

## Impact of Adjustment and Academic Interest of Children of Working Women on their Educational Achievement in Mathematics and Science

Mohit Kumar<sup>1</sup> Dr. Pawas Kumar Mandal<sup>2</sup>

<sup>1</sup>Ph.D. Research Scholar, Faculty of Education, Teerthanker Mahaveer University, Moradabad-244001, UP, India, E-MAIL: [mohitk.scholar@tmu.ac.in](mailto:mohitk.scholar@tmu.ac.in)

<sup>2</sup>Assistant Professor, Faculty of Education, Teerthanker Mahaveer University, Moradabad-244001, UP, India E-MAIL: [pkm6282@gmail.com](mailto:pkm6282@gmail.com)

### Abstract

The present research study is based on the descriptive survey method. The main objective of the research was to study the effect of academic interest and adjustment on the academic achievement in mathematics and science subjects of children of working women. A sample of 100 children of working women was selected using purposive sampling, including 50 boys and 50 girls. For data collection, the Math Achievement Test (MAT) developed by Ali Imam and Tahira Khatoon was used for assessing academic achievement in mathematics, and the Science Achievement Test (SAT) developed by Ali Imam, Gyan Pratap Singh, and S.P. Singh was used for assessing academic achievement in science. For collecting data on adjustment, the Adjustment Inventory for School Students (AISS) developed by Dr. A.K.P. Sinha and R.P. Singh was used. For assessing mathematical interest, the Mathematical Interest Scale developed by U. Tandon and Ashok Pal was used, and for assessing science interest, the Science Interest Test developed by L.N. Dubey and Archana Dubey was used. Analysis of the data revealed that the t-value between academic interest in mathematics and academic achievement was 2.09, while in science, the t-value was 2.25. The t-value between adjustment and academic achievement in mathematics was 2.33, while the t-value between science and adjustment was 4.03. Therefore, the researcher found a significant effect of academic interest and adjustment on the academic achievement in mathematics and science subjects of children of working women.

**Key Words:** Educational Achievement, Academic Interest, Adjustment, Working women

### Introduction

Education plays a distinct and crucial role in ensuring the personality development, social progress, and participation of any child in the nation. Education provides children with the opportunity to continuously progress in their future, and also ensures how they can contribute to nation-building. The present era is the era of modern revolution. In recent decades, economic needs, rising inflation, social changes, and the need for educational advancement have created mental pressure on the earning members of the family. To share or reduce this mental pressure, women in the household also engage in some kind of business or work to provide financial stability to their families. In recent decades, it has also been observed that due to social and economic changes, there has been an increase in the advancement and participation of women in the workforce. When women make a positive contribution to their family's income and social development, they are recognized as professional women. However, their dual role can affect their children's educational environment. On one hand, they are busy in their workplace all day to provide financial stability to their families, while on the other hand, they are constantly worried about their children's social and educational future. They are always troubled by problems related to their children's adjustment, educational achievement, academic interest, and subject selection. Working mothers are also constantly worried about their children falling behind in keeping up with the school environment. Working mothers often don't even have time to communicate properly with their children's school teachers. Working mothers try their best to balance their children's educational achievements and adjustment with their work responsibilities. This directly affects the children of working mothers. Children of working mothers may face certain psychological and social challenges. These psychological challenges affect their interest in studies and their adjustment. When their adjustment is affected, there is a strong possibility of a decline in their educational achievement and academic interest. Success in studies is often considered an indicator of intellectual development and future opportunities for advancement. Children who have strong educational achievements in science and mathematics are more likely to perform well in other subjects as well.

### **Review of Related literature**

**Gangwar, S. (2024)** studied the contribution of emotional intelligence and school environment in predicting the academic achievement of ninth-grade students in science. This research study was based on a descriptive survey method. For the sample, 50 ninth-grade students from a school in Pilibhit district were selected using accidental sampling technique. A self-developed tool was used to measure academic achievement in science, and a standardized school environment inventory developed by S.K. Mangal and Shubhra Mangal was used to measure emotional intelligence. The collected data was subjected to regression analysis, and it was concluded that emotional intelligence does not contribute to predicting the academic achievement of ninth-grade students in science, while the school environment makes a significant contribution to predicting academic achievement in science.

