



ROLE OF PARENTAL INFLUENCE AND LEVEL OF ASPIRATIONS ON ACADEMIC ACHIEVEMENT IN MATHEMATICS

Education

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ABSTRACT

The aim of the study was to investigate and analyze the relationship of parental influence and level of aspirations of students on their academic achievement in Mathematics. The participants were 500 higher secondary first year students drawn from two districts of Tamil Nadu. Two validated instruments were used to elicit responses from the participants are Parental Influence Scale and Level of Aspirations Scale which were administered on the selected sample. Their biology marks of half-yearly examination were considered for academic achievement in Mathematics. Five major hypotheses were formulated and tested. Descriptive and regression analyses were used to evaluate the data. The study reveals that Parental influence and Level of Aspirations are moderate in nature; and academic achievement in Mathematics is average in place. Regression coefficient of academic achievement in mathematics on the predictor variables shows significant positive predictive efficiency.

KEYWORDS

Parental Influence, Level of Aspirations, Academic Achievement in Mathematics

INTRODUCTION

Education ought to take care of the child as the human personality in all spheres- physical, mental, intellectual and spiritual. Parents may influence their wards learning differently. Aspiration for the children and youth hopes to achieve them in the academic as well in future. Raising aspirations could believe to be an effective way to motivate pupils to work harder so as to achieve the steps necessary for academic success. This paper addresses the children's mathematics learning by their parental influence and level of aspirations of them on mathematics learning in Tamil Nadu.

Parental Influence

Previous studies on the effects of parental influence on children's scholastic achievement indicates that when parents take an lively and positive part in their child's education the results often turn out well for the student (Nebor, 1986).

The family is an important social context where children learn and adopt all behaviours from family members. Specifically, parents play the role of health adviser, role models, and educators in the lives of children, influencing their food cognitions and choices (Andrew *et al*, 2017).

Parenting goes far beyond the requirements for meeting the basic survival needs of the child, and parents have a significant influence on how children turn out, including their personality, emotional development, and behavioural habits, as well as a host of other factors. It is important for the overall development of children that parents are present enough to support them, and this support fosters confidence and growth in many areas (Bethel Moges and Kristi Weber, 2004).

The behaviour of child is reflects his/her parents and the treatment meted out to him/her at home. If the child has a kind and understanding parents and a congenial atmosphere at home, having confident and happy.

Sometimes, just being physically present is not enough. Parents that may be nearby but that are not emotionally invested or responsive tend to raise children that are more distressed and less engaged with their play or activities (Volling *et al*, 2002).

A key aspect of emotional development in children is learning how to regulate emotions. Children see how their parents display emotions and interact with other people, and they imitate what they see their parents do to regulate emotions (Sheffield Morris *et al*, 2007).

Parenting decisions affect how children turn out physically, socially, and emotionally, but that is not to say parents should be obsessed with following certain steps to have a perfectly well-adjusted child. We accept that there is no perfect formula for parents to model behaviour or speak to children in certain ways to make them have a perfect emotional development experience, and that places a limit on our

exploration of this subject. Parents can help their children develop into emotionally stable people by giving them a supportive environment, positive feedback, role models of healthy behaviour and interactions (Bethel Moges and Kristi Weber, 2004)

Level of Aspirations

Aspirations mean a hope or ambition of achieving something. Quality of performance that a person desires to attain or feels he/she can achieve. Level of Aspiration is a psychological construct which reflects a cognitive type of motivation of the individual. James Drever (1950) stated that the term level of aspiration involves the estimation of his ability for his future performance on the strength of his past experience, ability, capacity, efforts towards attaining the goal, as set by him. The main constructs of level of aspiration are, last performance, setting of level of aspiration for the next performance, new performance, and psychological reaction to the new performance. The aspirations and attainment that two having close positive relationship. Level of aspiration implies fruitful, new lines of inquiry, and new horizon of carrier. Aspiration sets personal goals for life..

Academic Achievement

Academic achievement of students in school level is a major determinant of the future of youths in particular and the nation in general. Learning outcomes have been measured by an account of academic performance (MeenuDev, 2006). This phenomenon has been variedly referred in literature as academic achievement, or scholastic functioning. Academic achievement of student has major concern for all walks of life by parents, scholars, policymakers, planners and employer (Sekar, 2014). Adeyemo (2001) pointed out that the major goal of the schools' role play is attainment of academic excellence of its students. According to him, the school may have other peripheral objectives but emphasis is always placed on the achievement of sound scholarship. Besides, virtually everybody concerned with education places premium on academic achievement; excellent academic achievement of children is often the expectation of parents (Osiki, 2001).

Mathematics

Mathematics is a body of knowledge that opens up the mind to logical reasoning, analytical thinking and the ability for creative thinking, deep focusing and clarity of thought and precision. It is the hub on which all scientific and technological studies find their bearings. In pure sciences, it is the basis and language of study, in applied sciences and technology it is an indispensable tool of analysis, with the social sciences it is a scaffold and for the arts the light that gives consistently and completeness to its study.

