

# Undergraduate Students' Attitude to and Academic Performance in Accounting

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## Abstract

The main purpose of this correlational study was to determine if there was any relationship between undergraduate students' attitudes to and academic performance in an accounting course. The study was also aimed at determining the factors that impacted students' attitudes. The study participants were undergraduate students who registered for the Introduction to Accounting course at the University of Technology, Jamaica. Data were collected via e-questionnaire and the students' academic scores. No sampling was done as all questionnaire link was sent to all 319 students who did the course. Two hundred students completed the e-questionnaire, resulting in a response rate of 62.7%. The results showed that overall, the students' performance was fairly good. The results also revealed significant positive relationships between assessments the formative and summative assessments. However, there was a low negative relationship ( $r = -.173$ ) between the respondents' attitudes and performance in assessment two only. The factors that influenced students' attitudes toward the accounting course were attitudes, regret, and third-party influences. Based on the results, recommendations were made to improve students' attitudes to and academic performance in the course.

## Keywords

Academic Performance, Accounting, Jamaica, Students' Attitude, Undergraduate Students

## 1. Introduction

Accounting was defined as "the process of analysing, classifying, recording, summarising, and interpreting business transactions" (Jonick, 2017: p. 1). This definition is similar to the definition provided by the American Institute of Certified

Public Accountants (1961) as “the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information” (as cited in Jindrichovska & Kubickova, 2016: p. 61).

Accountancy is a career that offers varieties of job scopes, such as accountant, management accountant, financial advisor, auditor, and tax agent (Pauzi et al., 2021). Byrne et al. (2012) believed that accounting graduates should know the variables for recruitment and promotion. An integral part of an accounting graduate’s professional career is to complete the professional accounting examination such as the Association of Chartered Certified Accountants (ACCA), Chartered Institute of Management Accountants (CIMA), Certified Public Accountant (CPA), Chartered Financial Analyst (CFA) or any other certifying exam based on the region.

The term attitude has been defined in several ways. For instance, attitude was defined as a “positive or negative evaluation of people, objects, events, activities, ideas, or just about anything in your environment” (Chawla et al., 2013: p. 178). Eagly and Chaiken (1993) defined attitude as “an overall evaluation of an object that is based on cognitive, affective and behavioural information psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour” (as cited in Haddock & Maio, 2012: p. 173). Based on the latter definition, Haddock and Maio concluded that for one to report on attitude, it would consist of “the expression of an evaluative judgement about a stimulus object” (p. 173). Making evaluative judgement involves deciding on liking/disliking, approving/disapproving, or favouring/disfavouring an issue, object or person (Haddock & Maio, 2012). However, Banahene et al. (2018) described the term attitude as a “consistent tendency to react in a particular way, often positively or negatively, toward a given matter or social object” (p. 103). Similarly, Haddock and Maio (2012) stated that attitudes could differ in direction and strength. Hence, attitude is said to be positive/negative in direction or strong/weak in terms of strength. It is also important to point out that Haddock and Maio believed that attitude has multi-component, namely cognitive (beliefs, thoughts & attributes), affective (feelings or emotions), and behavioural (intentions, verbal/non-verbal behaviours). These components will likely result in a positive or negative attitude towards something. This view was earlier expressed by Zanna and Rempel (1988, as cited in Haddock & Maio, 2012). Another perspective on the components of the term attitude was expressed by Verešová and Malá (2016). To these authors, the term attitude consists of three components, namely, the “*affective component* (involves a person’s feelings/emotions about an attitude object), *behavioural (or conative) component* (the way the attitude we have influenced how we act or behave) and a *cognitive component* (involves a person’s belief/knowledge about an attitude object)” (pp. 870-971).

### 1.1. Background of the Study

The University of Technology (UTech), Jamaica, has its main campus in Papine,

Kingston, Jamaica. According to the UTech, Jamaica Student Handbook for Graduate and Undergraduate Students ([University of Technology \(UTech\), Jamaica, 2021-2022](#)), the institution “now offers 100 programmes at certificate, diploma, and degree levels through its three colleges and five faculties” (p. 21). These include the College of Business and Management, College of Health Sciences, Joint Colleges of Medicine, Oral Health and Veterinary Sciences, Faculty of the Built Environment, Faculty of Engineering and Computing, Faculty of Education and Liberal Studies, Faculty of Law, and Faculty of Science and Sport. The University has a student population of over 13,000 ([University of Technology \(UTech\), Jamaica, 2021-2022](#)).

Accounting is one of the major courses in business and management studies, although there are several courses in accounting. At the University of Technology, Jamaica, the accounting courses, which are the focus of this study, are offered by the College of Business and Management. These are three-credit courses with a duration of 45 hours and are offered in semesters one, two, and three (during the summer). The core accounting courses done by accounting major students are Intermediate Financial Accounting, Introduction to Costing, Advanced Financial Accounting, Advanced Cost and Management Accounting and Taxation. The other courses in accounting offered to students who are not majoring in that field include Introduction to Accounting, Introduction to Management Accounting, and Fundamentals of Accounting. Most students who enrol on these other accounting courses may or may not be from the College of Business and Management. This is because it is open to interested students from other Colleges/Faculties.

