 respectively.

Here, $F = 83.21$ ($P < 0.01$) for (4,795) df.

Therefore, the predictor variable X_{18} (Parental Absenteeism) also is a significant predictor of Academic Achievement, as the calculated F-value exceeds the tabled value ($F = 3.34$) at (4,795) df.

The 'B' weight of variables X_{14} , X_4 , X_{19} and X_{18} are 0.53, 0.60, -1.05 and -0.15 respectively. The standard errors of B are 0.06, 0.07, 0.20 and 0.04 respectively.

The equation for predicting Academic Achievement using the predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement), X_{19} (Family Size) and X_{18} (Parental Absenteeism) can be written as

$$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19}) + B_{18} (X_{18} - \bar{X}_{18}).$$

i.e., $Y' = 31.63 + 0.53 (X_{14} - 16.49) + 0.60 (X_4 - 16.76) - 1.05 (X_{19} - 4.19) - 0.15 (X_{18} - 3.49)$.

On simplification this equation reduces to,

$$Y' = 0.53 X_{14} + 0.60 X_4 - 1.05 X_{19} - 0.15 X_{18} + 17.75$$

Step V

The predictor variable which has the highest partial correlation with the criterion variable now, is X_{15} (Father's Employment). The fifth step regression analysis entered this variable as the next predictor variable.

The result of step V regression analysis is presented in Table 44.

TABLE 44
Results of Step V Regression Analysis

Variables entered : X_{14} , X_4 , X_{19} , X_{18} and X_{15} (Father's Employment)

Multiple Correlation (R)	=	0.555	SE _R = 0.03
Percentage Variance ($R^2 \times 100$)	=	30.83	
Beta ₁₄ (β_{14})	=	0.21	$B_{14} = 0.40$ SE. $B_{14} = 0.07$
Beta ₄ (β_4)	=	0.26	$B_4 = 0.60$ SE. $B_4 = 0.07$
Beta ₁₉ (β_{19})	=	-0.18	$B_{19} = -1.08$ SE. $B_{19} = 0.19$
Beta ₁₈ (β_{18})	=	-0.12	$B_{18} = -0.17$ SE. $B_{18} = 0.04$
Beta ₁₅ (β_{15})	=	0.13	$B_{15} = 0.20$ SE. $B_{15} = 0.05$
Constant	=	17.18	

Source	DF	SS	MSS	F
Total	799			
Regression	5	20868.84	4173.77	70.77
Residual	794	46829.64	58.98	

The result of step V regression analysis shown in Table 44 reveals that the multiple correlation (R) and percentage variance when fifth predictor variable, Father's Employment is added are 0.555 and 30.83 respectively.

By adding the variable X_{15} (Father's Employment) to X_{14} , X_4 , X_{19} and X_{18} , R has increased from 0.543 to 0.555 and the percentage variance changed from 29.51 to 30.83. Thus the increase in R and percentage variance are 0.012 and 1.32 respectively.

Here, $F = 70.77$ ($P < 0.01$) for (5,794) df.

The calculated F-value exceeds the tabled F value ($F = 3.04$) for significance at 0.01 level at (5,794) df. Therefore the predictor variable X_{15} (Father's Employment) is also significant in predicting Academic Achievement.

The B weight of variables X_{14} , X_4 , X_{19} , X_{18} and X_{15} are 0.40, 0.60, -1.08, -0.17 and 0.20. The standard errors of 'B's being 0.07, 0.07, 0.19, 0.04 and 0.05 respectively.

The equation for predicting Academic Achievement using the predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement), X_{19} (Family Size), X_{18} (Parental Absenteeism) and X_{15} (Father's Employment) is,

$$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19}) + B_{18} (X_{18} - \bar{X}_{18}) + B_{15} (X_{15} - \bar{X}_{15}).$$

i.e., $Y' = 31.63 + 0.40 (X_{14} - 16.49) + 0.60 (X_4 - 16.76) - 1.08 (X_{19} - 4.19) - 0.17 (X_{18} - 3.49) + 0.20 (X_{15} - 14.64).$

On simplification this equation become,

$$Y' = 0.40 X_{14} + 0.60 X_4 - 1.08 X_{19} - 0.17 X_{18} + 0.20 X_{15} + 17.16$$

Step VI

The predictor variable X_8 (Parental Provision of Physical Facilities) having the next highest partial correlation with the criterion variable (Academic Achievement) is entered in step VI of regression analysis. The result of this step of analysis is presented in Table 45.

TABLE 45
Results of Step VI Regression Analysis

Source	DF	SS	MSS	F
Variables entered : X_{14} , X_4 , X_{19} , X_{18} , X_{15} and X_8 (Parental Provision of Physical Facilities)				
Multiple Correlation (R)	=	0.563	$SE_R = 0.03$	
Percentage Variance ($R^2 \times 100$)	=	31.74		
Beta ₁₄ (β_{14})	=	0.21	$B_{14} = 0.39$	$SE.B_{14} = 0.07$
Beta ₄ (β_4)	=	0.20	$B_4 = 0.46$	$SE.B_4 = 0.08$
Beta ₁₉ (β_{19})	=	-0.19	$B_{19} = -1.15$	$SE.B_{19} = 0.19$
Beta ₁₈ (β_{18})	=	-0.12	$B_{18} = -0.17$	$SE.B_{18} = 0.04$
Beta ₁₅ (β_{15})	=	0.13	$B_{15} = 0.21$	$SE.B_{15} = 0.05$
Beta ₈ (β_8)	=	0.11	$B_8 = 0.38$	$SE.B_8 = 0.12$
Constant	=	16.01		
Total	799			
Regression	6	21486.09	3581.02	61.45
Residual	793	46212.39	58.28	

The result of step VI regression analysis (Table 45) reveals that the multiple R and percentage variance when the sixth variable Parental Provision of Physical Facilities was entered are 0.563 and 31.74 respectively.

By adding variable X_8 to X_{14} , X_4 , X_{19} , X_{18} and X_{15} , the multiple R has changed from 0.555 to 0.563 and the percentage variance increased from 30.83 to 31.74. The increase in R and percentage variance are 0.008 and 0.91 respectively.

Here, $F = 61.45$ ($P < 0.01$) for (6,793) df.

The calculated F-value exceeds the tabled value ($F = 2.82$) at 0.01 level, for (6,793) df. Hence it is concluded that the predictor variable X_8 (Parental Provision of Physical Facilities) is significant in predicting Academic Achievement.

The 'B' weight of variables X_{14} , X_4 , X_{19} , X_{18} , X_{15} and X_8 are 0.39, 0.46, -1.15, -0.17, 0.21 and 0.38 respectively. The standard errors of 'B's are 0.07, 0.08, 0.19, 0.04, 0.05 and 0.12 respectively.

The equation for predicting Academic Achievement using the predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement), X_{19} (Family Size), X_{18} (Parental Absenteeism), X_{15} (Father's Employment) and X_8 (Parental Provision of Physical Facilities) is:

$$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19}) + B_{18} (X_{18} - \bar{X}_{18}) + B_{15} (X_{15} - \bar{X}_{15}) + B_8 (X_8 - \bar{X}_8).$$

$$\text{i.e., } Y' = 31.63 + 0.39 (X_{14} - 16.49) + 0.46 (X_4 - 16.76) - 1.15 (X_{19} - 4.19) - 0.17 (X_{18} - 3.49) + 0.21 (X_{15} - 14.64) + 0.38 (X_8 - 10.13).$$

On simplification this equation reduces to,

$$Y' = 0.39 X_{14} + 0.46 X_4 - 1.15 X_{19} - 0.17 X_{18} + 0.21 X_{15} + 0.38 X_8 + 15.98.$$

Step VII

The predictor variable X_1 (Parental Acceptance) has the next highest partial correlation with the criterion variable. This variable was entered on step VII. The result of this analysis are shown in Table 46.

TABLE 46
Results of Step VII Regression Analysis

Variables entered : X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 and X_1 (Parental Acceptance)

Multiple Correlation (R) = 0.567 $SE_R = 0.03$

Percentage Variance ($R^2 \times 100$) = 32.14

Beta₁₄ (β_{14}) = 0.21 $B_{14} = 0.39$ $SE.B_{14} = 0.07$

Beta₄ (β_4) = 0.24 $B_4 = 0.55$ $SE.B_4 = 0.09$

Beta₁₉ (β_{19}) = -0.18 $B_{19} = -1.10$ $SE.B_{19} = 0.20$

Beta₁₈ (β_{18}) = -0.11 $B_{18} = -0.16$ $SE.B_{18} = 0.04$

Beta₁₅ (β_{15}) = 0.13 $B_{15} = 0.20$ $SE.B_{15} = 0.05$

Beta₈ (β_8) = 0.12 $B_8 = 0.42$ $SE.B_8 = 0.12$

Beta₁ (β_1) = -0.08 $B_1 = -0.36$ $SE.B_1 = 0.17$

Constant = 17.35

Source	DF	SS	MSS	F
Total	799			
Regression	7	21758.99	3108.43	53.59
Residual	792	45939.49	58.00	

The result of step VII analysis (Table 46) shows that the R and percentage variance, when the seventh variable Parental Acceptance was entered is 0.567 and 32.14.

By adding variable X_1 (Parental Acceptance) to X_{14} , X_4 , X_{19} , X_{18} , X_{15} and X_8 , the multiple correlation R has changed from 0.563 to 0.567; and the percentage variance has changed from 31.74 to 32.14. The increase in R and percentage variance are 0.004 and 0.40.

Here, $F = 53.59$ ($P < 0.01$) for (7,792) df.

The calculated F-value exceeds the tabled value for significance at 0.01 level ($F = 2.82$) for (7,792) df. Therefore the predictor variable X_1 (Parental Acceptance) is significant in predicting Academic Achievement.

The 'B' weight of variables X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 and X_1 are 0.39, 0.55, -1.10, -0.16, 0.20, 0.42, -0.36 respectively, the standard errors of 'B's being 0.07, 0.09, 0.20, 0.04, 0.05, 0.12 and 0.17 respectively.

The equation for predicting Academic Achievement by using predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement), X_{19} (Family Size), X_{18} (Parental Absenteeism), X_{15} (Father's Employment), X_8 (Parental Provision of Physical Facilities) and X_1 (Parental Acceptance) is:

$$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19}) + B_{18} (X_{18} - \bar{X}_{18}) + B_{15} (X_{15} - \bar{X}_{15}) + B_8 (X_8 - \bar{X}_8) + B_1 (X_1 - \bar{X}_1)$$

$$\text{i.e., } Y' = 31.63 + 0.39 (X_{14} - 16.49) + 0.55 (X_4 - 16.76) - 1.10 (X_{19} - 4.19) - 0.16 (X_{18} - 3.49) + 0.20 (X_{15} - 14.64) + 0.42 (X_8 - 10.13) - 0.36 (X_1 - 9.09).$$

On simplifying this equation becomes,

$$Y' = 0.39 X_{14} + 0.55 X_4 - 1.10 X_{19} - 0.16 X_{18} + 0.20 X_{15} + 0.42 X_8 - 0.36 X_1 + 17.24.$$

Step VIII

The predictor variable X_5 (Parental Guidance) has the next highest partial correlation with the criterion variable (Academic Achievement) was entered on Step VIII. The result of this analysis are presented in Table 47.

TABLE 47
Results of Step VIII Regression Analysis

Variables entered : X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 , X_1 and X_5 (Parental Guidance)

Multiple Correlation (R) = 0.571 $SE_R = 0.03$

Percentage Variance ($R^2 \times 100$) = 32.62

Beta ₁₄ (β_{14}) = 0.20	B ₁₄ = 0.36	SE.B ₁₄ = 0.07
Beta ₄ (β_4) = 0.19	B ₄ = 0.44	SE.B ₄ = 0.10
Beta ₁₉ (β_{19}) = -0.19	B ₁₉ = -1.12	SE.B ₁₉ = 0.19
Beta ₁₈ (β_{18}) = -0.11	B ₁₈ = -0.16	SE.B ₁₈ = 0.04
Beta ₁₅ (β_{15}) = 0.13	B ₁₅ = 0.20	SE.B ₁₅ = 0.05
Beta ₈ (β_8) = 0.09	B ₈ = 0.32	SE.B ₈ = 0.12
Beta ₁ (β_1) = -0.10	B ₁ = -0.47	SE.B ₁ = 0.17
Beta ₅ (β_5) = 0.11	B ₅ = 0.21	SE.B ₅ = 0.09
Constant = 16.82		

Source	DF	SS	MSS	F
Total	799			
Regression	8	22080.61	2760.08	47.86
Residual	791	45617.87	56.67	

The result of step VIII regression analysis (Table 47) shows that the multiple correlation R and the percentage variance when the 8th predictor variable X_5 (Parental Guidance) was entered are 0.571 and 32.62 respectively.

By adding variable X_5 to X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 and X_1 , R has increased from 0.567 to 0.571; and the percentage variance increased from

32.14 to 32.62. The increase in R and percentage variance being 0.004 and 0.48 respectively.

Here, $F = 47.86$ ($P < 0.01$) for (8,791) df.

The calculated F-value is higher than tabled F-value for significance at 0.01 level (2.53) for (8.791) df. Therefore, the predictor variable X_5 (Parental Guidance) is also significant in predicting Academic Achievement.

The 'B' weights of variables X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 , X_1 and X_5 are 0.36, 0.44, -1.12, -0.16, 0.20, 0.32, -0.47 and 0.21 with standard errors of 'B' 0.07, 0.10, 0.19, 0.04, 0.05, 0.12, 0.17 and 0.09 respectively.

The equation to the regression line for predicting Academic Achievement by means of predictor variables X_{14} (Parental Education), X_4 (Parental Encouragement), X_{19} (Family Size), X_{18} (Parental Absenteeism), X_{15} (Father's Employment), X_8 (Parental Provision of Physical Facilities), X_1 (Parental Acceptance) and X_5 (Parental Guidance) is:

$$Y' = \bar{Y} + B_{14} (X_{14} - \bar{X}_{14}) + B_4 (X_4 - \bar{X}_4) + B_{19} (X_{19} - \bar{X}_{19}) + B_{18} (X_{18} - \bar{X}_{18}) + B_{15} (X_{15} - \bar{X}_{15}) + B_8 (X_8 - \bar{X}_8) + B_1 (X_1 - \bar{X}_1) + B_5 (X_5 - \bar{X}_5)$$

$$\text{i.e., } Y' = 31.63 + 0.36 (X_{14} - 16.49) + 0.44 (X_4 - 16.76) - 1.12 (X_{19} - 4.19) - 0.16 (X_{18} - 3.49) + 0.20 (X_{15} - 14.64) + 0.32 (X_8 - 10.13) - 0.47 (X_1 - 9.09) + 0.21 (X_5 - 22.77).$$

On simplification this equation is,

$$Y' = 0.36 X_{14} + 0.44 X_4 - 1.12 X_{19} - 0.16 X_{18} + 0.20 X_{15} + 0.32 X_8 - 0.47 X_1 + 0.21 X_5 + 16.89.$$

After step VIII analysis it was found that further addition of predictor variables has not much to contribute to the multiple R or for the percentage variation. When eighth variable Parental Guidance (X_5) has entered the

equation R increased only by 0.004 and percentage variation increased only by 0.48.

Thus it was found that there are eight significant predictor variables. The eight predictor variables in the order, as found in the stepwise regression analysis, the successive R's, percentage variance and increase in R and percentage variance are presented in Table 48.

TABLE 48
Summary of Results of Stepwise Regression Analysis

Step	Variable entered	R	Increase in R	Percentage Variance ($R^2 \times 100$)	Increase in Percentage Variance
I	Parental Education (X_{14})	0.430	--	18.64	--
II	Parental Encouragement (X_4)	0.505	0.075	25.59	6.95
III	Family Size (X_{19})	0.532	0.027	28.37	2.78
IV	Parental Absenteeism (X_{18})	0.543	0.011	29.51	1.14
V	Father's Employment (X_{15})	0.555	0.012	30.83	1.32
VI	Parental Provision of Physical Facilities (X_8)	0.563	0.008	31.74	0.91
VII	Parental Acceptance (X_1)	0.567	0.004	32.14	0.40
VIII	Parental Guidance (X_5)	0.571	0.004	32.62	0.48

The successive equations for predicting Academic Achievement, by means of the above eight predictor variables are presented in Table 49.

TABLE 49
**Multiple Regression Equations for
 Predicting Academic Achievement from Parental Variables**

Equation No.	Multiple Regression Equation
1	$Y' = 0.80X_{14} + 18.44$
2	$Y' = 0.64X_{14} + 0.65X_4 + 10.19$
3.	$Y' = 0.52X_{14} + 0.61X_4 - 1.09X_{19} + 17.41$
4.	$Y' = 0.53X_{14} + 0.60X_4 - 1.05X_{19} - 0.15X_{18} + 17.75$
5.	$Y' = 0.40X_{14} + 0.60X_4 - 1.08X_{19} - 0.17X_{18} + 0.20X_{15} + 17.16$
6.	$Y' = 0.39X_{14} + 0.46X_4 - 1.15X_{19} - 0.17X_{18} + 0.21X_{15} + 0.38X_8 + 15.98$
7.	$Y' = 0.39X_{14} + 0.55X_4 - 1.10X_{19} - 0.16X_{18} + 0.20X_{15} + 0.42X_8 - 0.36X_1 + 17.24$
8.	$Y' = 0.36X_{14} + 0.44X_4 - 1.12X_{19} - 0.16X_{18} + 0.20X_{15} + 0.32X_8 - 0.47X_1 + 0.21X_5 + 16.89$

Note: Y' = Predicted scores of Academic Achievement. X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 , X_1 and X_5 are scores on Parental Education, Parental Encouragement, Family Size, Parental Absenteeism, Father's Employment, Parental Provision of Physical Facilities, Parental Acceptance and Parental Guidance respectively.

The equations given in Table 49 will help one to predict Academic Achievement (Y') when one or more of the eight predictor variables viz., Parental Education, Parental Encouragement, Family Size, Parental Absenteeism, Father's Employment, Parental Provision of Physical Facilities, Parental Acceptance and Parental Guidance are given.

V. RELATIVE EFFICIENCY OF SIGNIFICANT PREDICTORS OF ACADEMIC ACHIEVEMENT

The multiple correlation R between the criterion variable Y (Academic Achievement) and the eight predictor variables viz., Parental Education (X_{14}),

Parental Encouragement (X_4), Family Size (X_{19}), Parental Absenteeism (X_{18}), Father's Employment (X_{15}), Parental Provision of Physical Facilities (X_8), Parental Acceptance (X_1) and Parental Guidance (X_5) is 0.57 (as given in Table 47 of previous section) which is highly significant ($SE_R = 0.03$). This suggests that Academic Achievement can be significantly predicted by means of the eight predictor variables (Parental Variables) X_{14} , X_4 , X_{19} , X_{18} , X_{15} , X_8 , X_1 and X_5 .

In order to find out the relative efficiency of each of these eight predictor variables in predicting Academic Achievement, the coefficient of multiple determination (R^2) in terms of ' β 's and ' r 's was computed.

The R^2 is expressed in terms of the beta coefficients and the zero order ' r 's as given below.

$$R_{y(1\ 4\ 5\ 8\ 14\ 15\ 18\ 19)}^2 = \beta_{y1\ 4\ 5\ 8\ 14\ 15\ 18\ 19} r_{y1} + \beta_{y4\ 1\ 5\ 8\ 14\ 15\ 18\ 19} r_{y4} \\ + \beta_{y5\ 1\ 4\ 8\ 14\ 15\ 18\ 19} r_{y5} + \beta_{y8\ 1\ 4\ 5\ 14\ 15\ 18\ 19} r_{y8} \\ + \beta_{y14\ 1\ 4\ 5\ 8\ 15\ 18\ 19} r_{y14} + \beta_{y15\ 1\ 4\ 5\ 8\ 14\ 18\ 19} r_{y15} \\ + \beta_{y18\ 1\ 4\ 5\ 8\ 14\ 15\ 19} r_{y18} + \beta_{y19\ 1\ 4\ 5\ 8\ 14\ 15\ 18} r_{y19}$$

where y indicates the criterion variable.

The required beta coefficients (β) and coefficient of correlation (r 's) and their product (βxr) for each significant predictor variable is presented in Table 50. The beta coefficients were adopted from the result of step VIII regression analysis given in Table 47.

