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ORIGINAL CONTRIBUTION

# Effects of Academic Procrastination and Learning Styles on Academic Achievement of Secondary School Students

Sadia Tabassum[1], Dr. Syed Afzal Shah [2,*], Fazal-Ur-Rehman [3]

[1, 2, 3] Department of Education, The University of Haripur, Haripur, Pakistan

**Abstract—** This research was carried out in district Haripur KPK at the secondary level to investigate the effect of academic procrastination and learning styles on students' academic achievements. For this study, a descriptive survey research design was used. Five hundred students of grade 10 were selected from secondary schools of district Haripur through a Stratified random sampling technique from the population. Two self-developed questionnaires were used on the Likert scale to collect data. The major results showed that academic procrastination significantly negatively impacts academic achievements. The results revealed that the kinesthetic learning style is the most frequently practiced learning style by the students at the secondary level. The analysis of the overall effect of all learning styles showed that all learning styles have a significantly positive effect on the academic achievements of secondary school students. The teachers are needed to educate students about the harmful effect of academic procrastination. They must be aware of individual differences among students and various learning styles that suit different students. They are needed to plan lessons accordingly.

**Index Terms—** Academic achievement, Academic procrastination, Learning styles

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## Introduction

Academic achievement is not confined to getting good grades on a piece of paper only. It includes holistic personality grooming. It is the extent to which a student, teacher, or an institution attains their short-term or long-term educational goals. It is an indicator of students' success and development (Chernyshenko et al., 2018; Martin et al., 2017).

The social, political, scientific, technological, and economic growth of any state builds upon students' academic performance. It is vital for each country because the type of graduates it produces would have a remarkable influence on society. The student with poor academic achievement may be unable to execute the responsibilities they were trained to do (Nja & Obi, 2019).

Academic procrastination is generally common among students who make it a way of life. It has long been an issue of scientific research (Steel & Klingsieck, 2016). The tendency to postpone deliberate study work intentionally despite the inescapable adverse outcomes of such a delay is called procrastination (Steel & Klingsieck, 2016). The learning style is a chosen method for collecting dispensation, understanding, arranging, and examining knowledge. There is a constructive link between students' learning styles and the academic achievements of students (Dalmolin et al., 2018).

Generally, they are comprehensive motifs that provide direction to learning and teaching. It is a set of factors, behaviors, and attitudes that facilitate learning for an individual in a given situation. There is a unique link between learning styles and the academic performance

[*]Email: afzal_kakakhel@yahoo.com

of students (Magulod Jr,2019). The students adopt divergent learning styles to enhance their academic achievement (Fatemeh & Camellia, 2018). It is also found that students choose to study in ways that complement their grasped learning style and inaccurately suppose that it will help them learn better (Husman et al., 2018; Massa & Mayer, 2006). According to Alavi and Toozandehjani (2017), learning styles preferred by students can enhance their learning.

**Research Objectives**

The objectives of this study were:

- To examine the level of academic procrastination among secondary school students.
- To find preferred learning styles of students.
- To find the effect of academic procrastination on the academic achievements of students.
- To explore the impact of style of learning on achievement in academics.
- To investigate the combined effect of academic procrastination and learning style on academic achievements of secondary school students.

**Literature Review**

The impact of academic procrastination on academic performance studied by the research process showed that, generally, procrastination is linked with unsatisfactory academic achievement. Further research described that test nervousness, figures trepidation, lower self-assurance level, lower academic perspectives, low own-cogitation/ meta consciousness methods, and apprehension of cataclysm were linked too with academic procrastination and academic achievements (Yerdelen et al.,2016).

Procrastination has been the subject of scientific investigation (Steel & klingsieck,2016). In this sense, individuals who recurrently procrastinate do know that they have to fulfill the task; but they are unsuccessful because of their propensity to procrastinate (He, 2017). Procrastination is purposely drawing some charge or duties forth or intentionally delaying and hanging the job to be done (Gustavson & Miyake, 2017). Visser et al. (2018) found that students with a high level of procrastination had more issues than the students with a lower level of procrastination to start tasks. High procrastinators are reported to show common academic achievements. It is written by Kim and Seo (2015) that academic procrastination is more powerfully connected with academic achievements in younger students. The meta-analysis conducted by Kim and Seo (2015) revealed that academic procrastination was linked with lesser GPA and lower task ranking, test marks, and course rankings.

Many studies have frequently pointed out negative associations between procrastination and academic achievement (Goroshit, 2018; Kim & Seo, 2015; Steel, 2007; You, 2015). An important role is played between academic procrastination and academic performance (Balkis,2013).

