



# PARENTAL INVOLVEMENT AS A CORRELATE OF ACHIEVEMENT IN MATHEMATICS

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**Abstract :** *The main objective of the study was about parental involvement in correlation to the achievement in mathematics. To accomplish the Objective of the study Parental Involvement Scale by Tramma ,Sangeta (1998) was used. The Evaluative research technique of Descriptive Research was employed to carry out this piece of research work. The sample consisted of 100 students from government secondary schools and 100 students from private secondary schools constituted the sample (50 boys and 50 girls) each. The sample were selected proportionately (government and private) based on purposive sampling technique. Findings of the study revealed significant difference in the mean scores of Parental Involvement of male and female students and significant difference in the mean scores of Achievement in Mathematics of male and female students. Also there is a positive relationship between parental involvement and achievement in mathematics. . The study has practical implications for teachers, parents and administrators to know about adolescent's psychology, their growth and development as well as factors affecting their Achievement in Mathematics.*

**Index Terms :** parental involvement, Achievement, government and private schools.

## INTRODUCTION

Parents play very important role in moulding their children's character, personality, career and advancement in education. The duty to educate and socialize the children is shared responsibility of the parents and schools. Parents are playing crucial role in their children's lives and their growth. They have the capability to inculcate the values that are meaningful and important to them. It is rightly said that the children are born with Blank Slate, called Tabula Rasa. It means that children do not carry any information and knowledge when they are born and all knowledge is acquired through environmental experience.

It is widely recognized that if children have to maximize their potential from schooling, they will need the full support from their parents. Some parents have always being actively involved in enhancing their children's development and educational progress and their children have higher academic achievement while some who are not involved, their children have very low academic achievement specially in the subject's like mathematics, science etc. It has been assumed that academic achievement of students may not only depend on the quality of schools and the teachers, rather the extent of parental involvement has vital role to play in academic achievement of their children. The focus of this study is to examine the relationship between the parental involvement and

academic achievement in mathematics. As we know mathematics is the backbone of the students to achieve and develop the skill in reasoning and the thinking level. Due to the lack of proper knowledge in mathematics, the students suffer in all the spheres of life.

The process and improvement of mathematics are linked with prosperity of state” so as to overcome these problems, mathematics should be taught effectively to the students. In today’s high- tech world, it is important that our young children grow to become more confident in their ability to do mathematics in an ever increasingly high-tech globally competitive society.

### **Parental Involvement**

Parental involvement implies how the parents involve themselves in developing the overall personality of their children. . In general , Parental involvement is associated with children’s higher achievement in language and mathematics , enrolment in more challenging programs, greater academic persistence, better behavior, better attendance & lower drop rates ( Henderson & Mapp, 2002). Moreover, parental involvement in education includes contribution to their children’s home- based activities (helping with homework, encouraging children to read, and prompting school attendance) and school-based activities (attending parent teachers association meetings, parent teacher conferences and participating in fund-raising activities). Grolnick and slowiaczek (1994) defined parental involvement as the allocation of resources to the child’s academic endeavors. In other words it denotes the extent to which parents take a keen interest and actively participate in their children’s education. Harris and Goodall (2007) defined parental involvement’ as representing many different parental behaviours ; parenting practices such as parental aspirations for their child’s academic achievement; parental communication with their children about school; parental participation in school activities; parental communications with teachers about their child; and parental rules at home which are considered to be education-related.

### **Achievement**

Achievement refers to the ability of the individual who strives to accomplish something to do his best, to excel. Achievement is generally used in the sense of “ability to do or capacity to do”. But a performance is conditioned by the attending circumstances and abilities, capacities and tendencies that may change. The term achievement signifies accomplishment performance carried out successfully by a taste whether it is academic, manual, personal or social. Achievement means behavioral changes which take place in the individual as a result of learning experiences of various kinds. Achievement in the schools or colleges may be taken to mean any desirable learning that is observed in the student. Since the word desirable implies a value judgment , it is obvious that a particular learning on whether it is considered desirable or not .Any behavior that is learned may come within the scope of achievement. There is no gain saying the fact that learning is not limited to mere acquisition of information but it also includes attitudes, interests, values etc. It is the measurement of what a person knows and amount of learning from instructions. Thus, achievement is the accomplishment or proficiency of performance in a given skill or body of knowledge.

