JOINER

JOURNAL OF INCLUSIVE EDUCATIONAL RESEARCH

Vol. 4, No. 2 · DECEMBER 2024

ISSN: 2980-3047

OPEN ACCESS

joinetr.com

JOURNAL OF INCLUSIVE EDUCATIONAL RESEARCH

Volume 4, Issue 2, 2024

Editor-in-Chief: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Editor: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Publisher Editor: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Layout Editor: Dr. Gülbahar Merve ŞILBIR
Redaction: Dr. Gülbahar Merve ŞILBIR
Typographic: Dr. Gülbahar Merve ŞILBIR
Cover and Page Design: Dr. Gülbahar Merve ŞILBIR
Contact: Assoc. Prof. Dr. Ali Kürşat ERÜMİT

JOINER is published regularly twice a year since 2021.

Contact Information

Web: http://joinetr.com/
E-Mail: journal.joiner@gmail.com
Adress: Trabzon/Turkey

Relationship Between Science Anxiety and Study Habits of the Students of IXth Standard

Saradindu Das[1], Kalyani Mitra[2]

Article History
Received: 27.12.2024
Received in revised form: 27.12.2024
Accepted: 30.12.2024

Abstract

This study was conducted to examine the relationship between science anxiety and study habits of the students of IX standard. A descriptive survey research design was adopted on the basis of the nature of the study. 90 students among which 45 boys and 45 girls from four secondary schools from both rural and urban areas of Purba Bardhaman District have been selected by simple random sampling. The self-developed structured and validated Anxiety in Science Scale (ASS) and Study Habits Scale (SHS) were administered to estimate the science anxiety score and study habits score of the selected sample students. Mean, standard deviation, Pearson's Product Moment Correlation and t-test have been used for the analysis of the collected data. The results showed that there is a significant and inverse relationship between Science Anxiety and Study Habits of students of IXth standard. The result leads to infer that as the science anxiety increases, study habits of the students decrease. There is significant difference in science anxiety between boy and girl students of IXth standard. The girl students are found more anxious than the boys since the mean score of science anxiety of girl students are higher than that of the boys. There is no significant difference in science anxiety between rural and urban pupils. There is no significant gender difference in mean score of study habits. There is no significant difference in study habits between rural and urban students also. The result of the major hypothesis of the study leads to conclude that effective measures should be taken to control and minimise the science anxiety in order to enhance study habits.

Keywords: Science anxiety, study habits, students of IXth standard

1. Introduction

Anxiety as a whole is typically defined as a diffuse apprehension, something vague and broadly encompassing many feelings, while a fear is a reaction to a specific danger (Usera, 1984). Anxiety is common to every human being. There are different types of anxiety. One type is of the specific phobias. Another kind is of individual's performance regarding a specific domain of knowledge or any skill. Here, the science anxiety is one kind of performance anxiety which is expected to be common among the students of IXth standard.

Science anxiety refers to the feelings of apprehension, fear, or unease associated with learning science and can be manifested in different ways affecting individual's performance related to scientific activities. The intensity and difficulty of learning science is a significant source of anxiety among students (Mallow, 2006; Mallow and McDermott, 1988).

Habit is formed when a task or action is periodically and repeatedly performed by an individual. Initially it needs the performer's keen attention to be accomplished but gradually it become shaped as a spontaneous repeated action or better called habit. Study means application of knowledge in the process of learning. Hence, study habits may be explained as the students' planned study schedules of different subjects that are consistently and regularly practised by them. If students can develop effective study habits and discipline, they surely perform expectedly well in their academic activities (Mark and Howard, 2009).

The present study is conducted in order to delve into the nature of the relationship between science anxiety and study habits of the IXth standard students. It is also designed to figure out the difference in science anxiety and study habits with respect to gender as well as locational variation.