TABLE 50
**Beta coefficients, Coefficients of
 Correlation and their Products Showing
 Relative Efficiency of Predictor (Parental) Variables**

Variable No.	Predictor (Parental) Variable	Beta coefficients (β)	Coefficients of correlation (r)	$\beta \times r$
X ₁₄	Parental Education	0.20	0.43	0.0860
X ₄	Parental Encouragement	0.19	0.39	0.0741
X ₁₉	Family Size	-0.19	-0.34	0.0646
X ₁₈	Parental Absenteeism	-0.11	-0.13	0.0143
X ₁₅	Father's Employment	0.13	0.30	0.0390
X ₈	Parental Provision of Physical Facilities	0.09	0.27	0.0243
X ₁	Parental Acceptance	-0.10	0.11	-0.0110
X ₅	Parental Guidance	0.11	0.34	0.0374
$\Sigma\beta r = R^2 = 0.3287$				

From Table 50 it is found that $\Sigma\beta \times r = 0.3287$. This indicates that coefficient of multiple determination, R^2 is 0.3287. This in turn means that 33 percent of whatever makes students differ in Academic Achievement is attributable to differences in Parental Education (X₁₄), Parental Encouragement (X₄), Family Size (X₁₉), Parental Absenteeism (X₁₈), Father's Employment (X₁₅), Parental Provision of Physical Facilities (X₈), Parental Acceptance (X₁) and Parental Guidance (X₅). That is around 33 percent of variation in Academic Achievement is the contribution of the eight predictor variables obtained as the significant predictors in stepwise regression analysis. This also means that the remaining 67 percent of variation in Academic Achievement is attributable to variation in other variables that have not been included in this study.

The relative efficiency of the eight significant predictor (parental) variables, as suggested by the product, β_{xr} in Table 50 in predicting Academic Achievement can be summarised as follows:

- i) 8.60 percent (out of 33 percent variation attributable to the eight predictor variables) of variation in Academic Achievement is contributed by Parental Education.
- ii) 7.41 percent (out of 33 percent variation attributable to the eight predictor variables) of variation in Academic Achievement is contributed by Parental Encouragement.
- iii) 6.46 percent (out of 33 percent variation attributable to the eight predictor variables) of variation in Academic Achievement is contributed by Family Size.
- iv) 3.90 percent of variation in Academic Achievement is contributed by Father's Employment.
- v) 3.74 percent variation in Academic Achievement is contributed by Parental Guidance.
- vi) 2.43 percent of variation in Academic Achievement is contributed by Parental Provision of Physical Facilities.
- vii) 1.43 percent (out of 33 percent variation attributable to the eight predictor variables) of variation in Academic Achievement is attributable to variation in Parental Absenteeism.
- viii) 1.10 percent of variation in Academic Achievement is contributed by Parental Acceptance.

Thus, out of the eight significant predictor variables (Parental Variables) Parental Education is the best predictor of Academic Achievement.

The second best predictor of Academic Achievement is Parental Encouragement and so on. The eight significant predictor (parental) variables are listed below in the order of relative efficiency in predicting Academic Achievement.

1. Parental Education
2. Parental Encouragement
3. Family Size
4. Father's Employment
5. Parental Guidance
6. Parental Provision of Physical Facilities
7. Parental Absenteeism
8. Parental Acceptance

VI. DIFFERENCE IN ACADEMIC ACHIEVEMENT FOR VARIOUS LEVELS OF SELECT PARENTAL VARIABLES

In this section, mean scores of Academic Achievement obtained for various levels of Parental Involvement, Parental Income, Father's Education, Mother's Education, Parental Education, Father's Employment, Mother's Employment, Father's Absenteeism, Mother's Absenteeism and Family Size are compared using two tailed test of significance of difference between means. The results of the comparison of Academic Achievement, for groups based on relevant levels of each of the select Parental Variables is presented below under separate headings.

i. Difference in Academic Achievement for High, Average and Low Parental Involvement Groups

The difference in mean scores of Academic Achievement of high, average and low Parental Involvement groups were tested for their

significance by pairwise comparison of the mean scores, using two tailed test of significance for difference between means for large independent samples. The high, average and low Parental Involvement groups were framed by using the conventional procedure of σ distance from mean M . The data and results of the pairwise comparison are presented in Table 51.

TABLE 51

Data and Results of Comparison of Mean Scores of Academic Achievement of High, Average and Low Parental Involvement Groups

Group	N	M	S.D.	Critical Ratio obtained for paired comparison		
				High Vs. Average Parental Involvement Group	High Vs. Low Parental Involvement Groups	Average Vs. Low Parental Involvement Groups
High Parental Involvement Group	139	38.87	8.44			
Average Parental Involvement Group	517	29.98	8.61	10.98**	8.16**	1.72
Low Parental Involvement Group	144	30.57	8.69			

** indicates significance at 0.01 level.

As per Table 57 there is significant difference between the mean scores of Academic Achievement of high Parental Involvement group and average Parental Involvement group because the obtained t-value (10.98) exceeds the tabled value (2.58) for significance at 0.01 level. There is significant difference between the mean scores of Academic Achievement of high Parental Involvement group and low Parental Involvement group, as the t-value obtained (8.16) exceeds the tabled value required for significance at 0.01 level. But, there is no significant difference between the mean scores of Academic

Achievement for Average Parental Involvement group and low Parental Involvement group, as the t-value obtained, 1.72 is less than 1.96 required for significance at 0.05 level.

The mean scores of Academic Achievement obtained for high, average and low Parental Involvement groups indicate that the higher the level of Parental Involvement of the group, the higher the mean Academic Achievement.

ii. Difference in Academic Achievement for High and Low Parental Income Groups

The difference in mean scores of Academic Achievement obtained for high Parental Income group and low Parental Income group was tested for their significance using two tailed test of significance of difference between means. The high Parental Income group and low Parental Income group were formed by taking elements lying 'above the median' and 'below the median' respectively. Thus pupils with Parental Income upto Rs.2000 per month belong to low Parental Income group, and those with Parental Income above Rs.2000 per month belong to high Parental Income group. The details of the test of significance of difference between the mean Academic Achievement of the two groups are presented in Table 52.

TABLE 52

**Data and Result of Comparison of
Mean Scores of Academic Achievement for
High Parental Income and Low Parental Income Groups**

Groups	N	M	S.D.	Critical Ratio (t)
High Parental Income group	397	33.15	9.62	4.63**
Low Parental Income group	393	30.14	8.53	

** indicate significance at 0.01 level.

Table 52 shows that there is significant difference between the mean scores of Academic Achievement of 'high Parental Income' and 'low Parental Income' groups, as the t-value obtained (4.63) is greater than the tabled value (2.58) required for significance at 0.01 level. The mean Academic Achievement scores of the two groups show that 'high Parental Income group' has significantly higher Academic Achievement than that of 'low Parental Income group'.

iii. Difference in Academic Achievement for Various Levels of Father's Education

The difference in mean scores of Academic Achievement for groups based on four levels of Father's Education, viz., primary, secondary, higher secondary, and graduate and post graduate (or higher education) were tested by pairwise comparison, using two tailed test of significance of difference between means. The data and results of the pairwise comparison of the mean Academic Achievement scores of these groups are presented in Table 53.

TABLE 53

Data and Results of Comparison of Mean Scores of Academic Achievement for Groups Based on Four Levels of Father's Education

Groups compared (In levels of Father's Education)	N	M	S.D.	Critical Ratio (t)
Higher Education Vs. Higher Secondary Education	30 63	39.13 36.71	9.48 9.42	1.15
Higher Education Vs. Secondary Education	30 264	39.13 34.32	9.48 8.86	2.64**
Higher Education Vs. Primary Education	30 443	39.13 28.80	9.48 8.26	5.94**
Higher Secondary Education Vs. Secondary Education	63 264	36.71 34.32	9.42 8.86	1.82
Higher Secondary Education Vs. Primary Education	63 443	36.71 28.80	9.42 8.26	6.59**
Secondary Education Vs. Primary Education	264 443	34.32 28.80	8.86 8.26	9.86**

** indicates significance at 0.01 level.

Table 53 shows that there exist significant difference between the mean scores of Academic Achievement of the following pairs, of groups based on level of Father's Education. These group pairs are:

- i) 'Higher Education group' and 'Secondary Education group' (t = 2.64)
- ii) 'Higher Education group' and 'Primary Education group' (t = 5.94)
- iii) 'Higher Secondary Education group' and 'Primary Education group' (t=6.59) and
- iv) 'Secondary Education group' and 'Primary Education group' (t = 9.86).

The differences between the above cited groups in the Mean Scores of Academic Achievement are significant at 0.01 level, as the t-values obtained are greater than 2.58, the tabled value for significance at this level. The t-values obtained for comparison of mean scores of Academic Achievement of 'Higher Secondary Education group' with 'Secondary Education group' ($t = 1.82$), and 'Higher Education group' with 'Higher Secondary Education group' ($t = 1.15$), are not significant because they are less than 1.96 required for significance at 0.05 level.

As the Father's Education level advances from primary education to secondary education there is significant increase in child's Academic Achievement; as Father's Education advances from secondary to higher secondary level there is no significant increase in child's Academic Achievement; and as Father's Education advances from higher secondary level to higher education level there is no significant increase in child's Academic Achievement.

iv. Difference in Academic Achievement for Various Levels of Mother's Education

The difference in mean scores of Academic Achievement for groups based on four levels of Mother's Education, viz., primary, secondary, higher secondary, graduate/post graduate (or higher education) were tested by pairwise comparison, using two-tailed test of significance of difference between means. The data and results of the pairwise comparison of groups based on levels of Mother's Education, viz., 'Primary Education group', 'Secondary Education group', 'Higher Secondary Education group' and 'Higher Education group', are presented in Table 54.

TABLE 54

Data and Results of Comparison of Mean Scores of Academic Achievement for Groups Based on Four Levels of Mother's Education

Groups compared (In levels of Mother's Education)	N	M	S.D.	Critical Ratio (t)
Higher Education Vs. Higher Secondary Education	27 63	42.41 36.75	6.66 10.29	3.11**
Higher Education Vs. Secondary Education	27 267	42.41 34.16	6.66 8.71	5.94**
Higher Education Vs. Primary Education	27 443	42.41 28.72	6.66 8.18	10.22**
Higher Secondary Education Vs. Secondary Education	63 267	36.75 34.16	10.29 8.71	1.84
Higher Secondary Education Vs. Primary Education	63 443	36.75 28.72	10.29 8.18	5.93**
Secondary Education Vs. Primary Education	267 443	34.16 28.72	8.71 8.18	8.25**

** indicates significance at 0.01 level.

Table 54 shows that there exist significant difference between the mean scores of Academic Achievement of the following group pairs based on levels of Mother's Education. These group pairs are:

- i) 'Higher Education group' and 'Higher Secondary Education group' (t=3.11)
- ii) 'Higher Education group' and 'Secondary Education group' (t=5.94)
- iii) 'Higher Education group' and 'Primary Education group' (t=10.22)

- iv) 'Higher Secondary Education group' and 'Primary Education group' (t=5.93) and
- v) 'Secondary Education group' and 'Primary Education group' (t=8.25)

The differences in the mean Scores of Academic Achievement of these group pairs are significant at 0.01 level as the t-values obtained are greater than 2.58, tabled value for significance at this level. The t-value obtained for comparison of mean scores of Academic Achievement of 'Higher Secondary Education group' and 'Secondary Education group' (1.84) is not significant as it is less than 1.96 required for significance at 0.05 level.

As the Mother's Education level advances from primary education to secondary education there is significant increase in mean scores of Academic Achievement. As Mother's Education advances from secondary to higher secondary education there is no significant increase in children's Academic Achievement; and as Mother's Education advances from Secondary or Higher Secondary Education to Higher Education there is significant increase in the mean score of Academic Achievement of children.

v. Difference in Academic Achievement for High, Average and Low Parental Education Groups

The difference in mean scores of Academic Achievement obtained for high, average and low Parental Education groups were tested for their significance, by pairwise comparison of the mean scores using two tailed test of significance of difference between Means for large independent samples. High, average and low Parental Education groups were formed by using the conventional procedure of σ distance from mean M. The data and results of the pairwise comparison of the means are presented in Table 55.

TABLE 55

Data and Results of Comparison of Mean Scores of Academic Achievement of High, Average and Low Parental Education Groups

Group	N	M	S.D.	Critical Ratio obtained for paired comparison		
				High Vs. Average Parental Education	High Vs. Low Parental Education	Average Vs. Low Parental Education
High Parental Education Group	118	38.13	9.08			
Average Parental Education Group	536	31.78	8.51	6.90**	11.49**	7.71**
Low Parental Education Group	146	25.84	8.07			

** indicates significance at 0.01 level.

As per Table 55 there exists significant difference between mean scores of Academic Achievement of High and Average Parental Education groups ($t=6.90$), High and Low Parental Education groups ($t=11.49$) and Average and Low Parental Education groups ($t=7.71$), because these t-values exceed 2.58, the tabled value required for significance at 0.01 level. The mean scores of Academic Achievement of High, Average and Low Parental Education groups indicate that the higher the level of Parental Education, the higher the mean Academic Achievement of the group.

vi. Difference in Academic Achievement for Various Levels of Father's Employment

The difference in mean scores of Academic Achievement for groups based on three levels of Father's Employment, viz., 'Professional', 'Skilled' and 'Unskilled', were tested for their significance by pairwise comparison of mean scores. The 'Professional' group consists of semi-professional, professional and

highly professional categories of Father's Employment, 'Skilled' group consists of semiskilled and skilled categories of Father's Employment and 'Unskilled' group includes unemployed and unskilled categories of Father's Employment. The data and the results of the pairwise comparison of the groups based on three levels of Father's Employment for difference in mean scores of Academic Achievement are presented in Table 56.

TABLE 56

**Data and Results of Comparison of Mean Scores of
Academic Achievement for Three Levels of Father's Employment**

Groups (in levels of Father's Employment)	N	M	S.D.	Critical Ratio obtained for paired comparison		
				Professional Vs. Skilled Groups	Professional Vs. Unskilled Groups	Skilled Vs. Unskilled Groups
Professional	73	38.21	9.39			
Skilled	405	32.61	9.02	4.72**	7.79**	5.71**
Unskilled	322	28.91	8.39			

** indicates significance at 0.01 level.

From Table 56 it can be seen that there exist significant difference between the mean scores of Academic Achievement of 'Professional' and 'Skilled' groups ($t = 4.72$), 'Professional' and 'Unskilled' groups ($t = 7.79$) and 'Skilled' and 'Unskilled' groups ($t = 5.71$). These differences in mean scores of Academic Achievement of the three groups, based on three levels of Father's Employment are significant at 0.01 level, as the t-values obtained are greater than 2.58. As the status or the level of Father's Employment increases, the mean scores of Academic Achievement of the groups also increases.

vii. Difference in Academic Achievement for Groups with 'Unemployed' and 'Employed' Mothers

The difference between the mean scores of Academic Achievement obtained for two groups, viz., 'Unemployed Mothers' and 'Employed Mothers' based on Mother's Employment status, was tested for significance. The 'Unemployed Mothers' group consists of unemployed category of Mother's Employment as such, while 'Employed Mothers' group is made up of unskilled, semiskilled, skilled, semiprofessional, professional and highly professional categories of Mother's Employment. The data and result of the comparison of mean scores of Academic Achievement of these groups is presented in Table 57.

TABLE 57

Data and Result of Comparison of Academic Achievement of Pupils with Employed and Unemployed Mothers

Groups (of pupils with)	N	M	S.D.	Critical Ratio
Employed Mothers	102	33.66	10.62	2.10*
Unemployed Mothers	698	31.33	8.95	

* indicates significance at 0.05 level.

Table 57 shows that t-value obtained for comparison of the mean scores of Academic Achievement of the two groups, viz., 'Employed Mothers' and 'Unemployed Mothers' is 2.10, which is greater than 1.96 required for significance at 0.05 level. The values of mean scores of Academic Achievement of these two groups indicate that the group with 'Employed Mothers' has significantly higher Academic Achievement than the group with 'Unemployed Mothers'.

viii. Difference in Academic Achievement for Three levels of Father's Absenteeism

The difference in mean scores of Academic Achievement obtained for three groups with different levels of Father's Absenteeism, viz., 'Father's Non-Absence', 'Father's Absence Upto One Year' and 'Father's Prolonged Absence', were tested for their significance by pairwise comparison of mean scores. 'Father's Non-Absence' group is consisted of pupils whose fathers are present at the place of residence of child in a daily basis. 'Father's Absence-Upto one Year' group consisted of pupils whose fathers are absent from the place of residence of child for a duration upto an year in a stretch; and 'Father's Prolonged Absence' group consisted of pupils whose fathers do not meet the child for a duration longer than one year. The data and results of the pairwise comparison of achievement of mean of these groups are presented in Table 58.

TABLE 58

Data and Results of Comparison of Mean Scores of Academic Achievement for Groups Based on Three Levels of Father's Absenteeism

Group (Levels of Father's Absenteeism)	N	M	S.D.	Critical Ratio obtained for paired comparison		
				Father's Non-absence Vs. Father's absence upto one year	Father's Non-absence Vs. Father's Prolonged Absence	Father's Absence upto One Year Vs. Father's Prolonged Absence
Father's Non-Absence	590	32.10	9.15			
Father's Absence upto One year	102	32.09	9.17	0.01	3.83**	2.82**
Father's Prolonged Absence	108	28.65	8.47			

** indicates significance at 0.01 level.

Table 58 shows that there is no significant difference between the mean scores of Academic Achievement of 'Father's Non-Absence' group and 'Father's Absence upto One year' group, as the t-value obtained (0.01) is less than 1.96, required for significance at 0.05 level. But there is significant difference between the mean scores of Academic Achievement of 'Father's Non-Absence' group and 'Father's Prolonged Absence' group ($t = 3.83$), and, 'Father's Absence upto One year' group and 'Father's Prolonged Absence' group ($t = 2.82$), as the obtained t-values exceed 2.58 required for significance at 0.01 level. 'Father's Prolonged Absence' group has significantly lower mean score of Academic Achievement than the two other groups.

ix. Difference in Mean Scores of Academic Achievement of 'Mother's Non-Absence' and 'Mother's Absence' Groups

The difference in mean scores of Academic Achievement obtained for 'Mother's Non-Absence' group and 'Mother's-Absence' group was tested for significance using two tailed test for significance of difference between means. Here, the 'Mother's Non-Absence' group is comprised of pupils whose mothers are present at the place of residence of child. 'Mother's Absence' group is consisted of pupils whose mothers are used to be absent from the place of residence of the child, the duration of this absence varying from weekly absence to absence for years. The data and result of the comparison of mean scores of Academic Achievement of these groups is presented in Table 59.

TABLE 59

**Data and Result of Comparison
of Mean Scores of Academic Achievement of
'Mother's Non-Absence' and 'Mother's Absence' Groups**

Groups	N	M	S.D.	Critical Ratio (t-value)
Mother's Non Absence	779	31.61	9.15	-0.33
Mother's Absence	21	32.43	11.15	

As per Table 59 there is no significant difference between the mean scores of Academic Achievement of 'Mother's Non-Absence' group and 'Mother's Absence' group because the t-value obtained (-0.33) is less than 1.96 required for significance at 0.05 level.

x. Difference in Mean Scores of Academic Achievement for Groups Based on Family Size

The difference in mean scores of Academic Achievement obtained for the three groups, viz., Single Child Families, Two Children Families and Large Families, based on family size were tested for their significance by paired comparison of the mean scores. The group 'Single Child Families' consists of pupils from the families possessing only one offspring. 'Two Children Families' group is consisting of pupils coming from families possessing two offsprings. 'Large Families' group consists of pupils from families possessing more than two offsprings. The data and result of the pairwise comparison of the mean score of Academic Achievement of these groups are presented in Table 60.

TABLE 60

**Data and Result of Comparison of Mean Scores
of Academic Achievement of the Groups Based on Family Size**

Group	N	M	S.D.	Critical Ratio obtained for paired comparison		
				Single child families Vs. Two children families	Single child Families Vs. Large Families	Two children Families Vs. Large Families
Single Child Families	23	31.13	9.94			
Two Children Families	291	36.12	9.05	-2.33*	1.03	11.04**
Large Families	486	28.97	8.18			

* indicates significance at 0.05 level.

