

# Meta Analysis of Study Habits and Academic Achievement

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## Abstract

*A Meta analytical review investigated the study habits and academic achievement of school and college students. In this study the sample consists of twenty seven reviews based on study habits and academic achievement/ performance. The sample of the review based on inclusion criteria such as study habits and academic achievement. The review was collected by following details such as title of the study, Name of the author, Sample of the study, correlation Value and findings of the study. The Meta analysis is on the relationship between study habits and academic achievement. The main aim of the study is to find the fixed effects, random effects model values, Heterogeneity and forest plots. A Meta analysis of research paper was formed the conclusion.*

**Keywords: Study habits, Academic achievement, Meta analysis**

## Introduction

In 21st century highly competitive world, students face a variety of academic problems such as exam stress, attending classes and the inability to understand the subject (Manimozhi and Srinivasan, 2018) for that problem students can maintain the different behaviour to achieve the academic field. Continuously a student following the good study habit means students can improve the interest, reducing the exam stress and easily understanding the subject. Achievement is not based on ones 'how much ones study but it's really based how ones study', so performance of pupils achievement depend on ones studying habits. Study habits can play vital role to get better performance in academic and everywhere.

## Background of the Study

Education plays an essential position in the development of a learner. In 21st century learners using more than type of way to learn the things, especially student's academic achievement is measured by one's ability to learn/study. The efficient and ability of the study is based on students study habits. A academic performance is depends on the study habits of students, so teachers and parents to motivate the pupils improve the study habits.

More factors affect the ones study habits such as social life, health condition, interest in the topic and ultimate goal and so on. Positive factor can raise the study habits and improve the student's academic achievement, negative factor shrink the study habits and reduce the students performance in academically.

According to Crow and Crow (1956) Positive attitude, proper physical condition and balanced emotional states are important factors influencing study habits.

According to Good (1973) study habits as: The student's way of study whether systematic, efficient or inefficient etc.

According to Patel (1976) study habits comprise the positive factors such as home environment and planning of work, reading and note taking habits, planning of subjects, habits of concentration, preparation for examination, general habits and attitudes and school environment.

According to Manimozhi and Srinivasan (2018) academic performance means evaluation of enlightening ability through the examination and assessment, the academic performance is mostly depends on ones interest of the study behaviour.

From the above statements, researchers can quite a few common points about study habits. According to these statements there are key points:

- Way of study is a study habits
- Positive factors influence the study habits to increase the achievement
- Behaviour of pupils to prepare the exam

Researchers on the other hand, find the relationship of academic performance and study habits. This research papers compares thirty studies using meta-analysis approach and identify the relationship of studies and fixed effect, random effect and heterogeneity.

### Objectives of the Study

The objectives of the studies are

- To collect the literature review based on Study habits and Academic achievement/ performance.
- To classify the statistical values.
- To discover the fixed effect, random effect and heterogeneity values using by Meta analysis software.
- To find the relationship between and Study habits and Academic achievement / Academic performance.

### Hypothesis of the Study

There is no significant relationship between Study habits and Academic achievement / Academic performance.

### Operational Definition of Key Terms

Following are the operational definition of key terms,

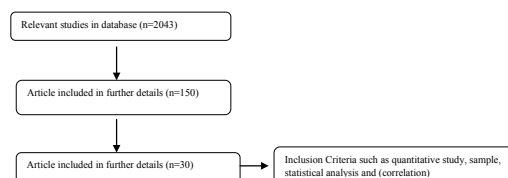
**Study Habits:** Way of behaving one uses to help them study and learn continuously.

**Academic Achievement/ Performance:** Appraisal of learning and academic ability through test and examination.

**Meta Analysis:** Synthesis the various interconnected studies to conclude the common elucidation.

### Population of the Study

The population of the present study is the Emotional intelligence and academic performance research papers in Eric, Google scholar and science direct. The sample selection process is included in the below fig.1.



**Figure 1: The Process of Studies Inclusion and Exclusion of Meta-analysis**

### Sample of the Study

The sample consists of 30 studies based on study habits and academic performance. A purposive sampling technique is used for this study. The features of the studies noted in the below table.