**Mehar, R. (2018).** conducted a comparative study of adjustment and self-confidence among children of working and non-working mothers studying in four government schools in Chandigarh, from grades 9 to 12. She selected 160 students for her study using purposive and random sampling techniques. To collect data on adjustment, she used the Adjustment Inventory for School Students developed by A.K.P. Singh and Sinha, and the Self-Confidence Scale developed by Agnihotri. Mean, standard deviation, t-ratio, and correlation techniques were used to analyse the collected data. Her findings revealed that there was no significant difference in the overall adjustment of children of working and non-working mothers. However, a significant difference was found in the emotional and educational adjustment of boys of working and non-working mothers. It was also found that there was a significant difference in the self-confidence of children of working and non-working mothers.

**Singh, K., Granville, M., & Dika, S. (2010)** studied the impact of three school-related factors—motivation, attitude, and academic engagement—on the mathematics and science achievement of students in grade 8. The researcher used structural equation modelling to examine the relationships between two motivational factors, one attitudinal factor, and one academic engagement factor. The hypothesized relationships were then estimated and tested for their impact on mathematics and science achievement. The findings indicated that attitude and academic engagement had a positive effect on academic achievement in both mathematics and science. Furthermore, academic engagement had the strongest influence on the time spent on homework.

**Nieva, A. (2022).** Conduct a study of the topic The relationship between career interests and academic achievements in English, mathematics, and science of grade 10 students. This study investigated the perceived impact of academic performance in English, Mathematics, and Science on the career interests of 257 students. The self-enhancement model was used as the research framework. The study employed a cross-sectional productivity study design. Both descriptive and inferential statistics were used in data analysis. Two occupational groups were created in this study: one group working in production, quality assurance, and maintenance of products, operations, and services, and the other group working in the development and design of manufactured products. The first group considered academic performance in English, Mathematics, and Science, while the second group considered academic performance in English and Mathematics but not in science. The findings revealed that choosing a specific track in middle school is a crucial decision for Filipino adolescents. Their choice of occupational group is based on their interests and perceptions of career guidance.

### **Operational Definitions**

#### **Working women**

Women who, in addition to their household duties, choose to engage in work or a profession that provides financial support to their families and contributes to their well-being and prosperity are called working women. Working women face the added pressure of providing financial stability to their families in addition to raising and caring for them.

#### **Adjustment**

The ability of any child or person to adapt themselves to their environment is called adjustment. Adjustment is mainly of three types: educational adjustment, social adjustment, and emotional adjustment.

Adjustment is also influenced by environmental factors, physical factors, and psychological factors.

### **Academic Interest**

Academic interest refers to a child's preferences, interests, inclinations, or a positive attitude that motivates them to learn more in a particular field. Individuals with strong educational interest are mentally mature. This is crucial for self-discipline and academic success. In the present study, the researcher has studied the Academic interests in mathematics and science subjects.

### **Educational Achievement**

Whatever a student achieves during their academic life is called their educational achievement. Educational achievement can refer to a child's overall life achievement, or it can be specific to a particular year, class, or subject. In this study, the researcher has studied the educational achievement in mathematics and science of children of working mothers studying in classes 9 and 10.

### **Objectives of the study**

- 1.To analyse the impact of Academic interest of children of working women on their educational achievement in mathematics.
- 2.To study the effect of adjustment of children of working women on their educational achievement in mathematics
- 3.To analyse the impact of Academic interest of children of working women on their educational achievement in science.
- 4.To study the effect of adjustment of children of working women on their educational achievement in science.

### **Hypotheses of the study**

- 1.There is no significant effect of Academic interest of children of working women on their educational achievement in mathematics.
- 2.There is no significant effect of adjustment of children of working women on their educational achievement in mathematics
- 3.There is no significant effect of Academic interest of children of working women on their educational achievement in science.
- 4.There is no significant effect of adjustment of children of working women on their educational achievement in science.

### **Limitations of the study**

In their research study, the researchers studied the Academic interests, adjustment, and academic achievement of children of working mothers studying in classes 9 and 10 of schools affiliated with the Uttar Pradesh Board in Amroha district of Uttar Pradesh state.

### **Research Method**

The research study is based on a descriptive survey method.

### **Sample**

As a sample, purposive sampling has been done of a total of 100 children of working women studying in class 9-10 of schools run by UP Board Prayagraj in Amroha district. This includes 50 boys and 50 girls.

### **Research Tools**

The researcher used the Mathematics Achievement Test (MAT: Ali Imam and Dr. Tahira Khatoon) to assess mathematical achievement, the Science Achievement Test (SAT: Gyan Pratap and Ali Imam) to assess science achievement, the Adjustment Inventory for School Students (AISS: Dr. A.K.P. Singh & R.P. Sinha) to study adjustment. For assessing mathematical interest, the Mathematical Interest Scale developed by U. Tandon and Ashok Pal used, and for assessing science interest, the Science Interest Test developed by L.N. Dubey and Archana Dubey used to measure educational interest.

