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# University learners' educational experience survey: a gender dimensional analysis

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## ABSTRACT

Intense competition among universities with its negative consequences has necessitated the investigation of students' academic experiences as it influences students' university choices. To bridge this gap, this study seeks to examine students' satisfaction with their educational experience at two selected universities in Ghana. Utility Maximisation Theory was deployed to guide the study. Relevant research ethics principles were duly observed. We used a cross-sectional survey of 309 students to estimate an ordered probit econometric model as well as cross-tabulation descriptive and graphical analyses. Based on the robustness of the results, we found that male students are quantitatively more satisfied with their academic performance than female students. The results also demonstrate consistent and significant associations between instructional delivery and feedback, and students' academic satisfaction; there was a positive and statistically significant relationship between enabling conditions and the level of student satisfaction across both males and females; furthermore, the results indicate a positive and statistically significant relationship between learner support systems and the level of students' satisfaction among both males and females; additionally, females have shown that they demonstrate a quantitatively greater appreciation for instructional delivery and feedback compared to males. Policymakers and educational institutions can better target support and intervention programmes for students with satisfaction scores that are close to the average by identifying these students. It is also suggested that universities focus on and keep improving upon the services and educational facilities they provide, as well as correcting any inefficiencies in the services so as to meet students' satisfaction.

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## 1. Introduction

Universities in Ghana and Africa in general, operate in a typically dynamic environment triggered by fierce competition, inadequate government subvention, and dwindling economy resulting from mismanagement of the economy, more recently effects from the surge of the COVID-19 pandemic and Russian-Ukraine war. Comprehending and satisfying the needs of students in such an environment provides a unique student educational experience to enable the university to gain a competitive edge, since universities compete not only for funding but also for prospective students (Krishna & Estelle, 2023). Higher education institutions attach priority to satisfying the needs of their students. Student satisfaction is a significant indicator of a higher education institution's performance and effectiveness (Krishna & Estelle, 2023). There is an increasing realization by universities that being in competition, it is socio-economically prudent and viable to invest now in meeting students' satisfaction to retain them rather than to invest later to recruit students. In that, acquisition costs per student are generally higher than retention costs per student. Understanding what constitutes students' satisfaction is therefore necessary for universities.

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Students' satisfaction may be explained as an attitude consequent upon the analysis of educational experience, services, and facilities (Weerasinghe & Fernando, 2017).

Some studies have revealed that satisfaction with online education centres on technological support, pedagogical skills, workload, and feedback (Öztürk et al., 2022; Wei & Chou, 2020). Student satisfaction has been a priority due to the increased competition in the higher education market, which has resulted in customer-oriented business models (Parahoo et al., 2016). Measuring satisfaction is seen as one of the key factors in determining the quality of online educational programmes (Dziuban et al., 2015). Consequently, over the years, many empirical studies have been conducted on the level of satisfaction with online educational experiences. Student satisfaction has been widely researched as a measure of identifying the quality of the student's academic experience.

This paper investigates which aspects of a student's educational experience are dominant in influencing students' academic satisfaction. More specifically, the paper explores the extent to which student satisfaction is influenced by educational-related variables such as learner support, facilitating/enabling conditions, and instructional delivery and feedback. Student satisfaction with their academic experience is the dependent variable, and the education-related variables are independent variables. In the current study, students were asked to assess their level of perceived satisfaction with academic experience along 3 dimensions of their educational experience namely: Learner support services; facilitating/enabling conditions, and instructional delivery and feedback.

Numerous studies have investigated the relationship between learner support systems and academic satisfaction (Anderson et al., 2023; Harrison & Norris, 2020; Kim et al., 2022); facilitating/enabling conditions and student satisfaction (Brown & Jones, 2018; Harrison & Norris, 2020; Lee et al., 2019; Wu et al., 2010); Instructional delivery/feedback and students' satisfaction (Alamri, 2019; Bossman & Agyei, 2022). It is worth noting that social cognitive theory was used in one of the studies above, but the others were not guided by any theory. The current study used utility maximisation theory to guide the study, indicating that the study adds to knowledge in the domain. Besides, the studies reviewed above were conducted in Mauritius, Western Europe (Spain), America and East Asia but the present study was conducted in Ghana warranting its relevance to the field. Although several studies have examined the determinant of students' satisfaction, there is not a single study that examined students' level of perceived satisfaction along, with learner support services: facilitating/enabling conditions, instructional delivery and feedback at any university in Ghana, and Africa in general. Furthermore, we employed the ordered probit econometric model which does not change the interpretation of the results for the current paper. Not a single study has used this data analytical tool in the domain. Additionally, it is worth noting that the fierce competition among universities with its adverse consequences has caused the examination of students' academic experiences as it influences students' university choices. To bridge this gap, this study seeks to examine students' satisfaction with their educational experience at two selected universities in Ghana.

The variables being tested in the current study are explained as follows: Learner support- This is a set of formally structured and routinized services provided to students by an institution or informally by peers to facilitate and enhance learning (Asamoah, 2019). Stated differently, learner support implies some services and conditions in the educational system that allow the student to learn with satisfaction. It contains a portfolio of services for individuals and students in groups which complement the learning materials that are uniform for all learners, and which are generally perceived as the major offering of institutions using online and distance learning.

The support includes orientation services, access to learning materials, library facilities, access to computers, fast internet service, timely flow of information and communication, online advisory services, provision of electronic periodicals and databases, technical help, technology skill training facility, adaptive service for the physically challenged, preparatory diagnosis, study skills, access to group learning in seminars and tutorials, counselling and guidance, course advisory to mention just a few. Peer support on the other hand means informal arrangements by the students' group to enjoy help from one another, for encouragement, to overcome isolation, to receive an explanation of something or even to benefit from financial help (Anderson et al., 2023; Asamoah, 2019; Thorpe, 2002).

Enabling/facilitating conditions are seen as the perceived enhanced organizational support factors in an educational system that affect a person's perception of teaching or learning (Asamoah et al., 2023; Asamoah, 2017; Teo, 2010). They include functionality of the educational technologies, availability of

hardware and software, video conference facility, internet infrastructure, electric power and power generator backup. It also includes a technology skills training facility, effective application of e-learning policies, provision of an ICT laboratory; off-campus technology services and so on and so forth (Asamoah, 2017; Asamoah et al., 2023). The availability of such enabling conditions is likely to inform students' academic performance, and for that matter, students' satisfaction with their educational experience or academic satisfaction.

Instructional delivery and feedback comprise the techniques and approaches employed by teachers to provide course material, deliver instruction, test, and assess students, and provide regular feedback (teacher- students interaction level, and students' interaction with contents, to mention a few). They are geared towards promoting students' learning outcomes (Alamri, 2019; Brown & Jones, 2018; Kuo et al. 2013; Smith & Johnson, 2021). All the variables being tested are referred together as educational experience in the light of the current study.