** indicates significance at 0.01 level.

Table 60 shows that there is significant difference between the mean scores of Academic Achievement of 'Single Child Families' group and 'Two Children families' group as the obtained t-value (-2.33) is greater than 1.97 needed for significance at 0.05 level. But the difference between the mean scores of Academic Achievement of 'Single Child Families' group and 'Large Families' group is not significant as the t-value (1.03) obtained is less than the tabled value for significance at 0.05 level. The mean scores of Academic Achievement of 'Two Children Families' group and 'Large Families' group differ significantly at 0.01 level as the t-value obtained (11.04) is much greater than the tabled value for significance at this level. The mean score of Academic Achievement of these groups imply that the group 'Two Children Families' has significantly higher Academic Achievement than 'Single Child Families' group or 'Large Families' group.

SUMMARY OF THE FINDINGS, CONCLUSIONS AND SUGGESTIONS

Abdul Gafoor. K. "Influence of certain parental variables on academic achievement of elementary school pupils " Thesis. Department of Education, University of Calicut, 2001

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APPENDICES

Appendix - I

UNIVERSITY OF CALICUT

DEPARTMENT OF EDUCATION

GENERAL ACADEMIC ACHIEVEMENT TEST

(FOR STANDARD VI PUPILS)

(DRAFT)

Dr. (Mrs) C.Naseema,
Senior Lecturer,

K.Abdul Gafoor,
Research Scholar

Department of Education

ആറാം തരം വിദ്യാർത്ഥികളുടെ അറിവ് പരിശോധിക്കുന്നതിനുള്ള ഒരു പരീക്ഷയാണിത്. ഇതിന്റെ നാല് ഭാഗങ്ങൾ, ക്രമത്തിൽ, മലയാളം, അടിസ്ഥാന ശാസ്ത്രം, സാമൂഹ്യ പാഠങ്ങൾ, അടിസ്ഥാനഗണിതം എന്നീ വിഷയങ്ങളെ ആസ്പദമാക്കിയാണ്. വെവ്വേറെ ഉത്തരമെഴുതി തിരിച്ച് നൽകേണ്ട ഈ ഭാഗങ്ങളിലൊരോന്നിലും 30 ചോദ്യങ്ങൾ വീതമുണ്ട്. ഒരു ഭാഗം ഉത്തരമെഴുതി തിരിച്ചെഴുൽപ്പിച്ചതിനുശേഷം മാത്രം അടുത്ത ഭാഗം നൽകുന്നതാണ്.

പൊതുനിർദ്ദേശങ്ങൾ:

1. ഓരോ വിഭാഗത്തിനും ഉത്തരം എഴുതാൻ അനുവദിച്ചിട്ടുള്ള സമയം തീരുമ്പോൾ അതാത് ഭാഗങ്ങൾ തിരിച്ചെഴുൽപ്പിക്കേണ്ടതാണ്.
2. ഓരോ ഭാഗത്തിനും മുകളിലായി വിദ്യാർത്ഥിയുടെ പേര്, സ്കൂളിന്റെ പേര്, ക്ലാസ്, ക്രമനമ്പർ എന്നിവ അതാത് സ്ഥാനത്ത് പൂരിപ്പിക്കുക.
3. ചോദ്യപുസ്തകം വൃത്തിയായി സൂക്ഷിക്കുക.
4. ഓരോ ചോദ്യത്തിനും നൽകിയിരിക്കുന്ന a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങളിൽ ശരിയുത്തരത്തെ സൂചിപ്പിക്കുന്ന (a,b,അല്ലെങ്കിൽ c) അക്ഷരത്തിന് ചുറ്റും വൃത്തം വരച്ച് ഉത്തരങ്ങൾ ചോദ്യാവലിയിൽതന്നെ അടയാളപ്പെടുത്തേണ്ടതാണ്.

ഉദാ:- ഗൃഹം എന്ന വാക്കിന്റെ അർത്ഥം എന്ത്?
 a. കാട് **(b)** വീട് c. നാട്
 (ഇവിടെ 'b' ആണ് ശരിയുത്തരത്തെ സൂചിപ്പിക്കുന്നത്. അതിനാൽ 'b'-ക്ക് ചുറ്റും വൃത്തം വരച്ചിരിക്കുന്നു)
 ഒരിക്കൽ അടയാളപ്പെടുത്തിയ ഉത്തരം മാറ്റാൻ ആഗ്രഹിക്കുന്നുവെങ്കിൽ അടയാളപ്പെടുത്തിയ വൃത്തത്തെ 'X' ചിഹ്നം ഉപയോഗിച്ച് വെട്ടിയശേഷം, പുതിയ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും വൃത്തം വരക്കുക.

ആവശ്യപ്പെടുമ്പോൾ മാത്രം പുറം മറിക്കുക.

SECTION - A

വിദ്യാർത്ഥിയുടെ പേര് :

ക്ലാസ് : ഡിവിഷൻ :

സമയം. 30 മിനിറ്റ്

നിർദ്ദേശങ്ങൾ.

1 മുതൽ 30 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്നു പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു. ഓരോ ചോദ്യത്തിനും കൊടുത്തിട്ടുള്ള പ്രത്യേക നിർദ്ദേശ മനുസരിച്ച് ശരിയായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

1ഉം 2ഉം ചോദ്യങ്ങളിൽ ശരിയായ അക്ഷരമാലക്രമം ഏത്?

- 1 a ക ഘ ഗ ഖ
- b ക ഖ ഘ ഗ
- c ക ഖ ഗ ഘ
- 2 a ഷ സ ഹ
- b സ ഷ ഹ
- c ഹ സ ഷ

3ഉം 4ഉം പദങ്ങളുടെ ശരിയായ അർത്ഥം ഏവ?

- 3 വിവിധം
- a വിപരീതം. b പലതരം c വിമാനം.
- 4 കീർത്തി
- a നടി b യുക്തി c പ്രശസ്തി

5ഉം 6ഉം പദങ്ങളുടെ വിപരീതപദം ഏത്?

- 5 ശത്രു
- a മിത്രം b ദേഷ്യം c ഇഷ്ടം.
- 6 ദൂരം
- a വിദൂരം b കൂട്ടം c അടുപ്പം

7ഉം 8ഉം പദങ്ങളെ പിരിച്ചെഴുതുന്നത് എങ്ങനെ?

- 7 ഒട്ടധികം
- a ഒട്ട+ധികം b ഒട്ട്+അധികം c ഒട്ട+അധികം
- 8 കാരറുണ്ട്
- a കാരറു്+ഉണ്ട് b കാരറു+ണ്ട് c കാരറ+ുണ്ട്

9ഉം 10ഉം അക്ഷരങ്ങളെ വർണ്ണങ്ങളായി പിരിക്കുന്നത് എങ്ങനെ?

- 9 ത
- a ത+അ b ത്+അ c ത
- 10 ക്യ
- a ക+്യ b ക്+യ c ക്+യ്+അ

11ഉം 12ഉം പദങ്ങളെ വിഗ്രഹിക്കുന്നതെങ്ങനെ?

ഉദാ:- കാട്ടാന=കാട്ടിലെ ആന

- 11 ദേശഭക്തി
 - a ദേശത്തിന്റെ ഭക്തി
 - b ദേശത്തോടുള്ള ഭക്തി
 - c ദേശമാകുന്ന ഭക്തി

- 12 പമ്പാതിരം
 - a പമ്പയ്ക്കു തീരം
 - b പമ്പിന്റെ തീരം
 - c പമ്പയുടെ തീരം

13ഉം 14ഉം ചോദ്യങ്ങളെ ഒറ്റപ്പദമാക്കുക.

- 13 അതിയായ ആഗ്രഹം
 - a അതിയാഗ്രഹം b അത്യഗ്രഹം c അതിഗ്രഹം
- 14 രാമന്റെ രാജ്യം
 - a രാമരാജ്യം b രാമൻരാജ്യം c രാമാജ്യം

15ഉം 16ഉം ചോദ്യങ്ങളിൽ ശരിയായ പദം ഏത് ?

- 15 a ബുട്ടി b ബുധി c ബുദ്ധി
- 16 a നന്തി b നന്നി c നന്ദി

17ഉം 18ഉം പദങ്ങൾക്ക് തുല്യമായ പദം ഏത് ?

- 17 അർദ്ധം
 - a പകുതി b ആശയം c ധനം
- 18 നാകം
 - a സർപ്പം b സ്വർഗ്ഗം c പർവ്വതം

19ഉം 20ഉം ചോദ്യങ്ങളിൽ ശരിയായ വാചകം തിരഞ്ഞെടുക്കുക.

- 19 a എല്ലാ കുട്ടിയും അച്ഛനമ്മമാരെ ആദരിക്കണം.
 - b എല്ലാ കുട്ടികളും അച്ഛനമ്മയെ ആദരിക്കണം.
 - c എല്ലാ കുട്ടികളും അച്ഛനമ്മമാരെ ആദരിക്കണം.
- 20 a രാജ്യ ഒരു മരം വെട്ടി വീഴ്ത്തി
 - b രാജ്യ ഒരു മരത്തെ വെട്ടി വീഴ്ത്തി
 - c രാജ്യ ഒരു മരങ്ങളെ വെട്ടി വീഴ്ത്തി

21ഉം 22ഉം പദങ്ങളിൽ വിട്ടുപോയ അക്ഷരം ഏത്?

- 21 _____ ണ്ടാവ്
 - a ശ b സ c സ്ര
- 22 ഉ _____ ണ്ടാനം
 - a ണ് b ത് c ൾ

23ഉം 24ഉം വാക്യങ്ങളിൽ വിട്ടുപോയ ഭാഗം തിരിച്ചറിയുക

- 23 സ്വാതന്ത്ര്യം ഓരോരുത്തരുടെയും _____ ആണ്
 - a പരിരാപം b അഹങ്കാരം c അവകാശം
- 24 ഓണം കേരളത്തിന്റെ _____ ആണ്
 - a ദേശീയോദ്ഗ്രഥനം b ദേശീയോത്സവം c ദേശീയ പ്രസ്ഥാനം

- 25 “മിന്നുന്നതെല്ലാം പൊന്നല്ല” എന്ന ചൊല്ലിന്റെ സാരം എന്ത് ?
 - a പുറം കോടിയിൽ വിശ്വസിക്കരുത്.
 - b എല്ലാ സ്വർണവും തിളങ്ങുകയില്ല
 - c മിന്നലില്ലാത്തതും സ്വർണമാവാം.

താഴെ കൊടുത്തിരിക്കുന്ന ഖണ്ഡികകൾ വായിച്ച് 26 മുതൽ 30 വരെയുള്ള ചോദ്യങ്ങൾക്ക് അനുയോജ്യമായ ഉത്തരം കണ്ടുപിടിക്കുക.

നമുക്ക് ചുറ്റും അതിസൂക്ഷ്മങ്ങളായ ഏകകോശ ജീവികൾ ഉണ്ട്. ഇവയെ സൂക്ഷ്മാണുക്കൾ എന്ന് പറയുന്നു. പ്രധാനമായും ബാക്ടീരിയങ്ങൾ, റിക്കറ്റ്സിയകൾ, യീസ്റ്റുകൾ, പ്രോട്ടോസോവകൾ എന്നിവയാണ്. പ്രോട്ടോസോവകൾ ജന്തുക്കളാണ്. യീസ്റ്റുകൾ ക്ലോറോഫിൽ ഇല്ലാത്ത സസ്യങ്ങളായ ഫംഗസുകൾ ആണ്. ബാക്ടീരിയങ്ങളാണ് ഏറ്റവും ലഘുവും സൂക്ഷ്മങ്ങളുമായ സസ്യങ്ങൾ റിക്കറ്റ്സിയകളെ ചൊരിയ ബാക്ടീരിയങ്ങൾ എന്ന് വിളിക്കാം. ചൈറാസുകൾ ജീവനുള്ള പയ്യുടെയെ ജീവനില്ലാത്ത പയ്യുടേയും സ്വഭാവം കാണിക്കുന്നു.

ബാക്ടീരിയങ്ങൾ ലഘുപിജനം വഴി പെരുകുന്നു. രോഗകാരണങ്ങളായ ചില തൊഴിച്ചു ബാക്കി ബാക്ടീരിയങ്ങളെല്ലാം മനുഷ്യന് ഗുണം ചെയ്യുന്നവയാണ്. അഴുക്കു നിർമ്മാർജ്ജനത്തിനും മണ്ണിന്റെ ഫലപുഷ്ടി നിലനിർത്തുന്നതിനും വ്യവസായത്തിനും ഇവ അത്യധികം വിലപ്പെട്ടതാണ്.

- 26 താഴെ പറയുന്നവയിൽ സസ്യം അല്ലാത്തതേത് ?
 - a ഫംഗസ് b ബാക്ടീരിയ c പ്രോട്ടോസോവ
- 27 ജീവന്റെ ഗുണവും അജീവിയ ഗുണവും കാണിക്കുന്ന ജീവി എന്ത് ?
 - a യീസ്റ്റ് b ചൈറസ് c റിക്കറ്റ്സിയ
- 28 ബാക്ടീരിയക്ക് എത്ര കോശമുണ്ട്.
 - a ഒന്ന് b രണ്ട് c മൂന്ന്
- 29 താഴെ പറയുന്നവയിൽ ശരിയായ പ്രസ്താവന എന്ത് ?
 - a എല്ലാ സൂക്ഷ്മ ജീവികളും ഉപഭവകാരികളാണ്
 - b എല്ലാ ബാക്ടീരിയങ്ങളും ഉപകാരികളാണ്
 - c മിക്ക ബാക്ടീരിയങ്ങളും ഉപകാരികളാണ്
- 30 മുകളിൽ കൊടുത്ത ഖണ്ഡികകൾക്ക് ഏറ്റവും അനുയോജ്യമായ തലക്കെട്ട് എന്ത് ?
 - a ക്ഷുദ്രജീവികൾ b സൂക്ഷ്മാണുക്കൾ c ബാക്ടീരിയ

SECTION : B

വിദ്യാർത്ഥിയുടെ പേര് :

ക്ലാസ് :

ഡിവിഷൻ :

നിർദ്ദേശങ്ങൾ:

സമയം: 30 മിനിറ്റ്

1 മുതൽ 30 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ 3 പ്രതികരണങ്ങൾ കൊടുത്തിരിക്കുന്നു. ഓരോ ചോദ്യത്തിനും അനുയോജ്യമായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- 1 മനുഷ്യന്റെ ശാസ്ത്ര നാമം എന്ത്?
 - a. കൊക്കോസ് ന്യൂസിഫെറാ
 - b. ഹോമോ സാപിയൻസ്
 - c. റൈസ സാറെറവ
- 2 താഴെ കൊടുത്തിരിക്കുന്നവയിൽ താങ്ങുവേരുകൾ ഉള്ള സസ്യം ഏത്?
 - a. നെല്ല്
 - b. കൈത
 - c. മത്തവള്ളി
- 3 താഴെ കൊടുത്തിട്ടുള്ളവയിൽ ദ്രാവകരൂപത്തിലുള്ളമൂലകം ഏത്?
 - a. സോഡിയം
 - b. ഹീലിയം
 - c. ബ്രോമിൻ
- 4 മിശ്രിതത്തിന് ഒരു ഉദാഹരണം ഏത്?
 - a. കറിയുപ്പ്
 - b. വായു
 - c. ജലം
- 5 ഉയേദിശാമാറ്റത്തിന് ഉദാഹരണം ഏത്?
 - a. ഗ്ലാസ്സ് ഉരുകുന്നത്
 - b. ഐസുണ്ടാകുന്നത്
 - c. തൈരുണ്ടാകുന്നത്
- 6 1 ഘന സെന്റീമീറ്റർ എത്ര മില്ലീ ലിറ്റർ ആണ്?
 - a. 1
 - b. 10
 - c. 100
- 7 ആറ്റത്തിൽ, ന്യൂക്ലിയസ്സിന് ചുറ്റുമുള്ള ഇലക്ട്രോണിന്റെ സഞ്ചാരം ഏത് തരം ചലനമാണ്?
 - a. രേഖീയ ചലനം
 - b. വർത്തുള ചലനം
 - c. ദോലന ചലനം
- 8 പ്രവൃത്തിയുടെ യൂണിറ്റ് എന്ത്?
 - a. ജൂൾ
 - b. ന്യൂട്ടൻ
 - c. വാട്ട്
- 9 ഇന്ത്യയുടെ ആദ്യത്തെ കൃത്രിമ ഉപഗ്രഹം ഏത്?
 - a. രോഹിണി
 - b. ആര്യഭട്ട
 - c. ആപ്പിൾ
- 10 ജലന സഹായിയായ വാതകം ഏത്?
 - a. ഓക്സിജൻ
 - b. നൈട്രജൻ
 - c. കാർബൺഡൈഓക്സൈഡ്
- 11 ഏറ്റവും ശരിയായ പ്രസ്താവന ഏത്?
 - a. ജന്തുക്കളില്ലെങ്കിൽ സസ്യങ്ങളില്ല
 - b. സസ്യങ്ങളില്ലെങ്കിൽ ജന്തുക്കളില്ല
 - c. മനുഷ്യരില്ലെങ്കിൽ ജന്തുക്കളും സസ്യങ്ങളും ഇല്ല
- 12 ജീവനുള്ളവയുടെ പൊതുലക്ഷണം ഏത്?
 - a. ചിന്തിക്കാനുള്ള കഴിവ്,
 - b. കാണാനുള്ള കഴിവ്
 - c. പ്രതികരിക്കാനുള്ള കഴിവ്
- 13 നിശാന്ധതയെ വരാതിരിക്കാൻ താഴെ പറഞ്ഞതിൽ ഏതാണ് ആഹാരത്തിൽ ഉൾപ്പെടുത്തേണ്ടത്?
 - a. കാരറ്റ്
 - b. പയറുവർഗ്ഗം,
 - c. ഗോതമ്പ്

- 14 ആശ്രയ സസ്യത്തിൽ നിന്നും പാകം ചെയ്ത ഭക്ഷണം ചുഷണം ചെയ്യുന്ന സസ്യം ഏത് ?
 a ഇത്തീരം b മുടില്ലാത്തതാളി c മരവാഴ
- 15 താഴെപ്പറയുന്നവയിൽ ഭൂകാണ്ഡം ഉള്ള സസ്യം ഏത് ?
 a കാരറ്റ് b ബീറ്റ്റൂട്ട് c ഉരുളക്കിഴങ്ങ്
- 16 പഞ്ചസാരയിൽ ഹൈഡ്രജനും ഓക്സിജനും ഒപ്പം കാണുന്ന മൂലകം ഏത് ?
 a നൈട്രജൻ b ഡിലിക്കൺ c കാർബൺ
- 17 ക്രോമോറോഗ്രാഫി ഉപയോഗിക്കുന്നത് എന്തിന് ?
 a പരസ്പരം കലരാത്ത മിശ്രിതങ്ങളെ വേർതിരിക്കാൻ
 b ഖരാവസ്തുക്കളെ ദ്രാവകരൂപത്തിൽ നിന്ന് നീക്കം ചെയ്യാൻ
 c വർണ്ണവസ്തുവിലെ ഘടകവർണ്ണങ്ങൾ വേർതിരിക്കാൻ
- 18 വിറക് കത്തിത്തീരുന്നത് എന്ത് രംഗം മാറ്റമാണ് ?
 a രാസമാറ്റം b ഭൗതികമാറ്റം c ഉഭയദിശാമാറ്റം
- 19 വാഗ്ദാനങ്ങളുടെ ചക്രങ്ങളിൽ പാലുകൾ ഉള്ളത് കൊണ്ടുള്ള ഉപയോഗം എന്ത് ?
 a ഘർഷണം കുറക്കാൻ സഹായിക്കുന്നു
 b ഘർഷണം കൂട്ടാൻ സഹായിക്കുന്നു
 c വേഗത കൂട്ടാൻ സഹായിക്കുന്നു
- 20 ഉയരത്തിൽ നിന്ന് താഴോട്ട് പതിക്കുന്ന കല്ലിന്റെ ഗതികോർജ്ജത്തിന് എന്ത് സംഭവിക്കുന്നു ?
 a വർദ്ധിക്കുന്നു b കുറയുന്നു c വ്യത്യാസപ്പെടുന്നില്ല
- 21 ഉൾജ്ജത്തിന്റെ പരമമായ ഉറവിടം ഏത് ?
 a സൂര്യൻ b മണ്ണ് c സസ്യങ്ങൾ
- 22 താഴെ പറയുന്നവയിൽ ഏതിനാണ് അനിശ്ചിതമായ വളർച്ചയുള്ളത് ?
 a സസ്യങ്ങൾക്ക് b പാമ്പുകൾക്ക് c മനുഷ്യർക്ക്
- 23 കടൽ മത്സ്യം ആഗാരത്തിൽ ഉപയോഗിക്കുന്നതിന് പരിഹരിക്കാവുന്ന ഒരു രോഗം ഏത് ?
 a വിളർച്ച b ഗോയിറ്റർ c കണ
- 24 ഏറ്റവും വലിയ ഔഷധി ഏത് ?
 a യൂക്കാലിപ്റ്റസ് b സൈക്കോയ c വാഴ
- 25 ഖരരൂപത്തിലുള്ള അലോഹം ഏത് ?
 a അയോഡിൻ b മെർക്കുറി c കർബ്ബൂരം
- 26 താഴെ കൊടുത്തിട്ടുള്ളവയിൽ ഏതാണ് മത്സ്യം ശ്വസിക്കുന്നത് ?
 a അന്തരീക്ഷ വായുവിലെ ഓക്സിജൻ
 b ജലത്തിൽ ലയിച്ചു ചേർന്ന ഓക്സിജൻ
 c ജലം വിഘടിച്ചു കിട്ടുന്ന ഓക്സിജൻ
- 27 വായുവിൽ കൂടി പകരുന്ന ഒരു രോഗം ഏത് ?
 a ലേബോഷം b വയറുകടി c കോളറ
- 28 ചിലന്തി വല കെട്ടുന്നത് എന്തിന് ?
 a മുട്ടയിടാൻ b ഇരകളെ പിടിക്കാൻ c ഒളിച്ചിരിക്കാൻ
- 29 പ്രകൃത്യാ കാണുന്ന മൂലകങ്ങളുടെ എണ്ണം എത്ര ?
 a 105 b 95 c 90
- 30 തവളയെ ഉഭയ ജീവി എന്ന് വിളിക്കുന്നത് എന്തുകൊണ്ട് ?
 a നീന്താനും നടക്കാനും കഴിയുന്നത്
 b വിരലുകൾക്കിടയിൽ ചർമ്മമുള്ളതുകൊണ്ട്
 c ജലത്തിലും കരയിലും ജീവിക്കുന്നത് കൊണ്ട്