The learning of mathematics in schools represent first, a basic preparation for adult life and secondly a gateway to a vast array of career choices and from the societal perspective, competence in mathematics is essential for the preparation of an informed citizenry

and for continuous production of highly skilled personnel required for industry, technology and science. The progress of any nation depends upon her scientific and technological advancement which can only be built on a sound mathematical education capable of making the citizens effectively functional in the natural and applied sciences. The study of Mathematics therefore will go a long way to "Equip students to live effectively in our modern age of science and technology".

Mathematical mind have the problem solving ability, creative thinking and reasoning ability. It is the ability to think and reason on given levels of complexity. Mathematics education must contribute towards the acquirement of the values, knowledge and skills, intellectual habits and power, desirable attitudes and ideals that are indispensable tools for a successful and balanced human existence.

NEED AND SIGNIFICANCE OF THE STUDY

Mathematics is needed in every human being in day-to-day life. Mathematics is essential for music, dancing, marketing, as well as aesthetic. It is an important subject, so it is considered as father of all sciences. Mathematics helps in achieving the educational goal and objectives. Mathematics is expressed in the form of values. There is a serious drawback in the field of education especially in science education. Most of the students after their class Ten exam, they opted for arts subject. The reason for this may vary, but one of the reasons is that the students they do not like math and they feel it is tough to learn. Students holding such beliefs (that mathematics is a tough subject) may not even attempt to solve a problem that involves too much complexity. They often fail to gain a deeper conceptual understanding that comes from constructing one's own mathematical truths through deep thinking. In this context, we should find solution; we know the reasons that are coping this situation are parental influence and level of aspiration. So this study is need in the present day condition.

STATEMENT OF THE PROBLEM

Problem solvers in mathematics differ with regard to knowledge, beliefs and other affecting factors. Based on the review of the literature, factors that contribute to students' difficulty in mathematical problem solving suggests that, the mathematics content level of the problems which students at different year levels of schooling will be able to solve successfully. Thus, the investigators felt the need to take an in-depth study into the above mentioned facts and this paper will take a survey of the factors responsible for this condition. The problem of the study is stated as follows: "Role of Parental Influence and Level of Aspiration on Academic Achievement in Mathematics".

OBJECTIVES OF THE STUDY

The following objectives have been set in the present study:

1. To find out the level of Parental Influence, Level of Aspiration and Level of Academic Achievement in Mathematics among higher secondary students.
2. To find out there is any predictive efficiency of Parental Influence on Academic Achievement in Mathematics among higher secondary students.
3. To find out there is any predictive efficiency of Level of Aspiration on Academic Achievement in Mathematics among higher secondary students.

HYPOTHESES OF THE STUDY

The major hypotheses of the study are the following:

1. Parental Influence among higher secondary students is low.
2. Level of Aspiration among higher secondary students is low.
3. Achievement in mathematics among higher secondary students is low.
4. There is no predictive efficiency of Parental Influence on Achievement in Mathematics of higher secondary students.
5. There is no predictive efficiency of Level of Aspiration on Achievement in Mathematics of higher secondary students.

METHOD OF STUDY

In the present study, the investigators have adopted normative survey method.

SAMPLE SIZE AND SAMPLING TECHNIQUE

The present study involves five hundred first year higher secondary students from various schools situated in Chennai and Tiruvallore Districts. The sample is selected by using stratified random sampling technique.

TOOLS USED

In this study, the investigators used the following tools:

1. Parental Influence Scale was developed by the investigators (2017).
2. Level of Aspiration scale is developed by M.Bhargava and M.A.Shah.
3. For achievement test in mathematics, the investigators taken the marks obtained by students in half-yearly examination.

RESULTS:

Table 1: Level of Parental Influence of higher secondary students

Level of Parental Influence	N	Percentage
Less	136	27.20
Moderate	233	46.60
More	131	26.20
Total	500	100.00

The above table reveals that 46.60 % of higher secondary students (N=500) involved in the study have only moderate parental influence, 27.20 % of them have less parental influence and the remaining 26.20 % have more parental influence.

Table 2: Level of Aspirations of higher secondary students

Level of Aspirations	N	Percentage
Low	122	24.40
Moderate	252	50.40
More	126	25.20
Total	500	100.00

From the above table, it is observed that 50.40 % of higher secondary students (N=500) in the study have only moderate aspirations, 24.40 % of them have low aspirations and the remaining 25.20 % found more aspirations.

Table 3: Level of Achievement in Mathematics of higher secondary students

Level of Achievement in Mathematics	N	Percentage
Low	129	25.80
Average	243	48.60
High	128	25.60
Total	500	100.00

From the above table, it is observed that 48.60 % of higher secondary students (N=500) have only average level of achievement in Mathematics, 25.80 % of them have low level of achievement in Mathematics and the remaining 25.60 % have high level of achievement in Mathematics.