**Table 1: Characteristics of the Study Including in the Meta Analysis**

Name	Title	Sample	R	Findings
Premalakshmi	Study Habits and Academic Achievement of Higher Secondary Students	525	0.520	There is a positive significant relationship between study habits and academic achievement
Kamoru and Ramon	Influence of Self-Concept, Study Habit and Gender on Attitude and Achievement of Secondary School Students in Mathematics	200	0.794	There is a positive relationship between students study habit and performance in mathematics

Choudhury and Das	Influence of Geometrical Ability and Study Habit on the Achievement in Mathematics at the secondary stage	500	0.696	There is a positive significant relationship between study habits and achievement in Mathematics
Siahi and Maiyo	Study of the relationship between Study Habits and academic achievement of students: A case of Spicer Higher Secondary School, India	85	0.66	The positive correlation between academic achievement and study habits and the magnitude of the relationship is high and strong
Lawrence	Relationship between Study Habits and Academic Achievement of Higher Secondary School Students	300	0.090	There is no significant relationship between study habits and academic achievement of higher secondary students
Mashayekhi, Rafati, Mashayekhi, Rafati, Mohamadisardoo and Yahaghi	The relationship between the study habits and the academic achievement of students in Islamic Azad University of Jiroft Branch	220	0.175	There is a significant positive correlation between the study habits and academic achievement
Chowdhury	Study Habits and Achievement of Students in Mathematics of Secondary Schools	300	0.7726	There is a significant relationship between study habits and achievement in Mathematics of secondary school students
Khurshid, Tanveer and Qasmi	Relationship between Study Habits and Academic Achievement among Hostel Living and Day Scholars' University Students	200	0.89	There is a positive correlation between study habits and academic achievement
Gulhane	Correlative Study of Anxiety and Study Habits with Academic Achievement of Secondary Students	500	0.34	There is significant relationship between study habits and academic achievement
Chamundeswari, Sridevi and Kumari	Self-Concept, Study Habit and Academic Achievement of Students	336	0.36	There is a significant correlation between study habit and academic achievement
Arora	Academic Achievement of Adolescents in Relation to Study Habits	100	0.735	There is significant positive relationship between academic achievement and study habits of adolescents
Sing and Mahipal	Academic Achievement of Secondary School Students in relation to their Study Habits	100	0.64	There exists significant high positive relationship between Academic Achievement and Study Habits
Babatunde, Ifeanyi, Edem and Olanrewaju	Impact of note taking and Study Habit on Academic Performance among selected secondary school students in Ibadan, Oyo State, Nigeria	900	0.819	There is significant correlations among study Habits and Academic Performance
Thapar and Kumar	Academic Achievement of Truants in relation to Study Habits and Guidance Needs	200	0.016	There is no significant relationship between study habits and academic achievement

Ergene	The Relationships among Test Anxiety, Study Habits, Achievement, Motivation and Academic Performance among Turkish High School Students	510	0.145	There is a positive correlation between study habits and academic success GPA
Numan and Hasan	Effect of Study Habits on Test Anxiety and Academic Achievement of Undergraduate Students	180	0.54	There is significant positive relationship between Study Habits and Academic Achievement.
Tahamtani, Kohpayezadeh, Hosseini and Arabshahi	Correlation of Study Habits with Academic Achievement among Students attending the National Medical Science Olympiad	278	-0.054	There is no significant correlation between study habits and academic achievement
Fereidouni Moghadam and Cheraghian	Study Habits and their Relationship with Academic Performance among Students of Abadan School of Nursing	150	0.27	There is a significant weak and positive relation between the Students Study Habits and their Academic Performance
Kaur and Pathania	Study Habits and Academic Performance among Late Adolescents	113	0.28	The overall Correlation revealed a highly significant relation between study habits and academic performance
Kumari and Chamundeswari	Achievement Motivation, Study Habits and Academic Achievement of Students at the Secondary Level	457	0.87	There is a significant positively relation between Study Habits and Academic Achievement
Yazdani and Godbole	Studying the role of habits and achievement motivation in improving students' academic performance	400	0.749	overall study habits has significantly high positive correlation with academic performance, so better study habits lead to better academic performance.
Chawla	Achievement in Chemistry of IX Graders in Relation to Study Habits	151	0.38	There is significant positive relationship between Achievement in Chemistry and Study Habits.
Singh	Academic Achievement in Mathematics in Relation to Study-Habits	600	0.043	There is a significant relationship between academic achievement in mathematics and study habits
Siddiqui and Ali	Influence of Study Habits on Academic Achievement of Senior Secondary School Students in relation to Gender and Community	345	0.51	There is no significant relationship between Study Habits and Academic Achievement
Olatoye	Study Habit, Self-Concept and Science Achievement of Public and Private Junior Secondary School Students in Ogun State, Nigeria	360	0.246	There is positive significant relationship between study habit and student science achievement
Onabamiro and Odunlami	Relationship between Study Habits and Secondary School Students' Academic Performance in Eti-Osa local Government Area of Lagos State	275	0.105	There is significant relationship between positive effect on study habit and academic performance.

