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## INFLUENCE OF GENDER AND STUDENTS' PERSONAL VARIABLES ON ACADEMIC ACHIEVEMENT AMONG UNDERGRADUATES: IMPLICATIONS FOR UNIVERSITY MANAGEMENT

Kamorudeen Taiwo Sanni<sup>1</sup>, Mensah Prince Osiesi<sup>1\*</sup>, Sunday Ade  
Adeniran<sup>2</sup>, Sylvan Blignaut<sup>3</sup>, Oluwatoyin Tolu Obateru<sup>4</sup>, Oluwayemisi  
Damilola Akomolafe<sup>1</sup> & Ayodeji Olorunfemi Olawole<sup>1</sup>

[1]  
Department of Guidance and Counseling,  
Faculty of Education,  
Federal University Oye-Ekiti,  
Oye, Ekiti state, Nigeria

[2]  
Department of Science Education  
Faculty of Education, Federal University  
Oye Ekiti, Oye, Ekiti state, Nigeria

[3]  
Postgraduate Studies Department,  
Nelson Mandela University, South Africa.

[4]  
Department of Educational Foundations  
Faculty of Education, Federal University  
Oye Ekiti, Oye, Ekiti state, Nigeria

*Corresponding Author:*  
Department of Guidance and Counseling,  
Faculty of Education,  
Federal University Oye-Ekiti,  
Oye, Ekiti state, Nigeria

*E-mail:*

*mensah.osiesi@fuoye.edu.ng*

### ABSTRACT

Several factors impede students' academic achievement in university education especially with respect to their performance in research and statistics-related courses. The factors of major concern are their gender and personality variables. This study investigated the influence of gender and students' personal variables on academic achievement among undergraduates in the federal university Oye-Ekiti, Nigeria. The study employed the survey research design. The population of the study consisted of all undergraduate students in the federal university Oye-Ekiti. In all, five-hundred and seventeen (517) undergraduate students constituted the study sample. Questionnaires were used for data collection, which was analysed using regression and the t-test. Results revealed that the significant differences among undergraduate students' academic achievement are due to their ability to maintain and improve on some personal variables such as positive thinking, attitude, time management, concentration, note-taking, revision, and anxiety, regardless of their gender. Implications for university management were highlighted.

**Keywords:** Students' Personal Variables, Gender, Academic Achievement, University, Nigeria



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## INTRODUCTION

Academic achievement can be defined as the result of teachers' evaluation of students in school subjects, showing their degree of success in terms of the cognitive, psychomotor, and affective aspects of learning during and after the course of instruction or study. It can also be referred to as the measurable outcomes of the interplay between the teacher and the students during and after teaching-learning situations. Schneider and Preckel (2017) defined academic achievement as the outcomes of students' performance that show the level to which the specific goals that were the focus of instructional activities especially in school, college and university have been accomplished by students. In his own view, Kpolovie (2014) defined academic achievement as excellence in all academic disciplines in class, as well as co-curricular activities.

Examining the above definitions of academic achievement, it could be inferred that academic achievement is an essential factor that can help produce high quality graduates who will later become reliable contributors to the economic and social development of the nation. This is because graduates who are able to attain high academic achievement in their discipline will grow and develop in a way that will make them useful to themselves, their community, their country, and the world at large. Therefore, it may become imperative for undergraduate students to look inward and employ all it takes for enhanced academic achievement.

In this study, academic achievement is operationally defined as the sum-total of each student's demonstrated cognitive, psychomotor, and affective learning abilities in Research Methods and Statistics in Education (EDU 304). Research Methods and Statistics in Education is a compulsory course which students from all departments in the Faculty of Education of the university must offer and pass the grade. It is through this course that students are exposed to the essential steps and analytical skills they would later employ in writing a good research project (or a long essay), which is a six-credit unit course in the faculty and university. This implies that undergraduate students' mastery of the course contents of Research Methods and Statistics will in no small measure determine their ability to write a good research project/long essay, which will in turn have influence on their final grading for graduation.