Crow and Crow (1956) stated achievement as the extent to which learner is profiting from instruction in a given area of learning.

Good (1973) defined that achievement is the accomplishment or proficiency in a given skill or body of knowledge. Academic achievement is unique responsibility of an educational institution.

Hawes and Hawes (1987) defined achievement as successful accomplishment on performance in particular subjects, area or course usually by reasons of skills, hard work and interest. It is summaries in various types of grades, marks, scores and descriptive commentary.

Hence achievement is the accomplishment or proficiency of performance in a given skill or body of knowledge. Achievement is generally used in the sense of ability to do, capacity to do or tendency to do. Mathematics is a backbone of the students to achieve and developed the skill in reasoning and the thinking level. On the basis of the achievement, the child is graded and evaluated as

high achiever or low achiever. The achievement of the child depends upon the many factors namely upon the child's interest, motivation, adjustment and reading interest.

The present study will be conducted on Parental Involvement as a correlate of Achievement in Mathematics. Many researches has been conducted in this area such as Yan et al. (2005), Goodwin and Chirstine(2015) , Mante et al. (2015), Khajehpour et al.(2011) and found that there exists positive relationship between parental involvement and academic achievement of students. Bhora and Ahmed (2018) , Mutodi et al.(2014) and Jang(2014) investigated the role of parents in mathematics achievement of students and concluded that by staying involved with their children's education ,parents do impact positively on the mathematics achievement of the students.Talking about the researches conducted in the latest years Lara and Saracosti (2019) revealed significant relationship between the parental involvement and academic achievement. However, the current knowledge regarding the nature and magnitude of effects of parental Involvement is inconsistent and limited in scope (Singh Bickley et al. 1995)By keenly observing related studies, investigator found that there has been lot of researches in this field but very least work has been done in India. So, the investigator chooses this field for inquiry. The present study will help the parents, children, administrators and teachers to know their crucial role and influence on their children's academic performance.

## Objectives

1. To find out the relationship between Parental Involvement and Achievement in Mathematics of students.
2. To find out the relationship between Parental Involvement and Achievement in Mathematics of male students.
3. To find out the relationship between Parental Involvement and Achievement in Mathematics of female students.
4. To study the difference in the mean scores of Parental Involvement of male and female students.
5. To study the difference in the mean scores of Achievement in Mathematics of male and female students.

## Hypotheses

1. There exists no significant relationship between Parental Involvement and Achievement in Mathematics of students.
2. There exists no significant relationship between Parental Involvement and Achievement in Mathematics of male students.
3. There exists no significant relationship between the Parental Involvement and Achievement in Mathematics of female students.
4. There exists no significant difference in the mean scores of Parental Involvement of male and female students.
5. There exists no significant difference in the mean scores of Achievement in Mathematics of male and female students.

## METHOD

Evaluative research technique of Descriptive Research was employed to carry out this piece of research work .Descriptive Evaluation methods of research includes questionnaire.

### Sample and Sampling Technique

For the present study , 100 students from government secondary schools and 100 students from private secondary schools constituted the sample(50 boys and 50 girls each).The sample was selected proportionately(government and private) based on purposive sampling technique.

## Tools Used for Data Collection

- Parental Involvement Scale developed by Tramma (1998): Parent involvement scale (Personal) consists of 60 statements with 30 each for mother and father. These statements give insight to the parents. As the statements like My Mother tries to guide me if need be, My Mother asks me what I do in the classroom, If I cannot learn something, my mother helps me in learning it. Similarly statements like My Father usually know how I feel about my teachers, My Father gives due care and attention to me.
- For Achievement scores in mathematics, marks obtained by the respondents in the previous class has been taken.

## Statistical Techniques Used

Description of the scores presented in terms of the frequency distribution, mean, median, mode S.D., skewness and kurtosis, t-test and Pearson's Coefficient correlation were used.