This is one of the first studies to investigate the relationships between learner support, enabling/facilitating conditions, and instructional delivery and feedback against students' satisfaction with their academic work in two selected universities in a developing country, Ghana. The results of this paper are beneficial for the universities' future and other universities attempting to provide online or blended education. Additionally, the results will help other higher education institutions to improve their learner support system, enabling conditions, as well as instructional delivery and feedback system. By doing so, students will continue to gain from such an environment which will lead to more students' satisfaction. In addition, findings may assist universities in designing quality online courses to meet student's needs better and improve student satisfaction. This paper can make a meaningful contribution to our understanding of undergraduate student satisfaction with their academic work. It provides new insights into gender-specific challenges associated with higher education and draws some interesting conclusions regarding the need for a tailored approach to support mechanisms that improve student satisfaction. Herein lies the novelty of the current paper in the literature of the domain.

### **1.1. The objectives of the study**

Below are the objectives of the study:

- a. To investigate if there is statistically significant relationship between enabling conditions and students' academic performance satisfaction by gender.
- b. To examine the relationship between learner support services and students' academic performance satisfaction by gender.
- c. To find out the relationship between instructional delivery and students' academic performance satisfaction by gender.

## **2. Literature review**

In line with the present study, the literature review is grouped into three (3) strands. The first strand examines the relationship between enabling/facilitating conditions and students' satisfaction with their academic programme. The second strand looks at learner support systems and academic satisfaction, and the third focuses on instructional delivery/feedback and students' satisfaction with their educational experience.

### **2.1. Enabling environment/facilitating conditions on students' satisfaction**

Several studies have examined the effect of enabling environment/facilitating conditions on academic satisfaction (Brown & Jones, 2018; Harrison & Norris, 2020; Kosiba et al., 2022; Lee et al., 2019; Wu et al., 2010). For instance, using social cognitive theory, Wu et al. (2010) analyzed the factors that affect student learning satisfaction in a blended e-learning system (BELS) environment. The reliability and validity of the study were determined using confirmatory factor analysis (CFA). Using a questionnaire to obtain

information from 212 participants and a partial least squares (PLS) method to estimate the regression model, the results indicate that learning environment, and system functionality among others affect student satisfaction in a blended e-learning system (BELS). Lee et al. (2019) also investigated the effect of enabling conditions for student learning in higher education. The authors employed meta-analysis and found that enabling/facilitating conditions promote student satisfaction in different programmes.

Nasir et al. (2021) examined student satisfaction with using a learning management system for blended learning courses for tertiary education. The authors revealed that course notes, forums, and assignments are drivers of better learning outcomes. Bossman and Agyei (2022) also investigated the determinants of e-learning satisfaction and the performance of distance learning students in Ghana. Using 388 responses from online surveys between 29th May 2021 and 25th June 2021 and the Smart-PLS estimator, the authors show that technology anxiety, technology quality and ease of use affect e-learning satisfaction and performance among distance learning students. Similar results have been obtained by Brown and Jones (2018), who reveal that enabling conditions significantly affect satisfaction and overall educational experience in undergraduate research.

The findings from the studies reviewed above indicate a correlation or relationship between enabling conditions and students' academic satisfaction. Availability of educational technologies, education driven-digital and electronic infrastructures, devices, tools and applications such as computers (desktop and laptop) software, ICT laboratory, video conference facility, internet facility, electric power and power generator backup, technology skills training facility, Learning Management System as well as off-campus technology services, to list just a few, can undoubtedly create an academically conducive atmosphere that motivates students' learning with satisfaction. By implication, if universities make such facilities available, students are likely going to be satisfied with their educational experience and positively impact their academic performance.

## **2.2. Learner support systems and academic satisfaction**

Scores of studies have also been carried out to examine the relationship between learner support systems and academic satisfaction (Anderson et al., 2023; Blau et al., 2019; Harrison & Norris, 2020; Kim et al., 2022; Parahoo et al., 2016). Kim et al. (2022) examined the drivers of academic success, including satisfaction with online classes during COVID-19 pandemic era using a structured questionnaire to obtain data from 200 nursing students involved in online-based learning in 2020. Employing descriptive statistics and the hierarchical multiple regression method, the authors demonstrate that cyber-class flow is a key determinant of satisfaction with online classes. Moreover, self-directed learning and satisfaction with online classes drive academic achievement. Zhong et al. (2021) have also demonstrated that campus support services help hospitality and tourism students have a favourable psychological status, which favourably promotes clear professional objectives and pathways. Additionally, Guo and Ayoun (2022) asserted that campus support is essential for students majoring in hospitality because these students heavily rely on faculty expertise and counsel when making career decisions. This suggests that students view campus support as their primary information source.

Using meta-analysis, Lei et al. (2017) examined how student characteristics affect the link between teacher assistance and students' academic emotions, including both positive and negative academic emotions. The authors demonstrate a strong correlation between teacher support and students' academic feelings. These linkages were also mediated by the culture, age, and gender of the students. For Western European and American students, there was a larger association between teacher support and positive academic emotions than for East Asian students, whereas there was a stronger correlation between teacher support and negative academic emotions for East Asian students than for Western European and American students. Additionally, middle school students showed a smaller link between teacher support and positive academic emotions compared to university students. Since students spend a large portion of their school day with their teachers, teacher support can be crucial to students' academic growth, including not only learning results but also affective or emotional outcomes. Since teachers and students interact frequently while in school, teacher support can be essential to students' academic growth, including learning outcomes as well as affective or emotional outcomes.

In addition, Harrison and Norris (2020) examined academic support on student satisfaction. It was found that faculty-student interaction drives student academic satisfaction by fostering a sense of belonging and cohesion among students. This is possible in that when necessary supportive conditions are present and students feel accepted in their academic environment, they would be satisfied with their overall academic experience. Parahoo et al. (2016) also examined the determinants of students' satisfaction in online higher education to identify the factors that affect students' academic satisfaction at the University of Mauritius. An online questionnaire to collect data from a campus-wide sample of 834 students in a generic online course, focus group discussion, and exploratory and confirmatory factor analysis were used for the study. Employing the structural equation model, the authors revealed that faculty empathy, physical facilities, student-student interaction, and the marketing construct of the University are key drivers of students' satisfaction.

In a more recent study, Anderson et al. (2023) empirically examined the relationship between learner support systems and student academic satisfaction. Using academic advising, tutoring services, access to learning materials, peer support programs, and online learning platforms as measures of learner support, the authors show that in general, learner support systems enhance student academic satisfaction. This result corroborates with the earlier findings of Smith and Johnson (2021), and Roberts and Turner (2020). This implies that learner support systems promote academic performance by providing relevant student support services as well as removing teaching and learning barriers. Furthermore, students' confidence is enhanced in the presence of adequate support systems which results in the satisfaction of their educational experience as well as their academic performance.