[1]Research Scholar, JIS University, India, saradindukaichar@gmail.com
[2]Assistant Professor, JIS University, India, kalyanimitra8@gmail.com

1.1. Rationale

Science anxiety is a common fear of the students regarding science learning in present landscape of education. It is a pressing need to successfully resolve the unnecessary apprehension of science learning. On the other hand, study habits explore the planned study schedules of the students for preparing their lessons. there are so many researches conducted on the relationship between test anxiety and study habits, but there are a few researches conducted on the relationship between science anxiety and study habits among the students of secondary level. Hence, it would be interesting to reveal the relationship between the science anxiety and study habits of the students of XIth standard. It is expected that the present study will formulate the utilitarian guidelines and suggestions for the parents, teachers and stakeholders about how to implement anxiety management strategies and offering appropriate learning environment to the students for performing better in their academic pursuit.

2. Objectives

1. To find out the relationship between science anxiety and study habits of the students of IXth standard
2. To compare the science anxiety between boys' and girls' students of IXth standard
3. To compare the science anxiety between rural and urban students of IXth standard
4. To compare the study habits between boys' and girls' students of IXth standard
5. To compare the study habits between rural and urban students of IXth standard

3. Hypotheses

1. There is no significant relationship between science anxiety and study habits of students of IXth standard
2. There is no significant difference in science anxiety between boys' and girls' students of IXth standard
3. There is no significant difference in science anxiety between rural and urban students of IXth standard
4. There is no significant difference in study habits between boys' and girls' students of IXth standard
5. There is no significant difference in study habits between rural and urban students of IXth standard

4. Review of the Related Literature

Lawrences, A. (2014) conducted a study to examine the relationship between test anxiety and study habits of higher secondary students. the findings of the research work revealed that the levels of study habits of the students were moderate and the levels of test anxiety of the students were also moderate. The study showed that there was no significant relationship between test anxiety and study habits of higher secondary students.

Nixon III (2021) conducted a study to examine the relationship between study habits (attitude, motivation and study aids) and test anxiety of students of secondary level. The results showed a significant negative correlation between test anxiety and attitude. There was no significant correlation between test anxiety and motivation. There was no significant correlation between test anxiety and study aids.

Ammara Numan (2017) conducted a study to investigate the effect of study habits on test anxiety and academic achievement of the students of undergraduate level. The results showed that students having effective study habits experienced low level of test anxiety and perform better academically than students having ineffective study habits. The girls experienced higher level of test anxiety than the boys. There was significant positive relationship between study habits and academic achievement and test anxiety was negatively correlated with academic achievement and study habits.

5. Method

Method: Descriptive survey method was used.

Population: All the students of IXth standard studying under West Bengal Board of Secondary Education were considered as the population of the study.

Sample: 90 students were selected as the sample of the study.

Sampling Technique: simple random technique was used.

Tools: Anxiety in Science Scale (ASS) and Study Habits Scale (SHS) – two self-developed scales were used by the researcher.

Statistics: mean, standard deviation, t-test were used for the analysis of the collected data.

3. Findings

3.1. H_{01} : There is no significant relationship between science anxiety and study habits of students of IXth standard

Table 1. Relationship between Science Anxiety and Study Habits of Students of IXth Standard

	N	df	R	p-value	Significance
Science Anxiety Study Habits	90	88	-0.98	0.00	Significant at 0.01 level

Interpretation: There is a significant and negative relationship between Science Anxiety and Study Habits of students of IXth standard as the p-value of 0.00 is less than 0.01 for df 88. Hence the null hypothesis H_{01} is rejected and the alternative hypothesis H_1 is accepted. The negative correlation value (r) is -0.98 which indicates that Study Habits decreases significantly at 0.01 level when Science Anxiety increases.

