Examining the Relationship Between Having a Dedicated Study Space at Home and Secondary Students' Academic Achievement

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Abstract

The objective of this research was to establish a connection between the existence of a specific place for studying in the house and the secondary school student's academic success. This research was correlational and quantitative. The 10th-grade students were randomly selected from Male Public Secondary Schools in Tehsil Muzaffargarh District Dera Ghazi Khan. There were 340 male Rural and Urban Public Secondary School students. The results showed that although a dedicated study area is strongly associated with academic performance, the relationship is more complex than previously appreciated. Providing a study space does not automatically result in better outcomes; rather, it is dependent on the quality of the environment, potential distractions, socioeconomic challenges, and family dynamics. The findings focus on the use of a holistic approach that integrates good study environments, active family support, equitable resource access, and strategies to establish effective study habits. Insights from these studies provide valuable recommendations for educators, parents, and policymakers working on improving student success through enhanced learning conditions.

Keywords: Dedicated study space, academic performance, secondary education, learning environment, socioeconomic influences, family involvement, study habits.

Introduction

Over the past decade, there has been increased attention on the influence of physical learning

environments on academic performance. Among such factors, having a space dedicated to study at home is particularly crucial for enhancing the performance of secondary school students. Such spaces promote students' regular structured routines and minimize distractions for an environment favorable to learning (Smith et al., 2024). However, more research is necessary to identify accurately the impact that these spaces can have on student learning and all the socio-economic and psychological factors governing their availability and effectiveness.

A dedicated study space is not just a physical area; it's a purposeful setting designed to enhance concentration and academic engagement. According to research, environments free from distractions improve cognitive performance by easing the brain's effort to process external stimuli, allowing students to focus more intently on their studies (Zhao & Watterston, 2023). Moreover, such spaces promote essential habits like effective time management and consistent study routines, which are critical for academic success (Ahmed, 2024).

Socio-economic status significantly influences access to a separate space for studies. More significant incomes enable one to have adequate and proper seating furniture, excellent lighting, and noise-free zones—the best set conditions for studies (Evans, 2022). Lower-income students find it difficult with congested and noisy settings; thus, these make them incompetent to concentrate in order to acquire knowledge and get good grades at school (Gutman et al., 2023).

Having a personal study space goes beyond mere practicality. It can actually instill responsibility and ownership of learning. According to Deci and Ryan's self-determination theory, students will find environments where they have control over their learning conditions to be conducive to intrinsic motivation (Deci & Ryan, 2024). From a cognitive perspective, students are able to focus better when there are minimal distractions around them, making it easier to capture and retain information (Sweller, 2024).

This situation during the COVID-19 pandemic made home study environments critical to learning. The findings of the research indicate that students who have dedicated study spaces are more able to adapt to online learning as compared to their counterparts without these spaces, further underlining the importance of dedicated study spaces in today's hybrid education landscape (Shen et al., 2024). With digital tools increasingly being embedded in education, supportive home learning environments are also likely to increase in demand.

Statement of the Problem

There has been extensive research on the relationship between environmental factors and academic achievement, but the specific effect of having a dedicated study space at home on the academic performance of secondary students is not known. While it is assumed that a structured environment, devoid of distractions, supports learning, existing research does not paint a consistent picture; some have emphasized its benefits while others point to certain limitations. Among those, confounding variables like socioeconomic status, family support, and quality space can be such notions. For any action strategy addressing study environments for academic outcomes to be recommended, there still seems to be a hiatus in this understanding. Educators, parents, and policymakers need evidence-based approaches that will help the students learn effectively and succeed in their academics by addressing this problem.

Objective of the Study

1. To explore how having a dedicated study space at home affects the academic performance of secondary school students.

Research Question

1. In what ways does a well-organized, distraction-free study environment at home influence the academic success of secondary students?

Significance of the Study

The relationship between having a dedicated study space at home and secondary school students' academic performance is of interest to policymakers, educators, and families in their efforts to close educational gaps and promote equity. This study, therefore, tries to provide the basis on which parental involvement will be enhanced, underprivileged families supported, and systemic barriers to educational success addressed.

Delimitations of the Study

The study was delimited to:
Male students of the public secondary schools in tehsil Muzaffargarh.

Literature Review

Many studies on educational research reflect that the learning environment of a child plays an important role in academic performance. One factor often prevalent is that of having a well-crafted study space at home, but the exact nature and extent of the relationship are still debated, with studies focusing on different aspects of study environments and their influence on student outcomes.

The role of study environments in academic achievement

Research indicates that effective study settings influence students to be more concentrated and perform academically better. Maxwell, in 2016, asserted that an ordered and systematic space for study would reduce cognitive overload and allow a student to be more focused in their academic endeavor. Evans et al. in 2010 added that if the environment was quiet, illuminated properly, and had minimal distractors, students could learn and understand much more. These aspects of physical setting create an environment for academic performance.