### Statistical Analysis of Data

For the analysis of data descriptive statistics like mean, S.D., and inferential statistics like t-test were carried out by using SPSS software.

### Rationale of the study

The main rationale of this study is to examine the academic achievement of children of working mothers in relation to their Academic interests and adjustment. This is a very relevant topic in today's times. In an era of rising inflation, where women are working outside the home to contribute to their family's financial well-being, they also face the pressure of adequately addressing their children's educational activities and problems. This study focuses on the impact of educational interests and adjustment on the Educational achievement of children of working mothers. After conducting this research, working mothers will gain insight into the problems related to their children's academic achievement and adjustment, and will be able to find psychological solutions to address these problems.

### Results

**Objective:1** To analyse the impact of Academic interest of children of working women on their educational achievement in mathematics.

**Hypothesis:1.** There is no significant effect of Academic interest of children of working women on their educational achievement in mathematics.

#### Effect of Educational interest on Educational Achievement in Mathematics

Educational Interest	N	Mean	Standard Deviation	SED	t-Value (Sig.)
High	50	33.98	4.36	.88	2.09*
Low	50	32.12	4.60		

\*= Significant at .05-level

In the context of Hypothesis 1, the researcher found that the mean score for mathematical achievement in relation to academic interest was 33.98 with a standard deviation of 4.36 at the high level, while at the low level, the mean was 32.12 with a standard deviation of 4.60. A t-value of 2.09 was obtained, which is statistically significant at the 0.05 level. Therefore, Hypothesis 1 is rejected.

**Objective:2.** To study the effect of adjustment of children of working women on their Academic achievement in mathematics.

**Hypothesis:2.** There is no significant effect of adjustment of children of working women on their educational achievement in mathematics.

#### Effect of Academic interest on Educational Achievement in Science

Educational Interest	N	Mean	Standard Deviation	SED	t-Value (Sig.)
High	50	40.42	4.82	1.03	2.25*
Low	50	38.10	5.35		

\*= Significant at .05-level

In the context of Hypothesis 2, the researcher obtained a mean of 34.14 and a standard deviation of 4.68 for mathematical achievement at the high level, after adjusting for data extraction. At the low level, the mean was 31.96 and the standard deviation was 4.56. A t-value of 2.33 was also obtained, which is statistically significant at the 0.05 level. Therefore, Hypothesis 2 is rejected.

**Objective:3.** To analyse the impact of Academic interest of children of working women on their educational achievement in science.

**Hypothesis:3.** There is no significant effect of Academic interest of children of working women on their educational achievement in science.

**Effect of Adjustment level on Academic Achievement in Mathematics**

Adjustment level	N	Mean	Standard Deviation	SED	t-Value (Sig.)
High	50	34.14	4.68	.935	2.33*
Low	50	31.96	4.56		

In the context of Hypothesis 3, the researcher obtained a mean of 34.14 and a standard deviation of 4.68 for mathematical achievement at the high level, after adjusting for data extraction. At the low level, the mean was 31.96 and the standard deviation was 4.56. A t-value of 2.33 was also obtained, which is statistically significant at the 0.05 level. Therefore, Hypothesis 3 is rejected.

**Objective:4.** To study the effect of adjustment of children of working women on their educational achievement in science.

**Hypothesis:4.** There is no significant effect of adjustment of children of working women on their educational achievement in science.

**Effect of Adjustment level on Educational Achievement in Science**

Adjustment level	N	Mean	Standard Deviation	SED	t-Value (Sig.)
High	50	41.70	6.10	1.21	4.03**
Low	50	36.82	5.42		

**\*\*= Significant at .01-level**

In the context of Hypothesis 04, the researcher obtained a mean of 41.70 and a standard deviation of 6.10 for the high level of academic achievement in science subjects during data extraction and analysis. For the low level, the mean was 36.82 and the standard deviation was 5.42. A t-value of 4.03 was also obtained, which is statistically significant at the 0.05 level. Therefore, Hypothesis 04 is rejected.

**Conclusion**

In today's industrial and increasingly inflationary times, middle and lower-class families face difficulties in managing their households and raising their families. If there is only one earning member in the family, then that person constantly faces economic and mental pressure. To alleviate this pressure, women, understanding their responsibility, seek employment outside the home to provide financial support to their families. This provides financial assistance to their families. Due to working outside the home, women also have to cope with the mental pressure of managing their children's educational activities, helping them adjust to the school environment, and ensuring their academic progress. This study examined the impact of working mothers' children's academic interest and adjustment on their academic achievement in mathematics and science. The researcher found that the academic interest and adjustment of children of working mothers have a significant impact on their academic achievement in mathematics and science. The main reason for this could be that along with a conducive and supportive environment at school and home, the children's subject-specific academic interest influences their academic achievement. When academic interest increases, the child studies the principles, rules, and processes of that subject with greater ease. Studying with interest also leads the child to practice the rules, principles, and processes related to the subject. This results in an increase in their academic achievement.