### ***2.3. Instructional delivery, and feedback on academic satisfaction***

Effective instructional delivery encourages student involvement and subject-matter understanding, which may account for the positive relationship. Students are more likely to feel satisfied with their academic experience when teachers use engaging teaching approaches, simple explanations, and interactive learning opportunities (Brown & Jones, 2018). Feedback entails giving students constructive guidance and evaluation on their academic achievement. Hattie and Timperley (2007) defined feedback as information on one's performance or knowledge given by an agent (such as a teacher, peer, book, parent, self, or experience). A book can supply information to explain ideas, a teacher or parent can offer encouragement, a peer can offer an alternate technique, a parent can offer correcting information, and a student can check up on the solution to assess the accuracy of a response. As a result, feedback is a 'consequence' of performance. According to Hattie and Timperley (2007), one of the most significant factors influencing learning and success is feedback, however, this influence can either be beneficial or detrimental. They note that, even though feedback is one of the most important factors, its effectiveness might vary depending on its kind and delivery. Students are more satisfied with their academic achievement when they receive timely and insightful feedback that supports their growth and identifies opportunities for improvement (Hattie & Timperley, 2007).

About instructional delivery, Kuo et al. (2013) examined the factors that affect student satisfaction through online survey. Using regression analysis, the authors revealed that internet self-efficacy, learner-instructor interaction, learner-content interaction are key determinants of student satisfaction. However, interaction among students and self-regulated learning did not drive student satisfaction. The study further shows that learner-content interaction explained the largest unique variance in student satisfaction. Moreover, time spent online per week, class level, gender have effect on learner-learner interaction, internet self-efficacy, and self-regulation. In a related study, Kuo et al. (2014) investigated the factors that affect students' satisfaction of graduate and undergraduate students of 221 students obtained using an online survey. Using hierarchical linear modeling (HLM), the authors revealed that learner-instructor interaction and learner-content interaction were significant predictors of student satisfaction but learner-learner interaction was not. The authors further showed that learner-content interaction was the major determinant of students' satisfaction, while the academic programme category moderated the effect of learner-content interaction on student satisfaction. They showed that learner-content interaction on student satisfaction varies according to the programme pursued by the student.

Bossman and Agyei (2022) also demonstrate that instructor factors affect e-learning satisfaction and performance among distance learning students. Lee et al. (2019) also reveal that the delivery of instruction, feedback, and student satisfaction are significantly positively correlated, according to a meta-analysis of research done by Pérez-Pérez et al. (2020) analyze the factors that drive students' perceptions of learning outcomes with the Technology Acceptance Model and the Information Systems Success model. Using survey data from 151 undergraduate business students in Spain and a partial least squares (PLS) regression technique, the authors demonstrate that information quality is the key determinant of students' satisfaction, while satisfaction is the most relevant determining factor of perceived student learning outcomes.

Alamri (2019) used a mixed-method research design to compare traditional lectures and flipped classroom with survey questionnaires and interviews. The authors show a statistically significant difference in students' academic performance for the flipped classroom group. In addition, most of the students had a high level of satisfaction with flipped classrooms and enjoyed flipped classroom environment. The results indicate that peer discussions, online materials, and instructors' role drive high-quality learning and active learners. McConnell et al. (2017) also examine the qualities of 11 active learning techniques and assess the evidence that these techniques enhance student learning. The authors demonstrate that the use of active learning instructional systems improve results in college science, technology, engineering, and mathematics (STEM) courses. These practices have also been linked to higher retention rates and a narrowing of the achievement gap between various student populations. Adopting instructional strategies that have been empirically validated has been shown to improve student learning (Freeman et al., 2011, 2014), as well as retention rates (Graham et al., 2013) and the achievement gap between student populations (Eddy & Hogan, 2014).

In a meta-analysis of 55 studies that looked at concept mapping's effects across a range of disciplines and student age groups, Nesbit and Adesope (2006) came to the conclusion that using concept maps improved knowledge retention when compared to reading, traditional lectures, or class discussions. Additionally, they discovered that the technique modestly improves knowledge retention compared to writing summaries or outlines. Similarly, Quinn et al. (2003) analysed a set of three concept maps produced over the course of a semester by 61 students enrolled in an introductory geology course and reveal that the maps showed an improvement in student understanding of the course material and a restructuring of their knowledge around key concepts. On the other hand, in a two-semester physical geology curriculum, Englebrecht et al. (2005) had more than 3000 students use concept maps to represent expanding material mastery. In spite of the fact that the concept maps grew in size and showed an increase in knowledge, Englebrecht et al. (2005) observed that the knowledge was poorly integrated, with just a few connections between new knowledge and prior knowledge.

In sum, to ensure students' satisfaction with instructional delivery and feedback, it is expedient that the teaching techniques, competences and requisite behaviour of the instructor are of a high pedigree; aside, there should be a provision of appropriate and detailed course syllabus, effective and interactive teaching methods and modes, as well as timely communication and feedback system. Furthermore, thought-provoking, and critical thinking assessments methods capable of enhancing students' learning outcomes and satisfaction with academic performance must be emphasized. Consequently, for students to be satisfied with teaching delivery and feedback, teachers should have been trained in how to teach well and properly assess students. Also, quality assurance issues pertaining to teachers must be tightened up, and teachers must be adequately motivated to teach by university administrators ensuring that teaching equipment, learning materials and facilities as well as competitive financial incentive are in place.

#### **2.4. Conceptual framework**

The economics of the consumer's choice postulate utility maximization (Browning & Browning, 1992; Case et al., 2010). Despite the fact that economics theory has been used to explain rational choices in higher education, less attention has been placed on consumer behaviour when analyzing student schooling decisions (Paulsen & Toutkoushian, 2006; Vrontis, Thrassou, & Melanathiou, 2007). Conceptually, this study is based on the utility-maximizing behaviour of a typical rational decisionmaker following Tetteh et al. (2023). The utility maximization theory is a fundamental concept in economics that focuses on the

idea that individuals make choices and decisions in order to maximize their own personal utility or well-being. In simple terms, we define utility in this study as the satisfaction or happiness that individuals derive from consuming goods and services, under a given constraint.

We assume that students are regarded as typical rational decision-makers who seek to maximize their educational satisfaction through their experiences with their academic programme. That is, the rational decision-maker (the student) is assumed to derive utility (U) from the consumption of two goods: education denoted as X, and alternative goods denoted as Y. The utility function is simplified mathematically as:

$$U = f(X, Y) \quad (1)$$

Consumption decisions individuals make about college choice result from how much utility or satisfaction they expect from the purchases of educational goods and services. This implies scarcity because consumers have limited budgets that they can spend. The budget constraint or the limits imposed on individual choices by income, wealth, and product prices, represents the monetary margin to the expenditures of consumers. In this study, we assume the student spends a total income (M) on both education and other goods. The price of education X is  $P_x$ , and the price of other goods Y is  $P_y$ . Again, we assume equality of expenditure and income and the fixed price in line with Sandmo (1976) which assumes income is not exogenous. Thus, the student's utility is subject to a budget constraint, presented as:

$$P_x X + P_y Y = M \quad (2)$$

As earlier indicated the student's objective is to maximize utility, based on their consumption of education and other goods subject to a budget constraint  $P_x X + P_y Y = M$ .