Despite the import of academic achievement and the role that Research Methods and Statistics in education plays in preparing undergraduate students on how to write an acceptable research project, many of them often complain that they have difficulty with the course. This had been associated with the fact that the academic course involves elements of statistics that have to do with calculations. Students in the faculty, whose major is not mathematics-oriented, are the major victims. Therefore, it will be highly necessary to investigate the factors that may influence the achievement of students in EDU 304 (Research Methods and Statistics in Education).

Generally, over the years and in recent times, stakeholders of education have associated students' academic achievement with several factors which can be grouped into parent, government, school, teacher, and learner factors. Considering these categories of factors, one may say that the learner factor is a potent factor that could measure the outcomes of the other factors (parent, government, school, and teacher), especially with regard to the attainment of educational goals. Thus, improvement of students' academic achievement may deserve quality attention from all stakeholders of education, especially at the university level. One fact still remains, that these learners have little or no control over the parent, government, school, and teacher but they have reasonable control over themselves (Sanni & Emeke, 2017). Even if all stakeholders of education are able to perform their roles as expected without the students' readiness and willingness to learn effectively, the accomplishment of learning outcomes may become futile.

This is why it is important to examine which learner characteristics may be related to students' academic achievement with a view to identifying those characteristics that may have a significant relationship with their academic achievement. This can help students understand the unique manners and ways they may need to develop and exhibit during classroom interaction in order to learn effectively. At university level, it may be highly essential



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for students to look inward and try to manipulate all personal variables that may have positive effects on their educational attainment, since they are no longer under the control and supervision of their parents and teachers. They are now on their own to take decisions on issues relating to their lives and others concerns (achievement of their educational goals).

Personal factors may affect the manner in which a student concentrates, obtains, processes, retains and applies information with a view to accomplishing educational goals. Students' personal variables, according to Schneider and Preckel (2017), include a student's age, gender, interest, intrinsic motivation, intelligence, personality, critical thinking, self-control, self-esteem, extraversion, procrastination, class attendance, self-assessment, optimism, openness, emotional stability, agreeableness, help seeking, and learning strategy. The authors opined that these learner variables are associated with achievement in higher education. Also, Fayombi (2011) examined first year students' psychological resilience, study habits and interest in higher education (student-related variables) as predictors of their academic achievement in the Introduction to Developmental Psychology class in the University of the West Indies and found a significantly positive relationship among these variables and academic achievement. This has been supported by Jafari, Aghaei, and Khaton, (2019), and Kyauta and Dachia, (2018) studies which revealed a significant positive relationship between learners' personal variables and academic achievement.

In the extant literature, there seems to be no particular study on undergraduate students' personal variables using a Nigerian sample, which considers the extent to which the following undergraduate students' personal variables were captured: positive thinking, attitude, time management, concentration, note-taking and revision which could influence the academic achievement of these students especially in Research Methods and Statistics in Education (EDU 304). This calls for investigation. As a result, this study investigated the influence of students' personal variables on academic achievement among undergraduates in the federal university Oye-Ekiti, Nigeria.

This study is significant in a number of ways to the university management, in assisting the students and providing input to the body of literature, researchers and academics, as well as educational policy makers and curriculum planners, educational psychologists and counsellors in Departments and Faculties of Universities. University management would from the findings of this study gain more insights on the factors that hamper students' academic achievement. The university would foster the professional development of staff on ways of improving and sustaining students' personal variables, and in providing a conducive teaching and learning environment that could boost students' positive thinking, attitude towards learning, time management skills, concentration, note-taking and revision, as well as taming students' text anxieties.

The knowledge students would obtain from the findings of this study would enhance their academic independence since they would develop the necessary self-knowledge and self-control over themselves, especially with the identification and manipulation of their personal variables. The findings of this study would add value to the extant literature by providing empirical evidence regarding the influence of students' personal variables, vis-a-vis, their gender and academic achievement. Researchers and academics would benefit as the findings of the study would provide them with in-depth insight into the essential students' personal variables and how they affect their academic outcomes. Academics would make the teaching and learning process more effective in enhancing students' academic achievement and positive behavioural changes.

