

## ***Original Research Article***

### **Factors Influencing Academic Performance of Pharmacy Students at Universiti Teknologi MARA (UiTM) Selangor Malaysia.**

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#### **Abstract**

Students' academic performance is one of the fundamental concerns as outstanding academic performance can be proof of the intellectuality of those students. The purpose of this study is to assess the correlation of the academic performance of students between student factors, family factors, university infrastructure factors, and faculty factors. This study used a stratified sampling design that was carried out through a questionnaire. The collected data was analyzed by the Social Sciences Statistical Package (SPSS) and the degree of relationship between factors that affect academic performance with the academic performance of students was evaluated by the weighted mean. Three domain factors, lecturer factors with a mean of 4.01, university infrastructure factors (3.91), family factors (3.35), and the three subdomains include learning techniques (3.68), academic interest and motivation (3.32), and student's attitude (3.05) were found to have a varying impact upon pharmacy student's and significant influence on their academic achievement as well. This result is primarily important because it can be used by academic administrators and lecturers as a basis to devise and execute an intervention plan aimed at allowing pharmacy students to enhance their academic performance. Students will be more aware of potential factors that may influence their academic performance.

**Keywords:** pharmacy students; academic performance; academic interest.

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## 1.0 Introduction

Students are the most important asset for universities, and as such, universities must ensure that students are equipped with the knowledge required for future career success. The academic performance of students is an important determinant in producing outstanding quality students that will later become a great leader and workforce for our country. Therefore, students with excellent academic performance can be said to be responsible for our country's social and economic development (2).

Students' academic performance is one of the fundamental concerns as outstanding academic performance can be proof of the intellectuality of those students. This excellent academic performance implies that students, teachers, and institutions have achieved the educational goals set (3). Nonetheless, measuring university students' academic performance is quite difficult as it cannot be quantified or measured accurately in units (4).

Unfortunately, a variety of studies have reported low student academic performance in recent times. Consequently, a detailed investigation of the factors contributing to low student academic performance has become critical (5). This is because, as stated in Kasantra *et al.* (4) studies, the academic performance of students is easily influenced by different factors, and the failure to identify these factors can result in decreased performance. Therefore, to undertake the most responsive intervention, it is important to check the possible factors that influence students' academic performance. In addition, a study by Sansgiry *et al.* (6) highlighted that today's pharmacy curricula have posed a heavy burden to pharmacy students due to the comprehensive information covered and also the

extensive course loads. This further strengthens the need for identifying and solving factors that would affect pharmacy students' academic performance.

The factors affecting the academic performance of students can be classified as internal and external factors. Sex, age, learning strategies, the behavior of the participant, motivation, self-confidence, time management, sleep pattern, etc. All these variables have been actively examined over the past few decades as to their effect on students' academic performance (6). However, this study focuses on student factors, university infrastructure factors, family factors, and lecturer factors as well as their demographic profile.

As for student factors, this study aims to further classify them into student learning techniques, student's attitude, and academic interest and motivation. Learning techniques have been defined by researchers in several ways, but the main focus is on the educational application. Learning techniques are defined as (a) differential information processing choices or (b) reliable information processing choices (7). Learning styles rely more on how students learn rather than what they learn. Even in the same learning environment, the learning styles are different for each student. Also, research has shown that the most suitable learning conditions for all students could not be given by a single learning technique or strategy since each student demonstrates different learning techniques (8).

Students' attitudes also have been recognized by the researchers as one of the factors that may affect the learning of students and their academic performance. Attah *et al.* (9) stress that attitudes are positive or negative feelings about any concept or idea that individuals have which in this case would be the thoughts

that students have towards education. The study by Awang *et. al.* (10), has concluded that student's attitude to learning has arisen a great concern as negative attitudes can adversely influence students' academic performance.

Students' academic interest in learning and motivation is interrelated. Deci (11) states that the concept of "interest" is often associated with intrinsically motivated behaviors because, due to the presence of interest, some people appear to adopt these behaviors. Academic interest is another factor that is thought to have a significant impact on the academic achievement of students, and this is demonstrated in a study by Schiefele and Krapp (12), that found academic interest of students is proven to be significantly influencing their academic performance.

As for academic motivation, it plays a key role in influencing the attitude of students towards learning as motivation often allows students to properly manage the challenges that existed during the learning process (13). This correlates with a study by Oriahi (14), that reveals most of their student respondents strongly agreed that the motivation of students enhances their academic performance and thus students need to be motivated to pursue a better academic achievement. Certain factors related to the university, family, and lecturers can also affect the quality of students academically, not only the students themselves.

University infrastructure factors are primarily concerned with the university institution's learning facilities. Such services include classrooms, libraries, computer labs, access to the internet, and others. The research said that students express themselves better with the facilities in an institution (15). Adigeb *et. al.* (16) has indicated that academic practices of students can be unproductive without these university buildings. The existence of university buildings is

therefore important if a good and conducive learning environment is to be created.