The Lagrangian equation is formed to yield Equation 3

$$L = XY + \lambda(M - P_x X - P_y Y) \quad (3)$$

Setting partial derivatives of L with respect to X, Y and  $\lambda$  equal to zero, it yields the following equations

$$\partial L / \partial X = Y - \lambda P_x = 0 \quad (4)$$

$$\partial L / \partial Y = X - \lambda P_y = 0 \quad (5)$$

$$\partial L / \partial \lambda = M - P_x X - P_y Y \quad (6)$$

Solving Equations 4–6, we obtain the optimal quantities of education ( $X^*$ ) and other goods ( $Y^*$ ) as  $X^* = M/2P_x$  and  $Y^* = M/2P_y$  respectively.

Thus, the optimal choice of the student is a function of income and prices. This implies that the student's satisfaction is maximized provided  $X^* > 0$  and/or  $Y^* > 0$ . From the optimal demand functions, we superimpose a constant price and re-write the transformed function as an equation as:

$$Y^* = X^* = M \quad (7)$$

We extend Equation 7 to include a Z, and set  $Y^*$  and  $X^*$  as  $Q^*$

$Q^* = f(M, Z)$  where  $Q^*$  is the optimal choice, Z is a vector of other determinants of student satisfaction (i.e. enabling or facilitating conditions (EFC), learner support systems (LSS), and instructional delivery and feedback (IDF)) and 'M' is income spent on education and other goods as already defined. Equation 7 is the conceptual model used to explain the determinants of student satisfaction. The equilibrium condition of the student could be obtained by dividing Equation 4 by Equation 5 to obtain.

$$\frac{\partial U}{\partial X} / \frac{\partial U}{\partial Y} = P_x / P_y \quad (8)$$



The ratio of the marginal utilities equals the price ratios which is provided as [Equation 9](#)

$$MU_x / MU_y = P_x / P_y \quad (9)$$

Re- arranging [Equation 9](#) to yield

$$MU_x / P_x = MU_y / P_y \quad (10)$$

[Equation 10](#) is the utility-maximizing rule, suggesting that the ratio of the marginal utilities to the price of education and other goods is the same when the consumer is at the optimal level.

If  $MU_x/P_x > MU_y/P_y$  the student would choose to consume an additional unit of education (i.e. trade off other goods)

If  $MU_x/P_x < MU_y/P_y$  the student would choose to consume an additional unit of the other good (i.e. trade off education)

In sum, if the student pays for the academic user fees but the expected educational experience is poor, then the overall student's academic satisfaction would be evaluated as low. Alternatively, the reverse is true.

Following the algebraic conceptual model, we identify three key variables that students would expect from their institutions to yield their expected utility. These include a learner support system, facilitating conditions, and instructional delivery and feedback. We therefore posit that if the student is satisfied with all three measures of learners' educational experience, then the students' level of satisfaction would be deemed high. However, if all measures are absent and the students are dissatisfied with at least one of the three measures, of course, students' level of academic satisfaction would be deemed low. A pictorial description of this concept is presented in [Appendix A \(Figure A1\)](#)

#### **2.4.1. The relevance of the theory to the current study**

Students' behaviour depends on maximising utility by acquiring units for money disbursed. This depends on budget limits, and the desire to maximise utility from university education service. The study outlines six relevance of the theory as follows:

1. The amount of utility derived from facilitating conditions, learner support, and instructional delivery/ feedback influence students' academic satisfaction. The students expect a positive influence of the learning experiences on academic utility thus a reverse situation will create a gap which should be attended to without delay by the university.
2. Students expect commensurate value, for money spent on their academic programme. A dissonate or disharmony of that will create a challenge (dissatisfaction) to the students.
3. The value students place on their money is measured by the utility they derive from their educational experience, which equally implies the extent to which they are satisfied with the learner support services, the enabling conditions as well instructional delivery provided by the university system. There will be a gap due to a mismatch for the university to fix.
4. If over a certain period of time, students are not satisfied with their educational experience in a particular university, some of the students will leave the university to enroll in an alternative one, if possible. The university then loses students due to students' lack of satisfaction with their educational encounter, and perceived belief that there is no value for money.
5. Students who are dissatisfied with their academic experience who remain in that university as well as those who leave for other university will keep on airing their grievances in the public space. If that is not addressed quickly, it will severely and negatively affect future enrollments into that university. When such an experience persists for long time, the university will then collapse, beginning from one programme to another.
6. The theory guides the current study by examining the students' utility levels with their educational experiences. The findings will be relevant for policy, practice, and future research in university education settings.

## 2.5. Research hypothesis

Based on the objectives of the study and the subthemes discussed under the literature section, which have been incorporated in the empirical model, we proceed by specifying the present study's hypotheses in line with our regression model. The alternative hypotheses under investigation are:

- H1. There is a statistically significant relationship between enabling conditions and students' academic performance satisfaction by gender.
- H2. There is a statistically significant relationship between learner support services and students' academic performance satisfaction by gender.
- H3. There is a statistically significant relationship between instructional delivery and students' academic performance satisfaction by gender.

## 3. Materials and methods

This is a quantitative study that used a cross-sectional survey. The actual fieldwork of the current study was two selected universities in Ghana, namely the University of Ghana, a public University and Central University, a private University. It took two months, March to April 2023, to collect the data. This long period was meant to allow respondents to complete the questionnaire in their own free time. Random sampling was used to select the universities and convenient sampling was used to sample participants of the study. There was no access to sampling frames in these universities to permit the use of simple or systematic random sampling in selecting research participants for the study. The self-administered questionnaire consisted of two parts; the first part was designed to measure the demographic characteristics, which includes gender, age, nationality and so on. The other part consisted of Likert-scale questions, with five options to choose from beginning with 'very highly agree' and ending with 'very highly disagree'. These questions were developed to measure the study's major variables in the hypotheses, namely, learner support system, facilitating conditions, and instructional delivery and feedback.

After the pilot test, questionnaires were distributed electronically to students' WhatsApp group platforms provided by the class representatives. That was to ensure that the questionnaires would be completed by only university students. Google forms were used for collecting the submission of the completed questionnaire, for easy tracking as well as ensuring accuracy of data entry. After the period of the survey, 309 students had successfully completed the questionnaire with data well collated in Google forms

Based on the objectives and the theoretical framework of the study, we expect students who have received relatively higher utility in services from the university to perform well, while the reverse is true. In line with this framework, we follow Amoah et al. (2020) state a linear model which is eventually estimated with an ordered probit model. The linear model is specified as

$$P^* = f(\mathbf{X}, \mathbf{Z})$$

where  $P^*$ , although a latent variable, is eventually used to measure academic performance satisfaction of students. This is self-reported, so the student is made to rank (1–5) the extent to which they are satisfied with their academic performance up until their present year.  $\mathbf{X}$  is a vector of university level services provided to the students that are captured in the model. Based on the utility framework, students with positive utility are expected to rank close to 5. However, students with negative utility are expected to rank close to 1. This includes enabling/facilitating conditions, learner support and instructional delivery/feedback.  $\mathbf{Z}$  is a vector of all other controls included in the final estimation to address missing variable bias.