Curriculum planners and educational policy makers would from the insight accruing from this study design and implement curriculum/education policies that would be more learner-centred. Educational psychologists and counsellors would benefit from this study as it would provide them with the knowledge of students' personal variables with which to proffer timely psychological analysis, treatments and counselling of students who might be underachieving due to the influence or interference of their personal variables.

## LITERATURE REVIEW



***Positive Thinking and Academic Achievement***

A positive thinker approaches life's challenges with a positive mind and expects a successful ending in any situation. He/she creates joy in every situation and gives room for positive thoughts. Positive thoughts will bring about positive plans which will in turn lead to positive actions (Çelik & Sarıçam, 2018). Therefore, one could be appraised based on the way they think, plan and act. So, a student who approaches every teaching and learning situation with positive thinking, may likely prove to be successful academically. He/she may equally have a positive attitude towards school activities.

On the other hand, a negative thinker is the exact opposite of a positive thinker. The positive or negative origin of the thoughts can direct the life, the perspective on life, an explanation of the facts, feelings and behaviour of an individual and his thoughts (Celik & Saricam, 2018). The authors concluded that students' positive thinking influences achievement. In addition, Abdelrahim and Humaida (2017) examined the influence of self-efficacy, positive thinking and gender on academic achievement. Results indicated that both self-efficacy and positive thinking predict students' academic achievement, with no gender difference.

Zang et al. (2013) assert that individuals who have positive thinking towards life tend to succeed more often. Zhang and Zhua's (2011) study has also shown that students' positive thinking positively influences their academic achievement. The study of Çelik and Sarıçam (2018) also indicates a positive significant relationship between high school students' positive thinking skills and academic achievement. Therefore, students need to close their minds to negative thoughts towards what they are learning in order to disallow the negative effects they may have on their academic achievement.

***Attitude and Academic Achievement***

If attitude is considered a predisposition which determines and directs individual behaviour, an individual is therefore expected to exhibit either positive or negative behaviour depending upon his/her attitude (Enoch & Asogwa, 2021). Thus, students who have a positive attitude towards school and learning is detected have better academic achievement, while those who have a negative attitude may experience lower performances. For instance, Verosova and Mala (2016), and Erdoğan (2019) established a relationship between academic achievement and students' attitudes towards school and learning. They found that academic achievement is inversely proportional to students' attitudes towards their learning.

With lower academic performance, the more likely to have a negative attitude towards learning. Attah et al. (2018) also investigated students' attitude towards English Language among SS II students in the Calabar metropolis, Nigeria. Their findings revealed that students' attitudes have a significant influence on their academic achievement in the subject. Dagnew (2017) and Cain and Hattie's (2020) studies were on the relationship between students' attitudes towards school, values of education, achievement motivation and academic achievement in Ethiopia. Results revealed a positive relationship between students' attitudes and achievement.

In addition, students who have positive attitudes towards school and learning often become "Intentional Learners". Becoming an "Intentional Learner" means having quality time to develop one's self-awareness about the reason for studying, the learning process itself, and how education is used, (AACU, 2002). In the same vein, students who have negative attitudes towards school and learning may also become "Unintentional Learners", that is, students who may not have quality time for self-awareness, self-direction and self-control about their purpose in the university.

Such students may not be able to manage their time in a way that will make them have quality time to concentrate all efforts on their studies. This may have a negative impact on their academic achievement. This is because students' attitudes towards school and learning may influence the length and quality of time they will spend on their class work or academic pursuits (Erdoğan, 2019).



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## ***Time Management and Academic Achievement***

In higher education, time management is viewed as a crucial prerequisite for effective and efficient studying. However, university students commonly struggle with time management, especially first-year students (Trentepohl et al., 2022). Time management has been defined as a form of self-management with a clear emphasis on time in understanding what activities to undertake; how to do them more efficiently; in what time it should be done and when is the correct time to do the particular activity (Savino, 2016). Karim and Mitra (2015) defined time management as the conscious control of time use in order to maximise efficiency, effectiveness and productivity. Thus, time administration is genuine in improving learners' academic pursuits.