According to Shi, X., Wang, S., Liu, S., Zhang, T., Chen, S., & Cai, Y. (2019), college students with psychosocial issues are more at risk of procrastination. Activities are needed to be planned by the teachers who help the students in all respect, i.e., scheduling courses of subjects, examinations, and other activities which allow students to avoid procrastination and improve academic performance (Goroshit, 2018). It is usually a delay in assigned study tasks as its adverse outcomes are possibly predictable. (Steel & Klingsieck, 2016).

It is essential to know how genders procrastinate differently and which one of them is affected more by procrastination. It is often noted that female students comparatively work better on assignments and home tasks than males (Bennett & Bacon, 2019). It is assumed that it is probable and predictable that the nature of coaching can be adjusted to put up individual differences such as aptitude, style, or predilection to rally learning outcomes (Yoon et al., 2015). Conviction in learning styles has significance, and belief in learning styles has consequences. Teachers and instructors spend time and effort matching lessons to students' perceived learning techniques (Newton & Miah,2017; Scott,2010; Tardif et al.,2015). Students select to study using methods that match their alleged learning style and erroneously have faith that it will help them learn better (Husmann & O'Loughlin, 2018). Academic support centers in higher education institutions (McCabe, 2018) despite the deficiency of proof that evaluating learning styles delivers many added benefits in these services. Previous studies of learning styles have been inadequate to categorizing who recommends them, observing when they are used in the classroom, and authenticating how they skirmish with the scientific confirmation (Newton et al., 2017). According to Dalmolin et al. (2018), a constructive association exists between students' learning styles and academic performance. Research conducted by Magulod Jr (2019) on learning styles and academic achievement revealed an essential association between learning style and students' academic achievements. According to a research study conducted by Fatemeh and Camellia (2018), the student's preference of learning style with deviating learning styles improves students' academic achievement.

According to the VARK model, there are four types of learning based on learning style. Visual learners are learners who learn best by viewing or visualizing things. They preferred a visual learning style. Resources available in the classroom or study places attract the sense of sight. This learner learns best by using pictures, movies, diagrams (Desire,2019). Auditory learners are learners whose listening skill is

the best, and they can best learn by using the sensory organ for hearing. They prefer the auditory learning style. They know best by using music, discussion, lectures, Spoken words during lessons recordings. (Desire,2019). Reading /Write learners are learners whose who learn best by using their reading and writing skills. They can learn by reading textbooks, magazines, newspapers, and other material and then writing the learned material on a piece of paper, i.e., they can best learn by reading followed by writing or taking notes. (Desire,2019). There is an old saying, "when I listen, I forget. When I saw I remember, but when I did/ perform, it became part of my life. Kinesthetic learners learn best by completing various activities, experimentation, hands-on activities, and demonstration. (Desire,2019).

### Hypothesis

**H1**: Academic procrastination harms the academic achievements of students.
**H2**: All learning styles have a positive effect on students' academic achievements.
**H3**: Kinesthetic learning style is the learning style frequently adopted by students.

## Methodology

### Research design

This study's quantitative in nature and descriptive survey research design was used to collect information focusing on variables of the study.

### Population of study

All the students of class 10th of secondary schools (Male and Female) were included in the study. According to the annual statistical report, 2020-21 prepared by EMIS (Education management information system), a total of 618 schools (154 public schools at secondary and higher secondary level and 464 registered private schools) of district Haripur comprising a total of 14586 students from public and private schools of district Haripur (10434 public sector + 4152 private sectors) was the population of this study. Both urban and rural areas of district Haripur were included in this study.

### Sample of the study

The study sample was 500 students at the secondary level who passed grade 9 and were promoted to grade 10 selected by stratified random sampling technique. The sample was divided into 278 students from an urban area and 222 from the rural area, and out of 500 students, 206 were boys, and 294 were girls; similarly, out of 500 students, 334 were public students, and 166 students from private schools. However, this sample did not include the students included in the piolet study.

### Research tool

Two questionnaires were self-developed for data collection purposes. The first developed questionnaire comprised 24 statements about academic procrastination, and its purpose was to find the effect of academic procrastination on students' academic achievements. It was based on a 4-point Likert scale having options “strongly disagree “rated as 1, “disagree “rated as 2, “agree” rated as 3, and "strongly agree “rated as 4. The 2nd developed questionnaire comprises 24 statements about learning style. It was based on a 3-point Likert scale having options “seldom “rated as 1, “sometimes” rated as 2, and “often” rated as 3. Its purpose was to find the effect of learning style on the student's academic achievement.