SECTION : C

വിദ്യാർത്ഥിയുടെ പേര് :

ക്ലാസ്

ഡിവിഷൻ :

നിർദ്ദേശങ്ങൾ:

സമയം: 30 മിനിറ്റ്

1 മുതൽ 30 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു ഇതിൽ ഓരോ ചോദ്യത്തിനും ഏറ്റവും അനുയോജ്യമായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിനു ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- 1 വേദങ്ങളും പുരാണങ്ങളും നമുക്ക് സംഭാവന ചെയ്തത് ആര് ?
a ആര്യന്മാർ b ദ്രാവിഡർ c ഹൈന്ദവർ
- 2 സിന്ധുനദീതട സംസ്കാരത്തിന്റെ സ്ഥാപകർ ആര് ?
a ആര്യന്മാർ b ഹൈന്ദവർ c ഗ്രീക്കുകാർ
- 3 'മെഗാലിത്ത്' എന്ന പദത്തിന്റെ സാഹിത്യപരമായ അർത്ഥം എന്ത് ?
a നവീനശില b പുരാതന ശില c മഹാശില
- 4 തീർത്ഥാങ്കരന്മാരിൽ 24-ാമൻ ആര് ?
a ബുദ്ധൻ b പാർശ്വനാഥൻ c മഹാവീരൻ
- 5 ഇന്ത്യ ആദ്യമായി റിറേണത്തിൻ കീഴിൽ വന്നത് ആരുടെ ഭരണകാലത്താണ് ?
a അശോകന്റെ b ചന്ദ്രഗുപ്തന്റെ c കനിഷ്കന്റെ
- 6 താഴെ പറയുന്നവയിൽ ഉത്തരേന്ത്യൻ രാജവംശം ഏത് ?
a പാണ്ഡ്യന്മാർ b ചേരന്മാർ c ചോളന്മാർ
- 7 ഹർഷന്റെ കാലത്ത് ഇന്ത്യ സഞ്ചരിച്ച ചൈനീസ് സഞ്ചാരി ആര് ?
a ഹ്യൂവാൻ സാങ് b ഫാഹിയാൻ c സിയൂകി
- 8 സൂര്യഗ്രഹണ സമയത്ത് സൂര്യൻ, ഭൂമി, ചന്ദ്രൻ ഇവയുടെ ആപേക്ഷിക സ്ഥാനം എങ്ങനെ ?
a സൂര്യൻ - ഭൂമി - ചന്ദ്രൻ
b സൂര്യൻ - ചന്ദ്രൻ - ഭൂമി
c ഭൂമി - സൂര്യൻ - ചന്ദ്രൻ
- 9 ഒരു ഗ്രോബിൽ റേഖാംശരേഖകളുടെ എണ്ണം എത്ര ?
a 89 b 360 c 189
- 10 സഹ്യാദ്രി ഏത് പർവ്വതനിരയുടെ ഭാഗമാണ് ?
a വിന്ധ്യ b പശ്ചിമഘട്ടം c പൂർവ്വഘട്ടം
- 11 ഭൂമി പുന്നതായിരുന്നുവെങ്കിൽ താഴെ പറയുന്നവയിൽ തെറ്റായ പ്രസ്താവന ഏത് ?
a ഭൂമിയിൽ എല്ലായിടത്തും സൂര്യോദയം ഒരേ സമയത്തായിരിക്കും
b പുറം കടലിൽ നിന്ന് വരുന്ന കപ്പലിന്റെ എല്ലാ ഭാഗവും ഒരേ സമയത്ത് പ്രത്യക്ഷമാകും
c ചക്രവാളം തുടർച്ചയായ വൃത്താകൃതിയിൽ കാണപ്പെടും
- 12 മനുഷ്യൻ ആദ്യമായി ഉപയോഗിച്ചു തുടങ്ങിയ ലോഹം ഏത് ?
a ഇരുമ്പ് b അലൂമിനിയം c ചെമ്പ്
- 13 ചരിത്രാതീതകാലം എന്നത് കൊണ്ട് അർത്ഥമാക്കുന്നത് എന്താണ് ?
a ചരിത്രം രേഖപ്പെടുത്തിയതിന് ശേഷമുള്ള കാലം
b ചരിത്രം പഠിച്ചുതുടങ്ങിയതിന് ശേഷമുള്ള കാലം
c ചരിത്രം രേഖപ്പെടുത്തുന്നതിന് മുമ്പുള്ള കാലം

- 14 ആര്യാവർത്തത്തിൽ ഉൾപ്പെടാത്ത പ്രദേശം ഏത് ?
a പഞ്ചാബ് b ആന്ധ്രപ്രദേശ് c ഉത്തർപ്രദേശ്
- 15 ശ്രീബുദ്ധൻ ഇക്കാലത്ത് ജീവിച്ചിരുന്നുവെങ്കിൽ താഴെ പറയുന്നവയിൽ ഏത് സംഭവിക്കുമായിരുന്നു ?
a ഭൗതിക സുഖങ്ങളിൽ മുഴുകി ജീവിക്കുമായിരുന്നു
b ഐഹിക സുഖങ്ങളിലുള്ള ആസക്തി വെടിയാൻ ഉപദേശിക്കുമായിരുന്നു
c ശക്തമായ ഒരു സൈന്യത്തെ വാർത്തെടുക്കാൻ ഇന്ത്യയെ സഹായിക്കുമായിരുന്നു
- 16 നമ്മുടെ ദേശീയ പതാകയിലെ അശോക ചക്രം സ്വീകരിച്ചത് എവിടെയുള്ള സ്തംഭത്തിൽ നിന്നാണ് ?
a ബദരീനാഥ് b സോമനാഥ് c സാരനാഥ്
- 17 തിരുക്കുറുര രചിക്കപ്പെട്ട കാലം ഏത് ?
a സംഘകാലം b വേദകാലം c ചരിത്രാതീതകാലം
- 18 ഭൂമിയുടെ ശരിയായ ആകൃതി എന്ത് ?
a ഗോളാകൃതി b ജിയോയിഡ് c ഗ്ലോബ്
- 19 ഭൂമി സൂര്യനെ ഒരു പ്രാവശ്യം വലയം വെക്കാൻ എത്ര സമയം എടുക്കും.
a ഒരു ദിവസം b ഒരു വർഷം c ഒരു മാസം
- 20 ഗ്രീനിച്ച് രേഖയിൽ 90 ഡിഗ്രി കിഴക്ക് സ്ഥിതി ചെയ്യുന്ന രാജ്യത്ത് സ്റ്റാൻഡാർഡ് സമയവും സാർവ്വദേശീയ സമയവും തമ്മിലുള്ള ബന്ധം ഏത് ?
a സ്റ്റാൻഡേർഡ് സമയം 6 മണിക്കൂർ മുമ്പിലായിരിക്കും.
b സ്റ്റാൻഡാർഡ് സമയം 6 മണിക്കൂർ പിന്നിലായിരിക്കും.
c സ്റ്റാൻഡാർഡ് സമയവും സാർവ്വദേശീയ സമയവും ഒന്നായിരിക്കും.
- 21 മനുഷ്യൻ ഒരിടത്ത് സ്ഥിരമായി താമസിക്കാൻ തുടങ്ങിയത് എപ്പോൾ ?
a കൃഷി ചെയ്യാൻ തുടങ്ങിയപ്പോൾ
b ആയുധങ്ങൾ ഉപയോഗിച്ച് തുടങ്ങിയപ്പോൾ
c പേട്ടയാടാൻ തുടങ്ങിയപ്പോൾ
- 22 സിന്ധു നദീതട സംസ്കാരത്തിന്റെ തെളിവുകൾ കണ്ടെത്തിയ സ്ഥലം ഏത് ?
a മോഹൻജൊദാരോ b മെസപ്പൊട്ടോമിയ c ബംബിലോൺ
- 23 താഴെ പറയുന്നവരിൽ ആദ്യ പുരുഷൻ അല്ലാത്തവർ ആരാണ് ?
a ക്ഷത്രിയർ b വൈശ്യർ c ശൂദ്രർ
- 24 പാണ്ഡ്യനുമായി ബന്ധപ്പെട്ട സാമ്രാജ്യം ഏത് ?
a ഗാന്ധാര സാമ്രാജ്യം b മൗര്യ സാമ്രാജ്യം c ആര്യ സാമ്രാജ്യം
- 25 താഴെപ്പറയുന്നവയിൽ ഇൻഡോ ഗ്രീക്ക് വർഗ്ഗം ഏത് ?
a സുഗന്ധർ b ശാകന്ധർ c യവനന്ധർ
- 26 വിക്രമാദിത്യൻ എന്ന പേരിൽ അറിയപ്പെടുന്ന ചക്രവർത്തി ആരാണ് ?
a ചന്ദ്രഗുപ്തൻ b സമുദ്രഗുപ്തൻ c ചന്ദ്രഗുപ്തൻ-II
- 27 സൂര്യൻ കിഴക്കുഭിച്ച് പടിഞ്ഞാറ് അസ്തമിക്കാൻ കാരണം എന്ത് ?
a ഭൂമി അതിന്റെ അച്ചുതണ്ടിൽ കിഴക്ക് നിന്ന് പടിഞ്ഞാറേക്ക് ഭ്രമണം ചെയ്യുന്നത്
b സൂര്യൻ കിഴക്ക് നിന്ന് പടിഞ്ഞാറേക്ക് സഞ്ചരിക്കുന്നത്
c ഭൂമി അതിന്റെ അച്ചുതണ്ടിൽ പടിഞ്ഞാറ് നിന്ന് കിഴക്കോട്ട് ഭ്രമണം ചെയ്യുന്നത്
- 28 0° അക്ഷാംശരേഖയുടെ സ്ഥാനം ഏത് ?
a ഉത്തരധ്രുവം b ദക്ഷിണ ധ്രുവം c ഭൂമദ്ധ്യരേഖ
- 29 കേരളത്തിലെ ഏറ്റവും വലിയ കായൽ ഏത് ?
a അഷ്ടമുടിക്കായൽ b ചേമ്പനാട്ടുകായൽ c കായംകുളം കായൽ
- 30 ലോകത്തിലെ ഏറ്റവും വലിയ മരുഭൂമി ഏത് ?
a സഹാറ b താർ c അററകാമ

SECTION :D

വിദ്യാർത്ഥിയുടെ പേര് :

ക്ലാസ്

ഡിവിഷൻ :

നിർദ്ദേശങ്ങൾ:

സമയം: 40 മിനിറ്റ്

1 മുതൽ 30 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു ഇതിൽ. ഓരോ ചോദ്യത്തിനും ഏറ്റവും അനുയോജ്യമായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിനു ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- 1 കോൺ അളക്കുന്നതിനുള്ള ഉപകരണമേത് ?
a കോമ്പസ് b സ്കെയിൽ c പ്രോട്രാക്ടർ
- 2 ഒരു ത്രികോണത്തിന്റെ വശങ്ങളുടെ എണ്ണം എത്ര ?
a 1 b 2 c 3
- 3 m ന് 3 എന്ന വില കൊടുക്കുമ്പോൾ $2m+7$ ന്റെ വില എത്ര ?
a $9m$ b 13 c $13m$
- 4 6.4 മീറ്റർ നീളമുള്ള ഒരു കമ്പിയെ തുല്യ നീളമുള്ള 16 കഷണങ്ങളായി മുറിച്ചാൽ ഓരോ കമ്പിയുടെയും നീളം താഴെ കൊടുത്തവയിൽ ഏതായിരിക്കും.
a 0.04 മീറ്റർ b 0.4 മീറ്റർ c 4 മീറ്റർ
- 5 ഒരു ക്ലാസിലെ 70% കുട്ടികൾ വിനോദയാത്ര പോയി. വിനോദയാത്ര പോയ കുട്ടികളുടെ എണ്ണം 21 ആയാൽ ആ ക്ലാസിലെ ആകെ കുട്ടികളുടെ എണ്ണം എത്ര ?
a 15 b 30 c 45
- 6 40 സെ. മീ. നീളവും 20 സെ. മീ വീതിയും ഉള്ള ചതുരത്തിന്റെ വിസ്തൃതി റ്റണ്ണം എന്ത് ?
a 800 ച. സെ. മീ b 80 ച. സെ. മീ c 60 ച. സെ. മീ
- 7 1250 ഘന സെന്റീമീറ്റർ വ്യാപ്തമുള്ള ഒരു കാർഡ് ബോർഡ് പെട്ടിയുടെ നീളം 25 സെന്റീമീറ്ററും വീതി 10 സെന്റീമീറ്ററും ആയാൽ അതിന്റെ പൊക്കം എത്ര ?
a 5 സെ. മീ. b 10 സെ. മീ. c 15 സെ. മീ
- 8 $2\frac{1}{3}$ ന്റെ വ്യുൽക്രമമായ സംഖ്യ ഏത് ?
a $2\frac{3}{1}$ b $\frac{3}{2}$ c $\frac{3}{7}$
- 9 അനുപൂർകക കോണുകളുടെ അളവുകളുടെ തുകയെന്ത് ?
a 90° b 180° c 270°
- 10 ഒരു ഭിന്നസംഖ്യയുടെ അതിന്റെ വ്യുൽക്രമത്തിന്റെയും ഗുണനഫലം എന്ത് ?
a 1 b 0 c 1
- 11 താഴെ പറഞ്ഞിരിക്കുന്നവയിൽ 8 മുഖങ്ങളുള്ള സ്തംഭമേത് ?
a ത്രികോണ സ്തംഭം b ഷഡ്ഭുജ സ്തംഭം
c സമചതുര സ്തംഭം
- 12 $43 \times 27 = 1161$ ആയാൽ 4.3×0.27 ന്റെ വിലയെന്ത് ?
a 1.161 b 11.61 c 116.1
- 13 100 രൂപക്ക് ഒരു മാസത്തേക്ക് 3 രൂപ പലിശയെങ്കിൽ പലിശനിരക്ക് എന്ത് ?
a 0.3 b 3% c 36%

- 14 ഒരു ത്രികോണത്തിലെ മൂന്ന് കോണുകളുടെയും അളവുകളുടെ തുകയെന്ത്?
a 90° b 180° c 360°
- 15 സന്ദിഗ്ധ വാക്യമല്ലാത്തതേത് ?
a $X-2=4$ b $Y \times 6 < 2$ c $3-2 > 0$
- 16 $9/1000$ ന്റെ ദശാംശ രൂപം ഏത് ?
a 0.09 b 0.009 c 0.0009
- 17 ഇന്ത്യ അതിന്റെ വാർഷിക ബജറ്റിൽ പ്രതിരോധം, കൃഷി, വ്യവസായ വിദ്യാഭ്യാസം തുടങ്ങിയവക്ക് നിശ്ചിത വിഹിതങ്ങൾ വിലയിരുത്തുന്നു. ഇതിനെ ചിത്രീകരിക്കാൻ അനുയോജ്യമായ ഗ്രാഫ് ഏത് ?
a തിരശ്ചീന ബാർ ഡയഗ്രാം
b പൈ ഡയഗ്രാം
c വെർട്ടിക്കൽ ബാർ ഡയഗ്രാം
- 18 ഒരു കോൺ ഉണ്ടാകുന്നതിന് ആവശ്യമായ രശ്മികളുടെ എണ്ണം എത്ര ?
a 2 b 3 c 4
- 19 വശങ്ങളുടെ നീളം തുല്യമായ ത്രികോണമേത് ?
a സമപാർശ്വത്രികോണം
b സമഭുജത്രികോണം
c വിഷമഭുജത്രികോണം
- 20 താഴെ കൊടുത്തിരിക്കുന്നവയിൽ സത്യവാക്യമേത് ?
a $6=7 < 8$ b $20-8 < 15$ c $10-6 > 5$
- 21 $2 \times (10+5) =$ എത്ര ?
a 35 b 25 c 30
- 22 43%ത്തിന്റെ ദശാംശ രൂപമേത് ?
a 0.43 b 43 c 0.043
- 23 രാധ 600 രൂപ 5 വർഷത്തേക്ക് 8% പലിശ നിരക്കിൽ കടം വാങ്ങുന്നു. രാധ കൊടുക്കേണ്ട പലിശ എത്ര ?
a 250 രൂപ b 270 രൂപ c 300 രൂപ
- 24 700 രൂപയ്ക്ക് വാങ്ങിയ ഒരു വാച്ച് 770 രൂപയ്ക്ക് വിറ്റാൽ കിട്ടുന്ന ലാഭ ശതമാനം എത്ര ?
a 7 b 10 c 70
- 25 1 മീറ്റർ വശമുള്ള ഒരു സമചതുരത്തിന്റെ വിസ്തീർണ്ണം എന്ത് ?
a 1 ച. മീ. b 4 ച. മീ. c 2 ച. മീ.
- 26 64 സെ. മീ നീളം, 16 സെ. മീ വീതി, 4 സെ മീ പൊക്കം ഉള്ള ഒരു ചതുരപ്പട്ടിക്ക് ഉപകൊള്ളാവുന്ന 2 സെ. മീ നീളമുള്ള ക്യൂബുകളുടെ എണ്ണം എത്ര ?
a 256 b 512 c 6.8
- 27 $3\frac{1}{2} \times 4\frac{1}{2} + \frac{9}{10}$ ന്റെ വിലയെന്ത് ?
a 21 b 28 c 35
- 28 ആവർത്തന സംഖ്യക്ക് ഉദാഹരണം ഏത് ?
a $\frac{5}{8}$ b $\frac{2}{3}$ c $2\frac{2}{2}$
- 29 ഒരു ന്യൂന ത്രികോണത്തിലെ കോണുകൾ ഏത് തരം ആയിരിക്കും ?
a ന്യൂനകോൺ b മട്ടകോൺ c ബൃഹത്തകോൺ
- 30 $\angle LMN = 58\frac{1}{2}^\circ$ ആയാൽ അതിന്റെ പുറകുകോണിന്റെ അളവ് എന്തായിരിക്കും.
a $3\frac{1}{2}^\circ$ b $4\frac{1}{2}^\circ$ c 90°

APPENDIX II
GENERAL ACADEMIC ACHIEVEMENT TEST (DRAFT)
SCORING KEY

SECTION A				SECTION B			
Item No.	Right response	Item No.	Right response	Item No.	Right response	Item No.	Right response
1	c	16	c	1	b	16	c
2	a	17	a	2	b	17	c
3	b	18	b	3	c	18	b
4	c	19	c	4	b	19	b
5	a	20	a	5	b	20	a
6	c	21	c	6	a	21	a
7	b	22	a	7	b	22	a
8	a	23	c	8	a	23	b
9	b	24	b	9	b	24	c
10	c	25	a	10	a	25	b
11	b	26	c	11	b	26	b
12	c	27	b	12	c	27	a
13	b	28	a	13	a	28	b
14	a	29	c	14	b	29	c
15	c	30	b	15	c	30	c
SECTION C				SECTION D			
1	a	16	c	1	c	16	b
2	a	17	a	2	c	17	b
3	c	18	b	3	b	18	a
4	c	19	b	4	b	19	a
5	a	20	a	5	b	20	b
6	b	21	a	6	a	21	c
7	a	22	a	7	a	22	a
8	b	23	c	8	a	23	b
9	b	24	b	9	b	24	b
10	b	25	c	10	c	25	a
11	c	26	c	11	b	26	b
12	c	27	c	12	a	27	b
13	c	28	c	13	c	28	a
14	b	29	b	14	b	29	a
15	b	30	a	15	c	30	a

Appendix - III

UNIVERSITY OF CALICUT

DEPARTMENT OF EDUCATION

GENERAL ACADEMIC ACHIEVEMENT TEST

(FOR STANDARD VI PUPILS)

Dr. (Mrs) C.Naseema,
Senior Lecturer,

K.Abdul Gafoor,
Research Scholar

Department of Education

ആറാം തരം വിദ്യാർത്ഥികളുടെ അറിവ് പരിശോധിക്കുന്നതിനുള്ള ഒരു പരീക്ഷയാണിത്. ഇതിന്റെ നാല് ഭാഗങ്ങൾ, ക്രമത്തിൽ, മലയാളം, അടിസ്ഥാന ശാസ്ത്രം, സാമൂഹ്യ പാഠങ്ങൾ, അടിസ്ഥാനഗണിതം എന്നീ വിഷയങ്ങളെ ആസ്പദമാക്കിയാണ്. വെവ്വേറെ ഉത്തരമെഴുതി തിരിച്ച് നൽകേണ്ട ഈ ഭാഗങ്ങളിലോരോന്നിലും 16 ചോദ്യങ്ങൾ വീതമുണ്ട്. ഒരു ഭാഗം ഉത്തരമെഴുതി തിരിച്ചെൽപ്പിച്ചതിനുശേഷം മാത്രം അടുത്ത ഭാഗം നൽകുന്നതാണ്.

