



The impact of study hours on academic performance: A statistical analysis of students' grades

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Abstract

This study aims to determine the relationship between study time and academic achievement of business school students in Aligarh (INDIA). The poll involved 209 students divided into three distinctive groups based on regular weekly study hours: 2 to 4 hours, 4 to 6 hours, and above 6 hours. In all, 209 students responded to the survey. Academic performance was evaluated with high, medium, and low grades; these grades were classified into five different groups depending on the grades: below 60%, between 60% and 70%, between 70% and 80%, between 80% and 90% and above 90%. Such information was used to determine the extent to which the person had succeeded in their life of the mind. The results also corroborate several ways the duration of study time is related to grade, consistent among the properties studied. They realized that students who studied 4 hours to 6 hours per week had a better tendency to become great scorers, and a high percentage of them scored 70 to 90 or even more than that. Many of our children were in this category. However, there was a broad range of achievement among students who devoted over six weekly hours, suggesting that it only sometimes pays to study harder than one would have studied.

Moreover, the results of academic research have provided evidence that a moderate time, between four to six hours per week, spent studying is helpful to enhance academic performance as opposed to either minimal or maximal study, which was proven to be detrimental. This serves as a reminder to be more balanced in studying. The research also stresses the importance of balanced study habits. Through these principles, instructors, and students in Aligarh and other academic environments will be expected to learn effective styles to improve academic performance. They could expand their time on tasks to save time studying and improving their GPAs and education.

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Introduction

Education opens the door to individual advancement and social promotion. Similarly, education is an essential factor in society ^[1]. Providing people with the information, skills, and mental tools they need to navigate the complexities of life and make meaningful contributions to communities. Academic performance is the hallmark of a student's potential and his or her future achievement in the field of education. So, there are many pertinent sections that contribute to a single point of the result. These factors depend on the financial state of the individual, his background, his personality, and also his study habits. This issue has piqued the interest of educationists, academicians, and politicians more than anything else ^[2, 3]. The amount of time students spend learning is the key factor. A comprehensive understanding of the relationship between study time and performance is necessary to improve student outcomes. So, what we know is essential for training and caring for one in the modern age.

It is important to understand this in order for one to achieve the best possible results for the pupils. The current research is the principal area of investigation explored through the cross-sectional approach on adolescents studying in business schools in Aligarh, India. Since Aligarh is an educational city of historical importance and has renowned educational institutions, the sample may also be best suited to examine the relationship between study habits and academic achievement ^[4, 5].

Business school lasts for three to four years, depending on the region, and it is the time when the base for higher and career is set. Because the study period at the business level is simply the reference point. This is a stage at which to learn effective study skills; in generations to come, the educational paths and careers people embark on could be influenced by the study methods they have already encountered. Research techniques are valid for this. When we talk about study habits, some activities come to mind. Time Spent Studying consists of how long one dedicates time to individual studying, the techniques used in the study, and the dimension of one's regular studying routine^[6]. This includes the length of study time, which is a quantifiable area that can be measured and manipulated. However, there is still a great debate about how much time to study, something else that needs to be balanced. Many educators contend that increasing in-school study hours might lead to a better understanding and retention of academic knowledge^[7, 8]. Moreover, this is one of the views that those instructors espouse. Some considerable percentages of the respondents have mentioned that quality is more important than quantity. Instead of studying for hours, these people opt for effective strategies and directed practice. Recent studies still have different views on this link between study hours and academic performance^[9]. Over the years, multiple studies have found an excellent correlation between prolonged study hours and improved grades. There is a significant association between these two. Each of these relationships correlates with greater time-investments towards learning. This increased study time enables students to review what they have learned, practice problems, and dive deep into the subject matter^[10]. As they have more time around them to spare around the learning phase. On the other hand, many other studies counter that the learning benefits gained from spending more and more time are decreasingly relevant. According to the findings from these studies, there is a ceiling to academic performance, how much additional study time can significantly improve^[11]. Sure, and it could even result in feelings of exhaustion and a decrease in productivity. The type of study sessions is as important as the total length of study. Good study sessions involve studying the right subject material with active engagement, strategically using study aids, and taking breaks. These traits are detailed, especially regarding enduring focus and lessening feelings of trauma. The qualities above could separate the wheat from the chaff between productive and unproductive study sessions^[12, 13]. Evidence suggests that approaches such as spaced repetition, active recall, and problem-based learning may improve learning outcomes. All this is just an example of different learning processes. Hence, it is expected that the best results will be achieved using an ad-hoc learning strategy that covers all segments of the task and includes a fair amount of time and modalities. The current research is focused on exploring the study habits of the business school students of Aligarh and their effect on academic achievement. This study, therefore, aims to be a worthwhile addition to the mentioned ongoing discussion^[14, 15]. To perform the study this will yield in this study, the relationship between how many study hours for which students are allocated and how long those studying hours are they have and the results of their students are analyzed. Now, this is done for the sake of a more detailed explanation^[16]. It hopes to pinpoint common practices that can affect educational methodologies and help students develop intelligent practices to rise to higher academic standards.