Time management avails students the ability to manage their academic success (Igweh et al., 2020). It is a student that has ability to manage his/her time effectively that can be able to withstand the challenges of the university (Trentepohl et al., 2022). For example, there is no more formal structure and atmosphere for their guidance and monitoring. Also, in the university, students are faced with a lot of attention-distracting factors, such as peer, social, political, and cyber influences, to mention but a few.

Therefore, for a student not to fall victim to these challenges, he/she may need to develop good time-management skills. This may help such students to concentrate fully on their studies and shun all forms of distracting activities. Cyril (2015), Alyami et al. (2021), Das and Bera's (2021) studies have indicated that proper time management by students positively influences their academic performance.

## ***Concentration and Academic Achievement***

Concentration in the classroom is a factor that affects learning outcomes. Teachers implore students to pay special attention during the teaching-learning process in order for them to learn effectively and have an improved academic achievement. Students are expected to concentrate during classroom interaction, especially when the teacher is explaining a concept or providing cogent information/instruction. A student who fails to concentrate on what he/she is being taught may not be able to learn new things (Rabiner et al., 2016). Students' concentration during learning occurs when such a student is able to keep distracting thoughts and feelings away and fix his/her attention on the current classroom activities.

Turkiya and Husan (2015) considered attention as an essential factor which impacts on learning, as it enhances information processing and positive responses in the classroom processes. Students who concentrate during lessons may likely be effective in note-taking and will revise such notes in preparation for future tests or examinations. Focused attention is necessary to complete tasks in class, listen to the lecturer, and participate in group learning activities. Research suggests that concentration is directly related to academic success (Leigh et al., 2021).

## ***Note-taking and Revision, and Academic Achievement***

One of the most useful techniques for students to use at the university level is taking notes (Harrouz, 2016). Prior studies have shown that students' effective note-taking aids their recall of academic concepts and materials, as well as improving their overall academic performance (Robin et al., 2014). The students who take notes during lessons, listen actively while they write, think while they listen, and make conscious choices about what they write down (Özçakmak, 2019). These authors emphasised that note-taking facilitates both recall of factual material, and the synthesis and application of new knowledge, particularly when notes are reviewed prior to exams. This indicates that, it is when students are able to combine effective note-taking with drastic revision, increased academic achievement can be ensured (Almaagbh, 2020).

Also, note-taking and revision do not only help students to recall the important topics they have been taught, but



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equally make them independent (Brahrami & Nostratzadeh, 2017; Saravani, 2019; Ummadevi & Sasi, 2019). An independent student may be able to build confidence that is required to neutralise the anxiety which is usually associated with tests or examinations.

## **Test Anxiety and Academic Achievement**

Anxiety can be defined as a painful, apprehensive and uneasy state of the mind usually over an impending challenge. Thus, test anxiety can be described as students' apprehension during testing. Students' test anxiety could negatively influence their psychological wellbeing, which may in the long run have a negative impact on their academic achievement in such a test. Mirawdali, Morissisey and Ball's (2018) study was conducted on the effects of test anxiety on students' academic performance. Findings showed that time management, strategic studying and academic competence are positively related to test anxiety and academic performance of students.

Mohammed, Halilu and Ali Muhammad's (2017) study investigated the impact of examination anxiety on university students' academic performance in Nigeria. Findings revealed that the gender of students has no significance on test anxiety and academic performance. This is also consistent with the findings of Ali, Ejaz and Bagum's (2021) research. Examining the background of this study, it can be justified that students' personal variables (positive thinking, attitude, time management, concentration, note-taking and revision, test anxiety) could influence undergraduate students' academic achievement; hence the reason for the study.