Family considerations also contribute to the resources needed to be a successful student (17). Such considerations include parents' participation in the educational process, interference from siblings, and income level of the family (18). A study by Obeta (19) has indicated that several family factors can influence the academic performance of students. However, when the students are at home, academic performance is highly affected by the no supervision of the academic work of the students.

Factors related to lecturers are primarily concerned with the skill of lecturers and their methods or forms of teaching (20). The teaching ability of lecturers is important because it will influence students' academic performance (21). It is therefore Ganyaupfu *et. al.* (20) has predicted that professional lecturers can help improve the academic performance of students as the information is provided effectively by the lecturers.

The fall in academic performance among students at Malaysian universities has shown a rising trend, according to Ksantra *et al.* (4). Such problems have raised great concern about the academic performance of pharmacy graduates. Solutions are therefore required to solve these problems to improve the academic performance of pharmacy students. Various factors have resulted in poor academic performance, including the students themselves, family, and institutions. Because of these reasons, students often face multiple numbers of obstacles, given their real potential to achieve better marks (22). This research will therefore be performed to evaluate the factors that may affect pharmacy students' academic performance based on their cumulative grade point average (CGPA).

Student factors, family factors, university infrastructure factors, and lecturer factors may influence the academic performance of pharmacy students. This can be confirmed through a study by Díaz (23) reported that various studies that attempt to explain factors affecting academic performance start with three determinants that are family causal factors (parents), educational causal factors (teachers and facilities), and personal causal factors (students) which interfere in education.

This study's purpose was to define and evaluate whether a significant relationship exists between factors that influence the academic performance of students and their academic performance. Once the causes are established, both students and the faculty can have the advantages of handling this problem.

Further research on these factors should therefore be undertaken in such a way that students and faculty will have a better understanding of how these factors academically affect the success of students and find the appropriate approach to address this issue. We will be aware of the possible factors that may impact their academic performance for the students. The administrators will identify the factors affecting the academic performance of the students for the faculty and this will encourage the academia to establish strategies to enhance academic performance.

## 2.0 Materials and Methods

### 2.1 Study design

This study was using a cross-sectional correlational research design to determine pharmacy students' academic performance concerning the factors affecting their academic performance. Factors affecting the academic performance of students would be the

independent variables for this study, whereas the dependent variables would be the academic performance of students. To define a relationship between two or more variables, this research model is useful.

### 2.2 Population and sampling

The target population for this research was a bachelor's degree in pharmacy students at UiTM Selangor in 2020 with a total population of 696 students. From the first year to the fourth year of study, all students are included. Table 1 lists the number of students from each study year.

**Table 1:** Number of pharmacy students from each study year

Year of Study	Number of Students
First-year	160
Second-year	183
Third-year	185
Fourth-year	168

Using Raosoft Sample Size Calculator, the sample size for this study was determined. The sample size was determined using the following parameters: an error margin of 5 percent, a confidence level of 95 percent, and a response rate of 50 percent. A sample size of 248 students was obtained for this study to represent all students of pharmacy throughout the four years. This study was using a stratified sampling technique to choose respondents from each study year. Table 2 lists the number of respondents from each study year.

### 2.3 Instrumentation

This research used an instrument of a 5-point Likert Scale questionnaire adapted from a study by Alshammari *et al.* (1). The questionnaire was made up of two parts.

Section A was fully developed by the researcher which is related to demographic profiles allowing respondents to provide background information such as age, gender, year of study, and CGPA.

**Table 2:** Number of pharmacy students as respondents involved from each study year

Year of Study	Number of Student Respondents
First-year	57
Second-year	65
Third-year	66
Fourth-year	60

Section B applies to factors that affect the academic performance of students which seek to classify the perception of students of factors that affect their academic performance. This section is adapted from another study (1) but with slight modification to specifically meet the purpose of this study. The respondents were asked to reply to the 5-point Likert Scale questionnaire, which ranges from 1 indicating "never" to 5 indicating "always" However, a pilot study was conducted to measure the reliability and validity of the questionnaire as the questionnaire has been re-developed before the questionnaire can be distributed to the respondents.

#### 2.4 Reliability and Validity

This survey was tested for accuracy and validity by conducting a pilot study. The pilot study was carried out by choosing 30 samples from the sample population that will not participate in the actual study and were asked to answer the questionnaire. At the end of the pilot study, the collected data were analyzed through Statistical Package for the Social Sciences (SPSS) by using the Cronbach

alpha coefficient. The Cronbach alpha coefficient was used to measure the reliability and internal consistency of the questionnaire.