Socioeconomic factors and access to study spaces

Access to structured study spaces has often been associated with socioeconomic status. According to Jensen (2013), students of lower SES tend to have less access to organized learning environments than their counterparts in more affluent families, thus facing an unfair disadvantage in comparison to those from better SES backgrounds. Meta-analysis conducted by Sirin (2005) further underpins this view: SES has emerged as one of the best predictors of academic success, with the availability of learning resources-study spaces-being the most crucial mediating variable.

Quality over Availability of Study Rooms

Availability of a study room does not automatically translate to better academic performance. According to Phillips (2019), quality is essential; poorly designed or cluttered spaces defeat the purpose. Even in designated study rooms, distractions or a lack of functionality can limit the ability of students to focus, thus calling for the evaluation of usability and effectiveness in such environments.

Psychological and Behavioral Factors

Psychological factors, such as motivation and self-discipline, also determine the effectiveness of a study space. Zimmerman and Schunk (2011) reported that students' self-regulation and study habits are more important than the physical spaces in which they study, though the physical spaces are significant. This is with the studies carried out by Eccles and Roeser (2011), whereby they highlighted the fact that family's supportive dynamics plus active parental participation enhance the merits of having a serious study space in that students exhibit better time and learning management habits.

Mixed Review on the Presence of Study Environments

A few studies revealed very weak, if not even adverse, relationships between possessing a personal space for studying and academic performance. For instance, Baker et al. (2018) asserted that overdependent students may experience difficulties adapting to less-controlled spaces, and, therefore, would not do as well when operating in nonpredictable educational contexts. Further, poorly designed learning environments like too dim or noisy may inhibit learning rather than foster it (Sundstrom et al., 1994).

The Need for a Holistic Approach

There is a great need for holistic approaches to the understanding and improvement of study environments. Bronfenbrenner's (1979) ecological systems theory underlines the interplay between home, school, and societal factors in shaping academic outcomes. This framework suggests that optimizing study environments must also involve addressing broader influences, such as parental support and equitable resource distribution.

Summary of Literature Review

Existing literature consistently highlights the importance of study environments in influencing academic achievement, but the relationship is complex and shaped by various factors, including SES, the quality of study spaces, psychological attributes, and family dynamics. Future research should aim to disentangle these variables to better understand how to create effective learning environments that maximize academic success.

Research Methodology

The study was a correlation-by-method. A quantitative approach was followed to understand the relationship between having a dedicated study space at home and secondary school students' academic performance.

Population of the study

There were 35 male public secondary schools in tehsil Muzaffargarh, of which 11 were in urban areas while the other 24 were in rural areas.

Source:

(https://schoolportal.punjab.gov.pk/sed_census/new_emis_details.aspx?distId=323--Muzaffargarh).

Sample of the study

Twenty-five schools were selected out of 35 using a table of random numbers. Six (6) urban and 19 rural male public secondary schools were selected for data collection in tehsil Muzaffargarh. The students of the 10th grade were randomly selected from every Male Public Secondary School in Tehsil Muzaffargarh. So, the sample was 340 male Rural and Urban Public Secondary School students, which provided sufficient statistical power for detecting medium to large effect sizes with a confidence level of 95% (Etikan et al., 2016; Creswell, 2014).

Research Instruments

A self-developed instrument was used to collect the having a dedicated study space at home data from the students, and a self-developed Academic Achievement Test (AAT) was used for the 10th grade.

Reliability of Research Instruments

A pilot study was conducted by administering an academic achievement test. The test was given to randomly selected 20 students from the population. Academic achievement scores were obtained. This allowed the researcher to evaluate the clarity and comprehensibility of the questionnaire items.

In this research, the following instruments were used:

i. Having a Dedicated Study Space at Home (DSS) , like separate room or library in home.
ii. Academic Achievement Test (AAT)

The reliably of the (DSS) tool was 0.89, and (AAT) tool was 0.88

Data Collection

Data was collected through visits to the respondents' schools, and the questionnaires were distributed among participants. An achievement test was also conducted. Then, achievement tests scored and correlated with students' having a dedicated study space at home.

Data Analysis

After the data collection phase, the data was analyzed using SPSS. Descriptive and inferential statistics were used to analyze data through SPSS. For inferential statistics, Pearson's Correlation Coefficient (r) was used.

Results

Table No. 1 Regression Analysis of Relationship of Separate Place to Study at Home and Academic Achievement (Model Summary)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.273	.075	.072	12.275

a. Predictors: (Constant), Separate Place to Study at Home

Table 1 indicates the regression analysis of Separate Place to Study at Home and Academic Achievement. According to the data analysis of the model summary, the R-square value was .075, which showed that students separate place to study at home caused a 7.5% change in students' academic achievement.