Regarding ethical conformity, participants' involvement was voluntary, they gave written consent to the engagement in the research exercise.

Also, the research participants were assured of the confidentiality of their information and anonymity of their identity; no data were collected that could be traced to any respondents. Research respondents were given adequate time to complete the questionnaire; no pressure was put on them. Additionally, they were not induced by any financial incentives to participate in the study or forced to provide

responses to the questions in the questionnaire in a certain way to benefit the authors. They were also told to ignore questions they were not interested to answer, but also in their attempt to complete the questionnaire, they were advised to do that thoughtfully, consciously and meticulously. It is also worth noting that the study did not involve questions or activities that could cause physical harm or trigger psychological disorders-stress, anxiety, depression, mental torture or fear to the study participants. The participants were simply asked to show their level of satisfaction with their academic programme in the following thematic areas: learner support, facilitating conditions, as well as instructional delivery & feedback, based on a Likert scale score.

For validity of the results, we estimate Table 1 for a disaggregated perspective, and we further estimate Table 2 for a disaggregated gender perspective which shows convergence of results. Therefore, the study has shown evidence that the result to a larger extent is valid. Again, the results are reliable because, for all three measures of students' learner support system, the variables of interest appear to have a near normality in their distribution given that the mean and the median are almost the same. Again, the two-stage sampling process used provides some degree of randomisation in the selection of participants which can reduce if not eliminate sampling bias. Before the data collection for the main study was executed, a draft version of the questionnaire was piloted, embracing a sample of 30 students to solicit their opinions and views on the questionnaire design and the wording of questions. The outcome of the pilot helped the authors refine and improve the questionnaire for the main study. The result from the pilot also reflects consistency.

For the data analysis methods, both descriptive and inferential statistics were used. The primary data were downloaded in an excel sheet format and were accurately imported into STATA (version) 15. The data was subsequently cleaned, and results analysed for the study. Modern artificial intelligence (AI) tools which support language systems were used where necessary to finetune the write up. Finally, a heterogeneous model is estimated to ascertain the role of gender differences in academic performance satisfaction. The same dependent and independent variables are used. This model provides some degree of robustness to our earlier model.

**Table 1.** Ordered probit regression results.

Variables	(1)	(2)	(3)	(4)	Average marginal effects				
	Oprobit	Oprobit	Oprobit	Oprobit	1	2	3	4	5
Enabling or facilitating conditions (EFC)	0.5495*** (0.059)	0.3280*** (0.073)	0.2798*** (0.075)	0.2577*** (0.090)	VL -0.019*** (0.008)	L -0.024*** (0.009)	M -0.030*** (0.010)	H 0.045*** (0.016)	VH 0.029*** (0.011)
Learner support systems (LSS)		0.4022*** (0.078)	0.1726** (0.085)	0.1678** (0.092)	-0.013** (0.008)	-0.016** (0.010)	-0.020** (0.012)	0.029** (0.018)	0.019** (0.019)
Instructional delivery and feedback (IDF)			0.5495*** (0.078)	0.5634*** (0.093)	-0.042*** (0.011)	-0.053*** (0.011)	-0.065*** (0.013)	0.098*** (0.016)	0.063*** (0.013)
Controls				Yes	Yes	Yes	Yes	Yes	Yes
<i>Socio-economic characteristics</i>				Yes	Yes	Yes	Yes	Yes	Yes
<i>Other individual and school factors</i>				Yes	Yes	Yes	Yes	Yes	Yes
<i>Level Fixed Effects</i>				Yes	Yes	Yes	Yes	Yes	Yes
/cut1	-0.1893 (0.188)	0.2485 (0.209)	0.9428*** (0.236)	1.4606 (1.673)	Yes	Yes	Yes	Yes	Yes
/cut2	0.5718*** (0.178)	1.0603*** (0.204)	1.7982*** (0.233)	2.3491 (1.680)	Yes	Yes	Yes	Yes	Yes
/cut3	1.8336*** (0.193)	2.3864*** (0.225)	3.2571*** (0.265)	3.9388** (1.692)	Yes	Yes	Yes	Yes	Yes
/cut4	3.2723*** (0.238)	3.8855*** (0.271)	4.9132*** (0.321)	5.6478*** (1.699)	Yes	Yes	Yes	Yes	Yes
Observations	301	300	300	229	229	229	229	229	229

Note. VL=Very Low, L=Low, M=Medium, H=High, VH=Very High. Dependent Variable: Level of Student's Academic Satisfaction (Rank 1–5). Standard errors in parentheses. \*\*\* $p < 0.01$ . \*\* $p < 0.05$ . Italic entries indicate relevant controls in the modelling.

**Table 2.** Ordered probit regression results by gender.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit	Oprobit
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Enabling conditions	0.5407*** (0.072)	0.5703*** (0.106)	0.3745*** (0.089)	0.2438* (0.132)	0.3414*** (0.090)	0.1365 (0.137)	0.3414*** (0.090)	0.1365 (0.137)	0.3103*** (0.112)	0.0492** (0.173)
Learner support systems			0.3038*** (0.096)	0.5808*** (0.136)	0.1135** (0.105)	0.2851* (0.151)	0.1135** (0.105)	0.2851* (0.151)	0.1782** (0.130)	0.2461* (0.191)
Instructional delivery and feedback					0.4572*** (0.094)	0.7682*** (0.148)	0.4572*** (0.094)	0.7682*** (0.148)	0.4980*** (0.116)	0.8090*** (0.177)
Controls					No	No	Yes	Yes	Yes	Yes
Level Fixed Effect					No	No	No	No	Yes	Yes
/cut1	-0.2603 (0.228)	-0.0399 (0.333)	0.0675 (0.253)	0.6023 (0.375)	0.6785** (0.287)	1.4826*** (0.427)	0.6785** (0.287)	1.4826*** (0.427)	0.9197 (2.117)	1.1212 (4.069)
/cut2	0.5060** (0.215)	0.7151** (0.321)	0.8718*** (0.246)	1.4318*** (0.369)	1.5020*** (0.281)	2.4408*** (0.430)	1.5020*** (0.281)	2.4408*** (0.430)	1.8235 (2.128)	2.0913 (4.056)
/cut3	1.8688*** (0.234)	1.7673*** (0.345)	2.2743*** (0.271)	2.5970*** (0.406)	3.0002*** (0.317)	3.8505*** (0.497)	3.0002*** (0.317)	3.8505*** (0.497)	3.5836* (2.148)	3.4989 (4.073)
/cut4	3.3324*** (0.294)	3.1886*** (0.411)	3.7582*** (0.328)	4.1852*** (0.492)	4.5998*** (0.382)	5.6961*** (0.607)	4.5998*** (0.382)	5.6961*** (0.607)	5.2217** (2.149)	5.6728 (4.109)
Observations	204	97	203	97	203	97	203	97	152	77

Dep Variable: Level of Student's Academic Satisfaction (Rank 1–5). Standard errors in parentheses, \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

#### 4. Analysis of results and discussions

To begin the analysis of the study, we investigated the possible correlation among the covariates and observed that the degree of correlation is not severe enough to raise concerns (see Table A1 in Appendix A). Next, we proceed with the descriptive statistics of the variables used in our regression model. Both mean and in some cases, percentages are reported for the analysis. Also, the standard deviation and other measures of central tendency are provided to aid in the analysis of the data used. To a larger extent, we find that the results are consistent or better still corroborate with the earlier findings with interesting gender dynamics.