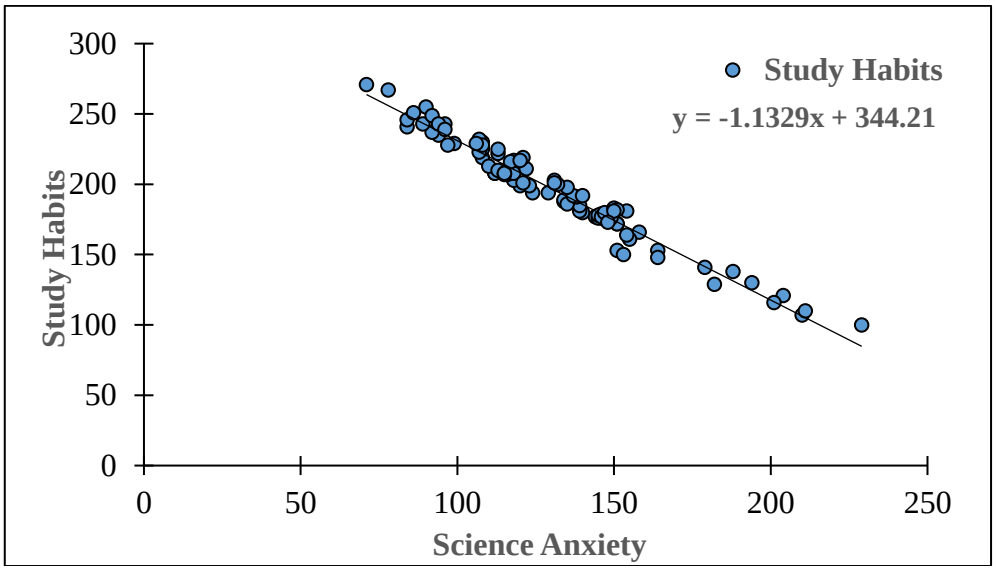

Figure 1. Graph showing Relationship between Science Anxiety and Study Habits of Students of IXth Standard

3.2. H_{02} : There is no significant difference in science anxiety between boy and girl students of IXth standard

Table 2. Difference in mean score of science anxiety between boy and girl students of IXth standard

Boy Students			Girl Students			MD	df	SE_D	t-value	Significance
n_1	Mean	SD	n_2	Mean	SD					
45	120.91	22.46	45	140.96	36.68	20.04	88	6.41	3.13*	Significant at 0.01 level

*t-criterion value at 0.01 level is 2.63 for df 88.

Interpretation : There is significant difference in science anxiety between boy and girl students of standard IX as the t-value of 3.13 is greater than the t-criterion value of 2.63 at 0.01 level for df 88. Hence, the null hypothesis H_{02} is rejected and the alternative hypothesis H_2 is accepted. The girl students are found more anxious than the boys since the mean score of girl students being 140.96 is higher than that of boy students being 120.91.

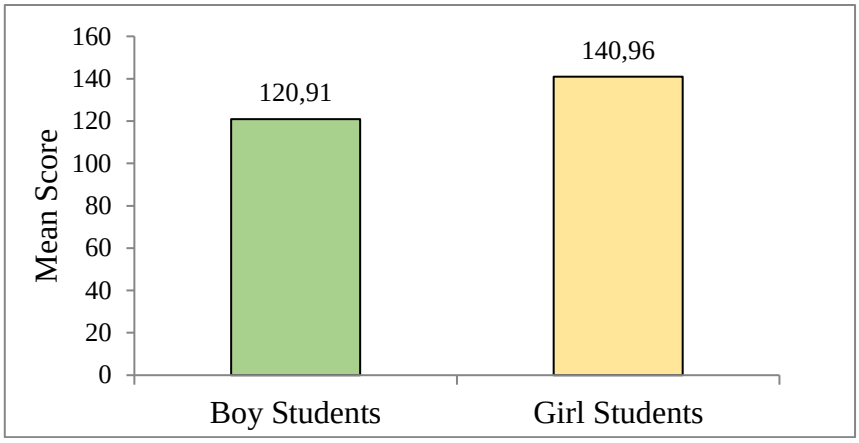

Figure 2. Mean scores of science anxiety of boy and girl students

3.3. H_{03} : There is no significant difference in science anxiety between rural and urban students of IXth standard

Table 3. Difference in mean score of science anxiety between rural and urban students of IXth standard

Rural Students			Urban Students			MD	Df	SE_D	t-value	Significance
n_1	Mean	SD	n_2	Mean	SD					
44	133.80	34.94	46	128.20	28.76	5.60	88	6.73	0.83*	Not Significant

*t-criterion value at 0.05 level is 1.99 for df 88.