The students targeted for this study were those enrolled in Introduction to Management Accounting. The course has no pre-requisite as it is a core course that the students should take during their four-year undergraduate programme. Due to the COVID-19 pandemic, the course, which used to be delivered face-to-face, is now fully online. The course has seven units with four pieces of assessments, including a final examination (formative & summative assessments). Formative assessments are done while the course is being taught, while summative assessments are offered at the end of the semester ([Onyefulu, 2018](#)). Formative assessment is defined as the frequent, interactive assessment of students’ progress and understanding to identify learning needs and to adjust teaching appropriately (William, 2011, as cited in [Ahmed et al., 2019: p. 111](#)). These types of assessments are for providing feedback after identifying the students’ learning gaps and for making adjustments to the teachers’ teaching methods, and these assessments may include, quizzes, in-class activities, etc. ([Ahmed et al., 2019; Onyefulu, 2018](#)).

[Ahmed et al. \(2019\)](#), citing Taras’s (2005) definition of summative assessment, stated that it was “judgment which encapsulates all the pieces of evidence to a given point” (p. 110). These types of assessments are for making a final decision on the students’ performance and the type of grade to be awarded, and these as-

assessments can be final tests and/or final examinations (Ahmed et al., 2019; Onyefulu, 2018).

## 1.2. Statement of the Problem

Some accounting students at the College of Business and Management at the University of Technology, Jamaica, have displayed mixed attitudes to accounting courses due to various reasons. For instance, some students in the Introduction to Accounting course have expressed feeling anxious about how well they would perform. Others expressed feeling overwhelmed due to the course contents they were required, which they considered as extensive. However, there were some students who found the course exciting (Jane Doe, personal communication, June 15, 2022). The students' attitudes (affective, behavioural, & cognitive dimensions) towards the course and their academic performance have not been studied. A review of the existing literature revealed that some studies had been done in different countries, such as by Kutlu and Öztürk (2018), who studied the factors that affect students' attitudes towards accounting courses in Kafkas, Atatürk and Ağrı Universities in Turkey, and a thesis by Neilson (2022), which focused on students attitudes towards accounting in New Zealand, and how their attitudes change over time. Other studies focused on career choice and/or perceptions of accounting as a course or a profession (Malthus & Fowler, 2009; Manganaris & Spathis, 2012; Mbawuni, 2015; Mellado et al., 2020). At the time of this study, the researchers could not locate a study in Jamaica that examined the attitude of university students toward accounting and their academic performance in the course. Therefore, this warrants an empirical investigation that will provide the evidence needed to understand the students' attitude and their academic performance in the course, as well as fill the gap in the existing literature.

## 1.3. Purpose of the Study

The main purpose of this study was to determine if there was any relationship between undergraduate students' attitudes to and academic performance in an accounting course. The study was also aimed at determining the factors that impacted students' attitudes.

## 1.4. Research Questions

The questions answered in this study were:

- 1) How well do undergraduate students perform in an accounting course?
- 2) What are the undergraduate students' attitudes toward an accounting course?
- 3) What factors influence undergraduate students' attitudes toward an accounting course?
- 4) To what extent is there a statistically significant relationship between undergraduate students' attitude and their academic performance in an accounting course?

## 1.5. Research Hypothesis

Ho<sub>1</sub>: There is no statistically significant relationship between undergraduate students' attitude and their academic performance in an accounting course.

## 1.6. Significance of the Study

The results of this study have generated some new results that will add to the academic literature but specifically on undergraduate students' attitudes to and academic performance in accounting in Jamaica. The results will also be the platform for more studies to be done in further studies. It is anticipated that the study will provide recommendations on how the College could address some of the students' concerns pertaining to their attitude to and academic performance in the accounting courses.

## 2. Literature Review

### 2.1. Attitude to Accounting

Over the years, studies on students' attitudes to and/or perceptions of accounting, the intention to major in accounting, and/or the accounting profession have been of interest to many researchers (Baxter & Kavanagh, 2013; Bekoe et al., 2018; Chawla et al., 2013; Malthus & Fowler, 2009; Manganaris & Spathis, 2012; Mbawuni, 2015; Mellado et al., 2020; Kutlu & Öztürk, 2018; Wells & Fieger, 2006), to name a few. For instance, the study by Bekoe et al. (2018) examined students' attitudes toward accounting at the University of Ghana Business School and found that prior exposure to the subject influenced the students' attitudes, interests, and intentions. On the other hand, Chawla et al.'s (2013) study focused on secondary school students in India. Their study found that the students' attitudes to accountancy were negative. Furthermore, Kutlu and Öztürk (2018) studied the factors that affect students' attitudes toward accounting in universities in Turkey. Their study revealed factors such as prejudice to accounting, prior knowledge, teaching methods, teachers' attitude, and among others. Other in the other hand, Banahene et al. (2018), in their study of Ghanaian university students, stated that attitude to learning could either be positive or negative and plays a part in their academic performance. With a positive attitude, a student can learn better because he/she is more open to learning and will understand better and, therefore, will perform better academically, while for others with negative attitudes, their performance will be affected (Banahene et al., 2018).