Through an expert view of relevant filed, both questionnaires were validated, and the Reliability of the tool was checked through Cronbach Alpha in SPSS. The reliability coefficients of academic procrastination were 0.843, and the reliability coefficient was 0.921 for learning style. The respondent had adequate time to answer questions and felt free to answer sensitive questions as their identity would not be disclosed. A pilot study was carried out before the actual data collection process. The purpose of the pilot study was to check the validity of the questionnaire items and remove ambiguity for the data collection of the current study. For this purpose, a sample of 100 students was selected (50 from urban and 50 from rural areas) of district Haripur Khyber-Pakhtunkhwa. These students were not included in the actual process of data collection.

For data collection purposes, 11 institutions of district Haripur, i.e., Three private institutions (co-education) and eight public schools (two male and six female), were approached after the permission of heads of institution. After receiving an authority letter from the University of Haripur (UOH) education department, the researcher visited the institutions personally, which were selected randomly, and the required information was collected through a questionnaire.

### Data Analysis

Data analysis was done by finding out the cause-and-effect relationship between dependent and independent variables. The collected data were analyzed using descriptive statistics, mean (M) and standard deviation (S.D), ANOVA, and regression analysis using SPSS analysis version 21. The mean and standard deviation were used to describe the variables (academic procrastination and learning styles) of the study, and ANOVA was used to check the fitness of the model. In contrast, regression analysis was used to examine the effect of academic procrastination and learning styles on academic achievements.

### Result

To investigate the effect of academic procrastination and learning style on academic achievements of secondary school students, a survey was carried out in which Likert scale questionnaires were used for the collection of data, and statistical tools like mean, standard deviation, and regression analysis were used to analyze the data.

Table I
Descriptive Statistics of the Variables of the Study

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Procrastination | 500 | 2.4553 | .52485 |
| Visual | 500 | 2.3811 | .38333 |
| Auditory | 500 | 2.3500 | .48988 |
| Reading | 500 | 2.4063 | .49350 |
| Kinesthetic | 500 | 2.5653 | .33988 |
| Valid N (list wise) | 500 | | |

Table I indicates that there is less procrastination in the students. Additionally, the kinesthetic learning style is the most preferred style of the students.

Table II
Effect of Procrastination on Academic Achievement

| Model | Unstandardized Coefficients | Standardized Coefficients | | *t* | Sig. |
|---|---|---|---|---|---|
| | *B* | Std. Error | Beta | | |
| 1 (Constant) | 582.045 | 16.899 | | 34.443 | .000 |
| Procrastination | -96.820 | 6.731 | -.542 | -14.384 | .000 |
| $R^2$ = 0.294 | Adj. $R^2$ = .292 | *F* = 206.91 | Sig. = 0.000 | | |

Dependent Variable: AA

Table II indicates that a one-unit increase in academic procrastination brings 96.8 units to decrease in academic achievements of secondary school students. It also shows that one unit increase in procrastination causes a 29.2% change in academic achievements of secondary school students. Similarly, it indicates the model's fitness as reflected by value F 206.9, suggesting that the model is fit.

Table III
Effect of Learning Styles on Academic Achievement

| Model | Unstandardized Coefficients | Standardized Coefficients | | *t* | Sig. |
|---|---|---|---|---|---|
| | *B* | Std. Error | Beta | | |
| 1 (Constant) | -57.153 | 25.929 | | -2.204 | .028 |
| Visual | 37.855 | 11.619 | .155 | 3.258 | .001 |
| Auditory | 52.765 | 9.414 | .276 | 5.605 | .000 |
| Reading | 43.130 | 9.439 | .227 | 4.570 | .000 |
| Kinesthetic | 32.572 | 11.786 | .118 | 2.764 | .006 |
| $R^2$ = .412 | Adj.$R^2$ = .407 | *F* = 86.62 | Sig. = 0.000 | | |

Dependent Variable: AA

Table III indicates that a one-unit increase in visual learning style brings 37.855 units increase in academic achievements of secondary school students. It also indicates one unit increase in auditory learning style brings 52.765 units increase in academic achievements of secondary school students.

It indicates one unit increase in reading brings a 43.130 unit increase in the academic achievement of secondary school students.

Similarly, a one-unit increase in kinesthetic learning style brings a 32.572 unit increase in academic achievements of secondary school students. It also indicates that an increase in one unit of kinesthetic, reading, visual and auditory learning style cause a 40.7% change in academic achievements of secondary school students. Similarly, it indicates the model's fitness as reflected by value F 86.6, demonstrating that the model is fit.