Students (whether male or female) remain the final product of the teaching-learning process in any academic setting. It is the academic achievement of these students in their different courses (especially those related to Research and Statistics) and with respect to their gender, that will determine their overall quality which often in turn determines a nation's educational quality, an essential tool for national growth and development. In light of this, it may become highly necessary for educational researchers to continually investigate issues around students' academic achievement; mainly on academic courses such as EDU 304: Research and Statistics in Education, since such courses entail more critical thinking, analysis, mathematical calculations and interpretations for Faculty of Education-based students in universities in Nigeria. It is on these premises that this study empirically investigated the influence of gender and students' personal variables on academic achievement among undergraduates of the federal university Oye-Ekiti, Nigeria; in the Research and Statistics course (EDU 304) of the Faculty of Education.

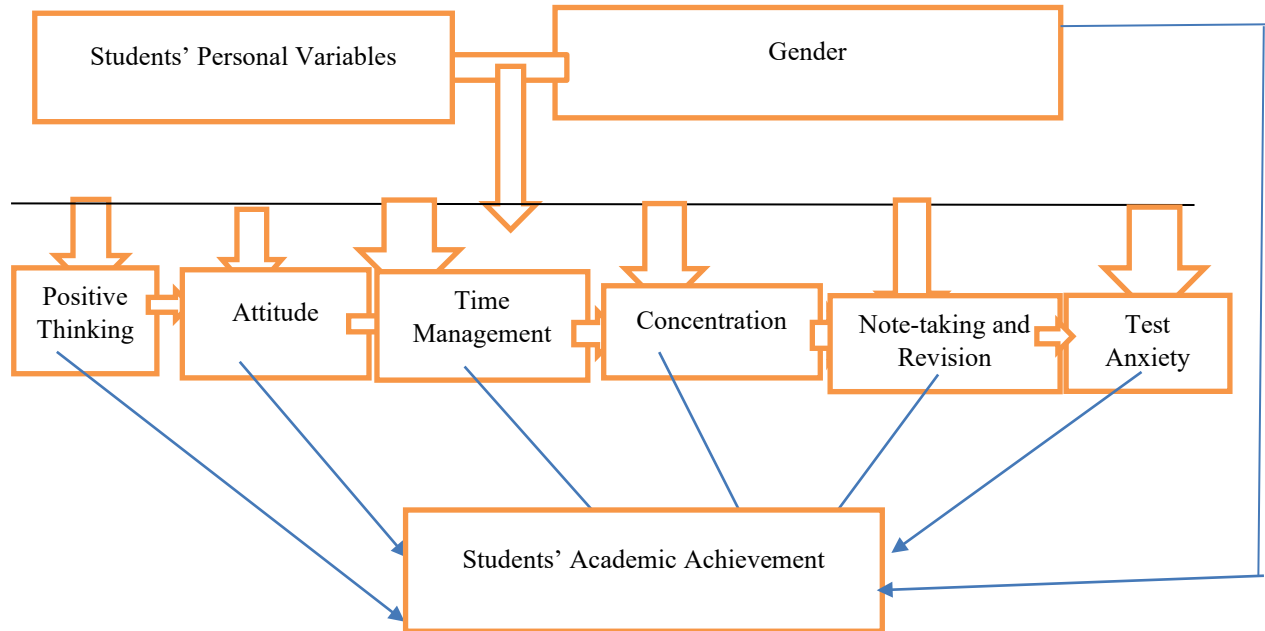
## ***Theoretical Framework***

This study is anchored on the Interest-Driven Creator (IDC) Theory as postulated by Chan et al., (2018). The theory is anchored on three main concepts, namely interest, creation and habits. This theory states that learners can create knowledge when driven by their interest in learning (Wong et al., 2020). Students' interest in learning will begin with their positive thinking of what is to be learnt, develop the right attitude towards learning, properly and optimally manage their time, especially with regard to learning, and concentrate fully during lessons. It is through this interest that these students are able to create their lesson notes and develop a positive mindset towards tests or examinations. It is when students exhibit these personal variables constantly that learning becomes a habit.

Hence, this theory is relevant to the study as it is useful in linking students' personal variables with academic achievement. We adopted this theory based on the fact that students' academic achievement (in this case, Research and Statistics-related courses), especially at the university level, is directed by their interest towards these courses, coupled with their ability to create further knowledge from what has been learnt within the context of these courses and the academic community, and the habit they exhibit on the aforementioned that eventually determines their academic outcomes.