പൊതുനിർദ്ദേശങ്ങൾ:

1. ഓരോ വിഭാഗത്തിനും ഉത്തരം എഴുതാൻ അനുവദിച്ചിട്ടുള്ള സമയം തീരുമ്പോൾ അതാത് ഭാഗങ്ങൾ തിരിച്ചെൽപ്പിക്കേണ്ടതാണ്.
2. ഓരോ ഭാഗത്തിനും മുകളിലായി വിദ്യാർത്ഥിയുടെ പേര്, സ്കൂളിന്റെ പേര്, ക്ലാസ്, ക്രമനമ്പർ എന്നിവ അതാത് സ്ഥാനത്ത് പൂരിപ്പിക്കുക.
3. ചോദ്യപുസ്തകം വൃത്തിയായി സൂക്ഷിക്കുക.
4. ഓരോ ചോദ്യത്തിനും നൽകിയിരിക്കുന്ന a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങളിൽ ശരിയുത്തരത്തെ സൂചിപ്പിക്കുന്ന (a,b,അല്ലെങ്കിൽ c) അക്ഷരത്തിന് ചുറ്റും വൃത്തം വരച്ച് ഉത്തരങ്ങൾ ചോദ്യാവലിയിൽതന്നെ അടയാളപ്പെടുത്തേണ്ടതാണ്

ഉദാ:- ഗൃഹം എന്ന വാക്കിന്റെ അർത്ഥം എന്ത്?

a. കാട് (b) വീട് c. നാട്

(ഇവിടെ 'b' ആണ് ശരിയുത്തരത്തെ സൂചിപ്പിക്കുന്നത്. അതിനാൽ 'b'-ക്ക് ചുറ്റും വൃത്തം വരച്ചിരിക്കുന്നു)

ഒരിക്കൽ അടയാളപ്പെടുത്തിയ ഉത്തരം മാറ്റാൻ ആഗ്രഹിക്കുന്നുവെങ്കിൽ അടയാളപ്പെടുത്തിയ വൃത്തത്തെ 'X' ചിഹ്നം ഉപയോഗിച്ച് വെട്ടിയശേഷം, പുതിയ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും വൃത്തം വരക്കുക.

ആവശ്യപ്പെടുമ്പോൾ മാത്രം പുറം മറിക്കുക.

SECTION - A

വിദ്യാർത്ഥിയുടെ പേര്:

ക്ലാസ്സ്:

ഡിവിഷൻ:

ക്രമനമ്പർ:

(സമയം 20 മിനിറ്റ്)

നിർദ്ദേശങ്ങൾ:

1 മുതൽ 16 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു. ഓരോ ചോദ്യത്തിനും കൊടുത്തിട്ടുള്ള പ്രത്യേക നിർദ്ദേശമനുസരിച്ച് ശരിയായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- താഴെ കൊടുത്തവയിൽ ശരിയായ അക്ഷരമാലക്രമം ഏത്?
 - ഷ സ ഹ
 - സ ഷ ഹ
 - ഹ സ ഷ
- 'വിവിധം' എന്ന പദത്തിന്റെ ശരിയായ അർത്ഥം എന്ത്?
 - വിപരീതം
 - പലതരം
 - വിമാനം.
- 'കൃ' എന്നതിനെ വർണ്ണങ്ങളായി പിരിക്കുന്നത് എങ്ങനെ?
 - ക + ു
 - ക് + യ
 - ക് + യ് + അ
- 'ദേശഭക്തി' എന്ന പദത്തെ വിഗ്രഹിക്കുന്നതെങ്ങനെ? (ഉദാ: കാട്ടാന = കാട്ടിലെ ആന)
 - ദേശത്തിന്റെ ഭക്തി
 - ദേശത്തോടുള്ള ഭക്തി
 - ദേശമാകുന്ന ഭക്തി
- 'അർദ്ദധം' എന്ന പദത്തിന് തുല്യമായ പദം ഏത്?
 - പകുതി
 - ആശയം
 - ധനം
- 'രാമന്റെ രാജ്യം' എന്നതിനെ ഒറ്റപ്പദമാക്കുക.
 - രാമരാജ്യം
 - രാമൻരാജ്യം
 - രാമാജ്യം

7. 'ശത്രു' എന്നതിന്റെ വിപരീതപദം ഏത്?
a. മിത്രം b. ദേഷ്യം c. ഇഷ്ടം
8. 'ഒട്ടധികം' എന്നതിനെ പിരിച്ചെഴുതുന്നത് എങ്ങനെ?
a. ഒട്ട + ധികം
b. ഒട്ട് + അധികം
c. ഒട്ട + അധികം
9. താഴെ കൊടുത്തവയിൽ ശരിയായ പദം ഏത്?
a. നന്തി b. നന്നി c. നന്ദി
10. '.....ഷ്ടാവ്' എന്നതിൽ വിട്ടുപോയ അക്ഷരം ഏത്?
a. ശ്യ b. സ്യ c. സ്ര
11. താഴെ കൊടുത്തവയിൽ ശരിയായ വാചകം തിരഞ്ഞെടുത്തെഴുതുക.
a. എല്ലാ കുട്ടിയും അച്ഛനമ്മമാരെ ആദരിക്കണം.
b. എല്ലാ കുട്ടിയും അച്ഛനമ്മയെ ആദരിക്കണം.
c. എല്ലാ കുട്ടികളും അച്ഛനമ്മമാരെ ആദരിക്കണം.
12. 'മിന്നുന്നതെല്ലാം പൊന്നല്ല' എന്ന ചൊല്ലിന്റെ സാരം എന്ത്?
a. പുറം മോടിയിൽ വിശ്വസിക്കരുത്.
b. എല്ലാ സ്വർണ്ണവും തിളങ്ങുകയില്ല.
c. മിന്നല്ലാത്തതും സ്വർണമാവാം.
13. താഴെ കൊടുത്തിരിക്കുന്ന ഖണ്ഡികകൾ വായിച്ച് 13 മുതൽ 16 വരെയുള്ള ചോദ്യങ്ങൾക്ക് അനുയോജ്യമായ ഉത്തരം കണ്ടുപിടിക്കുക.

നമുക്കു ചുറ്റും അതിസൂക്ഷ്മങ്ങളായ ഏകകോശ ജീവികൾ ഉണ്ട്. ഇവയെ സൂക്ഷ്മാണുക്കൾ എന്ന് പറയുന്നു. പ്രധാനമായും ബാക്ടീരിയങ്ങൾ, റിക്കറ്റ്സിയകൾ, യീസ്റ്റുകൾ, പ്രോട്ടോസോവകൾ എന്നിവയാണിവ. പ്രോട്ടോസോവകൾ ജന്തുക്കളാണ്. യീസ്റ്റുകൾ ക്ലോറോഫിൽ ഇല്ലാത്ത സസ്യങ്ങളായ ഫംഗസുകൾ ആണ്. ബാക്ടീരിയങ്ങളാണ് ഏറ്റവും ലഘുവും സൂക്ഷ്മങ്ങളുമായ സസ്യങ്ങൾ. റിക്കറ്റ്സിയകളെ ചെറിയ ബാക്ടീരിയങ്ങൾ എന്ന് വിളിക്കാം. വൈറസുകൾ ജീവനുള്ളവയുടേയും ജീവനില്ലാത്തവയുടേയും സ്വഭാവം കാണിക്കുന്നു.

ബാക്ടീരിയങ്ങൾ ലഘുവിഭജനം വഴി പെരുകുന്നു. രോഗകാരണങ്ങളായ ചില തൊഴിച്ചു ബാക്കി ബാക്ടീരിയങ്ങളെല്ലാം മനുഷ്യന് ഗുണം ചെയ്യുന്നവയാണ് അഴുക്കു നിർമ്മാർജ്ജനത്തിനും, മണ്ണിന്റെ ഫലപുഷ്ടി നിലനിർത്തുന്നതിനും വ്യവസായത്തിനും ഇവ അത്യധികം വിലപ്പെട്ടതാണ്.

13. താഴെ പറയുന്നവയിൽ സസ്യം അല്ലാത്തതേത്?
 - a. ഫംഗസ് b. ബാക്ടീരിയ c. പ്രോട്ടോസോവ
14. ജീവന്റെ ഗുണവും അജീവീയ ഗുണവും കാണിക്കുന്ന ജീവി ഏത്?
 - a. യീസ്റ്റ് b. വൈറസ് c. റിക്കറ്റ്സിയ
15. ബാക്ടീരിയക്ക് എത്ര കോശമുണ്ട്?
 - a. ഒന്ന് b. രണ്ട് c. മൂന്ന്
16. താഴെ പറയുന്നവയിൽ ശരിയായ പ്രസ്താവന ഏത്?
 - a. എല്ലാ സക്ഷ്മ ജീവികളും ഉപദ്രവകാരികളാണ്
 - b. എല്ലാ ബാക്ടീരിയങ്ങളും ഉപകാരികളാണ്
 - c. മിക്ക ബാക്ടീരിയങ്ങളും ഉപകാരികളാണ്.

SECTION - B

വിദ്യാർത്ഥിയുടെ പേര്:

ക്ലാസ്സ്:

ഡിവിഷൻ:

ക്രമനമ്പർ:

(സമയം 15 മിനിറ്റ്)

നിർദ്ദേശങ്ങൾ:

1 മുതൽ 16 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a,b,c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു. ഓരോ ചോദ്യത്തിനും കൊടുത്തിട്ടുള്ള പ്രത്യേക നിർദ്ദേശമനുസരിച്ച് ശരിയായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- താഴെ കൊടുത്തിരിക്കുന്നവയിൽ താങ്ങുവേരുകൾ ഉള്ള സസ്യം ഏത്?
a. നെല്ല് b. കൈത c. മത്തവള്ളി
- ആറ്റത്തിൽ, ന്യൂക്ലിയസ്സിനു ചുറ്റുമുള്ള ഇലക്ട്രോണിന്റെ സഞ്ചാരം ഏത് തരം ചലനമാണ്?
a. രേഖീയ ചലനം b. വർത്തുള ചലനം c. ദോലന തലനം
- ഇന്ത്യയുടെ ആദ്യത്തെ കൃത്രിമ ഉപഗ്രഹം ഏത്?
a. രോഹിണി b. ആര്യഭട്ട c. ആപ്പിൾ
- ഏറ്റവും ശരിയായ പ്രസ്താവന ഏത്?
a. ജന്തുക്കളില്ലെങ്കിൽ സസ്യങ്ങളില്ല
b. സസ്യങ്ങളില്ലെങ്കിൽ ജന്തുക്കളില്ല
c. മനുഷ്യരില്ലെങ്കിൽ ജന്തുക്കളും സസ്യങ്ങളും ഇല്ല
- ജീവനുള്ളവയുടെ പൊതുലക്ഷണം ഏത്?
a. ചിന്തിക്കാനുള്ള കഴിവ്
b. കാണാനുള്ള കഴിവ്
c. പ്രതികരിക്കാനുള്ള കഴിവ്
- ആശയ സന്ധ്യത്തിൽ നിന്നും പാകം ചെയ്ത ഭക്ഷണം ചൂഷണം ചെയ്യുന്ന സസ്യം ഏത്?
a. ഇത്തിൾ b. മുടില്ലാത്താളി c. മരവാഴ
- ക്രോമാറ്റോഗ്രാഫി ഉപയോഗിക്കുന്നത് എന്തിന്?
a. പരസ്പരം കലരാത്ത മിശ്രിതങ്ങളെ വേർതിരിക്കാൻ.
b. വരവസ്തുക്കളെ ദ്രാവക രൂപത്തിൽനിന്ന് നീക്കം ചെയ്യാൻ.
c. വർണ്ണവസ്തുവിലെ ഘടകവർണ്ണങ്ങൾ വേർതിരിക്കാൻ.

8. പഞ്ചസാരയിൽ ഹൈഡ്രജനും ഓക്സിജനും ഒപ്പം കാണുന്ന മൂലകം ഏത്?
a. നൈട്രജൻ b. സിലിക്കൺ c. കാർബൺ
9. വാഹനങ്ങളുടെ ചക്രങ്ങളിൽ ചാലുകൾ ഉള്ളതുകൊണ്ടുള്ള ഉപയോഗം എന്ത്?
a. ഘർഷണം കുറക്കാൻ സഹായിക്കുന്നു
b. ഘർഷണം കൂട്ടാൻ സഹായിക്കുന്നു
c. വേഗത കൂട്ടാൻ സഹായിക്കുന്നു
10. താഴെ കൊടുത്തവയിൽ ദ്രാവക രൂപത്തിലുള്ള മൂലകം ഏത്?
a. സോഡിയം b. ഹീലിയം c. ബ്രോമിൻ
11. ഊർജ്ജത്തിന്റെ പരമമായ ഉറവിടം ഏത്?
a. സൂര്യൻ b. മണ്ണ് c. സസ്യങ്ങൾ
12. ഏറ്റവും വലിയ ഔഷധി ഏത്?
a. യൂക്കാലിപ്റ്റസ് b. സെക്കോയ c. വാഴ
13. ഖര രൂപത്തിലുള്ള അലോഹം ഏത്?
a. അയോഡിൻ b. മെർക്കുറി c. കർപ്പൂരം
14. താഴെ കൊടുത്തിട്ടുള്ളവയിൽ ഏതാണ് മത്സ്യം ശ്വസിക്കുന്നത്?
a. അന്തരീക്ഷവായുവിലെ ഓക്സിജൻ
b. ജലത്തിൽ ലയിച്ചു ചേർന്ന ഓക്സിജൻ
c. ജലം വിഘടിച്ച് കിട്ടുന്ന ഓക്സിജൻ
15. വായുവിൽ കൂടി പകരുന്ന ഒരു രോഗം ഏത്?
a. ജലദോഷം b. വയറുകുടി c. കോളറ
16. ചിലന്തി വലകെട്ടുന്നത് എന്തിന്?
a. മുട്ടയിടാൻ b. ഇരകളെ പിടിക്കാൻ c. ഒളിച്ചിരിക്കാൻ

SECTION - C

വിദ്യാർത്ഥിയുടെ പേര്:

ക്ലാസ്സ്:

ഡിവിഷൻ:

ക്രമനമ്പർ:

(സമയം 15 മിനിറ്റ്)

നിർദ്ദേശങ്ങൾ:

1 മുതൽ 16 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു ഓരോ ചോദ്യത്തിനും കൊടുത്തിട്ടുള്ള പ്രത്യേക നിർദ്ദേശമനുസരിച്ച് ശരിയായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

1. 'മെഗാലിത്ത്' എന്ന പദത്തിന്റെ സാഹിത്യപരമായ അർത്ഥം എന്ത്?
a. നവീനശില b. പുരാതനശില c. മഹാശില
2. തിരുക്കുറുൾ രചിക്കപ്പെട്ട കാലം ഏത്?
a. സംഘകാലം b. വേദകാലം c. ചരിത്രാതീതകാലം
3. ഇന്ത്യ ആദ്യമായി ഒറ്റഭരണത്തിന് കീഴിൽ വന്നത് ആരുടെ ഭരണകാലത്താണ്?
a. അശോകന്റെ b. ചന്ദ്രഗുപ്തന്റെ c. കനിഷ്കന്റെ
4. ഭൂമി പരന്നതായിരുന്നുവെങ്കിൽ താഴെ പറയുന്നവയിൽ തെറ്റായ പ്രസ്താവന ഏത്?
a. ഭൂമിയിൽ എല്ലായിടത്തും സൂര്യോദയം ഒരേ സമയത്തായിരിക്കും
b. പുറംകടലിൽ നിന്ന് വരുന്ന കപ്പലിന്റെ എല്ലാഭാഗവും ഒരേ സമയത്ത് പ്രത്യക്ഷമാവും
c. ചക്രവാളം തുടർച്ചയായ വൃത്താകൃതിയിൽ കാണപ്പെടും
5. മനുഷ്യൻ ആദ്യമായി ഉപയോഗിച്ച് തുടങ്ങിയ ലോഹം ഏത്?
a. ഇരുമ്പ് b. അലൂമിനിയം c. ചെമ്പ്
6. ചരിത്രാതീതകാലം എന്നതുകൊണ്ട് അർത്ഥമാക്കുന്നത് എന്താണ്?
a. ചരിത്രം രേഖപ്പെടുത്തിയതിന് ശേഷമുള്ള കാലം
b. ചരിത്രം പഠിച്ചു തുടങ്ങിയതിന് ശേഷമുള്ള കാലം
c. ചരിത്രം രേഖപ്പെടുത്തുന്നതിന് മുമ്പുള്ള കാലം
7. ശ്രീ ബുദ്ധൻ ഇക്കാലത്ത് ജീവിച്ചിരുന്നുവെങ്കിൽ താഴെ പറയുന്നവയിൽ ഏത് സംഭവിക്കുമായിരുന്നു?
a. ഭൗതിക സുഖങ്ങളിൽ മുഴുകി ജീവിക്കുമായിരുന്നു
b. ഐഹിക സുഖങ്ങളിലുള്ള ആസക്തി വെടിയാൻ ഉപദേശിക്കുമായിരുന്നു
c. ശക്തമായ ഒരു സൈന്യത്തെ വാർത്തേടുക്കാൻ ഇന്ത്യയെ സഹായിക്കുമായിരുന്നു.