From Table 3, the academic performance satisfaction has a minimum score of 1 and a maximum score of 5, thus the expected average students' academic performance satisfaction score is 3.0. The recorded mean of 3.25 implies that the average academic performance satisfaction of students who participated in the survey are marginally above the expected average score. That is, relative to the average satisfaction score, students are marginally happier with their academic performance. In addition, the study raises concern for diversity and inclusion. From the Figure 1, the academic performance satisfaction evidence suggests that males are more likely to be satisfied relative to females. Thus, males in the universities are more likely to be satisfied with their academic performance than females which is typical of schools in developing countries like Ghana. This implies that perhaps the conscious policies and efforts towards empowering women and promoting equality has not been fully realised in most Ghanaian universities hence more effort is needed in that respect. Regarding participants responses to enabling conditions and learner support, the average rate of 2.92 and 2.94 were observed to be below the expected average rates. This implies that students are averagely not enthused about the enabling conditions and learner support systems provided by the university.

Back to Table 3, the average score on feedback satisfaction is scored approximately 3.0. This indicated that although students may be receiving feedback from the right authorities, however, in terms of their satisfaction, they believe it is not the best, hence the average score. It came out from the data that a greater number of participants were unmarried. That is, about 77% were unmarried while 23% were married reflecting the true characteristics of most undergraduate and postgraduate level students across the world. A student's average expenditure on digital services for academic purpose is estimated at Ghs30.49 per week which is about 7% of their monthly stipend or income. The average expenditure on fees is around Ghs4000 per academic year which is also consistent with estimates from mainly public

universities in Ghana. Average household size of most of the participants is about 5 persons which is very consistent with the year 2000 average household size in Ghana. Admittedly, it has in recent times declined to about 4, however, we consider the present estimate as quite close to the national estimate. The study sample covers from level 100 through to level 700, representing a good spread of both undergraduate and graduate students. Nonetheless, the undergraduates especially level 300 were more represented in the sample used for the study. From the descriptive statistics, we show overwhelming evidence that the observations are to a larger degree a reflection of the population and that the findings can be trusted although we admit that the sample is not generalisable due to the wholly non-probability nature of the sampling technique at the second stage.

From Table 4, regarding the overall student's satisfaction, approximately 37% expressed indifference, indicating a lack of strong satisfaction or dissatisfaction. These students remain uncertain about their levels of satisfaction. Notably, 28% of the surveyed students reported being satisfied with their current academic performance. This finding is significant for the universities involved, as it suggests that their efforts have resulted in satisfactory outcomes to a considerable extent.

When comparing the groups below and above the uncertain category, it is encouraging to note that a majority of students (39%) expressed satisfaction or high satisfaction with their academic performance. Further examination reveals that the majority of students who reported being satisfied or very satisfied are enrolled in the third or fourth year of their studies (level 300 or 400). This indicates that students in their early years of undergraduate or postgraduate education are more likely to experience dissatisfaction. This could be attributed to various factors such as cultural shock, familiarization with systems, and the process of acclimatizing or adapting to the academic environment, among others.

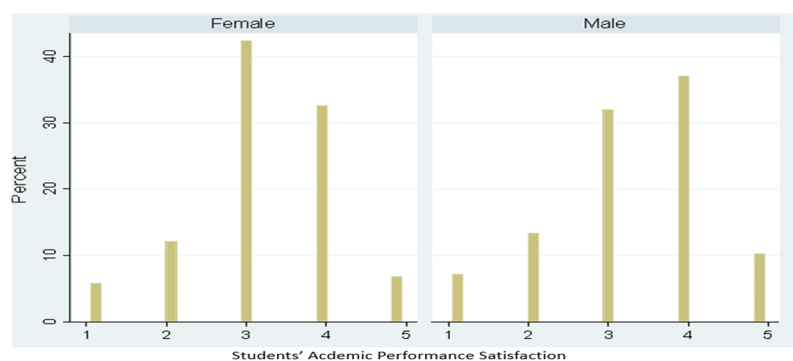
However, it can also be observed that once students become acclimatized and find their footing, they are able to make the necessary adjustments to fit into the environment, leading to a greater sense of appreciation. Additionally, when students become aware of the average grades, they are likely to achieve by their second year, because they are motivated to make the necessary adjustments and strive harder to achieve their desired academic standing.

In line with the broader view of the objectives, we follow the findings presented in Table 1, which shows how enabling or facilitating conditions, learner support systems, instructional delivery, and

**Table 3.** Descriptive statistics of the study variables.

Stats	Performance satisfaction index	Enabling condition	Learner support	Feedback index	Marital status	Expenditure (Gh¢)	Fees (Gh¢)	HH size	Level
Mean/Percent	3.25	2.92	2.94	3.03	77%	30.49	4030.56	5.00	300
Median	3.00	3.00	3.00	3.00	2.00	32.00	3115.00	5.00	300
St. dev.	0.99	1.15	1.09	1.07	0.42	21.14	2181.10	2.89	90.39
Skewness	-0.41	-0.07	-0.15	-0.23	-1.26	0.09	2.15	2.56	0.90
Kurtosis	2.92	2.32	2.48	2.51	2.60	1.75	10.34	14.36	7.48
Min	1	1	1	1	1	1	1175	1	100
Max	5	5	5	5	2	71	19000	25	700
N	302	303	301	304	309	271	292	278	307

Source: Authors' compilation.



**Figure 1.** Distribution of students' academic performance satisfaction by gender.



abilities, leading to increased satisfaction with their academic progress (Smith & Johnson, 2021). Furthermore, learner support systems contribute to a sense of belonging and connectedness among students. By providing opportunities for interaction and collaboration, these systems foster a supportive learning community, which positively impacts student satisfaction (Roberts & Turner, 2020). We have shown evidence that an increase in students' utility for education as a result of available support systems can enhance the chances of reporting higher levels of educational satisfaction. However, we acknowledge in this study that effective learner support systems are paramount in attaining a positive support systems-satisfaction relationship. Anything short of this, will affect utility negatively and eventually affect students' positive impression regarding their satisfaction. That is, students who feel supported and engaged in their learning environment are more likely to experience higher levels of satisfaction. This evidence is theoretically justified and empirically corroborates with earlier studies such as Zhong et al. (2021).