**Conceptual Framework**



*Figure 1.*

A Schematic Diagram showing Relationships among the Studied Variables

Figure 1 is a schema depicting the relationship between students' personal variables and academic achievement. However, students' personal variables as conceived in this present study consisted of students' positive thinking, attitude, time management, concentration, note-taking, revision and test anxiety. Undergraduate students with positive thinking always have good attitudes towards academic-oriented activities and would try as much as possible to judiciously manage the available time in attending lectures by meeting up with the attendance requirement of the course before qualifying to sit for the course examination.

Once this is feasible, there would be a high level of concentration during teaching-learning interactions which would in turn enhance him/her to write down the course lectures and revise the notes which are adopted in addressing problems associated with the exhibition of test anxieties and improved academic achievement. In all, students' personal variables predict undergraduate students' academic achievement.

**Research Question**

1. What is the composite influence of students' personal variables (positive thinking, attitude, time management, concentration, note-taking and revision, test anxiety) on their academic achievement in EDU 304 (Research Methods and Statistics in Education) among undergraduates of the federal university Oye-Ekiti, Nigeria?

**Research Hypothesis**

H<sub>0</sub>: There is no significant difference in the students' personal variables on the basis of their gender.

**METHODOLOGY**

The survey research design was adopted for this study. The population of the study consisted of all undergraduate students in the federal university Oye-Ekiti. The purposive sampling technique was used to select the Faculty of



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Education and 300 level students (students in their third year) from the five departments of the faculty, who have offered and completed the EDU 304 course (Research Methods and Statistics in Education) during the 2019/2020 academic session.

The rationale for purposively selecting these samples is based on the fact the course (EDU 304) is specifically offered in the Faculty of Education in all Nigerian public universities, and it is usually offered by students who are in their third year in the university (Campbell et al., 2020; Sharma, 2017; Taherdoost, 2016). In all, five-hundred and seventeen (517) undergraduate students constituted the study sample. Two instruments: Students' Personal Variable Questionnaire (SPAQ), which was developed by the researchers, and Students' Scores in EDU 304, which was obtained from the Examination Board of the Faculty, were used in collecting data for the study. The SPAQ had two sections (A and B).

Section 'A' contained demographic characteristics of the respondents such as gender, matriculation number (with which the students' scores would be traced and matched) and department. Section 'B' consisted of forty (40) items having six components measuring students': positive thinking, attitude, time management, concentration, note-taking and test-anxiety, which were placed on a five-point Likert scale of 1= Very Low Extent; 2=Low Extent; 3=Moderate Extent; 4=High Extent; and 5=Very High Extent.

The face and content validity of the SPAQ was censured by presenting it to two experts of educational evaluation for expert scrutiny and adjustment, which was pilot tested on 50 undergraduate students, which were not included in the study sample. Their response and eventual analysis of the instrument using the Cronbach alpha reliability technique yielded: positive thinking ( $r=0.74$ ), attitude ( $r=0.88$ ), time management ( $r=0.78$ ), concentration ( $r=0.89$ ), note-taking and revision ( $r=0.72$ ) and test-anxiety ( $r=0.73$ ). Regression analysis and t-test were employed to analyse the data, using SPSS version 23 software (Khan et al., 2021; Koonce & Kelly, 2014; Mousazadeh et al., 2017; Rovai, Baker, & Ponton, 2014, p. 545).

Before the study, the researchers sought informed consent and approval from the Education Faculty Officer (EFO) of the sampled university, for the use of the students in the faculty as study participants. Also, the informed consent of the respondents was sought and obtained, through their students' faculty and departmental representatives. These participants were assured that participation in the study was voluntary, and they could opt out whenever they wanted. These respondents gave verbal consent to participate in the study. The researchers also assured the respondents that their responses would be treated with utmost confidentiality and anonymity, during and after the study (Creswell, 2013).

## RESULTS

To determine the factors influencing undergraduate students' academic achievement, the study used regression coefficients and their significant levels to report the results.