Interpretation : There is no significant difference in science anxiety between rural and urban students of IXth standard as the t-value of 0.83 is less than the t-criterion value of 1.99 at 0.05 level for df 88. Hence the null hypothesis H_{03} is accepted.

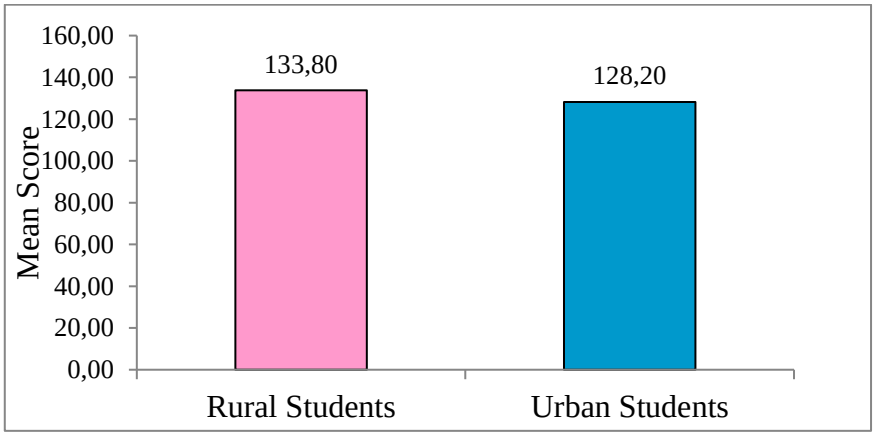

Figure 3. Mean score of science anxiety of rural and urban students of IXth standard

3.4. H_{04} : There is no significant difference in study habits between boys' and girls' students of IXth standard

Table 4. Difference in mean score of study habits between boy and girl students of IXth standard

Boy Students			Girl Students			MD	Df	SE_D	t-value	Significance
n_1	Mean	SD	n_2	Mean	SD					
45	202.82	28.30	45	188.93	42.89	13.89	88	7.66	1.81*	Not Significant

*t-criterion value at 0.05 level is 1.99 for df 88.

Interpretation : There is no significant difference in study habits between boy and girl students of standard IX as the t-value of 1.81 is less than the t-criterion value of 1.99 at 0.05 level for df 88. Hence the null hypothesis H_{04} is accepted.

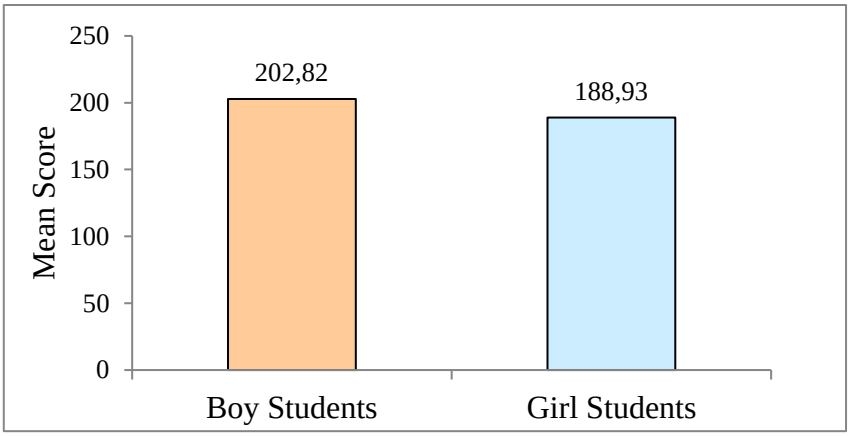

Figure 4. Mean score of study habits of boy and girl students IXth standard

3.5. H_{05} : There is no significant difference in study habits between rural and urban students of IXth standard

Table 5. Difference in mean score of study habits between rural and urban students of IXth standard

Rural Students			Urban Students			MD	Df	SE_D	t-value	Significance
n_1	Mean	SD	n_2	Mean	SD					
44	191.43	38.69	46	200.13	34.78	8.70	88	7.75	1.12*	Not Significant

*t-criterion value at 0.05 level is 1.99 for df 88.