In reference to Table 1, the results demonstrate consistent and significant associations between instructional delivery and feedback and students' academic satisfaction across all estimated models. The corresponding coefficients reveal a strong positive relationship between instructional delivery and feedback and the level of student satisfaction. This indicates a statistically significant relationship, suggesting that as instructional delivery and feedback improve, students' satisfaction with their academics also increases. Instructional delivery refers to the methods and strategies used by educators to deliver course content and facilitate student learning. Feedback, on the other hand, involves providing students with constructive guidance and evaluation on their academic performance (Johnson & Smith, 2022). One possible explanation for the positive relationship is that effective instructional delivery promotes student engagement and understanding of the subject matter. When educators utilize engaging teaching methods, clear explanations, and interactive learning opportunities, students are more likely to feel satisfied with their academic experience (Brown & Jones, 2018). Feedback plays a vital role in student learning and satisfaction. Timely and meaningful feedback helps students identify areas for improvement and reinforces their progress, thereby enhancing their satisfaction with their academic performance (Hattie & Timperley, 2007). It is important to note that these findings align with prior research in the field. A study by Lee et al. (2019) conducted a meta-analysis of various studies and confirmed a significant positive relationship between instructional delivery, feedback, and student satisfaction. The findings of this study indicate a lack of statistical significance among the socio-economic variables examined. These results suggest that students' satisfaction is influenced by factors beyond their socio-economic backgrounds and that institutional provisions play a pivotal role. Thus, institutions have a greater responsibility in ensuring that the resources and support provided to students contribute to their academic success. We further acknowledge that not all instructional delivery approaches promote and seek the wellbeing of students. Similarly, not all approaches of feedback promote. That is, faculty must be intentional in their delivery so that students do not feel intimidated by the same people who are paid to empower them. Further, faculty must again be intentional about the approaches used in providing feedback. These approaches must have the student's empowerment at heart hence it should not be ruthless and discouraging as that can break the self-esteem of students and make the worse in the correctional process. As already mentioned, instructional delivery (see Brown & Jones, 2018) and feedback (Hattie & Timperley, 2007) are essential drivers of students' level of satisfaction.

For our interest in associations, we rely on the coefficients of the ordered probit model which does not change the interpretation of the results. The study further investigated how the enabling or facilitating conditions, learner support systems, instructional delivery and feedback among males and females is associated with how the students evaluate their academic experience based on their performance. In reference to the objective one, Table 2 shows a positive and statistically significant relationship between enabling or facilitating conditions and the level of student satisfaction across both males and females. However, the quantitative analysis suggests that males exhibit a greater appreciation for enabling or facilitating conditions compared to females. These findings support prior research that has shown the positive impact of enabling or facilitating conditions on student satisfaction (Johnson & Smith, 2022). Enabling or facilitating conditions encompass various factors that contribute to a supportive learning environment, including access to reliable supply of energy, reliable internet connectivity, access to resources, etc. Generally, studies have shown that youthful age cohorts are mainly technologically savvy

(Amoah et al., 2020), thus we can argue that our sample is consistent with the description. However, for gender differences of the cohorts, the males have been identified to own and use computers and the internet more than females (Dixon et al., 2014; Tellhed et al., 2023) hence the quantitative difference. Also, given that technology use and virtual studies are relatively new concepts in the academic space, the fear of adjusting to a new technology can threaten females' appreciation relative to men. This can be explained by the fact that females are generally inclined to be more risk averse (Amoah et al., 2021) hence their reservation in appreciating enabling or facilitating conditions at the same level of their male counterparts. Another possible explanation for the gender difference observed in this study is the varying perceptions and expectations of males and females towards their academic experiences (Brown & Jones, 2018). Social and cultural factors may influence how males and females interpret and value the enabling or facilitating conditions provided by educational institutions. Nevertheless, the positive relationship between enabling or facilitating conditions and student satisfaction holds true for both genders. When students perceive a supportive environment, they are more likely to experience reduced barriers to learning, increased motivation, and higher engagement in their academic pursuits (Brown & Jones, 2018). This, in turn, leads to a greater sense of satisfaction with their educational experience.

Again, in line with objective two, the results indicate a positive and statistically significant relationship between learner support systems and the level of student satisfaction among both males and females. In quantitative terms, however, our analysis suggests that females demonstrate a greater appreciation for learner support systems compared to males. These findings align with previous research that has highlighted the positive impact of learner support systems on student satisfaction (Harrison & Norris, 2020). Learner support systems encompass various mechanisms and resources that assist students in their academic journey, such as academic advising, counselling services, peer mentoring, and access to learning resources. One possible explanation for the gender difference observed in this study is the varying needs and preferences of males and females when it comes to support systems. Generally, women often have greater domestic responsibilities than men, making their academic pursuits later in life relatively difficult (Wiest, 1999). To ensure women empowerment, women nowadays tend to receive more support systems than their male counterparts (see for example Rochon et al., 2016; McSporrán and Young 2001). For women in developing countries such as Ghana, they have previously experienced discrimination and exclusion especially in higher education hence the support systems towards their empowerment. Gender-specific factors, societal expectations, and learning styles may contribute to the differential appreciation of learner support systems between males and females. Further research is needed to delve into these underlying factors and better understand their implications. Nevertheless, the positive relationship between learner support systems and student satisfaction holds true for both genders. When students have access to comprehensive support systems, they are more likely to feel empowered, engaged, and successful in their academic pursuits (Harrison & Norris, 2020). This, in turn, leads to a higher level of satisfaction with their educational experience.

Consistent with the objective three, we analyse the relationship between instructional delivery and feedback and the level of student satisfaction in their academics, it is worth considering the potential difference between males and females. From our evidence, females have shown that they demonstrate a quantitatively greater appreciation for instructional delivery and feedback compared to males, although both genders still exhibit a positive and statistically significant relationship with the level of student academic satisfaction. This relationship has empirically been shown by Johnson and Smith (2022). Some reasons accounting for the discrepancy between males and their female counterpart's appreciation of instructional delivery and feedback. Sociocultural norms, culture and expectations may have traditional gender roles and expectations that influence how males and females avail themselves for lecturers and their Teaching Assistants' delivery and feedback. These norms could shape attitudes towards instructional delivery and feedback, with males potentially facing societal pressures to be self-sufficient and dependent than their female counterparts that discourage active engagement or seeking feedback. That is, sociocultural factors, expectations and individual learning styles may contribute to the differential levels of appreciation for instructional delivery and feedback. Effective instructional delivery methods, including engaging teaching techniques and clear explanations, contribute to enhanced student engagement and understanding (Brown & Jones, 2018). Meanwhile, timely and meaningful feedback enables students to



identify areas for improvement and reinforces their progress, ultimately leading to greater satisfaction with their academic performance (Hattie & Timperley, 2007).

From the analysis and discussions of the results (refer to Tables 1 and 2), we find evidence to empirically claim that there exist a positive and statistically significant relationship between enabling conditions, learner support systems and facilitating conditions, and students' academic performance satisfaction. Thus, we reject the null hypothesis and accept the alternative hypotheses that learner experience measures drive academic performance satisfaction. Furthermore, the same evidence is established irrespective of gender type.