#### 2.5 Data collection

Based on the number of respondents needed, both primary and secondary data were collected by the researcher through the distribution of the validated questionnaire to each study year batch. The primary data was collected through Section A asking for the Cumulative Grade Average Point (CGPA) of students, while the secondary data was collected through Section B asking for the opinions of students about factors that affect their academic performance.

#### 2.6 Statistical analysis

The data then evaluated and analyzed for statistical analysis using the Statistical Package for the Social Sciences (SPSS). The respondents' demographic profiles were determined by using frequency count and percentage. Weighted mean was used to assess the magnitude of each determinant affecting the academic performance of the pharmacy students at UiTM Selangor. T-test and One-Way Analysis of Variance were used to assess the significant difference in the degree of the effect the recognized determinants have on the academic performance of pharmacy students when considering their demographic profile.

### 3.0 Results

#### 3.1 Reliability and validity of questionnaires

Table 3 shows the result of the reliability test conducted on each variable. Family factors had the highest Cronbach's alpha with the value of 0.804 whereas students' learning techniques had the

lowest Cronbach's alpha value of 0.661. Since all variables have Cronbach's alpha value of more than 0.6, thereby indicating that all items have an acceptable level of reliability.

### 3.2 Demographic profile of the pharmacy students

Table 4 shows the respondents' demographic profile, details include gender, year of study, and academic background. Based on the percentage of respondents (table 4), the number of male respondents was smaller with only 36 (14.5%) students as compared to female respondents 212 (85.5%) participated in this study. A total of 57 (23.0%) respondents were first-year students, while 26.2%, 26.6%, and 24.2% were second year, third year and fourth-year students, respectively. The majority of the respondents were from the foundation program.

### 3.3 Factors that affect the academic performance of pharmacy students

Table 5 shows the extent of each factor on the respondents' academic performance. According to Alshammari *et al.* (1) the extent of those factors can be classified into four categories which are very low extent, low extent, moderate extent, extensive, and very extensive. Each category's score is 1.00-1.50, 1.51-2.50, 2.51-3.50, 3.51-4.50, and 4.51-5.00 respectively.

Lecturer factors had the highest grand mean value of 4.01 while student factors focused on the students' attitude had the lowest grand mean value of 3.05. The table also reveals students' attitude with factor 5 (Do you ever miss the tutorials?) had a very low extent of the effect on the pharmacy students' academic performance with a mean result of only 1.33.

### 3.4 The significant difference between respondents' profile and academic performance of pharmacy students

Table 6 shows the significant difference in gender, year of study, and academic background on the academic performance of pharmacy students following the independent sample t- test. Based on the table, there was no significant difference between gender and pharmacy students' academic performance as indicated by the p-value of 0.464. Since the p-value is more than 0.05 level of significance. Thus, there is no significant relationship between these two variables. On the contrary, the year of study and academic background of the respondents had a significant difference with academic background on academic performance of pharmacy students as their p-value are 0.009 and 0.001, respectively. This means that there is a significant relationship between pharmacy students' academic performance with these two factors

## 4.0 Discussion

Findings demonstrate that all determinants which are a student (learning techniques, student's attitude, interest, and motivation), university infrastructure, family, and lecturer have a substantial effect on the student respondents' academic performance.

### 4.1 Learning techniques

For learning techniques, the item 'students' preparation for examination' has the highest mean value of 4.41 which indicates an extensive impact on the student respondents' academic performance. Meanwhile, the item 'preparation for the learning subject' has the lowest mean value with only moderate impact.

**Table 3:** Validity and reliability test results of each variable

Variables	Number of items	Cronbach's alpha value
Student factors (learning techniques)	9	0.661
Student factors (students' attitude)	6	0.689
Student factors (interest and motivation)	6	0.750
University infrastructure factors	4	0.670
Family factors	5	0.804
Lecturer factors	8	0.779

**Table 4:** Student respondent's demographic profile

Profile		Frequency count	Percentage (%)
Gender	Male	36	14.5
	Female	212	85.5
Year of study	First-year	57	23.0
	Second-year	66	26.2
	Third-year	65	26.6
	Fourth-year	60	24.2
Academic background	Foundation	129	52.0
	Matriculation	40	16.1
	Diploma	79	31.9

The grand mean value of the student learning techniques subset belongs to the high range of impact on the academic performance of student respondents. This reinforces a study by Kaminski (24), which found that the academic success of students is most likely to be influenced by learning styles that include organized study, effective learning, preparation for the examination, and active class participation. Yasmin *et.al.* (25), also stated that students recognize which learning techniques better suited them as effective learning techniques play a significant role in improving the academic achievement of students. Furthermore, a clear understanding of students' preferred learning techniques can contribute to the modification and development of a more effective teaching strategy, thus this may motivate students to acquire more

knowledge (8). In ensuring that students are employing suitable learning techniques, Gokalp (26) proposed that students should be appropriately guided and encouraged to select individual learning techniques that are suitable and relevant to their learning environment so that the learning techniques would be useful to them.