## Procedure

Before the actual administration of the test the investigator tried to create rapport with the students by explaining the purpose of the study. The test was administered in a group. The questionnaire was handed over and instructions were read out aloud by the investigator. The respondents filled in the questionnaire in front of the investigator and cleared up any ambiguities faced by the respondents. They were instructed to tick mark one out of four responses, which seems to be most applicable to their parents in parental involvement scale. They were asked to answer to each item honestly and frankly and leaves no item unattempt. They were well assured that information provided by them will be kept strictly confidential and will be used only for research purposes.

## Data Entry and Analysis

- Section I deals with the frequency distribution, mean, median, S.D., skewness and kurtosis for the variable under reference.
- Section II deals with the significance of relationship between the variables under reference.
- Section III deals with the significance of difference between means for the variables under reference.

# SECTION- I DISTRIBUTION OF SCORES

The description of scores is presented in measures of mean, median, standard deviation, skewness and kurtosis in the tables 4.1 and 4.4.

**Table 4.1 Frequency Distribution of scores of students on the variable of Parental involvement (N = 200)**

Scores	Frequency
100-120	4
120-140	11
140-160	20

160-180	40
180-200	71
200-220	35
220-240	19
<b>Total</b>	<b>200</b>

**Table 4.2 Showing Mean, Median, Standard Deviation, Skewness and Kurtosis of scores students on the variable of Parental involvement (N = 200)**

Variable	Mean	Median	S.D.	Skewness	Kurtosis
<b>Parental involvement</b>	185.36	192.00	27.37	-0.48	0.28

**Table 4.3 Frequency Distribution of scores of Students on the variable of Achievement in Mathematics**

Scores	Frequency
30-40	20
40-50	26
50-60	33
60-70	33
70-80	36
80-90	29
90-100	23
<b>Total</b>	<b>200</b>

**Table 4.4 Showing Mean, Median, Standard Deviation, Skewness and Kurtosis of scores of Students on the variable of Achievement in Mathematics (N = 200)**

Variable	Mean	Median	S.D.	Skewness	Kurtosis
<b>Achievement in Mathematics</b>	65.02	68.00	18.82	-0.16	-1.12

## SECTION- II

# COEFFICIENT OF CORRELATION

Coefficient of Correlation between Parental Involvement and Achievement in Mathematics of students (N=200)

Categories	N	R
Total Students	200	0.255**
Male Students	100	0.178
Female Students	100	0.289**

\*\* Significant at .01 level

**Table** shows that

➤ The coefficient of correlation between Parental Involvement and Achievement in Mathematics of students as 0.255 which is significant at .01 level of confidence which shows that there exists a significant relationship between Parental Involvement and Achievement in Mathematics of students.

Therefore the hypothesis 1 stating that “there will be no significant relationship between Parental Involvement and Achievement in Mathematics of students” stands rejected.

➤ The coefficient of correlation between Parental Involvement and Achievement in Mathematics of male students as 0.178 which is not significant which shows that there exists no significant relationship between Parental Involvement and Achievement in Mathematics of male students.

Therefore the hypothesis 2 stating that “there will be no significant relationship between Parental Involvement and Achievement in Mathematics of male students” stands accepted.

➤ The coefficient of correlation between Parental Involvement and Achievement in Mathematics of female school students as 0.289 which is significant at .01 level of confidence which shows that there exists a significant relationship between Parental Involvement and Achievement in Mathematics of female school students

Therefore the hypothesis 3 stating that “there will be no significant relationship between the Parental Involvement and Achievement in Mathematics of female students” stands rejected.

Further since all the coefficients of correlation between Parental Involvement and Achievement in Mathematics of elementary school students came out to be positive, it indicates that the school students with more parental involvement have good achievement in mathematics.