In Table 1 regression analysis results are shown in which students' scores in EDU 304 (Research Methods and Statistics in Education) are being used to represent the students' academic achievement, and in turn their dependent variables.

Table 1

*The Table shows the Empirical Outcomes of the Research Question*

Variable	Beta	T
Positive Thinking	0.356	3.230***
Attitude	0.399	3.202***
Time Management	0.245	2.375***
Concentration	0.311	3.052***





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<b>Note-Taking and Revision</b>	-0.027	3.202***
<b>Test-Anxiety</b>	0.342	3.020***
<b>R</b>	0.769	
<b>R-square</b>	0.843	
<b>Adjusted R-square</b>	0.517	

Note: N= 517 \*\*\* p<0.01

From Table 1, the value of R-square is 0.843, indicating that the independent variables comprising students' personal variables vis-à-vis positive thinking, attitude, time management, concentration, note-taking, revision and test anxiety, explained an 84.3 % variation that took place in the students' academic achievement (the dependent variables). The remaining 15.7% might be due to other variables not included in the model.

The empirical outcomes revealed that positive thinking, attitude, time management, concentration, and test anxiety as components of students' personal variables are significant predictors of undergraduate students' academic achievement as having ( $\beta = 0.356, p < 0.01$ ), ( $\beta = 0.399, p < 0.01$ ), ( $\beta = 0.245, p < 0.01$ ), ( $\beta = 0.311, p < 0.01$ ), and ( $\beta = 0.342, p < 0.01$ ) respectively. While the university students' note-taking variable appears to be a negative function of academic achievement ( $\beta = -0.027, p < 0.01$ ).

Table 2

*T-test Outcomes on the Difference in the Students' Personal Variables based on their Gender*

Variables	Gender	S.D	T-cal	T-tab	DF	RMK
<b>Positive Thinking</b>	<b>Female</b>	5.18	0.62	1.98	505	Not sig
	<b>Male</b>	4.59				
<b>Attitude</b>	<b>Female</b>	4.83	1.72	1.98	505	Not sig
	<b>Male</b>	4.13				
<b>Time Management</b>	<b>Female</b>	5.15	0.87	1.98	505	Not sig
	<b>Male</b>	5.33				
<b>Concentration</b>	<b>Female</b>	5.49	0.88	1.98	505	Not sig
	<b>Male</b>	5.69				
<b>Note-Taking and Revision</b>	<b>Female</b>	5.18	0.62	1.98	505	Not sig
	<b>Male</b>	4.59				
<b>Test Anxiety</b>	<b>Female</b>	4.91	0.87	1.98	505	Not sig
	<b>Male</b>	4.26				

Table 2 indicated that there was no significant difference between students' personal variables on the basis of their gender as the t-calculated values were less than the corresponding critical value at 5% level of significance.

## DISCUSSION

The findings indicate that students' positive thinking, attitude, time management, concentration, and test anxiety, as components of the students' personal variables, are significant predictors of undergraduate students' academic achievement. Students' positive thinking, as revealed by the study, positively influences academic achievement. This



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is because students' positive thinking affects other areas of their learning endeavours. The finding is in consonance with the findings of Abdelrahim and Humaida (2017), Celik and Saricam (2018), Zang et al. (2013) and Zhang and Zhua (2011), whose studies reported that students with positive thinking tend to be more successful and have a higher academic achievement. Students' positive attitude as revealed by the results of this study, positively impact on academic achievement. As such, students with the right attitude towards learning achieve better. This finding is in tandem with the findings of Verosova and Mala (2016), Attah et al. (2018), Dagnew (2017) and Cain and Hattie's (2020) studies which had established a relationship between academic achievements and students' attitudes towards schooling/learning. Time management by students, as revealed by these studies, impacts on academic achievement. This is because students who properly manage their time, especially with regard to learning concerns, perform better. This is congruent with the findings of Cyril (2015); Alyami et al. (2021); Das and Bera (2021) and Trentepohl's et al., (2022) studies that have indicated that proper time management by students positively influences their academic performance.