Quest for fulfilling self-imposed purpose, the study adopted a cross-sectional survey design to collect data from 209 students currently studying in three different business -level schools in Aligarh city^[17, 18]. The students are divided into three segments according to how many hours they study per week. These groups are distinct. The first consists of individuals who (reportedly) study 2–4 hours per day, the second of individuals who (reportedly) study 4–6 hours per day, and the last of individuals who (reportedly) study more than 6 hours per day. Evaluation is done from those marks obtained in five ranges: below sixty percent, 60 to 70 percent, 70 to 80 percent, 80 to 90 percent, and over 90 percent^[19, 20]. A student's grade is used to determine academic competency. This category allows for a more thorough investigation of the relationship between commitment to learning and other aspects of academic performance. This inquiry tries to discover whether such correlations exist. Those students who spend only four to six hours per week studying are far more likely to achieve high grades, from 70% to more than 90%. The relationship between studying and academic achievement is the first to be found^[21, 22]. This view is consistent with the claim that there is a threshold of acceptable study duration and the idea that this time needs to be balanced with effective study techniques. This conclusion remains consistent with the assumption given. On the other hand, we can see from the chart above that students who devote more than six hours a week to studying tend to have slightly more variation in grades, which suggests that simply studying more and more does not correlate to exceptional academic success all the time. In other words, this pattern of thought merely expresses the necessity of balancing, and it hints that over studying will lead to cognitive overload and potentially less effective productivity. This information can be interpreted in several ways because of several possible analytical approaches. These will be a useful estimate of when it is best for students to study, and instructors aware of this information might develop homework assignments and study calendars that would optimize learning without overly loading the students. This will thus make the development of such applications less difficult. This may offer perspectives that are helpful not only for students but also for parents trying to inculcate the importance of "studying well" - not just for the quantity or duration of the time spent but for the quality of the studying partnered with the best study timeservers^[23, 24]. Lawmakers could also use this information to develop policies that support the development of good, rounded study habits among the population. This will, therefore, result in the uplift of the overall standard of education. These findings stress the importance of finding a good equilibrium between study habits and academic achievement. However, as strong or fundamental before the university session is the very significance of the study time, they should complement it with effective means of how they are also learning over the study time — i.e., the level of learning. This research aims to add valuable information that could help improve educational methodology and assist students in their educational journey^[25]. That is how they will participate; the techniques for acquiring these insights are detecting that ideal study hour range and realizing the difference it makes on one grade^[26].

Literature Review

As a critical issue in education has received wide attention, the relationship between study time and test scores has been

intensively researched [27]. Nevertheless, other work views this relationship more subtly, challenging the straightforwardness of these associations with some limitations and complications. A few studies' evidence indicated that long hours may improve academic performance [28]. Nevertheless, some studies look at the relationship between variable power and emotional intelligence in a different, more complex way [29]. Some studies suggest they are positively correlated, but it has not been there.

Positive Association

Some studies have concluded that each hour of study time equals a point in grade increases. We have seen this relationship time and again [30]. Those who spend more time studying tend to do better in school, which earns them higher grades than their peers [31]. It is expected to observe something like this [32]. This approach presupposes that, first and foremost, success in school depends on students' working hard, working hard, working hard. This is a very well-appreciated idea, and this approach works well [33].

Cumulative Learning Effect

One of the arguments given by advocates for more study hours is that extended periods allow students to keep returning to the material, return to problems, and learn deeply in the subject area [34]. This is widely believed to be due to the cumulative effect of learning, which increases overall understanding, memory, and results over time. This is widely accepted in academia [35].

Preparation for Assessments

Several research experiments have demonstrated that individuals who practice a great deal have superior preparation on measures of exam capacity such as tests, quizzes, and examinations [36]. Students who study for long hours are likely to have read and understood more and, thus, performed better in assessment activities, which are used to assign grades. This is because they have more time to prepare for the activities in their lives [37].