## SECTION- III

# SIGNIFICANCE OF DIFFERENCE OF MEAN SCORES

Significance of Difference between Mean Scores of Parental Involvement of male and female Students (N = 200)

Group	Variable	N	M	S.D	SEM	t-ratio
Male	Parental Involvement	100	181.48	29	2.52	2.02*
Female		100	189.25	25.18	2.9	

\*significant at .05 level

**Table** revealed that

➤ The mean scores of Parental Involvement among male and female as 181.48 and 189.25 respectively and their standard deviation as 29 and 25.18 respectively. The t-ratio is 2.02 with  $d_f = 198$  which is significant at .05 level of confidence. This revealed that significant difference exists between mean scores of Parental Involvement among male and female students.

Therefore the hypothesis 4 stating that “there will be no significant difference between the mean scores of Parental Involvement of male and female students” stands rejected.

As mean scores of Parental Involvement of female students is higher than that of male students, it may further be concluded that female students have more Parental Involvement as compared to their male counterpart.

**Table Significance of Difference between Mean Scores of Achievement in Mathematics of male and female students. (N = 200)**

AGroup	Variable	N	M	S.D	SE <sub>M</sub>	t-ratio
Male	Achievement in Mathematics	100	60.15	18.30	1.82	3.78**
Female		100	69.89	18.13	1.81	

*\*\*significant at .01 level*

**Table** revealed that

➤ The mean scores of achievement in mathematics among male and female students as 60.15 and 69.89 respectively and their standard deviation as 18.30 and 18.13 respectively. The t-ratio is 3.78 with  $d_f = 198$  which is significant at .01 level of confidence. This revealed that significant difference exists between mean scores of Achievement in mathematics among male and female students.

Therefore the hypothesis 5 stating that “there will be no significant difference between the mean scores of Achievement in Mathematics of male and female students” stands rejected.

As mean scores of female students in achievement in mathematics is higher than that of male students, it may further be concluded that female students have more achievement in mathematics as compared to their male counterpart.

since all the coefficients of correlation between parental involvement and Achievement in Mathematics of elementary school students came out to be positive, it indicates that parental involvement have positive impact on achievement in mathematics.

## EDUCATIONAL IMPLICATIONS

A research is meant for developing new dimensions and for forwarding innovative steps in related fields of work. Research will not be considered completed in itself unless and until the research findings are put to some practical use. The most outstanding characteristic of any research is that it must contribute something new to the development of the area concerns.

The findings of the present study will help the teachers to choose the new strategies and activities which will help in involving the parents of the students in their studies like by organizing seminars, workshops and parent teacher meetings. This study will help parents for providing guidance to adolescents for improving their mathematics achievement and parents should try their best to understand the needs, motives and urges of their children and help them to channelize the energy in positive actions. Moreover, they will be able to guide them for choosing further subjects and courses for higher education. As most of the times, it is the problem of mismatch due to which students suffer. This study also helps the students to understand the importance of the involvement of their parents in their studies and how they can engage their parents in their studies.

The findings of the present study can be of immense help to administrators, psychologists, scholars and various researchers to know about adolescent's psychology, their growth and development as well as factors affecting their Achievement in Mathematics.

Parental Involvement as a correlate of achievement in mathematics is the most significant combination whose study will definitely prove to be a beacon of light in the growth and progress of the nation. As it will help in providing guidance and counseling to adolescents, teachers and parents who are the nation builders.

## CONCLUSIONS

The results indicate that

1. A significant difference exists between mean scores of Parental Involvement of male and female students since mean scores of Parental involvement of female is higher than that of male, it may further be concluded that female have more parental involvement as compared to their counterpart.
2. A significant difference exists between mean scores of Achievement in Mathematics of male and female students since mean scores of Achievement in Mathematics of female is higher than that of male, it may further be concluded that female have more Achievement as compared to counterpart.
3. There exists a significant relationship between parental involvement and Achievement in Mathematics of elementary school students.
4. There exists no significant relationship between parental involvement and Achievement in Mathematics of male school students.
5. There exists a significant relationship between parental involvement and Achievement in Mathematics of female school students.
6. Further since all the coefficients of correlation between parental involvement and Achievement in Mathematics of elementary school students came out to be positive, it indicates that parental involvement have positive impact on achievement in mathematics.

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