#### 4.2 Student's attitude

As for student's attitude, the item 'students' absenteeism for the tutorials' has a very low impact with a mean value of only 1.33 while the item 'students' seriousness of gaining excellent grades' has the highest mean value which indicates this item has the most significant impact of all other indicators in the student's attitude subset.

**Table 5:** Factors affecting students' academic performance

<b>Related Factors</b>	<b>Mean</b>	<b>Remarks</b>
<b>Student factors (learning techniques)</b>		
1 Do you manage your time well?	3.34	Moderate
2 Do you focus on your studies?	3.58	Extensive
3 Do you perform when studying alone?	3.87	Extensive
4 Do you perform when studying in a group?	3.45	Moderate
5 Do you actively participate in the discussion, answering exercises and clarifying things you did not understand?	3.59	Extensive
6 Do you make yourself prepared for the learning subject?	3.07	Moderate
7 Do you exert more effort on difficult subjects?	4.09	Extensive
8 Do you study and prepare for the examination?	4.41	Extensive
9 Do you see that your ways of learning are inconsistent?	3.73	Extensive
<b>Grand mean</b>	3.68	Extensive
<b>Student factors (student's attitude)</b>		
1 Do you serious about gaining excellent grades?	4.43	Extensive
2 Do you mind failing in your examination?	3.92	Extensive
3 Do you mind failing your quizzes and tests?	3.88	Extensive
4 Do you ever miss the lectures?	2.04	Low
5 Do you ever miss the tutorials?	1.33	Very low
6 Do you consult with your mentor regarding academic problems?	2.67	Moderate
<b>Grand mean</b>	3.05	Moderate
<b>Student factors (interest and motivation)</b>		
1 How well do you interested in the course you are taking right now?	3.94	Extensive
2 Do you study harder to improve your performance when you get lower grades?	4.38	Extensive
3 Do you have problems adapting to the university environment?	2.64	Moderate
4 Do you like to follow in your friend's footsteps?	2.88	Moderate
5 Do you always confused and lost in your studies?	3.1	Moderate
6 Do you think you fail because you did not understand what has been taught since the beginning of the semester?	2.96	Moderate
<b>Grand mean</b>	3.32	Moderate
<b>University infrastructure factors</b>		
1 Do you use the learning facilities provided by the university (library, computer lab, and classroom) in performing your course work?	3.46	Moderate
2 How well do you think the facilities provided by the university meet the standards for physical requirements (classroom size, lighting, air conditioning, tables, and chairs)?	3.77	Extensive
3 How well do you can easily access the internet provided by the university?	4.06	Extensive
4 Do you use the internet access provided by the university in performing your course work?	4.33	Extensive
<b>Grand mean</b>	3.91	Extensive

**Family factors**

1 Do your parents motivate you to improve your studies?	4.43	Extensive
2 Do your parents provide learning material (books, dictionaries, and laptop) suitable for your learning?	4.27	Extensive
3 Do your parents help you with your homework?	2.7	Moderate
4 Do you ask for guidance from your elders/family?	3.13	Moderate
5 Do your family experience financial problems?	2.23	Low
<b>Grand mean</b>	3.35	Moderate

**Lecturer factors**

1 Do your lecturers have a good relationship with the students?	3.83	Extensive
2 Do your lecturers impose proper discipline and are not lenient in following the prescribed rules?	3.7	Extensive
3 Do your lecturers open to suggestions and opinions?	4.09	Extensive
4 Do your lecturers have an appealing personality with a good sense of humor?	3.76	Extensive
5 Do your lecturers show smartness, confidence, and firmness in decision making?	4.15	Extensive
6 Do your lecturers explain the objectives of the lesson clearly at the start of each period?	4.26	Extensive
7 Do your lecturers have mastery of subject matter?	4.35	Extensive
8 Do your lecturers show various strategies, teaching aids, or devices and techniques in presenting the lesson?	3.99	Extensive
<b>Grand mean</b>	4.01	Extensive

Note. 1.00-1.50 Never Very Low Extent; 1.51-2.50 Rarely Low Extent; 2.51-3.50 Sometimes Moderate Extent; 3.51-4.50 Often Extensive; 4.51-5.00 Always Very Extensive

**Table 6:** Significant difference in the extent of pharmacy students’ profile on academic performance

Profile		p-value	Remarks
<b>Gender</b>	Male	0.464	Not significant
	Female		
<b>Year of study</b>	First-year	0.009	Significant
	Second-year		
	Third-year		
	Fourth-year		
<b>Academic background</b>	Foundation	0.001	Significant
	Matriculation		
	Diploma		