8. നമ്മുടെ ദേശീയ പതാകയിലെ അശോകചക്രം സ്വീകരിച്ചത് എവിടെയുള്ള സ്തംഭത്തിൽ നിന്നാണ്?
 - a. ബദരീനാഥ്
 - b. സോമനാഥ്
 - c. സാരനാഥ്
9. ഭൂമിയുടെ ശരിയായ ആകൃതി എന്ത്?
 - a. ഗോളാകൃതി
 - b. ജിയോയിഡ്
 - c. ഗ്ലോബ്
10. മനുഷ്യൻ ഒരിടത്ത് സ്ഥിരമായി താമസിക്കാൻ തുടങ്ങിയത് എപ്പോൾ?
 - a. കൃഷി ചെയ്യാൻ തുടങ്ങിയപ്പോൾ
 - b. ആയുധങ്ങൾ ഉപയോഗിച്ച് തുടങ്ങിയപ്പോൾ
 - c. വേട്ടയാടാൻ തുടങ്ങിയപ്പോൾ
11. സിന്ധു നദീതട സംസ്കാരത്തിന്റെ തെളിവുകൾ കണ്ടെത്തിയ സ്ഥലം ഏത്?
 - a. മൊഹൻജൊദാരോ
 - b. മെസപ്പൊട്ടേമിയ
 - c. ബാബിലോൺ
12. വിക്രമാദിത്യൻ എന്ന പേരിൽ അറിയപ്പെടുന്ന ചക്രവർത്തി ആര്?
 - a. ചന്ദ്രഗുപ്തൻ
 - b. സമുദ്രഗുപ്തൻ
 - c. ചന്ദ്രഗുപ്തൻ II
13. സൂര്യൻ കിഴക്കുദിച്ച് പടിഞ്ഞാറ് അസ്തമിക്കാൻ കാരണം എന്ത്?
 - a. ഭൂമി അതിന്റെ അച്ചുതണ്ടിൽ കിഴക്ക്നിന്ന് പടിഞ്ഞാറേക്ക് ഭ്രമണം ചെയ്യുന്നത്.
 - b. സൂര്യൻ കിഴക്ക് നിന്ന് പടിഞ്ഞാറേക്ക് സഞ്ചരിക്കുന്നത്
 - c. ഭൂമി അതിന്റെ അച്ചുതണ്ടിൽ പടിഞ്ഞാറുനിന്ന് കിഴക്കോട്ട് ഭ്രമണം ചെയ്യുന്നത്.
14. 0° അക്ഷാംശരേഖയുടെ സ്ഥാനം ഏത്?
 - a. ഉത്തരധ്രുവം
 - b. ദക്ഷിണധ്രുവം
 - c. ഭൂമദ്ധ്യരേഖ
15. കേരളത്തിലെ ഏറ്റവും വലിയ കായൽ ഏത്?
 - a. അഷ്ടമുടിക്കായൽ
 - b. വേമ്പനാട്ടുകായൽ
 - c. കായംകുളം കായൽ
16. ലോകത്തിലെ ഏറ്റവും വലിയ മരുഭൂമി ഏത്?
 - a. സഹാറ
 - b. താർ
 - c. അറുക്കാമ

SECTION - D

വിദ്യാർത്ഥിയുടെ പേര്:

ക്ലാസ്സ്:

ഡിവിഷൻ:

ക്രമമ്പർ:

(സമയം 25 മിനിറ്റ്)

നിർദ്ദേശങ്ങൾ:

1 മുതൽ 16 വരെയുള്ള ചോദ്യങ്ങൾക്ക് a, b, c എന്നീ മൂന്ന് പ്രതികരണങ്ങൾ നൽകിയിരിക്കുന്നു. ഓരോ ചോദ്യത്തിനും കൊടുത്തിട്ടുള്ള പ്രത്യേക നിർദ്ദേശമനുസരിച്ച് ശരിയായ ഉത്തരത്തെ സൂചിപ്പിക്കുന്ന അക്ഷരത്തിന് ചുറ്റും ഒരു വൃത്തം വരയ്ക്കുക.

- ഒരു ത്രികോണത്തിന്റെ വശങ്ങളുടെ എണ്ണം എത്ര?
a. 1 b. 2 c. 3
- 'm' ന് 3 എന്ന് വില കൊടുക്കുമ്പോൾ $2m + 7$ ന്റെ വില എത്ര?
a. 9m b. 13 c. 13m
- ഒരു ക്ലാസ്സിലെ 70% കുട്ടികൾ വിനോദയാത്ര പോയി. വിനോദയാത്ര പോയ കുട്ടികളുടെ എണ്ണം 21 ആയാൽ ആ ക്ലാസ്സിലെ ആകെ കുട്ടികളുടെ എണ്ണം എത്ര?
a. 15 b. 30 c. 45
- 1250 ഘന സെന്റീമീറ്റർ വ്യാപ്തമുള്ള ഒരു കാർഡ്ബോർഡ് പെട്ടിയുടെ നീളം 25 സെന്റീമീറ്ററും വീതി 10 സെന്റീമീറ്ററും ആയാൽ അതിന്റെ പൊക്കം എത്ര?
a. 5 സെ.മീ b. 10 സെ.മീ c. 15 സെ.മീ
- 40 സെ.മീ നീളവും 20 സെ.മീ വീതിയുമുള്ള ചതുരത്തിന്റെ വിസ്തീർണ്ണം എന്ത്?
a. 800 ച.സെ.മീ b. 80 ച.സെ.മീ c. 60 ച.സെ.മീ
- അനുപൂരകകോണുകളുടെ അളവുകളുടെ തുകയെന്ത്?
a. 90° b. 180° c. 270°
- താഴെ പറഞ്ഞിരിക്കുന്നവയിൽ 8 മുഖങ്ങളുള്ള സതംഭമേത്?
a. ത്രികോണ സ്തംഭം b. ഷഡ്ഭുജസ്തംഭം c. സമചതുരസ്തംഭം
- $9/1000$ ന്റെ ദശാംശ രൂപം ഏത്?
a. 0.09 b. 0.009 c. 0.0009

9. ഒരു കോൺ ഉണ്ടാകുന്നതിന് ആവശ്യമായ രശ്മികളുടെ എണ്ണം എത്ര?
a. 2 b. 3 c. 4
10. താഴെ കൊടുത്തിരിക്കുന്നവയിൽ സത്യവാക്യമേത്?
a. $6 = 7 < 8$ b. $20 - 8 < 15$ c. $10 - 6 > 5$
11. $2 \times (10+5) =$ എത്ര?
a. 35 b. 25 c. 30
12. $43 \times 27 = 1161$ ആയാൽ 4.3×0.27 ന്റെ വിലയെന്ത്?
a. 1.161 b. 11.61 c. 116.1
13. രാധ 600 രൂപ 5 വർഷത്തേക്ക് 9% പലിശനിരക്കിൽ കടം വാങ്ങുന്നു. രാധ കൊടുക്കേണ്ട പലിശ എത്ര?
a. 250 രൂപ b. 270 രൂപ c. 300 രൂപ
14. 1 മീറ്റർ വശമുള്ള ഒരു സമചതുരത്തിന്റെ വിസ്തീർണ്ണം എന്ത്?
a. 1 ച.മീ b. 4 ച.മീ c. 2 ച.മീ
15. 64 സെ.മീ നീളം, 16 സെ.മീ വീതി, 4 സെ.മീ പൊക്കം ഉള്ള ഒരു സമചതുരപ്പെട്ടിക്ക് ഉൾക്കൊള്ളാവുന്ന 2സെ.മീ നീളമുള്ള ക്യൂബുകളുടെ എണ്ണം എത്ര?
a. 256 b. 512 c. 628
16. ഒരു ന്യൂന ത്രികോണത്തിലെ കോരണുകൾ ഏത് തരം ആയിരിക്കും?
a. ന്യൂനകോൺ b. മട്ടകോൺ c. ബൃഹദ്കോൺ

APPENDIX IV

**UNIVERSITY OF CALICUT
DEPARTMENT OF EDUCATION**

**GENERAL ACADEMIC ACHIEVEMENT TEST
(FOR STANDARD VI PUPILS)**

Dr. (Mrs.) C. Naseema
*Senior Lecturer
Department of Education*

K. Abdul Gafoor
Research Scholar

This test is meant to measure the achievement of VIth standard pupils. The four sections of this test is on Malayalam, Basic Science, Social Studies and Basic Mathematics. Each section, which carries 16 items, is to be answered and returned separately. Consecutive sections will be provided only when the previous section is answered and returned.

General Instructions

1. Return each section promptly, when the time allowed to answer that section is over.
2. At the beginning of each section the space for name of the pupil, school, class and roll number should be duly filled.
3. Handle and keep the booklet properly.
4. For every item, there are three possible responses – a, b, c – of which one is the true answer. Find out the answer and mark it by encircling the letter a, b or c which denotes the answer, in the question paper itself.

Example:-

Which group the Earth belongs to?

a. Star **b.** Planet c. Satellite

(As the correct answer is b, a circle is drawn around it).

If you wish to amend an answer you have marked, strike off the circle with an 'X' mark, and encircle the letter (a, b or c) corresponding to your 'new' answer.

Don't Turn Over till instructed to.

SECTION A

Time : 20 minutes

(This part is meant for measuring the achievement in Malayalam language and hence cannot be translated to English. So the English translation of SECTION A is excluded).

12. Which is the largest herb?
a. Eucalyptus b. Sequoia c. Plantain
13. Which is a non-metal in the solid state?
a. Iodine b. Mercury c. Camphor
14. Which one is utilised by fish during respiration?
a. atmospheric oxygen b. dissolved oxygen in water
c. oxygen from disintegration of water.
15. Which one of the following is an air-borne disease?
a. common cold b. dysentery c. cholera
16. What do spiders make web for?
a. laying eggs b. preying c. hiding

10. When did man start a settled life?
 - a. When he started cultivating
 - b. When he started using weapons
 - c. When he started hunting
11. Which is the place where evidences of Indus-Valley civilization were found?
 - a. Mohanjadaro
 - b. Mesopotamia
 - c. Babylon
12. Which emperor is known as Vikramaditya?
 - a. Chandragupta Maurian
 - b. Samudragupta
 - c. Chandragupta II
13. Why does sun rise in the east and set in the west?
 - a. Earth revolves around its axis from east to west
 - b. Sun travels from east to west
 - c. Earth revolves around its axis from west to east.
14. What is the position of 0° longitude?
 - a. North pole
 - b. South pole
 - c. Equator
15. Which is the biggest backwater lagoon in Kerala?
 - a. Ashtamudi
 - b. Vembanadu
 - c. Kayamkulam
16. Which is the largest desert of the world?
 - a. Sahara
 - b. Thar
 - c. Attakkama

13. Radha borrows Rs.600/- with an interest of 9% for 5 years. How much interest should she pay?
- a. Rs.250 b. Rs.270 c. Rs.300
14. What is the area of a square of side 1 m?
- a. 1 m^2 b. 4 m^2 c. 2 m^2
15. Rectangular box of strength 64 cm, breadth 16 cm and height 4 cm can contain how many cubes of side 2 cm?
- a. 256 b. 512 c. 628
16. What type of angles will be there in an acute triangle?
- a. acute angle b. right angle c. obtuse angle

APPENDIX V

GENERAL ACADEMIC ACHIEVEMENT TEST (FINAL)

SCORING KEY

SECTION - A		SECTION - B		SECTION - C		SECTION - D	
Item No.	Right response	Item No.	Right response	Item No.	Right response	Item No.	Right Response
1	a	1	b	1	c	1	c
2	b	2	b	2	a	2	b
3	c	3	b	3	a	3	b
4	b	4	b	4	c	4	a
5	a	5	c	5	c	5	a
6	a	6	b	6	c	6	b
7	a	7	c	7	b	7	b
8	b	8	c	8	c	8	b
9	c	9	b	9	b	9	a
10	c	10	c	10	a	10	b
11	c	11	a	11	a	11	c
12	a	12	c	12	c	12	a
13	c	13	a	13	c	13	b
14	b	14	b	14	c	14	a
15	a	15	a	15	b	15	b
16	c	16	b	16	a	16	a

UNIVERSITY OF CALICUT
DEPARTMENT OF EDUCATION

PARENTAL INVOLVEMENT RATING SCALE (PIRS)
(DRAFT)

Dr. (Mrs.) C. Naseema
Senior Lecturer
Department of Education

K. Abdul Gafoor
Research Scholar

Name of pupil :

Class :

Roll No. :

നിർദ്ദേശങ്ങൾ:

മാതാപിതാക്കൾ നിങ്ങളുടെ വിദ്യാഭ്യാസകാര്യത്തിൽ എത്രത്തോളം പങ്കു വഹിക്കുന്നു എന്ന് നിർണ്ണയിക്കാനുള്ള ഒരു മാതൃകമാണിത്. ഇതിൽ കൊടുത്തിരിക്കുന്ന ഓരോ പ്രസ്താവനക്കും നേരെ, 'എപ്പോഴും', 'ചിലപ്പോൾ', 'ഒരിക്കലും ഇല്ല' എന്നീ മൂന്ന് പ്രതികരണങ്ങൾക്ക് കീഴെ 'o' എന്ന് അടയാളപ്പെടുത്തിയിട്ടുണ്ട്. ഓരോ പ്രസ്താവനയുടെയും നേരെ നിങ്ങളെ സംബന്ധിച്ച് ശരിയായ പ്രതികരണം 'x' ചിഹ്നമുപയോഗിച്ച് അടയാളപ്പെടുത്തുക.

		എപ്പോഴും ശരിയാണ്	ചിലപ്പോൾ	ഒരിക്കലും ഇല്ല
1.	ഞാൻ സ്കൂളിൽ പഠിക്കുന്നത് എന്റെ മാതാപിതാക്കൾ ഇഷ്ടപ്പെടുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	മത്സരപ്പരീക്ഷകളിൽ(യൂനീക്ക/സ്കോളർഷിപ്പ്) പങ്കെടുക്കാൻ എന്റെ മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	മാതാപിതാക്കളുടെ അസാന്നിദ്ധ്യം എന്റെ പഠനത്തെ ബാധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	എന്റെ പഠനത്തിൽ മാതാപിതാക്കൾക്ക് വലിയ പ്രതീക്ഷയുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	ഗൃഹപാഠത്തെക്കുറിച്ച് മാതാപിതാക്കൾ അന്വേഷിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	എന്റെ മാതാപിതാക്കൾ അത്രയൊന്നും കൃത്യനിഷ്ഠ പാലിക്കുന്നവരല്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	നിറവേറ്റു, വിജ്ഞാനകോശം മുതലായവ വീട്ടിൽ ഇല്ലാത്തത് എന്റെ പഠനത്തിന് ബുദ്ധിമുട്ടാകാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	എന്റെ പഠനകാര്യത്തെക്കുറിച്ച് തീരുമാനമെടുക്കുമ്പോൾ മാതാപിതാക്കൾ എന്റെ അഭിപ്രായം പരിഗണിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	അസുഖം വരുമ്പോഴേക്ക് മാതാപിതാക്കൾ എന്നെ ഡോക്ടറെ കാണിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	എന്റെ പഠനത്തേക്കാൾ സഹോദരങ്ങളുടെ പഠനകാര്യത്തിൽ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	ഞാൻ ഉയർന്ന വിദ്യാഭ്യാസം നേടുന്നതിനോട് എന്റെ മാതാപിതാക്കൾക്ക് എതിർപ്പുണ്ടാകാൻ ഇടയുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	ഞാൻ എന്റെ സ്കൂളിനെ പ്രതിനിധീകരിച്ച് മത്സരങ്ങളിൽ പങ്കെടുക്കുന്നത് മാതാപിതാക്കൾക്ക് സന്തോഷമാണ്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	മാതാവും പിതാവും വെവ്വേറെ താമസിക്കുന്നത് എന്റെ പഠനത്തെ ബാധിക്കുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	ഇക്കാര്യങ്ങൾ പഠിച്ചത് കൊണ്ട് ജോലി നേടാനാവില്ലെന്നാണ് എന്റെ മാതാപിതാക്കൾ വിശ്വസിക്കുന്നത്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	വളരെയധികം പഠിക്കാനുള്ള ദിവസങ്ങളിൽ കളിക്കുന്നത് മാതാപിതാക്കൾ തടയാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16.	മാതാപിതാക്കളുടെ വിദ്യാഭ്യാസം കൊണ്ട് താമസിക്കുണ്ടായ നേട്ടങ്ങൾ എനിക്ക് നന്നായി പഠിക്കാനുള്ള പ്രേരണ നൽകിയിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17.	മാതാപിതാക്കൾ നല്ല സ്കൂളിൽ ചേർക്കാത്തത് എന്റെ പഠനത്തെ ബാധിച്ചിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18.	ഞാൻ സ്കൂളിൽ നിന്ന് വന്ന ഉടനെ തന്നെ ഭക്ഷണം തരാൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- 19. ഞാൻ ആൺകുട്ടി/പെൺകുട്ടി ആയിരുന്നുവെങ്കിൽ മാതാപിതാക്കൾ എന്റെ പഠന കാര്യത്തിൽ കൂടുതൽ താല്പര്യം കാണിക്കുമായിരുന്നു.
- 20. സ്കൂൾ വിദ്യാഭ്യാസത്തെ അംഗീകരിക്കാൻ തക്കമുള്ള അറിവ് എന്റെ മാതാപിതാക്കൾക്കുണ്ട്.
- 21. പഠന കാര്യത്തിൽ വരുന്ന ചെറിയ തെറ്റുകൾക്ക് പോലും മാതാപിതാക്കൾ എല്ലാ ശിക്ഷിക്കാറുണ്ട്.
- 22. സഹപാഠികളേക്കാൾ മുൻപന്തിയിലാവാൻ എന്നെ മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.
- 23. മാതാപിതാക്കൾ മറ്റ് ജോലികൾ ഏൽപ്പിക്കാറുള്ളതിനാൽ ഗൃഹപാഠം ചെയ്യുന്നതിൽ വീഴ്ച വരാറുണ്ട്.
- 24. മാതാപിതാക്കളുടെ വായനാശീലം എന്നിൽ വായനാശീലം വളർത്താൻ സഹായിച്ചിട്ടുണ്ട്.
- 25. പാഠപുസ്തകങ്ങൾ മാത്രം വായിച്ചാൽ മതിയെന്ന അഭിപ്രായക്കാരാണ് എന്റെ മാതാപിതാക്കൾ.
- 26. ഇലക്കറികൾ, പയറുവർഗ്ഗങ്ങൾ, പാൽ, മുട്ട, പഴവർഗ്ഗങ്ങൾ തുടങ്ങി പോഷകഗുണമുള്ള ഇനങ്ങൾ ഭക്ഷണത്തിൽ ഉൾപ്പെടുത്താൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.
- 27. സഹോദരങ്ങളുടെ പഠനത്തിനേക്കാൾ ശ്രദ്ധ എന്റെ പഠനത്തിൽ മാതാപിതാക്കൾ കാണിക്കുന്നു.
- 28. എന്റെ മാതാപിതാക്കൾ വിദ്യാഭ്യാസമുള്ളവരോട് ആദരവ് കാണിക്കാറുണ്ട്.
- 29. സ്കൂളിലെ ആഘോഷങ്ങൾക്ക് മാതാപിതാക്കൾ കൂടെ വരാറുണ്ട്.
- 30. എന്റെ പഠനകാര്യത്തിൽ മാതാപിതാക്കൾ വേണ്ടത്ര ശ്രദ്ധിക്കാറില്ല.
- 31. എന്റെ ഭാവിയെക്കുറിച്ച് മാതാപിതാക്കൾക്ക് ഉയർന്ന പ്രതീക്ഷയുള്ളതായി തോന്നിയിട്ടുണ്ട്.
- 32. എന്റെ ഗൃഹപാഠങ്ങൾ മാതാപിതാക്കൾ സ്വയം ചെയ്ത് തരാറുണ്ട്.
- 33. മാതാപിതാക്കൾ നാടൻ ഭാഷ ഉപയോഗിക്കുന്നത് മൂലം എനിക്ക് സ്കൂളിൽ വിഷമമനുഭവപ്പെടാറുണ്ട്.
- 34. മുതിർന്നവരോട് സംശയം ചോദിക്കുന്നത് എന്റെ മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.
- 35. വൈകുന്നേരങ്ങളിൽ മതഗ്രന്ഥങ്ങൾ വായിക്കാനുള്ളതിനാൽ പാഠപുസ്തക വായന കുറയുന്നു.
- 36. എന്റെ പഠനത്തെ ബാധിക്കുന്ന തരത്തിൽ, മറ്റു ജോലികൾ ചെയ്യാൻ മാതാപിതാക്കൾ എന്നോട് ആവശ്യപ്പെടാറുണ്ട്.
- 37. പരീക്ഷകളിൽ വിജയിക്കുമ്പോൾ മാതാപിതാക്കൾ സമ്മാനം തരാറുണ്ട്.
- 38. മാതാപിതാക്കൾ തമ്മിൽ വഴക്കിടുന്നത് എന്റെ പഠനത്തെ ബാധിക്കുന്നു.
- 39. ഗൃഹപാഠം ചെയ്ത് തരാൻ മാതാപിതാക്കൾ മറ്റുള്ളവരുടെ സഹായം തേടാറുണ്ട്.
- 40. മാതാപിതാക്കളുടെ കയ്യെഴുത്ത് എന്റെ കയ്യെഴുത്തിനെ ഒരു വിധത്തിലും സാധ്യമായിട്ടില്ല.
- 41. ഞാൻ സംശയങ്ങൾ ചോദിക്കുമ്പോൾ മാതാപിതാക്കൾ ദേഷ്യപ്പെടാറുണ്ട്.
- 42. വിദ്യാഭ്യാസവുമായി ബന്ധമുള്ള കാര്യങ്ങൾ എന്റെ മാതാപിതാക്കൾ തമ്മിൽ ചർച്ച ചെയ്യാറുണ്ട്.