Interpretation : There is no significant difference in study habits between rural and urban students of IXth standard as the t-value of 1.12 is less than the t-criterion value of 1.99 at 0.05 level for df 88. Hence the null hypothesis H_{05} is accepted.

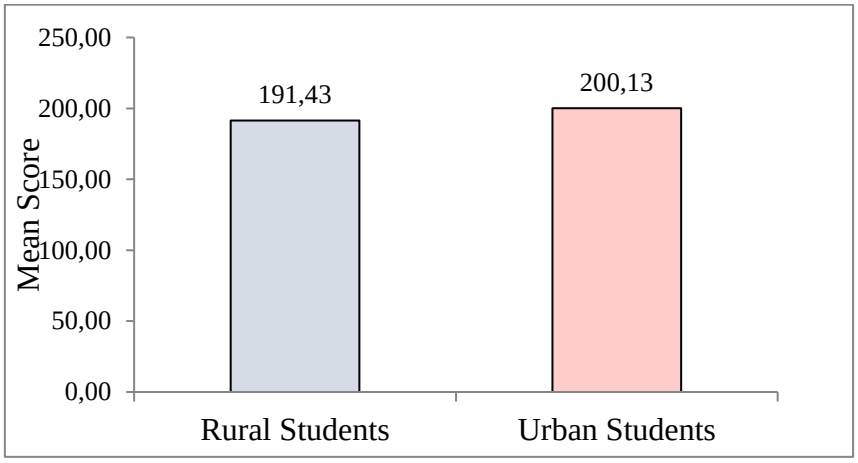

Figure 5. Mean scores of rural and urban students in Study Habits

6. Conclusion

A significant and negative relationship between science anxiety and study habits was explored through the conducted study. Hence as anxiety reduces, study habits increase. This guides parents, teachers and stakeholders to take effective measures to control the science anxiety and inspire to learn the science subjects through activity-based methods. They should provide the appropriate learning environment to the learners so that they can develop consistent and effective study habits. Reducing the levels of anxiety and offering proper learning environment the degree of study habits should be augmented exponentially. The incremental development of study habits would bring excellent academic achievement which in turn, bring success of the learners as well as the welfare of the nation.

References

Akinleke, W. O., & Adeaga,T. M. (2014). Contributions of test anxiety, study habits and locus of control to academic performance: British Journal of Psychology Research, 2(1), 14-24.

Ammara, N., & Syeda, S. H. (2017). Effect of study habits on test anxiety and academic achievement of undergraduate students: Journal of Research and Reflections in Education, 11(1), 1-14.

Ergene, T. (2011). The relationship among study habits, test anxiety, achievement motivation, academic success among Turkish high school students. Journal of Education and Science, 36(160), 320-330.

Lawrence, A. (2014). Relationship between study habits and test anxiety of higher secondary students. International Journal of Teacher Educational Research, 3(6), 1-9. www.eduresearch.in.

Naveh-Benjamin, M., Mckeachie, W. J., & Lin, Y. (1987). Two types of test anxious students: Support for an information- processing model. Journal of Educational Psychology, 79, 131-136.

Nixon III, E. C. (2021). The relationship between study habits (attitude, motivation, study aids), and test anxiety of secondary students attending private school (Doctoral dissertation, Grand Canyon University).

Numan, A., & Hassan, S. S. (2017). Effect of study habits on test anxiety and academic achievement of undergraduate students. Journal of Research and Reflections in Education, 11(1), 1-14. http://www.ue.edu.pk/jrre

Udeani, U. (2012). The relationship between study habits, test anxiety and science achievement. Journal of Education and Practice, 3(8), 151-157.

Shokrpour, N., Zareii, E., Zahedi, S., & Rafatbakhsh, M. (2011). The impact of cognitive and meta-cognitive strategies on test anxiety and students' educational performance. European Journal of Social Science, 21,177-188.