Conversely, student's attitude factors have the lowest grand mean value of 3.05. Despite its position in the list of factors, a student's attitude still has a moderate impact on academic performance of pharmacy students. The attitude of students has been highlighted in most studies as the main contributor to academic performance since it presents a driving force in behavioral intention, ensuring students act accordingly with the response from the surrounding environment (27). Other researchers such as Veresova *et.al.* (28) also demonstrated similar findings regarding the impact of student attitudes on the academic performance of students and postulated that poor attitude towards learning may result in a drop in students' academic performance. This is because students with a more pessimistic attitude towards learning tend to believe that education is not a must for them to excel in the future (29). Furthermore, despite the student attitude subset having the lowest grand mean value, one of the items 'seriousness in gaining excellent grades' has the highest mean value of all items including those in other subdomains. This supports a study by Awang *et. al.* (10), that emphasized lack of interest in gaining outstanding grades can cause the students to omit revision and preparation before attending the class, thus they become passive in class and lead to poor academic performance.

#### 4.3 Interest and motivation

In the subset interest and motivation, only the first two indicators have an extensive impact on the pharmacy students' academic performance whereas the rest of the indicators only have a moderate impact.

Findings show that student respondents' academic success is moderately influenced by both academic

interest and motivation. Hattie *et. al.* (30) has highlighted that interest in learning is an important indicator of academic outcomes thus understanding what motivates students to become academically interested has received massive attention among researchers. Ayub *et. al.* (31) also stated that students who are highly motivated and interested in academia will benefit from learning, trust their ability in gaining knowledge, and will be responsible for their learning. This supports a study by Hongbin *et. al.* (32), that demonstrated students with academic interest and motivation tend to improve their effort in learning, and thus, they can achieve a better academic accomplishment.

#### 4.4 University infrastructure factors.

All items in the university infrastructure subset have an extensive impact on the academic performance of student's respondent with the indicator 'usage of internet access in performing coursework' having the highest mean value. One indicator though is determined to have a moderate impact, the item 'usage of learning facilities in performing course work'.

University infrastructure factors have the second-highest grand mean value which is 3.91. This indicates that university infrastructure factors also have an extensive impact on pharmacy students' academic performance. Lateef (33) has stated that university infrastructure is a significant factor in ensuring quality education. If this infrastructure is not properly managed and maintained, it will be able to influence the academic performance of students. This was compatible with the findings from a study by Also *et. al.* (34) by which the findings indicate that factors to be of great importance to the students for their academic success are to have university

programs, library references, pleasant classrooms, and easy internet access. Kwesiga and Aspaas (35) further stressed that the students' academic performance is also affected by their university and they also believed that the quantity of infrastructure a university provides typically dictates the quality of the university, which consequently affects their students' academic achievement. All researchers accepted that the influences of the university infrastructure have a significant impact on the academic success and education of students.

#### 4.5 Family factors

Overall, the extent of pharmacy student's perception of the influence of family factors on their academic performance is only moderate. Despite that, the item 'parents' motivation helps to improve studies' has an extensive impact on student respondents' academic performance with one of the highest mean value of 4.43. This implies that parents also play a significant role in aiding the students to obtain an outstanding achievement. This supports a study by Atta and Asif (36), which found that parental motivation has important and beneficial effects on the education of students. Better are the educational achievements of those students who were influenced and motivated by their parents. Topor *et. al.* (37) also mentioned that parent engagement in the education of a student was consistently positive with the academic performance of the student. Students whose parents engage more in their studies have higher academic performance than students with a lower degree of participation by their parents. The fundamental mechanism through which parental engagement affects academic performance of students is that it directly influences the characteristics and attitudes of students which in turn

function to improve their achievement (38).

The impact of family income on the academic performance of pharmacy students appears only to have a low extent, unlike parental involvement. However, a study by Machebe *et. al.* (39) found contrary results in which the parents' income levels had an impact on the academic performance of students. The academic achievement of students appears to be higher as family income rises. Perhaps that if a family is financially stable, they may be able to provide educational services more explicitly whereas for families with lower income, parents are struggling to manage their money and end-up they may tend to neglect their children's education (40).

#### 4.6 Lecturer factors

All items in the family factors subset have an extensive impact on the pharmacy students' academic performance with the indicator 'have lecturers' mastery the subject matter' having the highest mean value of 4.35.

Based on the above results, it is clear that lecturer factors are the most significant determinants influencing the academic performance of pharmacy students with the highest grand mean value of 4.01. This finding is similar to those found in a study by Also *et. al.* (34) which deduced that teacher-related aspects are the highest among many aspects that have a remarkable impact on the academic performance of students. This signifies that educators play the most important role in providing education to the students and thus they are highly responsible for deciding whether the students will achieve a bad or a good academic performance.