Students' concentration in class during lessons has been found to impact on academic achievement. This is understandable since the more the students concentrate in class, the better their understanding of the concept taught and the academic performance. This is supported by the findings of Turkiya and Husain (2015) whose study revealed that students' concentration affects academic achievement. Test anxiety among students, according to the findings of this study, positively affects academic achievement. This is because test anxiety keeps the students on their toes regarding their being studious.

This is corroborated by the study of Mirawdali, Morissisey and Ball (2018) that reported that students' test anxiety is positively related to their academic achievement. On the other hand, the findings of this study show a negative relationship between note-taking and revision by students with their academic achievement. The study findings also indicate that the gender of students does not affect their personal learning variables. That is, students' positive thinking, attitude, time management, concentration, and test anxiety have no bearing on whether they are male or female. This agrees with the findings of Mohammed et al. (2017) and Ali et al. (2021).

The findings of the study are in tandem with the theory of Interest-Driven Creator (IDC), as well as the conceptual framework situated therein, since all the students' personal variables captured in the study were significant in predicting their achievement in EDU304. As indicated in the theory and framework, students' interest towards learning and other academic concerns influences their positive thinking and attitude towards learning and time management skills. These in turn influence the students' level of concentration in academic matters such as class attendance and paying apt attention during lessons, together with note-taking and revision skills. Once students adequately revise what has been taught, they become well prepared for any future test or examination, thereby curbing their anxieties towards tests and examinations.

### **CONCLUSION AND RECOMMENDATIONS**

Learning continues to be a unique exercise and is dependent on several underlying factors. Undoubtedly, learners' personal variables are potent in directing students' academic achievement even at the university level. As such, undergraduate students need to look inward and be conscious of their personal variables in order to enjoy outstanding academic achievement in their various academic disciplines. Such students would give quality time to schoolwork and thereby concentrate during the teaching-learning processes. This will greatly affect effectiveness in note-taking and revision. All these would in turn help students to prepare well for any test or examination, thus overcoming the anxiety that may be associated with the test or examination.

Undergraduate students are to develop and exhibit aforementioned learner variables as detailed in this study. Students who are able to think positively about their academic work would exhibit a positive attitude towards their studies. The study concludes that students' personal variables: positive thinking, attitude, time management, concentration, note-taking, revision and test anxiety, impact on undergraduate students' academic achievement,



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while students' gender showed no relation with their personal learning variables.

The study thus recommends that:

- i. Programmes and expositions that would instil the aforementioned students' personal variables for enhanced academic outcomes be organised on a regular basis;
- ii. University lecturers should also be trained in ways of imparting these positive personal variables to undergraduate students. These lecturers should adopt and continually implement varying teaching strategies that would accommodate and positively reform these students' personal variables for effective teaching outcomes and improved students' academic achievement;
- iii. Students should imbibe and continually exhibit these personal variables (positive thinking, positive attitude towards learning, proper time management, effective note-taking and revision and test confidence) during the teaching-learning process, as this will help them to form habits of being independent learners.

### **Implications**

This study provides more insights for education stakeholders, especially the university management, and lecturers in the university system, of the relevance of taking all the aforementioned students' personal variables into consideration during teaching-learning interactions, as these would continually enhance the academic achievement of the students under their tutelage. Universities should pay special and unbiased attention to students' particularity at the point of admission into the university.

There is need for the university management to set up and effectively manage students' guidance and counselling units, in order to monitor and checkmate students' individual needs and characteristics. The study has also added to the bulk of knowledge surrounding students' personal variables and academic achievement in the university education system as obtainable in the literature. Similarly, students would from the findings of this study be able to identify the vital personal variables that have a significant relationship with their academic achievement, with a view to developing these variables and manipulating them in such a way that effective learning is ensured.

### **Research Limitations**

This research work was limited in geographical scope to only undergraduate students who have offered EDU 304 (Research Methods and Statistics in Education) during 2019/2020 academic session within the Faculty of Education, federal university of Oye-Ekiti, Nigeria. The research instrument used was basically a quantitative self-designed students' personal variables questionnaire, and method of data analysis was limited to regression and t-test.

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