In this study, the Dependent Variable is Achievement in Mathematics, Independent Variables are the Parental Influence and Level of Aspirations. The result of the analysis is given below:

Dependent variable : Achievement in Mathematics (Y)

Independent variables : 1. Parental Influence (X_1)

2. Level of Aspirations (X_2)

Multiple R value : 0.659

R Square value: 0.435

Table 4: Multiple regression analysis of Parental Influence and Level of Aspirations on Achievement in Mathematics of higher secondary students.

Variables	Standardized co-efficient (β)
Parental Influence (X_1)	0.532*
Level of Aspirations (X_2)	0.236 *
Constant	31.582

Note: * Significant at 0.05 level

The multiple regression coefficient is 0.658 measures the degree of relationship between the actual values and the predicted values of achievement in mathematics. Because the predicted values are obtained as a linear combination of Parental Influence (X_1), and Level of Aspirations (X_2). The coefficient value of 0.659 indicates that the relationship between achievement in Mathematics and the two independent variables is quite strong and positive.

The Coefficient of Determination R-square measures the goodness-

of-fit of the estimated Sample Regression Plane (SRP) in terms of the proportion of the variation in the dependent variables explained by the fitted sample regression equation. Thus, the value of **R square** is 0.435 simply means that about 43.50% of the variation in achievement in Mathematics is explained by the estimated SRP that uses the two independent variables and R square value is significant at 0.05 level.

The multiple regression is $Y = 31.582 + 0.532X_1 + 0.236X_2$

The independent variables Parental Influence (X_1) and Level of Aspirations (X_2) contribute more to dependent variable, achievement in mathematics of higher secondary students.

The coefficient of X_1 is 0.532 denotes the partial effect of Parental Influence (X_1) on Achievement in mathematics, holding other variables as constant. The estimated positive sign implies that such effect is positive that Achievement in Mathematics score would increase by 0.532 for every unit increase in Parental Influence (X_1) and this coefficient value is significant at 0.05 level.

The coefficient of X_2 is 0.236 denotes the partial effect of Level of Aspirations (X_2) on Achievement in Mathematics, holding other variables as constant. The estimated positive sign implies that such effect is positive that Achievement in Mathematics score would increase by 0.236 for every unit increase in Level of Aspirations (X_2) and this coefficient value is significant at 0.05 level.

Based on this result, hypothesis is rejected. This implies that there is a significant positive relationship between parental involvement and achievement in Mathematics; and level of aspirations of children and their academic achievement in Mathematics.

DISCUSSION OF THE FINDINGS

The discussion of the findings of the present study is given below.

The higher secondary students have moderate level of parental influence. This corroborates with the study of Wyman, W. C. *et al* (1972); Nebor (1986); and Silambarasan and Mohan Kumar (2018); Dissimilar findings are observed by Cai (2003); and Zhongjun Cao, *et al*. (2005).

The higher secondary students have moderate level of aspirations. This result concurs with the studies of Nabil Khattab (2015); Chavira *et al* (2016); and Silambarasan and Mohan Kumar (2018). But contradicts with the finding of Moneika (2016); and Kounsar Jan (2016).

The higher secondary students have average level of achievement in mathematics. This findings congruence with the studies of Wyman, W. C.; *et al* (1972); Nabil Khattab (2015); and Silambarasan and Mohan Kumar (2018). But dissimilar findings are observed by Moneika, (2016)

Parental influence and students' aspirations significantly contribute towards the achievement in mathematics. This finding concurs with the findings of Mary Frank Fox and Catherine Faver (1981); Taylor L, C. *et al*, (1995); Jianjun Wang *et al*. (1996); Mau (1997); Obasi (1999); Ebuta, *et al*, (2004); Oyesoji and Efetemere (2005); MeenuDev (2006); Emanique and James (2009); Kleanthous and Williams (2013); Ebuta and Ekpo (2014); Johnson *et al*, (2017); and Silambarasan and Mohan Kumar (2018). But this is contradicts with the study of Moneika (2016).

CONCLUSION

Based on the obtained findings and discussion, it can be concluded that this investigation has indeed revealed overwhelming preponderance of data-based evidence that parental influence and aspirations of students predict academic performance in the mathematics. The findings of this study reveal that persistent academic achievement in mathematics of school students may be due to fairly good parental influence and moderate aspirations of students in their studies. A possible explanation for this is when parents are interested and get involved with learning activities at home with their children; children's academic work will be enhanced. The result in this study that parents' involvement in their children academic work relates positively to their academic achievement in mathematics affirms. Therefore, there is a hope that with the improvement in the available facilities like free books, uniform, educational counselling and mid-day meal particularly to the girl students will bring qualitatively changes in their academic.

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