Previous studies also suggest that educators play a significant role in students' academic performance. A study

by Kapur (41), highlighted that teachers should demonstrate professionalism in their teaching particularly in the process of learning-and-teaching. When teachers demonstrate their expertise in this field, they may affect the academic performance of students in such a way as to improve the learning and development of students. Alami (42), has concluded that inexperienced or unpassionate teachers are unable to aid students in gaining a complete understanding of the subject since a teacher's ability to present content, encourage student engagement, and inspire students to finish assignments leads to the profound understanding of the subject. The teacher's professional ability thus establishes a positive environment in the classroom from the beginning with a strong organization and carefully planned teaching frameworks. Rane (43), also suggested that teachers must enhance their teaching methodology and master the subject matter so that students' academic achievement is improving. In defying the problem counter in teaching methods, Maryam *et. al.* (44), suggested using varying methods of teaching and such teaching methods should be more collaborative and clinically oriented that can increase students' interest in learning. Ganyaupfu (20), also stressed that teacher competence in presenting the knowledge to students predominantly influences students' academic achievement. Teacher competence is a range of interrelated aspects of teaching which includes the subject matter knowledge, adequate lesson preparation, and effective lesson presentation. As in this study, the indicator 'do the lecturers' mastery of subject matter' has the highest mean value of all items in the lecturer factors subset, which indicates that this factor has a massive impact on the academic performance of pharmacy students. Thus, this supports the study by Mbugua *et. al.* (45), which emphasized that failure of teachers in

mastering the course materials can result in discouragement among the students since their presumptions are not met and thereby compromising the students' academic achievement.

#### 4.7 Student respondent's demographic profile

The influence of a pharmacy student's demographic profile on their academic performance is also determined. The first one is the impact of gender differences and based on the results obtained, gender differences are not substantially related to student respondents' academic performance. This is similar to the findings in a study by Joseph *et. al.* (46) whereby the academic performance of students in respect of gender was no longer distinguished. Nevertheless, some researchers had suggested that gender differences exist in terms of students' participation in academics and also played an important role in the choices made by students and therefore able to affect their academic performance (47).

Next is the impact of the study year of pharmacy students on their academic achievement. The findings of this study found that year of study does have the ability to influence student respondents' academic performance and it mainly related to an increase in the level of difficulty throughout the study year. Hasan *et. al.* (48) said that studying difficulty could lead to students being stalled and blank. This difficulty may eventually cause a decline in their academic achievement and impact subsequent grades.

Finally, the influence of academic background on academic performance of pharmacy students. Walker *et. al.* (49) emphasized that the accumulated impact of prior learning and other experiences are predominantly influencing students' perceptions of learning. This is correlated

with the results of this study, which showed that pharmacy students' academic background has significantly affected their academic achievement. Gravano *et. al.* (50) also recognized that students' academic background was capable of influencing their understandings and of predisposing them to a certain approach to learning.

## 5.0 Conclusion

In conclusion, all the students, university infrastructure, family, and lecturer factors have a moderate to extensive effect on pharmacy students' academic performance. Among the four domain factors, lecturer factors were found to have the most extensive impact on students' academic performance. Therefore, Academic administrators and faculty members have to prepare an intervention system efficiently to enhance the academic performance of pharmacy students and, ultimately, their grades. The intervention must allow lecturers to encourage students to develop successful (soft) skills for studying and complete their studies in a defined timeframe.

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## Conflict of interest.

The authors declare no conflict of interest in the present work. The UiTM Research Ethics Committee (REC UiTM) approved this study (REC/06/2020 (UG/MR/164) dated 22<sup>nd</sup> June 2020.

## References

1. Alshammari F, Saguban R, Pasay-an E, Altheban A, Al-Shammari L. Factors affecting the academic performance of student nurses: A cross-sectional study. *J Nurs Educ Pract.* 2017;8(1):60.
2. Maganga JH. Factors Affecting Student's Academic Performance: A Case Study of Public Secondary Schools in Ilala District, Dar-es-salaam, Tanzania. 2016;23(45):5–24.
3. Ambad SNA, Mawardi F, Mohamad MF. Factors Affecting Undergraduate Students' Academic Performance. *e-Academia journal,* 2017; 6(1):191-203.
4. Kasantra T, Ho SC, Tan LK, Tan WM. Analysis of Factors Influencing the Academic Performance of Undergraduates in Kampar. Undergraduate Thesis, Universiti Tunku Abdul Rahman; 2013: p 1-96.
5. Michael IO, Wumi OA. Causes and Remedies to Low Academic Performance of Students in Public Secondary Schools: A Study of Ijero Local Government Area of Ekiti State. 2016;6(15):66–71.
6. Arora N, Singh N. Factors Affecting the Academic Performance of College Students. *J Educ Technol.* 2017;14(1):47.
7. Willingham DT, Hughes EM, Dobolyi DG. The Scientific Status of Learning Styles Theories. *Teach Psychol.* 2015;42(3):266–71.
8. İlçin M, Tomruk N, Yeşilyaprak SS, Karadibak D, Savcı S. The relationship between learning styles and academic performance in Turkish physiotherapy students. *Physiotherapy.* 2016;102: e84–5.
9. Attah RF, ITA PM, Nchor EE, Effect of students' attitude on academic achievement in English language in senior secondary schools in Calabar metropolis, cross river state, Nigeria. *Int J Acad Res.* 2018;(5):164–7.
10. Awang MM, Ahmad AR, Bakar NA, Ghani SA, Yunus ANM, Ibrahim MAH, et al. Students' attitudes and their academic performance in nationhood education. *Int Educ Stud.* 2013;6(11):21–8.
11. Deci E. The relation of interest to the motivation of behavior: A self-determination