Perseverance and Discipline

Supporters of longer study hours believe these are the most essential skills to develop, especially where determination power, power, and effective use of time are concerned. These are indispensable traits from their viewpoint for success in the academic field [38]. Maintaining structured study schedules and investing appropriate time in accomplishing an academic task helps to inculcate proper habits in the students, making them learn better and promoting their personal growth. Students may develop these routines to improve their general academic performance [39].

Diminishing Returns

Many studies suggest that this effect may decrease, provided that study time and resulting academic achievement are linearly related. This means that from this study, it is now clear that there is no direct link. Over a specific duration of studying, odds are the incremental benefits attain their limit and degrade even more than they did before [40]. This could lead to increased stress and exhaustion and a decrease in overall motivation, in addition to the danger that more time spent studying will not pay off [41].

Quality Over Quantity

Critics of allotting a significant amount of time to learning contend that the length of one's study time is less important than the quality of one's study time [42]. Scholars agree that success-oriented study modalities (active learning, spaced repetition, and critical thinking) achieve better student academic performance in objective achievement tests than the sheer amount of time students spend studying [43].

Individual Differences

There are a few factors in deciding how much study time influences academic performance. The connection is tested on the quality of the connection to do this. They consider someone's brain-compatible learning styles, cognitive abilities, and, of course, their situation [44]. Although some students will do better through more extended studying periods, others will do just as well or better using more targeted and efficient study methods. These students can be tailored to harness their learning ability to succeed [45].

Balancing Academic and Non-Academic Activities

Students are expected to balance various duties in their lives: those related to their schoolwork, extracurricular activities, and their own lives. Problem-solving is a skill that students need to work on throughout high school and in life. Studying at measured timing may interrupt one schedule for other non-academic matters, i.e., sleep, relaxation from everything, and more [46]. Therefore, an over-demanding study schedule might be the source of this interference. These disparities may create imbalances that can negatively affect the mental health and wholeness of the individual [47]. There is a good chance that something will happen. More than 50 years of research points to a mixed bag of connections between length of study and academic performance. As this discussion illustrates, education is complex and is full of a range of human experiences. Extending the time to study may work out well for some people, but it is even more important to understand that this is not the solution for everyone [5]. To help them succeed academically and lead a balanced life, we must take various approaches using the quality of study times, the student's specific characteristics, and the general picture of their life. The most straightforward phase involves building an environment that stresses good study habits as necessary, understanding the importance of balance from a premium perspective and top concern for holistic growth. A collaboration of educators, parents, and legislators envisioning a bright future for students. This could be challenging because one is helping young minds who are in pursuit of their academic dreams [48]. Stakeholders can choose to absorb an advanced appreciation for the relationship between time-on-task and performance with stakeholders. This understanding allows students to reach their full potential while maintaining their care and wellness [49].

Research Methodology

Study Design

Cross-Sectional Survey

A cross-sectional survey design will be employed to collect data from business school students in Aligarh, India [50]. This design allows for the examination of study habits and academic performance at a specific point in time.

Participants

Sample Size

The study will aim to collect data from a sample of business

school students in Aligarh, with a target sample of at least 250 students.

Sampling Method

A convenience sampling method will be utilized, whereby participants will be recruited from three business schools in Aligarh.

Inclusion Criteria

Students from different grades who are willing to participate in the study will be included after initial screening sample size of 209 students taken for this study.

Exclusion Criteria

The study will eliminate students who either do not consent to participate in the research or are not present during the data collection period. These are pupils who consented (apparently) This tells me that for at least this particular cohort of students, there would be no placement to engage them within the study

Data Collection

Instrument

Next, one will design a very rigorous survey to capture the duration of study time and its relationship with academic success. This will be done to extract data. The questionnaire that will be provided will consist of study habits related questions. This will cover number of hours spent studying each week, methods for studying, and academic achievement according to subject.

Procedure

Trained research assistants to deliver the questionnaire to students. This is going to take place during school hours. Participants will be given an assurance of privacy and that voluntarily consenting to participate during the entire course of the study.

Variables

Independent Variable (IV)

Study Hours per Week

Dependent Variable (DV)

Academic Performance (Grades)

Data Analysis

Chi-Square Test

The relationship between study hours and academic performance will be analyzed using the Chi-Square test. This test will determine whether there is a statistically significant association between the two variables.

Hypothesis

Based on the initial observations from the data analysis, the following hypotheses are proposed:

Null Hypothesis (H0)

There is no significant association between study hours and academic performance among business school students in Aligarh, India.