### References

1. Gangwar, S. (2024). Emotional Intelligence and School Environment as the Predictors of Achievement in Science of Ninth Standard Students. *School science*, 62, 72-86. [https://doi.org/https://www.researchgate.net/publication/392465747\\_Emotional\\_Intelligence\\_and\\_School\\_Environment\\_as\\_the\\_Predictors\\_of\\_Achievement\\_in\\_Science\\_of\\_Ninth\\_Standard\\_Students](https://doi.org/https://www.researchgate.net/publication/392465747_Emotional_Intelligence_and_School_Environment_as_the_Predictors_of_Achievement_in_Science_of_Ninth_Standard_Students)
2. Mehar, R. (2018). Adjustment and Self-Confidence among the Children of Working and Non-Working Mothers. *Online Journal of Multidisciplinary Subjects*, 12(3), 762-777.
3. Singh, K., Granville, M., & Dika, S. (2010). Mathematics and Science Achievement: Effects of Motivation, Interest, and Academic Engagement. *The Journal of Educational Research*, 95(2), 323-332. <https://doi.org/https://www.tandfonline.com/doi/abs/10.1080/00220670209596607>
4. Nieva, A. (2022). The relationship between career interests and academic achievements in English, mathematics, and science of grade 10 students. *International Journal of Arts, Sciences and Education*, 3(2 June Issue).
5. Tabassum, R., & Akhter, N. (2020). Effect of Demographic Factors on Academic Performance of University Students. *Journal of Research & Reflections in Education (JRRE)*, 14(1).
6. Kadale, P. G., Pandey, A. N., & Raje, S. S. (2018). Challenges of working mothers: balancing motherhood and profession. *International Journal of Community Medicine and Public Health*, 5(7), Pg. 2905-2910.
7. Hadjar, A., Krolak-Schwerdt, S., Priem, K., & Glock, S. (2014). Gender and educational achievement. *Educational Research*, 56(2), Pg. 117-125.
8. N. (2012). Educated working mothers to hoist children's academic performance. *International Journal of Technology and Inclusive Education*, 1(2), Pg. 79-88
9. Scott, J. (2004). Family, gender, and educational attainment in Britain: A longitudinal study. *Journal of Comparative Family Studies*, 35(4), Pg. 565- 589.
10. Mandal, P.K. (2019). ICT Assisted Constructivist Teaching-Learning Approach. *Scholarly Research Journal for Humanity Science & English Language (ISSN: 2349-9664)*, 6(19), 184-187.
11. Mandal, P.K. (2019). A STUDY OF B.ED. TRAINEES' ATTITUDE TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY. *Scholarly Research Journal for Interdisciplinary Studies (ISSN: 2278-8808)*, 6(50), 12027-12033.
12. Jha, B.K. & Mandal, P.K. (2025). A Journey of Learning Disability: From Special Education to Inclusive Education. *International Journal of Multidisciplinary Educational Research (ISSN: 2277-7881)*, 14(6/3), pp. 122-127.
13. Kumar, M. & Mandal, P.K. (2025). Impact of Demography and Gender on Educational Achievement of Children of Working Women. *Research Journal of Philosophy & Social Sciences. (ISSN: 2454-7026)*, L1 (1), pp. 92-100.
14. Karayat, S. & Mandal, P.K. (2025). A Study of Pre-Service Teachers Views on Cultural Metacognition. *Ad Eduxian Journal. (ISSN: 3048-7951)*, 2(2), pp. 83-87.
15. Kumar, M. & Mandal, P.K. (2025). घरेलू महिलाओं के बच्चों के समायोजन पर जनसांख्यिकी और लिंग के प्रभाव का अध्ययन. शोध मंथन (ISSN: 2454-339X), Vol: XVI, pp. 94-99. DOI: <https://anubooks.com/special-issues?url=sm-special-issue-feb-2025>
16. Karayat, S. & Mandal, P.K. (2025). A Study of Teachers' Perspectives on Cultural Diversity in Uttarakhand. *International Journal of Global Multidisciplinary Research and Analytics (ISSN: 3107-6483)*, Vol: 1, pp. 101-109. DOI: <https://doi.org/10.5281/zenodo.17313193>