Table IV
Effect of Learning Styles and Procrastination of Academic Achievement

| Model | Unstandardized Coefficients | Standardized Coefficients | | *t* | Sig. |
|---|---|---|---|---|---|
| | *B* | Std. Error | Beta | | |
| (Constant) | 163.868 | 36.718 | | 4.463 | .000 |
| Visual | 20.023 | 11.157 | .082 | 1.795 | .073 |
| Auditory | 45.926 | 8.900 | .240 | 5.160 | .000 |
| Reading/writing | 27.841 | 9.083 | .146 | 3.065 | .002 |
| Kinesthetic | 35.722 | 11.098 | .129 | 3.219 | .001 |
| Procrastination | -54.486 | 6.764 | -.305 | -8.056 | .000 |
| $R^2$ = 0.480 | Adj.$R^2$ = .475 | $F$ = 91.22 | Sig. = 0.000 | | |

Dependent Variable: AA

Table IV indicates that a one-unit increase in visual learning style brings 20.023 units increase in academic achievements of secondary school students. It also indicates one unit increase in auditory learning style brings 45.926 units increase in academic achievements of secondary school students.

It indicates one unit increase in reading/writing learning style brings 27.841 unit increase in the academic achievement of secondary school students.

Similarly, one unit increase in kinesthetic learning style brings 35.722 unit increase in academic achievements of secondary school students.

One unit increase in academic procrastination brings a 54.486 decrease in academic achievements.

It also indicates that an increase in one unit of kinesthetic, reading, visual and auditory learning style cause a 47.5% change in academic achievements of secondary school students. Similarly, it indicates the model's fitness as reflected by value F 91.22, demonstrating that the model is fit.

## Discussion

The current study was mainly conducted to explore the effect of academic procrastination and learning style on students' academic achievement at the secondary level. This study used mean and standard deviation, ANOVA, and regression analysis to explore academic procrastination and the preferred learning style adopted by students and their effects on academic achievements.

One of the study's main objectives was to examine the effect of academic procrastination on academic achievement. Results of the current study (table 1) indicated that one unit increase in academic procrastination brings 96.8 units to decrease in academic achievements of secondary school students, which showed that academic procrastination has a significantly negative impact on academic achievements. It indicated that students who procrastinate achieve generally low scores. These findings of the current research study were consistent with Goroshit (2018), who pointed out the negative correlation between academic procrastination and academic achievements. It was assumed that delay in submission of assignments affects students' academic performance pessimistically, and this outcome would be more pronounced for students with learning difficulties/learning disabilities). It is consistent with the research studies of Kim and Seo (2015); Steel (2007) that the overall postponement of tasks to be done has a profound adverse impact on academic performance. According to Klassen et al. (2013), Students who are inclined to procrastinate show poor performance on most academic assignments and feel tricky to make up for doing well on other tasks. The next main objective of the current study was the impact of learning styles on academic achievements. This study explored the preferred learning styles of students (Visual, auditory, reading, writing, and kinesthetic learning styles) and their impacts on the academic achievements of; students table 2 indicates that one unit increase in visual learning style brings 37.855 units to increase in academic achievements of secondary school students.

It also indicated one unit increase in auditory learning style brings 52.765 units increase in academic achievements of secondary school students. It shows one unit increase in reading brings a 43.130 unit increase in the academic achievement of secondary school students.

Similarly, a one-unit increase in kinesthetic learning style brings a 32.572 unit increase in academic achievements of secondary school students. This study showed that three learning styles (auditory, visual, and reading/writing) have a significantly positive impact on the academic achievements of secondary school students, and there is an essential link between styles of learning and achievements

in academic of students. That outcome of the research is consistent with the research study of Fatemeh and Camellia (2018), which stated a positive association between learning styles and academic achievements of secondary school students. Likewise, the significant association between academic achievement and learning styles was explored by Magulod Jr. (2019), Dalmolin et al. (2018), and Abidin et al. (2011).

The current study revealed that most students with high achievements prefer visual, auditory, and reading/writing learning styles to other learning styles. The earlier studies conducted by Slavin (2010) are collaborative with this study. These studies revealed that students learn better and have good performance in academic when audio-visual resources are used during the teaching-learning process.

## Conclusion

It is concluded that most students at the secondary level don't procrastinate. Furthermore, academic procrastination has a significantly negative impact on academic achievements. It indicates that students who procrastinate achieve generally low scores. The kinesthetic learning style is the most frequently practiced learning style by the students at the secondary level. All learning styles have a significantly positive effect on students' academic achievements at the secondary level, which indicates that high score achievers adopt all learning styles for scoring high achievements.

## Recommendations

Following recommendations were made in the light of findings and conclusion.

- Students are needed to be educated about the negative impact of academic procrastination and should be motivated to avoid procrastination to score high achievements
- Teachers must be aware of individual differences among students in the class and the learning style that suits them, So lesson plans and strategies should be planned accordingly.

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