Alternative Hypothesis (H1)

There is a significant association between study hours and academic performance among business school students in Aligarh, India.

The Chi-Square test will be used to test these hypotheses, with the aim of determining whether study hours have a significant impact on academic performance.

Data Analysis

Table 1: Statistics

| Statistics | | | | |
|------------|---------|--------|-----|-----------|
| | | Gender | Age | Education |
| N | Valid | 209 | 209 | 209 |
| | Missing | 0 | 0 | 0 |

Table 2: Gender

| Gender | | | | | |
|--------|--------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 118 | 56.5 | 56.5 | 56.5 |
| | Female | 91 | 43.5 | 43.5 | 100 |
| | Total | 209 | 100 | 100 | |

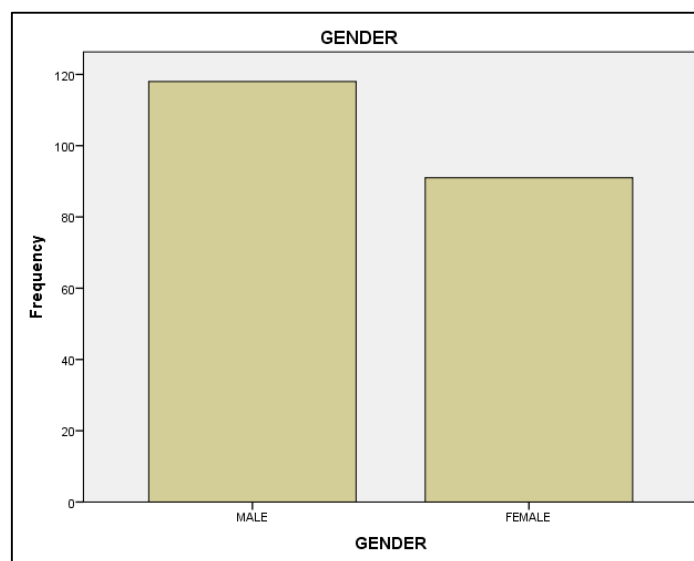


Fig 1: Study Hours per Week

Interpretation

This table indicates that out of 209 total responses:

118 responses (56.5%) fall into the first category which is for male

91 responses (43.5%) fall into the second category and which is for female

Cumulatively, the first category plus the second category sums up to 100% of the total responses.

This frequency distribution provides a clear view of how the responses are divided among the categories and shows the percentage representation of each category, ensuring that all responses are accounted for in the analysis.

Table 3: Categories and shows the percentage representation of each category

| | | AGE | | | |
|-------|----------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 16 TO 24 | 56 | 26.8 | 26.8 | 26.8 |
| | 25 TO 35 | 59 | 28.2 | 28.2 | 55 |
| | 36 TO 50 | 51 | 24.4 | 24.4 | 79.4 |
| | > 50 | 43 | 20.6 | 20.6 | 100 |
| | Total | 209 | 100 | 100 | |

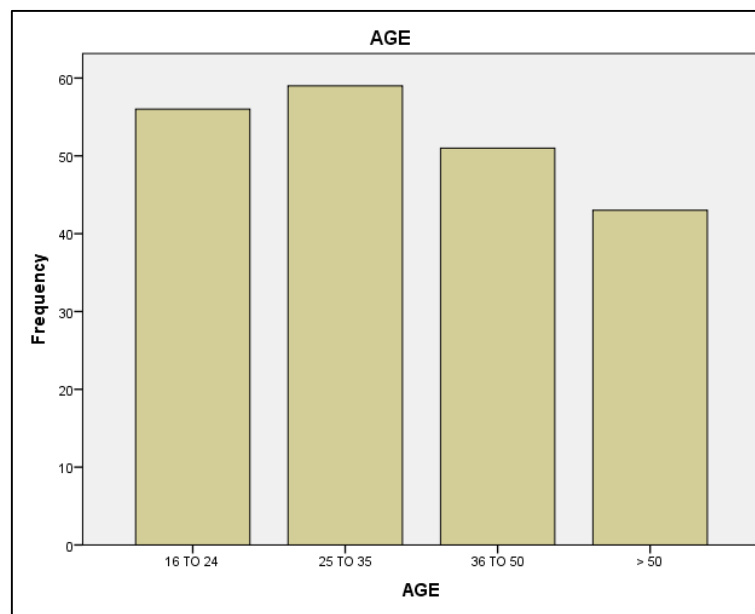


Fig 2: Age

Interpretation

This frequency table provides a clear overview of the age distribution within the sample of 209 individuals:

16 TO 24: 26.8% of the sample falls within this age range.

25 TO 35: 28.2% of the sample falls within this age range, making it the largest group.

36 TO 50: 24.4% of the sample falls within this age range.

> 50: 20.6% of the sample falls within this age range.