Bhatla	Academic Achievement of Socially Disadvantaged Secondary School Students in relation to Study Habits	200	0.298	There is no significant correlation between academic achievement and Study habits of secondary school socially disadvantaged students of Panchkula
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**Methodology**

Quantitative method was used especially Meta analysis method was used. Therefore the methodology adopted in this study is quantitative approach.

**Data Analysis**

The sample selection was based on the study habits and academic performance research papers. Each review was together and correlation values were tabulated for Meta analysis. Finally numbers of sample & correlation values are considered for Meta analysis. Table-2 shows Meta analysis of reviews.

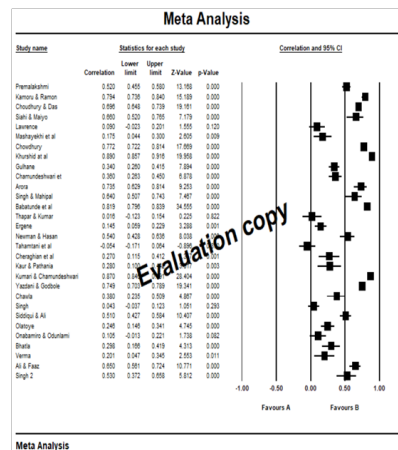
**Table 2: Meta Analysis Fixed, Random and Heterogeneity Value**

Model	Effect size and 95% interval				Test of null		Heterogeneity				Tau-squared			
	Number studies	Point estimate	Lower limit	Upper limit	z value	p value	q value	df	p value	I squ	Tau-squared	Std. error	Variance	Tau
Fixed	30	0.519	0.503	0.534	54.043	0.000	1677.946	29	0.000	98.272	0.195	0.061	0.004	0.442
Random	30	0.498	0.369	0.609	6.699	0.000								

**Confidence Interval: Hypothesis Testing**

The heterogeneity degree values conclude whether the analysis is carry out with a random effects model or fixed effects model. The inconsistency index (I2) value was used to assess the heterogeneity degree value, such as low, moderate, or high according to values of 25%, 50%, and 75%, respectively.

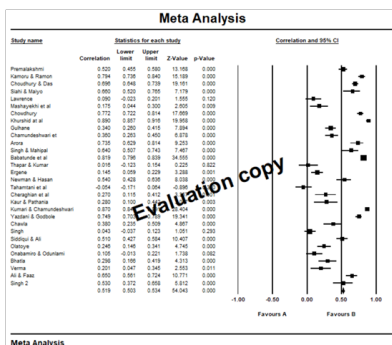
According to Manimozhi and Srinivasan generally Meta analysis based on two effect model such as fixed effect and random effect model. If inconsistency index value is less than or equal 25% means the studies are homogenous and the inconsistency index value is higher than or equal to 75% means the studies are heterogeneity.



**Figure 3: The Forest Plot of Study Habits and Academic Achievement through Random Model**

Manimozhi and Srinivasan explained the confidence level of 95% the p-value is smaller than .05. In traditional terminology, this means that the meta-analytic effect is statistically significant. If the aim of the meta-analysis is to test the hypothesis that there is an effect, then the null hypothesis can be rejected and the alternative hypothesis is accepted.

From the above Fig 2 shows the fixed model effect of study habits and academic achievement the and Fig.3. Shows the study habits and academic achievement through the random effect model.



**Figure 2: The Forest Plot of Study Habits and Academic Achievement through Fixed Model**

From this table 2,  $I^2 = 98.272$  ( $I^2 \geq 75\%$ ) then the value is greater than of 75%, so heterogeneity is very high, and researcher use a random effect model for meta-analysis. In this study P value is 0.000 is less than 0.05 at 95% confidence level, this means that the null hypothesis rejected. Hence there is a significant relationship between study habits and academic achievement.

From the above figure (2) the correlation value of study habits and academic achievement according to the fixed model pooled results was 0.519 and the lower limit and upper limit was 0.503-0.534 at 95% confidence interval.

From the above figure (3) the correlation between study habits and academic achievement according to the random effect model pooled results was 0.530 and the lower limit and upper limit was 0.372-0.658 at 95% confidence interval.

## Conclusion

The purpose of this study was to make an analysis of the relationship between study habits and academic achievement by using a meta-analysis. The results of the study show that the studies study habits and academic achievement significantly relationship with each other.

Some of the contributions this study has identified are as follows:

- Forest plot of correlation between study habits and academic achievement through fixed model
- Forest plot of correlation between study habits and academic achievement through random effect model.
- Heterogeneity value suggests that the studies in this meta-analysis cannot be considered to be studies of the same population.

From this study revealed, there is a significant relationship between student's academic achievement and study habits. study habits is varied from students to students, but continuously following the study habits is improve the academic performance.

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