#### **4.1. Limitations of the study and direction for future studies**

Some limitations are identified. It is essential to acknowledge these limitations so that interpretation of the results for policy is done with some degree of caution or discretion. The findings are based on self-report measures, which may be subject to biases such as social desirability. Moreover, the study focused on undergraduate students from two specific universities, limiting the generalisability of the results. Future research should aim to replicate these findings in diverse educational settings and consider additional factors that may influence student satisfaction. Further research should delve into the specific factors that contribute to the gender differences in the appreciation of enabling or facilitating conditions and examine the potential implications for academic outcomes and overall student success. We admit that the sample is not generalisable due to the non-probability nature of the sampling technique. Additionally, the study focused on a specific sample of students, and the findings may not generalize to other populations or educational contexts. Future research should explore the relationship between learner support systems and satisfaction using diverse samples and longitudinal designs to better understand the causal nature of this relationship.

### **5. Conclusion, policy relevance and recommendations**

The goal of every authorised tertiary institution is to provide quality education to build up human capital necessary to complement other forms of capital to produce goods and services. Although, these institutions may share an overarching common goal they have different capacities and provide varying services to students which may be ranked by students differently. In some cases where students are provided with a myriad of services that support their learning needs, their utility is expected to be high and hence one would expect academic performance satisfaction to be high. On the other hand, in instances where the services are basic and monotonous, utility is expected to be low hence a relatively lower students' satisfaction is expected. To empirically investigate this intuition, this study is set out with the primary goal of examining the extent to which university provided services can drive academic performance satisfaction. The study relies on a primary cross-sectional data collected through random and convenience sampling techniques. The data are estimated with an ordered probit model given the ranked nature of the dependent variable. The study finds that enabling or facilitating conditions, learner support systems and instructional delivery feedback drive high and very high satisfaction scores in academic performance. In addition, the study reports that males in the universities are quantitatively satisfied with their academic performance than females. Again, students are averagely not enthused about the enabling conditions and learner support systems provided by the university. In line with these findings, we recommend the reconsideration of students' support systems and intervention. That is, policymakers and educational institutions can better target support and intervention programmes for students with satisfaction scores that are close to the average by identifying these students. Though they might be doing well academically, these students might not be entirely committed to or content with their school experience. By taking this group into account, officials may create programmes that will increase their contentment and deal with any underlying problems that can impede their ability to advance in their schooling. This can entail putting mentoring programmes into place, offering more academic resources, or enhancing the learning environment as a whole to increase student engagement and pleasure.

Again, we argue that there is more opportunity for improvement in our universities. That is, scores on students' general satisfaction can point out areas where educational practises and policies need to be improved. Policymakers should look into the reasons behind the unhappiness and pinpoint potential ways that educational institutions might improve their offerings. This may entail assessing instructional strategies, curriculum layout, services for assisting students, or the entire system of educational assistance. Then, with the purpose of improving student happiness overall, policymakers can put these modifications or reforms into place to solve these issues. An education system that is more responsive and focused on the needs of the students is made possible by this iterative process of assessment and improvement.

Universities are advised to put in place strategies, systems, approaches and programmes that ensure that students' needs are satisfied to let them feel comfortable in their learning engagement. This will augment the universities' competitive position in the higher education market in African region and beyond. While students' educational experiences influence their satisfaction, it is recommended that universities tailor their interactions with students to provide timely, relevant, and motivating student service experiences. It is also suggested that universities focus on and keep improving upon the services and educational facilities they provide, as well as correcting any inefficiencies in the services so as to meet students' satisfaction. The fact that enabling/facilitating conditions positively associates with student educational experience makes it imperative creating favourable conditions that foster student contentment with their academic encounters. Since learner support systems play a crucial role in influencing students' overall satisfaction with their academic experiences, educational system must continue to ensure that learner support systems as defined in the current study are adequate and working. Institutions have a greater responsibility in ensuring that the resources and support provided to students contribute to their academic success. Besides, the findings that instructional delivery & feedback is positively correlated with student academic experience suggests that educators should continue to utilize engaging teaching methods, clear explanations, and interactive learning opportunities in their teaching service to students.

Furthermore, it is important for educational institutions to recognize the gender differences in the appreciation of enabling or facilitating conditions and tailor their support mechanisms accordingly. By providing inclusive and gender-responsive support, institutions can ensure that all students, regardless of gender, benefit from the enabling or facilitating conditions and experience higher levels of satisfaction in their academics. Also, educational institutions should consider gender differences in the appreciation of learner support systems and ensure that their support mechanisms are inclusive and responsive to the needs of all students. By providing tailored and gender-sensitive support, institutions can enhance student satisfaction and promote academic success for both males and females. Finally, educational institutions should acknowledge the gender differences in the appreciation of instructional delivery and feedback and ensure that their teaching practices and feedback mechanisms are inclusive and responsive to the needs of all students. By providing tailored and gender-sensitive instructional delivery and feedback, institutions can foster a supportive learning environment that promotes academic success and satisfaction for both males and females.

Finally, the relevance of the Utility Maximization Theory (UMT) to the current study is the light it throws on the prudent behaviour of students regarding how they are mindful of value gained from the money they spend for their university education. They are guided by the interplay between the amount spent for educational service and utility derived from that, ensuring that there is an equilibrium for the determination of utility of their educational experience, including their academic performance. Anytime they feel no satisfaction, they protest. If there is no attention given to them for a long time, some of the students will withdraw for an alternative university where they perceive to have satisfaction. Those who remain, and still uncared for, will feel frustrated, complaining all the time. Their lack of satisfaction negatively impacts on their academic performance. They become hostile, speaking ill of the university with the associated detriments to it. Since there is fierce competition in the university education market, university administrators should be aware of this theory to ensure that their students are always satisfied with their educational experience.

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No potential conflict of interest was reported by the author(s).

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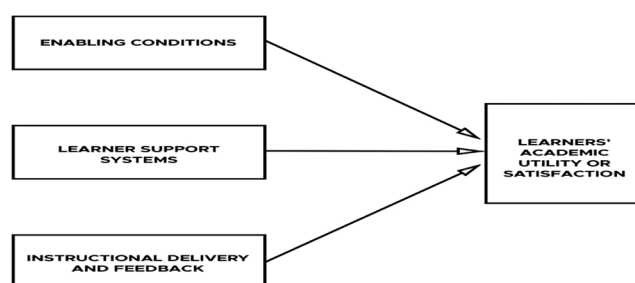
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## Appendix A



**Figure A1.** Conceptual model of learner's academic satisfaction.

**Table A1.** Correlation results.

1	2	3	4	5	6	7	8	9
Enabling conditions	0.471	1						
Learner support	0.5083	0.4522	1					
Feedback	0.5592	0.462	0.5698	1				
Marital status	-0.1411	-0.0972	-0.1503	-0.1576	1			
Average expenditure	-0.0723	-0.0108	-0.024	0.0271	0.0199	1		
Fees	0.0108	0.0052	-0.0719	-0.0825	0.0424	-0.1398	1	
Household size	0.1109	0.0806	0.1291	0.0306	0.0979	-0.0872	-0.0735	1
Level	0.2423	0.0991	0.1082	0.1	-0.212	-0.2174	0.232	-0.0986