Moreover, aggregating the percentages broadens the understanding of the distribution, making it easier for us to understand the distribution as well. It can be seen from the

cumulative percentages in Table 2 that 55.0% from the selected sample are aged 36 years and below. Also, there are about 80% of the sample which are 51 years or younger [51]. This data allows us to accurately assess the demographics of the sample. From this data we can correctly determine the demographic nature of the sampled population. This is important to know as one do not want only a younger average age sample group if it will be research where age can have an effect on the results or answers as it could be absolutely important. It is this information which could be used to give us an idea of the age demographics of this sample group.

Table 4: This frequency table provides a clear overview of the age distribution within the sample of 209 individuals

| | | Education | | | |
|-------|-----------------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | High School or Intermediate | 41 | 19.6 | 19.6 | 19.6 |
| | University | 72 | 34.4 | 34.4 | 54.1 |
| | Masters | 47 | 22.5 | 22.5 | 76.6 |
| | Doctorate | 49 | 23.4 | 23.4 | 100 |
| | Total | 209 | 100 | 100 | |

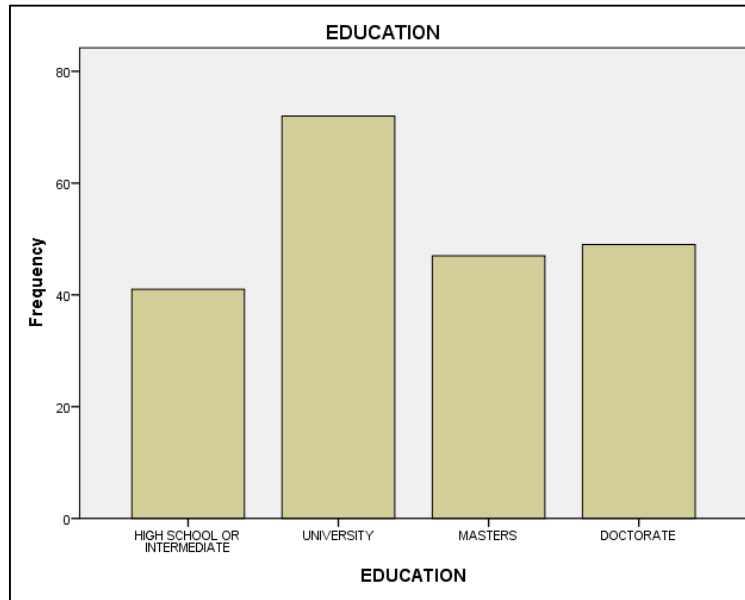


Fig 3: Education

Interpretation

This frequency table gives us a concise impression on the educational attainment of the 209 individuals in our sample:

HIGH SCHOOL OR INTERMEDIATE: 19.6 % of the sample has this education level

UNIVERSITY: The largest group, at 34.4 per cent, has a university education.

MASTERS: Nearly a quarter of the sample has a master's degree (22.5%).

DOCTORATE: A 23.4 percent of the sample holds a PhD. Cumulative percentages indicate gradual increase of the educational levels of the sample. Like, this tells us that more than half (54.1%) of the sample is university or under, looking at it cumulatively. In addition, 76.6% of the sample holds a master's degree or less, and the collective total includes 100% in these four educational groups.

Insights

In all, 34.4% of the sample has a tertiary level education, which is the largest group. More than one in five individuals in our sample have an advanced degree (22.5% master's; 23.4% doctorate). Results of the distribution indicated a heavily educated sample, with greater than 45% have a master's degree or higher. That said, since the number of years of schooling is alike, it only emphasizes the educational composition of the sample population, which may be

important for studies, in which the outcome or responses may depend on the educational level.

Table 5: Case Processing Summary

| Case Processing Summary | | | | | | |
|-------------------------|-------|---------|---------|---------|-------|---------|
| | Cases | | | | | |
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Study Hours * Grading | 209 | 100.00% | 0 | 0.00% | 209 | 100.00% |

Interpretation

The Case Processing Summary indicates that the dataset is final and has no missing values of the variables "STUDY HOURS" and "GRADING." It is simply a matter of integrity and it taking all of that into account that is essential for the complete and accurate analysis. All 209 cases provide accurate data, thus the outcomes obtained by this statistical analysis will be for the complete sample, which can shed light on the true nature and quality of relationship between study hours and academic success(grading). This summary ensures, that later drawn conclusions e.g. from chi-square test or any other statistical test, are derived from a complete data set without gaps or missing information and so the results are more reliable.