- 43. സ്കൂളിൽ നിന്ന് വന്നതിനു ശേഷം അച്ഛനമ്മമാരെ സഹായിക്കാനുള്ളതിനാൽ പഠിക്കാൻ അറിവുസമയമേ കിട്ടാറുള്ളൂ.
- 44. എന്റെ പഠന കാര്യത്തിൽ മാതാപിതാക്കളുടെ ധാർമിക പിന്തുണ എപ്പോഴും ഉണ്ടാകണമെന്നില്ല.
- 45. അറിയാതെ ആരോടൊന്നിടത്തു മാതാപിതാക്കൾക്കൊപ്പം നിന്നോടൊന്നിടത്തു പോകാറുണ്ട്.
- 46. കാരണമില്ലാതെ മാതാപിതാക്കൾ എന്നെ വിട്ടുപോകാറുണ്ട്.
- 47. ഭരണസമിതി/ടി.വി. എന്നിവയിലെ വിദ്യാഭ്യാസ പരിപാടികൾ വീട്ടിൽ ആരും ഉപേക്ഷിക്കാറില്ല.
- 48. എന്റെ പഠനകാര്യത്തിൽ തീരുമാനമെടുക്കാൻ വേണ്ട കഴിവ് മാതാപിതാക്കൾക്കില്ല.
- 49. പഠന സമയത്ത് ആരും എന്നെ ശല്യപ്പെടുത്താതിരിക്കാൻ മാതാപിതാക്കൾ ശ്രമിക്കാറുണ്ട്.
- 50. സഹപാഠികളുടെ മാതാപിതാക്കളുമായി ഞങ്ങളുടെ പഠനകാര്യങ്ങൾ എന്റെ മാതാപിതാക്കൾ ചർച്ച ചെയ്യാറുണ്ട്.
- 51. അദ്ധ്യാപക രക്ഷാകർതൃസമിതിയുടെ പ്രവർത്തനങ്ങളിൽ എന്റെ മാതാപിതാക്കൾ പങ്കെടുക്കാറില്ല.
- 52. എനിക്ക് പഠിക്കാൻ വേണ്ട സൗകര്യങ്ങൾ വീട്ടിൽ കുറവാണ്.
- 53. ഞാൻ വളരെ അച്ഛനെത്തോടെ വളരണമെന്ന് മാതാപിതാക്കൾക്ക് നിർബന്ധമുണ്ട്.
- 54. എന്റെ പഠനത്തിന് വേണ്ടത്ര പണം മാതാപിതാക്കൾ ചെലവഴിക്കാറില്ല.
- 55. എന്റെ വിദ്യാഭ്യാസകാര്യങ്ങൾ മാതാപിതാക്കൾ അന്വേഷിക്കാറില്ല.
- 56. എന്റെ പഠന നിലവാരം അറിയാൻ മാതാപിതാക്കൾ എനിക്ക് പരീക്ഷകൾ നടത്താറുണ്ട്.
- 57. പരീക്ഷ സമയത്തെ എന്റെ പഠനത്തിൽ മാതാപിതാക്കൾ പ്രത്യേക ശ്രമിക്കാറുണ്ട്.
- 58. ബാധകപോൽസവം, ശാസ്ത്രമേള, സ്കൂൾ വിദ്യാഭ്യാസം തുടങ്ങിയവയ്ക്ക് മാതാപിതാക്കൾ സ്കൂളിൽ വരാറുണ്ട്.
- 59. പഠനവുമായി ബന്ധപ്പെട്ട സ്റ്റാമ്പ് ശേഖരണം, ചിത്രരചന, വായന തുടങ്ങിയ നിന്നോടൊന്നിടത്തു തെരഞ്ഞെടുക്കാൻ മാതാപിതാക്കൾ എന്നെ ഉപേക്ഷിക്കാറുണ്ട്.
- 60. സ്കൂളിൽ പഠിപ്പിക്കുന്ന ഭാഷകൾ എല്ലാം മാതാപിതാക്കൾക്ക് എഴുതാൻ/വായിക്കാൻ അറിയാം.
- 61. സ്കൂളിന്റെ പുരോഗതിക്ക് വേണ്ട പ്രവർത്തനങ്ങളിൽ മാതാപിതാക്കൾ താല്പരരാണ്.
- 62. എന്റെ സംശയങ്ങൾ തീർക്കാൻ വേണ്ടത്ര വിദ്യാഭ്യാസ മാതാപിതാക്കൾക്കില്ല.
- 63. എന്നെ പഠനകാര്യത്തിൽ സഹായിക്കാൻ അന്വേഷിക്കാതെ വിദ്യാഭ്യാസനിന്നോട് മാതാപിതാക്കൾ അന്വേഷിക്കാറുണ്ട്.
- 64. ഓരോ ദിവസവും പഠിപ്പിച്ച പാഠഭാഗങ്ങളെക്കുറിച്ച് മാതാപിതാക്കൾ എന്നോട് അന്വേഷിക്കാറുണ്ട്.
- 65. മാതാപിതാക്കൾ എന്റെ നോട്ട് പുസ്തകങ്ങൾ വായിച്ച് തെറ്റു തിരുത്താറില്ല.
- 66. അറിയാതെ ദിവസങ്ങളിൽ മുഴുവനും ഇരുന്ന് പഠിക്കാൻ മാതാപിതാക്കൾ നിർബന്ധിക്കാറുണ്ട്.

- 7. മാതാപിതാക്കൾ സ്കൂളിൽ വന്ന് അദ്ധ്യാപകരെ എന്റെ പഠനകാര്യങ്ങൾ അന്വേഷിക്കാറുണ്ട്. ○ ○ ○
- 68. സ്കൂളിലെ പാഠ്യേതര പ്രവർത്തനങ്ങളെക്കുറിച്ച് ഞാൻ പഠനസമയം മാതാപിതാക്കൾ താൽപര്യം കാണിക്കാറില്ല. ○ ○ ○
- 69. എന്റെ പഠന സമയങ്ങളിൽ മാതാപിതാക്കൾ മറ്റ് ജോലിത്തരങ്ങളിൽ ആയിരിക്കും. ○ ○ ○
- 70. ഞാൻ കഴിഞ്ഞിരിക്കുന്ന അവസരങ്ങളിലും പഠിക്കാൻ നിർബന്ധിക്കാറുണ്ട്. ○ ○ ○
- 71. എനിക്ക് പഠിക്കാൻ ഒരു ടൈംടേബിൾ മാതാപിതാക്കൾ നിർദ്ദേശിച്ചിട്ടുണ്ട്. ○ ○ ○
- 72. എന്നെ പ്രത്യേക ശ്രദ്ധിക്കാൻ അദ്ധ്യാപകരോട് മാതാപിതാക്കൾ ആവശ്യപ്പെടാറുണ്ട്. ○ ○ ○
- 73. സഹപാഠികളെക്കുറിച്ച് ഞാൻ സംസാരിക്കുന്നത് മാതാപിതാക്കൾ ഇഷ്ടപ്പെടുന്നില്ല. ○ ○ ○
- 74. പഠനസമയത്ത് മറ്റെല്ലാകാര്യങ്ങളും ഒഴിവാക്കി സംശയം തീർത്തു തരാൻ മാതാപിതാക്കൾ എന്നോടൊപ്പം കൂടാറുണ്ട്. ○ ○ ○
- 75. പുറപ്പെട്ട വായിക്കുന്നതിനായി മാതാപിതാക്കൾ എന്നെ ഉണർത്താറുണ്ട്. ○ ○ ○
- 76. സ്കൂളിന് പുറത്ത് അദ്ധ്യാപകരുമായി എന്റെ മാതാപിതാക്കൾ സംസാരിക്കാറില്ല. ○ ○ ○
- 77. പരിക്ഷയിൽ എനിക്ക് കിട്ടിയ മാർക്കിനെക്കുറിച്ച് മാതാപിതാക്കൾ നിർബന്ധിക്കാറില്ല. ○ ○ ○
- 78. സ്കൂളിൽ നിന്ന് വന്നതിന് ശേഷം വായിക്കാൻ മാതാപിതാക്കൾ നിർബന്ധിക്കാറില്ല. ○ ○ ○
- 79. അദ്ധ്യാപകൻ മാതാപിതാക്കൾക്ക് നൽകുന്ന നിർദ്ദേശങ്ങൾ അവർ തള്ളിക്കളയാറുണ്ട്. ○ ○ ○
- 80. പരിക്ഷയിൽ ഉയർന്ന മാർക്ക് വാങ്ങിയില്ലെങ്കിൽ മാതാപിതാക്കൾ ദേഷ്യപ്പെടാറുണ്ട്. ○ ○ ○
- 81. എന്റെ പഠനസമയത്ത് വീട്ടിലുണ്ടാവാൻ മാതാപിതാവിന് ശ്രദ്ധിക്കാറുണ്ട്. ○ ○ ○
- 82. എനിക്ക് പഠിക്കുന്നതിനായി ഒരു പ്രത്യേകമുറി വീട്ടിൽ ഒരുക്കിയിട്ടുണ്ട്. ○ ○ ○
- 83. ഞാൻ സ്കൂളിൽ നിന്ന് അവാധിയെടുക്കുമ്പോൾ മാതാപിതാക്കൾ അത് അദ്ധ്യാപകരെ അറിയിക്കാറില്ല. ○ ○ ○
- 84. എന്നെ ട്യൂഷൻ വിട്ടുനടക്കി മാതാപിതാക്കൾക്ക് താൽപര്യമില്ല. ○ ○ ○
- 85. ഞാൻ പാഠങ്ങൾ വായിക്കുമ്പോൾ മാതാപിതാക്കൾ അത് കേട്ടിരിക്കാറുണ്ട്. ○ ○ ○
- 86. വർത്തമാനപത്രം, കൂട്ടികളുടെ മാസികകൾ എന്നിവ എന്റെ വീട്ടിൽ വാങ്ങാറില്ല. ○ ○ ○
- 87. ട്യൂഷൻകൊണ്ട് പ്രത്യേക നേട്ടമില്ലെന്നാണ് മാതാപിതാക്കൾ പറയാറുള്ളത്. മാർക്ക്ബുക്ക്, ക്ലസ്റ്റർ ബുക്ക്, റാങ്ക് പന്യൽ എന്നിവ മാതാപിതാക്കൾ വാങ്ങിത്തരാറില്ല. ○ ○ ○
- 88. എന്റെ മാതാപിതാക്കൾ മതപഠനത്തിന് കൂടുതൽ പ്രാധാന്യം കൊടുക്കുന്നവരാണ്. ○ ○ ○
- 89. നോട്ട് പുസ്തകങ്ങൾ, പേന, പെൻസിൽ, തുടങ്ങിയവ ആവശ്യപ്പെടുമ്പോൾ അച്ഛനമ്മമാർ ദേഷ്യപ്പെടാറുണ്ട്. ○ ○ ○
- 90. പഠിക്കാൻ ആവശ്യമായ ചെലവുചില്ലാത്തത് എന്റെ പഠനത്തെ സാരമായി ബാധിച്ചിട്ടുണ്ട്. ○ ○ ○
- 91. അദ്ധ്യാപകരോട് നല്ല ബന്ധം പുലർത്താൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്. ○ ○ ○

UNIVERSITY OF CALICUT

DEPARTMENT OF EDUCATION

PARENTAL INVOLVEMENT RATING SCALE (PIRS)

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വിദ്യാർത്ഥിയുടെ പേര്:

ക്ലാസ്സ്:

ക്രമനമ്പർ:

നിർദ്ദേശങ്ങൾ

മാതാപിതാക്കൾ നിങ്ങളുടെ വിദ്യാഭ്യാസകാര്യത്തിൽ എത്രത്തോളം പങ്കു വഹിക്കുന്നു എന്ന് നിർണ്ണയിക്കുന്നതിനുള്ള ഒരു മാനകമാണിത്. ഇതിൽ കൊടുത്തിരിക്കുന്ന ഓരോ പ്രസ്താവനയ്ക്കും നേരെ, 'എപ്പോഴും ശരിയാണ്', 'ചിലപ്പോൾ', 'ഒരിക്കലും ശരിയല്ല' എന്നീ മൂന്ന് പ്രതികരണങ്ങൾക്ക് കീഴെ 'O' എന്ന് അടയാളപ്പെടുത്തിയിട്ടുണ്ട്. ഓരോ പ്രസ്താവനയുടെയും നേരെ നിങ്ങളെ സംബന്ധിച്ച് ശരിയായ പ്രതികരണം 'X' ചിഹ്നമുപയോഗിച്ച് അടയാളപ്പെടുത്തുക.

	എപ്പോഴും ശരിയാണ്	ചിലപ്പോൾ ശരിയല്ല	ഒരിക്കലും ശരിയല്ല
1. ഞാൻ സ്കൂളിൽ പഠിക്കുന്നത് എന്റെ മാതാപിതാക്കൾ ഇഷ്ടപ്പെടുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. മത്സരപ്പരീക്ഷകളിൽ (തുറിക്ക/സ്കോളർഷിപ്പ്) പങ്കെടുക്കാൻ എന്റെ മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. മാതാപിതാക്കളുടെ അസാന്നിദ്ധ്യം എന്റെ പഠനത്തെ ബാധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

		എപ്പോഴും ശരിയാണ്	ചിലപ്പോൾ ശരിയാണ്	ഒരിക്കലും ശരിയല്ല
4.	എന്റെ പഠനത്തിൽ മാതാപിതാക്കൾക്ക് വലിയ പ്രതീക്ഷയുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	ഗൃഹപഠനത്തെക്കുറിച്ച് മാതാപിതാക്കൾ അന്വേഷിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	എന്റെ മാതാപിതാക്കൾ അത്രയൊന്നും കൃത്യനിഷ്ഠ പാലിക്കുന്നവരല്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	നിഷ്ഠ, വിജ്ഞാനകോശം മുതലായവ വീട്ടിൽ ഇല്ലാത്തത് എന്റെ പഠനത്തിന് ബുദ്ധിമുട്ടുണ്ടാക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	എന്റെ പഠനകാര്യത്തെക്കുറിച്ച് തീരുമാനമെടുക്കുമ്പോൾ മാതാപിതാക്കൾ എന്റെ അഭിപ്രായം പരിഗണിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	അസുഖം വരുമ്പോഴേക്ക് മാതാപിതാക്കൾ എന്നെ ഡോക്ടറെ കാണിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	ഞാൻ ഉയർന്ന വിദ്യാഭ്യാസം നേടുന്നതിനോട് എന്റെ മാതാപിതാക്കൾക്ക് എതിർപ്പുണ്ടാകാൻ ഇടയുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	ഞാൻ എന്റെ സ്കൂളിനെ പ്രതിനിധീകരിച്ച് മത്സരങ്ങളിൽ പങ്കെടുക്കുന്നത് മാതാപിതാക്കൾക്ക് സന്തോഷമാണ്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	മാതാവു പിതാവു വെച്ചേറെ താമസിക്കുന്നത് എന്റെ പഠനത്തെ ബാധിക്കുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	ഇക്കാലത്ത്, പഠിച്ചതുകൊണ്ട് ജോലി നേടാനാവില്ലെന്നാണ് എന്റെ മാതാപിതാക്കൾ വിശ്വസിക്കുന്നത്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	വളരെയധികം പഠിക്കാനുള്ള ദിവസങ്ങളിൽ കഴിക്കുന്നത് മാതാപിതാക്കൾ തടയാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	മാതാപിതാക്കളുടെ വിദ്യാഭ്യാസം കൊണ്ട് അവർക്കുണ്ടായ നേട്ടങ്ങൾ എനിക്ക് നന്നായി പഠിക്കാനുള്ള പ്രേരണ നൽകിയിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16.	മാതാപിതാക്കൾ നല്ല സ്കൂളിൽ ചേർക്കാത്തത് എന്റെ പഠനത്തെ ബാധിച്ചിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	എപ്പോഴും ശരിയാണ്	ചിലപ്പോൾ ശരിയാണ്	ഒരിക്കലും ശരിയല്ല
17. ഞാൻ സ്കൂളിൽ നിന്ന് വന്ന ഉടൻ തന്നെ ഭക്ഷണം തരാൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. ഞാൻ ആൺകുട്ടി /പെൺകുട്ടി ആയിരുന്നുവെങ്കിൽ മാതാപിതാക്കൾ എന്റെ പഠനകാര്യത്തിൽ കൂടുതൽ താല്പര്യം കാണിക്കുമായിരുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. സ്കൂൾ വിദ്യാഭ്യാസത്തെ അംഗീകരിക്കാൻ തക്കമുള്ള അറിവ് എന്റെ മാതാപിതാക്കൾക്കുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. സഹപാഠികളേക്കാൾ മുൻപന്തിയിലാവാനു എന്ന് മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. മാതാപിതാക്കൾ മറ്റ് ജോലികൾ ഏല്പിക്കാറുള്ളതിനാൽ ഗൃഹപാഠം ചെയ്യുന്നതിൽ വീഴ്ച വരാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. മാതാപിതാക്കളുടെ വായനാശീലം എന്നിൽ വായനാശീലം വളർത്താൻ സഹായിച്ചു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. പാഠപുസ്തകങ്ങൾ മാത്രം വായിച്ചാൽ മതിയെന്ന അഭിപ്രായക്കാരാണ് എന്റെ മാതാപിതാക്കൾ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. ഇലക്കറികൾ, പന്തൂർ വർഗ്ഗങ്ങൾ, പാൽ, മുട്ട, പഴ വർഗ്ഗങ്ങൾ തുടങ്ങി പോഷക ഗുണമുള്ള ഇനങ്ങൾ ഭക്ഷണത്തിൽ ഉൾപ്പെടുത്താൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. എന്റെ മാതാപിതാക്കൾ വിദ്യാഭ്യാസമുള്ളവരോട് ആരോട് കാണിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. എന്റെ പഠന കാര്യത്തിൽ മാതാപിതാക്കൾ വേണ്ടത്ര ശ്രദ്ധ പതിപ്പിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. എന്റെ ഭാവിയെക്കുറിച്ച് മാതാപിതാക്കൾക്ക് ഉയർന്ന പ്രതീക്ഷയുള്ളതായി തോന്നിയിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	എഷോഴും	ശരിയാണ്	ചിലപ്പോൾ	ഒരിക്കലും	ശരിയല്ല
28. എന്റെ തൃപ്തികൾ മാതാപിതാക്കൾ സ്വയം ചെയ്ത് തരാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. മാതാപിതാക്കൾ നാടൻ ഭാഷ ഉപയോഗിക്കുന്നത് മൂലം എനിക്ക് സ്കൂളിൽ വിഷമമനുഭവപ്പെടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. മുതിർന്നവരോട് സംശയം ചോദിക്കുന്നത് എന്റെ മാതാപിതാക്കൾ പ്രോത്സാഹിപ്പിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. വൈകുന്നേരങ്ങളിൽ മത ഗ്രന്ഥങ്ങൾ വായിക്കാനുള്ളതിനാൽ പാഠപുസ്തക വായന കുറയുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. എന്റെ പഠനത്തെ ബാധിക്കുന്ന തരത്തിൽ, മറ്റ് ജോലികൾ ചെയ്യാൻ മാതാപിതാക്കൾ എന്നോട് ആവശ്യപ്പെടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. പരീക്ഷകളിൽ വിജയിക്കുമ്പോൾ മാതാപിതാക്കൾ സമ്മാനം തരാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. മാതാപിതാക്കൾ തമ്മിൽ വഴക്കിടുന്നത് എന്റെ പഠനത്തെ ബാധിക്കുന്നു.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. ഞാൻ സംശയങ്ങൾ ചോദിക്കുമ്പോൾ മാതാപിതാക്കൾ ദേഷ്യപ്പെടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. വിദ്യാഭ്യാസവുമായി ബന്ധമുള്ള കാര്യങ്ങൾ എന്റെ മാതാപിതാക്കൾ തമ്മിൽ ചർച്ച ചെയ്യാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. സ്കൂളിൽ നിന്ന് വന്നതിനുശേഷം അച്ഛനമ്മമാരെ സഹായിക്കാനുള്ളതിനാൽ പഠിക്കാൻ അല്പ സമയമേ കിട്ടാറുള്ളൂ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. എന്റെ പഠന കാര്യത്തിൽ മാതാപിതാക്കളുടെ ധാർമിക പിന്തുണ എപ്പോഴും ഉണ്ടാകണമെന്നില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. കാരണമില്ലാതെ മാതാപിതാക്കൾ എന്നെ വഴക്ക് പറയാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	എപ്പോഴും ശരിയാണ് ചിലപ്പോൾ	ഒരിക്കലും ശരിയല്ല
40. റേഡിയോ, ടി.വി എന്നിവയിലെ വിദ്യാഭ്യാസ പരിപാടികൾ വീട്ടിൽ ആരും ഉപയോഗിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>
41. പഠന സമയത്ത് ആരും എന്നെ ശല്യപ്പെടുത്താതിരിക്കാൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
42. സഹപാഠികളുടെ മാതാപിതാക്കളുമായി ബന്ധങ്ങളുടെ പഠന കാര്യങ്ങൾ എന്റെ മാതാപിതാക്കൾ ചർച്ച ചെയ്യാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
43. അദ്ധ്യാപക രക്ഷാകർതൃ സമിതിയുടെ പ്രവർത്തനങ്ങളിൽ എന്റെ മാതാപിതാക്കൾ പങ്കെടുക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>
44. എനിക്ക് പഠിക്കാൻ വേണ്ട സൗകര്യങ്ങൾ വീട്ടിൽ കുറവാണ്.	<input type="radio"/>	<input type="radio"/>
45. ഞാൻ വളരെ അച്ചടക്കത്തോടെ വളരണമെന്ന് മാതാപിതാക്കൾക്ക് നിർബന്ധമുണ്ട്.	<input type="radio"/>	<input type="radio"/>
46. എന്റെ പഠനത്തിന് വേണ്ടത്ര പണം മാതാപിതാക്കൾ ചെലവഴിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>
47. എന്റെ പഠന നിലവാരം അറിയാൻ മാതാപിതാക്കൾ എനിക്ക് പരീക്ഷകൾ നടത്താറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
48. പരീക്ഷാസമയത്തെ എന്റെ പഠനത്തിൽ മാതാപിതാക്കൾ പ്രത്യേകം ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
49. ബാലകലോത്സവം, ശാസ്ത്രമേള, സ്കൂൾ വാർഷികം തുടങ്ങിയവയ്ക്ക് മാതാപിതാക്കൾ സ്കൂളിൽ വരാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
50. പഠനവുമായി ബന്ധപ്പെട്ട സ്റ്റാമ്പ് ശേഖരണം, ചിത്രരചന, വായന തുടങ്ങിയ വിനോദങ്ങൾ തെരഞ്ഞെടുക്കാൻ മാതാപിതാക്കൾ എന്നെ ഉപദേശിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
51. സ്കൂളിന്റെ പുരോഗതിക്ക് വേണ്ട പ്രവർത്തനങ്ങളിൽ മാതാപിതാക്കൾ തല്പരരാണ്.	<input type="radio"/>	<input type="radio"/>