- theory perspective. In: Renninger KA, Hidi S, & Krapp A. (Eds) *The role of interest in learning and development*, Lawrence Erlbaum Associates, Inc.; 1992; p 43-70.
12. Schiefele U, Krapp A, Winteler A. Interest as a predictor of academic achievement: A meta-analysis of research. In: Renninger KA, Hidi S, & Krapp A. (Eds) *The role of interest in learning and development*, Lawrence Erlbaum Associates, Inc.; 1992; p 183-212.
  13. Muhammad SA, Abu Bakar, N, Mijinyawa SI, Halabi KA. Impact of Motivation on Students' Academic Performance: A Case Study of University Sultan Zainal Abidin Students. *Am J Appl Sci.* 2014; 222-7.
  14. Orianhi C. Influence of Motivation on Students' Academic Performance. *Soc Sci.* 2009; 4(1):30-36.
  15. Kourash A, Mothlagh SE, Zalani HA, Parhon H. The relationship between academic motivation and academic achievement among students. *Procedia Soc Behav Sci.* 2011; 15: 399-402.
  16. Adigeb, PA., Anake, PM, Undie AA. The Impact of Educational Facilities on Students' Teaching / Learning Process in Abeokuta, Ogun State, Nigeria: Need for Counselling Approaches. *Eur J Educ.* 2017; 3(9): 611-626.
  17. Kamuti JM. Influence of Home Environment on Academic Performance of Students in Public Secondary Schools in Kitui, West Sub County, Kitui County, Kenya. Doctoral Dissertation. 2015.
  18. Akeri, EO. Home based factors influencing pupils' academic performance in public primary schools in South Gucha, Sub-county, Kisii County, Kenya. Masters Dissertation. 2015.
  19. Obeta OA. Home environmental factors affecting students' academic performance in Abia State, Nigeria. *Rural Environ Educ Personal.* 2014; 02:141-149.
  20. Ganyaupfu EM. Factors Influencing Academic Achievement in Quantitative Courses among Business Students of Private Higher Education Institutions. *J Educ Pract.* 2013;4(15):57-66.
  21. Ng CG. The Impact of Lecturers' Competencies on Students' Satisfaction. *Journal of Arts & Social Sciences* 2018;1(2):74-86.
  22. Al-Zoubi SM, Younes MAB. Low Academic Achievement: Causes and Results. *Theory Pract Lang Stud.* 2015;5(11):2262.
  23. Olufemioladebinu T, Adediran AA, Oyediran WO. Factors Influencing the Academic Achievement of Students in Colleges of Education in Southwest, Nigeria. *J Edu Human Develop.* 2018;7(3):109-15.
  24. Kaminski DA, Théroux PJ, Lister BC, Gabriele GA. Exploring the link between student learning styles & grades in an introductory thermal-fluids course: A three-year study of associations. *ASEE Annu Conf Expo Conf Proc.* 2005;4931-46.
  25. Yasmin F, Akbar A, Hussain B. The Impact of Perceptual Learning Styles on Academic Performance of Masters' Level Education Students. *Sci Int.* 2016;28(3):2953-58.
  26. Gokalp M. The Effect of Students' Learning Styles to Their Academic Success. *Creat Educ.* 2013;04(10):627-32.
  27. Atienza AA, Flores JP, Manalo P, Bacay TE, Rosario M, Tamayo B, et al. Relationship Between Maritime Students' Attitude towards School-Related Factors and Academic Performance. *Asia Pacific J Marit Educ.* 2017;3(1):31-7.
  28. Veresova M, Dana Mala D. Attitude Toward School and Learning Academic Achievement of Adolescents. *The European Proceedings of Social & Behavioral Sciences.* 2016; 870-876.
  29. Candeias AA, Rebelo N, Oliveira M. Student's attitudes toward learning and School-Study of exploratory models about the effects of socio-demographic and personal attributes. *Proc London Int Conf Educ.* 2011;380-5.
  30. Hattie J, Donoghue G. Learning strategies: a synthesis and conceptual model. *Science Learn.* 2016; 1-6.
  31. Sukor R, Mohd Ayub AF, Norhasnida Z, Nor Khaizura AR. Influence of Students' Motivation on Academic Performance among Non-Food Science Students Taking Food Science Course. *International Journal of*