Table 6: Study Hours * Grading Cross tabulation

| Study Hours * Grading Cross tabulation | | | | | | | |
|--|-----------|---------|--------|--------|--------|------|-------|
| Count | | | | | | | |
| | | GRADING | | | | | Total |
| | | <60% | 60-70% | 70-80% | 80-90% | >90% | |
| STUDY HOURS | 2-4 HOURS | 2 | 5 | 8 | 7 | 1 | 23 |
| | 4-6 HOURS | 6 | 4 | 20 | 23 | 16 | 69 |
| | > 6 HOURS | 20 | 24 | 31 | 27 | 15 | 117 |
| Total | | 28 | 33 | 59 | 57 | 32 | 209 |

This cross tabulation highlights the relationship between study hours and academic performance. It suggests that moderate study time (4-6 hours) might be more effective for achieving higher grades compared to minimal study (2-4

hours) or extensive study (>6 hours). It also indicates that there may be an optimal range of study hours for better academic outcomes, though individual differences and other factors could influence these results.

Table 7: Symmetric Measures

| Symmetric Measures | | | |
|--|------------|-------|--------------|
| | | Value | Approx. Sig. |
| Nominal by Nominal | Phi | 0.28 | 0.035 |
| | Cramer's V | 0.2 | 0.035 |
| N of Valid Cases | | 209 | |
| a. Not assuming the null hypothesis. | | | |
| b. Using the asymptotic standard error assuming the null hypothesis. | | | |

Interpretation**Chi-Square Test Result**

The Chi-Square test evaluates whether there is a statistically significant association between two categorical variables: study hours and academic performance (grading).

The Approx. Sig. (p-value) for the Phi and Cramer's V measures is 0.035.

Phi Coefficient

Value: 0.282

Interpretation: The Phi coefficient measures the strength of the association between two binary variables. However, when dealing with larger tables, as in this case, the interpretation of Phi is less straightforward. Nonetheless, a Phi value of 0.282 suggests a moderate association between study hours and academic performance.

Cramer's V

Value: 0.199

Interpretation: Cramer's V is an extension of the Phi coefficient for larger tables and provides a measure of association between two nominal variables. It ranges from 0 (no association) to 1 (perfect association). A Cramer's V value of 0.199 indicates a weak to moderate association between study hours and academic performance.

The value being closer to 0.2 suggests that while there is a statistically significant relationship, the strength of the association is not very strong.

Approx. Sig. (p-value)

Value: 0.035

Interpretation: The p-value indicates the probability that the observed association is due to chance. A p-value of 0.035 is less than the typical significance level of 0.05, suggesting that the association between study hours and academic performance is statistically significant. In other words, we can reject the null hypothesis that there is no association between these variables.

Number of Valid Cases

N: 209

Interpretation: This is the total number of cases included in the analysis, confirming that all data points are valid and have been used in the test.

Overall Conclusion

Statistically Significant Association: There is a statistically significant correlation between the quantity of time dedicated to studying and the level of academic achievement. This is because the p-value for the correlation between the two variables is 0.035. The inference can be made from this is that the disparity in the duration dedicated to studying is more likely to correlate with fluctuations in academic achievement (grades) rather than being attributed to mere chance. This is

the deducible conclusion.

Strength of Association: The link might be considered weak with a Phi value of 0.282 and a Cramer's V value of 0.199. This conclusion is derived from the following information. This correlation has statistical significance; moreover, the magnitude of this relationship could be more substantial. Nevertheless, the connection is substantial. Although the observed connection is statistically significant, other factors may significantly influence academic attainment.

Practical Implications: The outcomes of this research demonstrate a positive association between the number of hours spent studying each week and an individual's academic achievement. To enhance academic achievement, students and instructors should examine other elements, including the study's quality, teaching strategies, and personal attributes. The link could be more vital owing to the nature of the relationship being considered.

By evaluating the findings of the Chi-Square test in this manner, one may get a more comprehensive understanding of the nature and significance of the correlation between study time and academic performance. This is due to the direct correlation between grades and the time spent studying. Moreover, this interpretation offers valuable insights into students' instructional strategies and methodological methods.