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	എപ്പോഴും	ശരിയാണോ	ചിലപ്പോൾ	ഒരിക്കലും	ശരിയല്ല
52. എന്റെ സംശയങ്ങൾ തീർക്കാൻ വേണ്ടത്ര വിദ്യാഭ്യാസം മാതാപിതാക്കൾക്കില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. ഓരോ ദിവസവും പഠിച്ചിട്ടു പഠനഭാഗങ്ങളെക്കുറിച്ച് മാതാപിതാക്കൾ എന്നോട് അന്വേഷിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. മാതാപിതാക്കൾ എന്റെ നോട്ടു പുസ്തകങ്ങൾ വായിച്ച് തെറ്റ് തിരുത്താറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. സ്കൂളിലെ പാഠ്യതര പ്രവർത്തനങ്ങളെക്കുറിച്ച് ഞാൻ പറയുമ്പോൾ മാതാപിതാക്കൾ താല്പര്യം കാണിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. എന്റെ പഠന സമയങ്ങളിൽ മാതാപിതാക്കൾ മറ്റ് ജോലി ത്തിരക്കുകളിൽ ആയിരിക്കും.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. ഞാൻ കഴിഞ്ഞിരിക്കുന്ന അവസരങ്ങളിലും പഠിക്കാൻ നിർബന്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. എനിക്ക് പഠിക്കാൻ ഒരു ടൈംടേബിൾ മാതാപിതാക്കൾ നിർദ്ദേശിച്ചിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. എന്നെ പ്രത്യേകം ശ്രദ്ധിക്കാൻ അദ്ധ്യാപകരോട് മാതാപിതാക്കൾ ആവശ്യപ്പെടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. സഹപാഠികളെക്കുറിച്ച് ഞാൻ സംസാരിക്കുന്നത് മാതാപിതാക്കൾ ഇഷ്ടപ്പെടുന്നില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. പഠനസമയത്ത് മെറ്റേറ്റോ കാര്യങ്ങളും ഒഴിവാക്കി സംശയം തീർത്തുതരാൻ മാതാപിതാക്കൾ എന്നോടൊപ്പം കൂടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. പൂലർച്ചെ വായിക്കുന്നതിനായി മാതാപിതാക്കൾ എന്നെ ഉണർത്താറുണ്ട്.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. സ്കൂളിനു പുറത്ത് അദ്ധ്യാപകരുമായി എന്റെ മാതാപിതാക്കൾ സംസാരിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. പരീക്ഷയിൽ എനിക്ക് കിട്ടിയ മാർക്കിനെക്കുറിച്ച് മാതാപിതാക്കൾ അന്വേഷിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	എപ്പോഴും ശ്രദ്ധിക്കേണ്ട ചിലപ്പോൾ	ഒരിക്കലും ശ്രദ്ധിക്കേണ്ട
65. സ്കൂളിൽ നിന്ന് വന്നതിനുശേഷം വായിക്കാൻ മാതാപിതാക്കൾ നിർബന്ധിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>
66. അദ്ധ്യാപകർ മാതാപിതാക്കൾക്ക് നൽകുന്ന നിർദ്ദേശങ്ങൾ അവർ തള്ളിക്കളയാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
67. എന്റെ പഠനസമയത്ത് വീട്ടിലുണ്ടാവാൻ മാതാവ് /പിതാവ് ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
68. എനിക്ക് പഠിക്കുന്നതിനായി ഒരു പ്രത്യേക മുറി വീട്ടിൽ ഒരുക്കിയിട്ടുണ്ട്.	<input type="radio"/>	<input type="radio"/>
69. ഞാൻ സ്കൂളിൽ നിന്ന് അവധിയെടുക്കുമ്പോൾ മാതാപിതാക്കൾ അത് അദ്ധ്യാപകരെ അറിയിക്കാറില്ല.	<input type="radio"/>	<input type="radio"/>
70. എന്നെ ട്രൂപ്പന് വിടുമ്പോൾ മാതാപിതാക്കൾക്ക് താല്പര്യമില്ല.	<input type="radio"/>	<input type="radio"/>
71. ഞാൻ പാഠങ്ങൾ വായിക്കുമ്പോൾ മാതാപിതാക്കൾ അത് കേട്ടിരിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
72. വർത്തമാനപത്രം, കുട്ടികളുടെ മാസികകൾ എന്നിവ എന്റെ വീട്ടിൽ വാങ്ങാറില്ല.	<input type="radio"/>	<input type="radio"/>
73. ട്രൂപ്പൻ കൊണ്ട് പ്രത്യേക നേട്ടമില്ലെന്നാണ് മാതാപിതാക്കൾ പറയാറുള്ളത്.	<input type="radio"/>	<input type="radio"/>
74. വർക്ക്ബുക്ക്, ക്വസ്റ്റ്യൻ ബാങ്ക്, റാങ്ക് ഫയൽ എന്നിവ മാതാപിതാക്കൾ വാങ്ങിത്തരാറില്ല.	<input type="radio"/>	<input type="radio"/>
75. നോട്ടുപുസ്തകങ്ങൾ, പേന, പെൻസിൽ തുടങ്ങിയവ ആവശ്യപ്പെടുമ്പോൾ അച്ഛനമ്മമാർ ദേഷ്യപ്പെടാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>
76. അദ്ധ്യാപകരോട് നല്ല ബന്ധം പുലർത്താൻ മാതാപിതാക്കൾ ശ്രദ്ധിക്കാറുണ്ട്.	<input type="radio"/>	<input type="radio"/>

APPENDIX VIII

**UNIVERSITY OF CALICUT
DEPARTMENT OF EDUCATION**

PARENTAL INVOLVEMENT RATING SCALE (PIRS)

Dr. (Mrs.) C. Naseema
Senior Lecturer
Department of Education

K. Abdul Gafoor
Research Scholar

Name of pupil :

Class :

Roll No. :

Directions:

This is a scale meant for rating the extent to which parents involve in matters related to your education. There are 92 statements in this scale. Against each statement 3 responses viz., 'Always True', 'Sometimes' and 'Never True' are represented using 3 columns of 'O' marks. After reading each statement, mark 'X' on the 'O' below the choice, 'Always', 'Sometimes' or 'Never' in accordance with the extent to which that statement is true, with respect to you.

Sl. No.		Always True	Sometimes	Never True
1.	My parents like my schooling	O	O	O
2.	Parents often encourage me to take part in competitive examinations	O	O	O
3.	Parent's absence in home affect my studies	O	O	O
4.	Parents have great expectation regarding my studies	O	O	O
5.	Parents are used to enquire about my homework	O	O	O
6.	My parents are not very punctual	O	O	O
7.	Lack of study materials such as Dictionary, Encyclopaedia etc. creates difficulty with my studies	O	O	O
8.	Parents do not consider my opinion when taking decision regarding my education	O	O	O

9.	Parents take me to doctor whenever I get ailments	0	0	0
10.	My parents may have objection regarding my higher education	0	0	0
11.	My parents are happy if I represent my school in extra curricular activities	0	0	0
12.	Father and mother living separately affect my studies	0	0	0
13.	My parents are of the view that education will not fetch a job	0	0	0
14.	Parents restrict me from playing in those days when I have to study a lot	0	0	0
15.	Education of my parents and their related achievements inspire me for better learning	0	0	0
16.	Studying in an average/low standard school has affected my overall performance in studies	0	0	0
17.	As soon as I return from school parents provide me food	0	0	0
18.	Parents would have taken more interest in my studies if I were a boy/girl	0	0	0
19.	My parents have enough knowledge to recognise the importance of education	0	0	0
20.	Parents encourage me to come first in the class	0	0	0
21.	As my parents entrust me with other works, my studies get affected	0	0	0
22.	Reading habits of my parents have influenced my reading habit	0	0	0
23.	My parents are of the opinion that studying textbooks will suffice	0	0	0
24.	Parents see that my diet is balanced with leafy vegetables, cereals, fruits, milk, etc.	0	0	0

25.	My parents give respect to educated people	0	0	0
26.	Parents do not take sufficient attention in my studies	0	0	0
27.	I feel that my parents have high aspiration with my future	0	0	0
28.	It is parents who work out my homework	0	0	0
29.	As my parents speak local dialect, I find it difficult to adjust in school	0	0	0
30.	My parents encourage me to clear doubts with elders	0	0	0
31.	As I have to read religious scriptures in the evening I do not get sufficient time to study	0	0	0
32.	My parents often ask me to do other jobs which hinder my studies	0	0	0
33.	On passing the examination my parents reward me with gifts	0	0	0
34.	Quarrelling between parents affects my studies	0	0	0
35.	Parents used to get angry when I ask doubts	0	0	0
36.	My parents discuss matters regarding education each other	0	0	0
37.	I get very little time for study as I have to help my parents	0	0	0
38.	My parent's moral support may not always be there, regarding my studies	0	0	0
39.	Parents rebuke me for no reason at all	0	0	0
40.	Nobody at home utilises educational programmes in TV and radio	0	0	0
41.	Parents see that no body disturbs me during studies	0	0	0
42.	My parents discuss with parents of my classmates about our studies	0	0	0

43.	My parents do not take part in activities of Parent Teacher Association	0	0	0
44.	Facilities to study are less in home	0	0	0
45.	My parents insists that I should be brought up with discipline	0	0	0
46.	Parents do not spend sufficient money for my education	0	0	0
47.	Parents conduct tests to know about my level of learning	0	0	0
48.	During the examination time parents take special care in my studies	0	0	0
49.	Parents visit my school during science exhibitions, school day, youth festivals etc.	0	0	0
50.	My parents advice me to select hobbies related to studies such as drawing, stamp collection and reading	0	0	0
51.	Parents take due interest in the progress of my school	0	0	0
52.	Parents are not educated enough to clear my doubts	0	0	0
53.	Parents always enquire about the portions taught every day	0	0	0
54.	Parents do not correct my notebooks	0	0	0
55.	Parents do not take interest in extra curricular activities, when I talk about it	0	0	0
56.	Parents are busy with other works during my study time	0	0	0
57.	Parents compel me to study even if I am tired	0	0	0
58.	Parents have set a time table for my study	0	0	0
59.	Parents request the teacher to take special care in my studies	0	0	0
60.	Parents do not like me talking about my friends	0	0	0

61.	Parents will be with me during study hours	0	0	0
62.	Parents wake me up early morning to study	0	0	0
63.	My parents usually do not talk with my teachers outside the school	0	0	0
64.	Parents do not enquire about marks scored in examinations	0	0	0
65.	Parents do not compel me to read after school hours	0	0	0
66.	Parents do not give due importance to the suggestions given by my teachers	0	0	0
67.	My father/mother take care to be at home during my study hours	0	0	0
68.	Parents have set a special room for me to study	0	0	0
69.	Parents do not inform my teachers in advance about my absence from school	0	0	0
70.	My parents do not like me going for tuitions	0	0	0
71.	Parents listen to when I read my lessons	0	0	0
72.	My parents do not fetch newspapers and children's magazines	0	0	0
73.	Parents feel that tuitions are of no use	0	0	0
74.	My parents do not provide me with rank file, question banks, work books etc.	0	0	0
75.	My parents become angry if I ask for notebooks, pen, pencils etc.	0	0	0
76.	My parents take effort to keep in good relation with the teachers	0	0	0

GENERAL DATA SHEET

നിർദ്ദേശങ്ങൾ : ഗവേഷണാവശ്യത്തിന് ഉപയോഗിക്കാൻ നിങ്ങളേയും കുടുംബാംഗങ്ങളേയും സംബന്ധിച്ച വിവരങ്ങൾ ശേഖരിക്കാനാണ് ഇതുകൊണ്ടുദ്ദേശിക്കുന്നത്. കുടുംബാംഗങ്ങളെക്കുറിച്ച വിവരങ്ങൾ കഴിയുന്നതോളം ശ്രദ്ധയായി രേഖപ്പെടുത്തുക.

I നിങ്ങളെക്കുറിച്ച വിവരങ്ങൾ

1. പേര്..... 2. ആൺകുട്ടി / പെൺകുട്ടി
3. സ്കൂൾ..... 4. ക്ലാസ്സ്..... 5. ഡിവിഷൻ.....
6. മുഴുത സഹോദരങ്ങളുടെ എണ്ണം.....
7. ഇളയ സഹോദരങ്ങളുടെ എണ്ണം.....

II കുടുംബാംഗങ്ങളെക്കുറിച്ച വിവരങ്ങൾ

1. വിദ്യാഭ്യാസം (അനുയോജ്യമായ കളത്തിൽ അടയാളമിടുക)

വിദ്യാഭ്യാസ നിലവാരം	പിതാവ്	മാതാവ്	സഹോദരങ്ങൾ
അക്സരാഭ്യാസം ഇല്ല			
1 മുതൽ 4-ാംതരം വരെ			
5 മുതൽ 7-ാംതരം വരെ			
8 മുതൽ 10-ാംതരം വരെ			
(പ്രീഡിഗ്രി, പ്ലസ് ടു, ടി. ടി. സി. മുതലായവ			
ബി. എ., ബി. എസ്. സി., ബി. കോം			
എം. എ., എം. എസ്. സി., എം. കോം.			
എം. എഡ്., എം. ബി. ബി. എസ്.,			
എൽ. എൽ. ബി. മുതലായവ			
മറ്റേതെങ്കിലും (എഴുതുക)			

2. മാതാപിതാക്കളുടെ ജോലി സംബന്ധമായ വിവരങ്ങൾ

	പിതാവ്	മാതാവ്
ചെയ്യുന്ന ജോലിയുടെ പേര് (എഴുതുക)		
ജോലിക്ക് ലഭിക്കുന്ന ചെലവഴിക്കുന്ന സമയം (മണിക്കൂറിൽ) എഴുതുക		

3. കുടുംബാംഗങ്ങളുടെ ഒരു മാസത്തെ വരുമാനം രൂപയിൽ എഴുതുക

പിതാവ്	മാതാവ്	കൂടെ താമസിക്കുന്ന സഹോദരങ്ങൾ

4. വീട്ടിൽ മാതാപിതാക്കളുടെ സാന്നിദ്ധ്യത്തെ / അസാന്നിദ്ധ്യത്തെ സംബന്ധിച്ച വിവരങ്ങൾ

(അനുയോജ്യമായ കളത്തിൽ ഇടുക)

പിതാവ്/മാതാവ്/രക്ഷാകർത്താവ് നിങ്ങളെ കാണുന്നതെപ്പോൾ	പിതാവ്	മാതാവ്	മറ്റ് രക്ഷാകർത്താക്കൾ
ദിവസം തോറും			
ആഴ്ചയിലൊരിക്കൽ			
മാസത്തിലൊരിക്കൽ			
3 മാസത്തിലൊരിക്കൽ			
6 മാസം കൂടുമ്പോൾ			
ഒരു വർഷം കൂടുമ്പോൾ			
വർഷങ്ങൾ കൂടുമ്പോൾ			
ജീവിച്ചിരിക്കുന്നില്ല			

APPENDIX X
GENERALA DATA SHEET

Directions This is meant for collecting personal information about you for research purpose. Give true information as far as possible.

1. Name : 2. Male / Female :
3. School : 4. Class: 5.Division:
6. Number of elder siblings : 7. Number of younger siblings:

1. Education of family members (Put a ✓ mark in suitable column)

Level of Education	Father	Mother	Siblings
Illiterate			
Standards I to IV			
Standards V to VII			
Standards VIII to X			
Pre-degree, Plus two, T.T.C., etc.			
B.A; B.Sc; B.Com; Diploma in engg., etc.			
M.A; M.Sc; M.Com; M.Ed; MBBS, L.L.B etc.			
Any other (Specify)			

2. Information related to parent's employment

	Father	Mother
Specify the name of the job		
Specify the time spend on job (in hours)		

3. Monthly income of family members, (write in Rupees).

Father	Mother	Your siblings in your home

4. Details of parent's presence / absence in home (Put a ✓ mark in suitable column)

Frequency of meeting with father / mother/guardian	Father	Mother	Other guardian
Daily			
Once in a week			
Once in a month			
Once in three months			
Once in Six months			
Once in a year			
More than a year			
Mother / Father no more.			