- Academic Research in Progressive Education and Development 2017;6(4):104–12.
32. Wu H, Zheng J, Li S, Guo J. Does academic interest play a more important role in medical sciences than in other disciplines? A nationwide cross-sectional study in China. *BMC Medical Education*: 2019;1–8.
  33. Ahmodu OL, Adaramaja SA, Adeyemi AB. Impact of School Facilities on Students' Academic Performance in Oshodi-Isole L. G. A. Senior Secondary Schools, Lagos State. 2018. Available from: [https://www.researchgate.net/publication/326466002\\_IMPACT\\_OF\\_SCHOOL\\_FACILITIES\\_ON\\_STUDENTS%27\\_ACADEMIC\\_PERFORMANCE\\_IN\\_OSHODI-ISOLE\\_L\\_G\\_A\\_SENIOR\\_SECONDARY\\_SCHOOLS\\_LAGOS\\_STATE](https://www.researchgate.net/publication/326466002_IMPACT_OF_SCHOOL_FACILITIES_ON_STUDENTS%27_ACADEMIC_PERFORMANCE_IN_OSHODI-ISOLE_L_G_A_SENIOR_SECONDARY_SCHOOLS_LAGOS_STATE)
  34. Alos SB, Caranto LC, Jose J, David T. Factors Affecting the Academic Performance of the Student Nurses of BSU. *Int J Nurs Sci*. 2015;5(2):60–5.
  35. Kwesiga, Joy C. Aspaas HR. Women's Access to Higher Education in Africa: Uganda's Experience. *Afr Stud Rev*. 2003;46(3):190.
  36. Atta MA, Jamil A. Effects of motivation and parental influence on the educational attainments of students at the secondary level. *Acad Res Int*. 2012;2(3):427–31.
  37. Topor DA, Keane SB, Shelton TL, Calkins SD. Multiple Mediation Analysis. *J Prev Interv Community*. 2011;38(3):183–97.
  38. Mutodi P, Ngirande H. The impact of parental involvement on student performance: A case study of a South African secondary school. *Mediterr J Soc Sci*. 2014;5(8):279–89.
  39. Machebe CH, Ezegbe BN, Onuoha J. The Impact of Parental Level of Income on Students' Academic Performance in High School in Japan. 2017;5(9):1614–20.
  40. Lin T, Lv H. The effects of family income on children's education: An empirical analysis of CHNS data. *Res Mod High Educ* 4. 2017: 49-54.
  41. Kapur R. Factors Influencing the Student's Academic Performance in Secondary Schools in India. 2018. Available from: [https://www.researchgate.net/publication/324819919\\_Factors\\_Influencing\\_the\\_Students\\_Academic\\_Performance\\_in\\_Secondary\\_Schools\\_in\\_India](https://www.researchgate.net/publication/324819919_Factors_Influencing_the_Students_Academic_Performance_in_Secondary_Schools_in_India)
  42. Alami M. Causes of Poor Academic Performance among Omani Students. *Int J Soc Sci Res*. 2016;4(1):126.
  43. Hussain M, Sarwar H, Afzal M, Gilani SA, Fajar S. Factors Affecting Academic Performance of Undergraduate Nursing Students. *Int J Soc Sci Manag*. 2019;6(1):7-16.
  44. Mbugua Z, Kibet K, Muthaa G, Nkonke G. Factors Contributing to Students' Poor Performance in Mathematics at Kenya Certificate of Secondary Education in Kenya: A Case of Baringo County, Kenya. *Am Int J Contemp Res*, 2012;2(6):87–91.
  45. Joseph A, John O. Effect of Gender on Students' Academic Performance in Computer Studies in Secondary Schools in New Bussa Borgu Local Government of Niger State. *J Educ Pract*. 2015;6(33):1–7.
  46. Glory G-E, Sopuruchi I. Influence of Gender on Interest and Academic Achievement of Students in Integrated Science in Obio Akpor Local Government Area of Rivers State. *Eur Sci Journal*. 2017;13(10):272.
  47. Hasan A, Baser JA, Razzaq RA, Puteh S, Ibrahim N. The Influence Factors to Academic Performance of Architecture Students in Malaysia. *Adv in Soc Sci Educ Hum Res*. 2017;102: 306-308.
  48. Noel E, Velda M, Walker P. Conceptions, styles and approaches within higher education: Analytical abstractions and everyday experience. In: R. J. Sternberg & L-F Zhang (Eds.) *Perspectives on thinking, learning and cognitive styles*. Lawrence Erlbaum associates; 2001; p 103-136
  59. Gravoso R, Pasa A. Influence of students' prior learning experiences, learning conceptions, and approaches on their learning outcomes. *High Educ Res Dev*. 2002;282–9.