References

- Yssel N, Pak N, Beilke J. A door must be opened: Perceptions of students with disabilities in higher education. *International Journal of Disability, Development and Education*. 2016;63(3):384-394.
- Hashim A, Faisal SM, Khan AK. An Intense bibliographical study of job satisfaction theories in the private vis-a-vis public sector of banks. *World Wide Journal of Multidisciplinary Research and Development*. 2022;8(02):125-128.
- Walder AM. Pedagogical Innovation in Canadian higher education: Professors' perspectives on its effects on teaching and learning. *Studies in Educational Evaluation*. 2017;54:71-82.
- Mushtaq M, Tausif A. Collection management of electronic resources in engineering college libraries of Aligarh, India: A study. *Collection and Curation*. 2020;39(3):89-96.
- Talha M, Faisal SM, Khan AK. Shariah Law in Commercial Banking and Stock Market: Recent Development, Challenges and Practices. *International Journal of Religion*. 2024;5(6):620-630.
- Teodorovicz T. How does working from home during COVID-19 affect what managers do? Evidence from time-use studies. *Human-Computer Interaction*. 2022;37(6):532-557.
- Faisal SM, Khan AK. Islamic banking: concept, challenges and proposed solution. *Asian Journal of Multidimensional Research*. 2019;8(2):187-194.

8. Vinnervik P. Implementing programming in school mathematics and technology: teachers' intrinsic and extrinsic challenges. *International Journal of Technology and Design Education*. 2022;32(1):213-242.
9. Junco R. Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*. 2012;28(1):187-198.
10. Faisal SM, Khan AK, Akmal SM. Social-Psychological and Economic Impact of COVID-19 in Indian Lifestyle: An Empirical Study. *Linguistics and Antwerp*; c2021. p. 3572-3578.
11. Podolsky A, Kini T, Darling-Hammond L. Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community*. 2019;4(4):286-308.
12. Faisal SM, Khan AK. The effect on pricing strategies in the process of strategic decision making in view of cost of produced goods. *Independent Journal of Management and Production*. 2021;12(7):1697-1719.
13. Walker RA. Why cities? A response. *International Journal of Urban and Regional Research*. 2016;40(1):164-180.
14. Almaiah MA, Al-Khasawneh A, Althunibat A. Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Educational Technology Research and Development*. 2020;25:5261-5280.
15. Khan AK, Faisal SM. The impact on the employees through the use of AI tools in accountancy. *Materials Today Proceedings*. 2023;80:2814-2818.
16. De Laat PB. Algorithmic decision-making based on machine learning from big data: can transparency restore accountability? *Philosophy & Technology*. 2018;31(4):525-541.
17. Sivasankar J, Ravindranadan V. Gender Difference on Anxiety, Adjustment, Emotional Intelligence, Study Habit and Attitude among Adolescents. *International Journal of Indian Psychology*. 2016;4(1):90.
18. Khan AK, Al Aboud J, Faisal SM. An empirical study of technological innovations in the field of accounting-boon or bane. *Business and Management Studies*. 2018;4(1):51-58.
19. Khan AK. Impact of demonetization on outwards foreign direct investment of India-Special reference to Asian countries. *Sumedha Journal of Management*. 2019;8(1):23-42.
20. Klimpl D, et al. The current state of advanced practice provider fellowships in hospital medicine: A survey of program directors. *Journal of Hospital Medicine*. 2019;14(7):401-406.
21. Duff A, et al. The relationship between personality, approach to learning and academic performance. *Personality and Individual Differences*. 2004;36(8):1907-1920.
22. Khan AK, Faisal SM. An analysis of optimal inventory accounting models – pros and cons. *European Journal of Accounting, Auditing and Finance Research*. 2018;6(3):65-77.
23. Bourbonnais P-L, Morency C. Factors affecting interview duration in web-based travel surveys. *Transportation Research Record*. 2018;2672(42):33-44.
24. Faisal SM, Khan AK, Abdullah O. An investigation of Indian security market: the viewpoint of FMCG companies who voyage from good to great.
25. Anthonysamy L, Koo AC, Hew SH. Self-regulated learning strategies in higher education: fostering digital literacy for sustainable lifelong learning. *Education and Information Technologies*. 2020;25(4):2393-2414.
26. Plant EA, et al. Why study time does not predict grade point average across college students: implications of deliberate practice for academic performance. *Contemporary Educational Psychology*. 2005;30(1):96-116.
27. Annamdevula S, Bellamkonda RS. The effects of service quality on student loyalty: The mediating role of student satisfaction. *Journal of Modeling in Management*. 2016;11(2):446-462.
28. Khan AK, Al Aboud OA, Faisal SM. Muamma (conundrum) of Riba (Interest and Usury) in Major Religions in General and Islam in Particular. *International Journal of Social Science and Humanities Invention*. 2018;5(2):4438-4443.
29. Hashim A, Faisal SM, Khan AK. An empirical job satisfaction analysis in the banking sector of India.
30. Smiderle R, et al. The impact of gamification on students' learning, engagement and behavior based on their personality traits. *Smart Learning Environments*. 2020;7(1):3.
31. Ost B. The role of peers and grades in determining major persistence in the sciences. *Economics of Education Review*. 2010;29(6):923-934.
32. Khan A, Faisal S. Role and significance of FDI (outward) in Indian perspective an analysis: Post demonetization period. *Journal of Accounting and Marketing*. 2018;7(276):2.
33. Perera CH, Nayak R, Nguyen LTV. The impact of subjective norms, eWOM and perceived brand credibility on brand equity: application to the higher education sector. *International Journal of Educational Management*. 2020;35(1):63-74.
34. Hashim A, Faisal SM, Khan AK. A time-series analysis of economic growth in the context of Indian economy. *Integrated Journal of Research in Arts and Humanities*. 2022;2(2):9-14.
35. Alyahyan E, Düşteğör D. Predicting academic success in higher education: literature review and best practices. *International Journal of Educational Technology in Higher Education*. 2020;17(1):3.
36. Khan AK, Faisal SM. The Bearing on Indian Frugality and Predicting of Average Crude Oil Rates since 1991 – A Study. *Management Dynamics*; c2020. p. 1-14.
37. Hjálmsdóttir A, Bjarnadóttir VS. I have turned into a foreman here at home: Families and work–life balance in times of COVID-19 in a gender equality paradise. *Gender, Work & Organization*. 2021;28(1):268-283.
38. Khan AK, Faisal SM. Measuring Learning Outcome and Impact: An evident Jazan University, Saudi Arabia. *Saudi Arabia*. 2021;1(8):16-23.
39. Theobald M. Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*. 2021;66:101976.
40. Faisal SM, Khan AK, Aboud OAA. Estimating Beta (β) Values of Stocks in the Creation of Diversified Portfolio-A Detailed Study. *Applied Economics and Finance*. 2018;5(3):89-99.