Table No. 2 Regression Analysis of Separate Place to Study at Home and Students' Academic Achievement (ANOVA)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4101.445	1	4101.445	27.221	.003
	Residual	50926.893	338	150.671		
	Total	55028.338	339			

a. Dependent Variable: Total Marks
b. Predictors: (Constant), Separate Place to Study at Home

Table 2 indicates the regression analysis of separate place to study at home and academic achievement. According to the data analysis of ANOVA, the $p<0.05$ showed significant relationship between separate place to study at home and academic achievement.

Table No. 3 Regression Analysis of Separate Place to Study at Home and Students' Academic Achievement (Coefficients)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	91.164	2.249		40.534	.002
	Separate Place to Study at Home	-7.057	1.353	-.273	-5.217	.01

a. Dependent Variable: Total Marks

Table 3 indicates the regression analysis of students separate place to study at home and students' academic achievement. According to the data analysis of Coefficients, the value of beta was -.273, which showed a positive relationship between separate place to study at home and students' academic achievement. In other words, it indicates that if separate place to study at home interacts with one unit, then students' academic achievement will increase by -27.3% negative.

Findings of the Study

The data analysis revealed a nuanced relationship between having a dedicated study space

at home and secondary students' academic performance. An R-square value of 0.075 indicated that a separate study area accounted for 7.5% of the variation in students' academic achievement. ANOVA results revealed that the factor was significant, meaning that $p < 0.05$, and therefore, this factor is significantly related. Now, the coefficients analysis for beta value came out to be -0.273 with a negative sign. This shows that there exists an inverse relation and a one-unit increase in the variable of having a dedicated study space lowers the academic achievement by 27.3%. This is a surprising result that there might be other complexities or confounding factors that affect the outcome.

Discussion

This study has come out to focus on the complexity of the relation between having a dedicated study area at home and the academic performance of secondary school students. With the R-square value of 0.075 from the model summary, about 7.5% variation in students' academic achievement could be related to the presence of a dedicated study area. Although this percentage is small, it does show that environmental factors, such as having a dedicated place to study, play a role in academic outcomes. This finding is consistent with previous studies that have stressed the importance of structured learning environments in achieving academic success (Evans et al., 2010; Maxwell, 2016).

The ANOVA results provided a statistically significant p-value less than 0.05 that confirms the significance of the positive correlation between dedicated study space and academic achievement, making it probable that the outcome would not happen by chance; this is supported in that it explains deeper research as well. Still, the complication occurs in terms of coefficient analysis. A beta value of -0.273 indicates that an increase in the variable associated with having a study space is correlated with a 27.3% decrease in academic performance.

This result may suggest confounding variables that may be influencing the outcome. The quality of the study space, the frequency it is used, or other socioeconomic and psychological elements could be some factors. A dedicated study space would not automatically lead to good study habits. For example, students from better economic backgrounds can also have extra resources, which are essential for success in school aside from having a dedicated study space (Jensen, 2013).

This may also indicate a difference between the theoretical advantages of a dedicated study space and its actual use. Factors such as household noise, distractions, or even the way the space is used may limit its effectiveness. The negative beta value points to the fact that factors such as parental involvement, student motivation, and time management skills should be considered when assessing the impact of study spaces (Phillips, 2019).

In summary, though the research provided here is essential in establishing a statistically significant relationship between having a dedicated study space and academic achievement, the negative value of the beta implies that the relationship could not be that simple. Future research should therefore focus on the study of quality and use of study spaces and other contributing variables to better understand how optimizing these environments would help improve academic outcomes.

Conclusions

The study proved that having an exclusive study room at home also modestly predicts the

academic results of secondary level students, to the extent of 7.5% from the R-square value. It is true, though, that due to the statically significant relationship that exists between those variables ($p < 0.05$) environmental factors stand out as influential. However, the negative value of beta is -0.273, therefore, this would mean that, in reality, the relationship more complex than as expected. Alone, a room for study and reading does not guarantee better achievements. Factors like the quality of the space, potential distractions, and broader socioeconomic and psychological influences likely have a significant impact. These findings underscore the importance of taking a holistic approach—one that integrates structured study environments with supportive family dynamics, effective study habits, and equitable access to resources—to fully enhance academic achievement.

Recommendations

Recommendations were made on the basis of findings and conclusions of the study;

1. Create study spaces that are free from distractions and optimized for effective learning, ensuring they are both high-quality and practical for students to use.
2. Launch initiatives that strengthen family support, promote the development of effective study habits, and ensure students have equitable access to essential learning tools.

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