41. Koks EE. Combining hazard, exposure and social vulnerability to provide lessons for flood risk management. *Environmental Science & Policy*. 2015;47:42-52.
42. Khan AK. A changing role of artificial intelligence in the function of an accountant since ancient times in the perspective of international accounting standard. *Journal of Positive School Psychology*. 2022;2557-2565.
43. Teasley SD. Learning analytics: Where information science and the learning sciences meet. *Information and Learning Sciences*. 2019;120(1/2):59-73.
44. Faisal SM, Khan AK, Al-Aboud OA. Study of Managerial Decision Making Linked to Operating and Financial Leverage. *Accounting and Finance Research*. 2018;7(1):139.
45. Alam A. Harnessing the Power of AI to Create Intelligent Tutoring Systems for Enhanced Classroom Experience and Improved Learning Outcomes. In: *Intelligent Communication Technologies and Virtual Mobile Networks*. Springer; c2023. p. 571-591.
46. Faisal SM, Khan AK. Depreciation of Indian Currency in the current economic scenario. *International Journal of Economic Research*. 2019;16(1):91-97.
47. Khan AK. The future: artificial intelligence's profound impact on accounting and society-anticipating job market dynamics and evolving skill requirements for accountants; c1996.
48. Talha M, et al. Integrated Study of Ethical and Economic Efficiency of Society's Perception of Corporate Social Responsibility in India. In: *Artificial Intelligence and Transforming Digital Marketing*. Springer; c2023. p. 1093-1105.
49. Birimoglu Okuyan C, Begen MA. Working from home during the COVID-19 pandemic, its effects on health, and recommendations: The pandemic and beyond. *Perspectives in Psychiatric Care*. 2022;58(1):173-179.
50. Faisal SM, Khan AK. The Empirical Evidence of Oil Market Volatility and Other Macroeconomic Variables: A Study in Saudi Arabia. 2023;25(10):9-23.
51. Eskola M. Worldwide contamination of food-crops with mycotoxins: Validity of the widely cited 'FAO estimate' of 25%. *Critical Reviews in Food Science and Nutrition*. 2020;60(16):2773-2789.