### 2.2. Students' Academic Performance in Accounting and Business-Related Courses

Learning is seen as an "individual action", as well as an "individual performance" (Banahene et al., 2018: p. 103). In the case of students, learning as an action or behaviour can impact students' academic performance because of their attitudes, which is an intrinsic construct (Banahene et al., 2018). Citing Candeias

(1997), Banahene et al. (2018) described attitude to learning as a “psychological construct that depicts an individual’s behaviours, feelings, expression of favourable or unfavourable affection and judgments for educational experiences” (p. 103).

Several studies have addressed students’ academic performance in accounting courses. These include but are not limited to, studies by Al-Twajjry (2010) in Saudi Arabia, Banahene et al. (2018) in Ghana, Garkaz et al. (2011) in Iran, Gracia and Jenkins (2003) in the United Kingdom, and Nasu (2020) in Brazil. The attention given to student academic performance could be due to what Banahene et al. (2018) stated as its role in “creating the finest quality alumni”, who in turn play an ambassadorial role for the academic institutions they graduated from (p. 100).

Students’ performance can be measured by using the average marks achieved throughout a 3-year degree programme (Jansen & de Villiers, 2015); knowledge gained assessed by marks by a teacher, and educational goals set by students and teachers to be achieved over a specific period (Narad & Abdullah, 2016); scores obtained by a student in a semester (Abaidoo, 2019; Yusuf et al., 2016); and the total grade points achieved in all courses in the final year of a degree programme (Koh & Koh, 1999; Seow et al., 2014).

Researchers have identified various factors that impact academic performance in accounting and other business-related courses. These factors include students enrolling in an introductory accounting course such as financial accounting (Kukreja & Al Aali, 2013; Jansen & de Villiers, 2015; Papageorgiou, 2017). Other actors considered by Papageorgiou were age, gender and race, while Hatane et al. (2021) examined students’ attitudes to accounting, which they stated was positive.

Students with prior knowledge in accounting and other business-related subjects are expected to outperform students with little or no accounting background. Studies in this area have produced mixed results. For instance, previous studies showed a positive relationship between prior knowledge of accounting and accounting students’ academic performance (Byrne & Flood, 2008; Ballester, 2012; Yusuf et al., 2018). According to Byrne and Flood and Yusuf et al., the relationship is sometimes short-lived as students tend to be overconfident in their first year of university. Students’ performance may be due to several reasons, such as the way they perceive accounting subjects which some see as difficult and boring (Bakar et al., 2020; Dangi et al., 2017; Huang & Si, 2019).

Findings showed that students perform better when they incorporate their own way of thinking and learning with the curriculum (Yusuf et al., 2018). Koh and Koh (1999) suggested that overly confident students sometimes become distracted during and after their first year, resulting in truancy and underperformance compared to their counterparts. On the contrary, Jansen and de Villiers (2015), Adewale and Adhuze (2014), and Yusuf et al. (2016) purported that the relationship between introductory accounting courses and academic performance is insignificant or even negative. The mixed results may be due in part to

the type of measurement used in the study. For instance, Koh and Koh (1999) studied accounting and non-accounting secondary school students during their final two years, and Jansen and de Villiers (2015) examined students who completed the final year of secondary school accounting. Their studies found that students who demonstrated strong academic performance in high school continued to excel at the tertiary level.

Estelami (2014) studied 272 online university students in marketing courses at a university in the Northeastern United States and found five factors that impacted these students' academic performance. These include a lack of motivation, language skills, self-discipline, learning ability, and the need for classroom face-to-face interaction. In contrast, Arora and Singh (2017) investigated different factors influencing the academic performance of college engineering students of Gurugram in north India. They found the teaching efficacy of educators, college students' study habits, distraction, and the students' family environment to be significant predictors of academic performance. According to Ahinful and Tauringana (2018), a learner's academic performance in accounting may be negatively affected if it is included in the course of study and the learner has no interest in it.

Raj et al. (2019) examined factors affecting the academic performance of business students at a Fiji university. They stated that "academic performance and the learning process are dependent on many variables surrounding the students" (p. 28). The study showed that business students' income, communication skills, and IQ scores had a modest relationship with their academic performance.

Furthermore, some authors investigated students' performance in online learning environments. For instance, Butt et al. (2021) investigated Pakistani students' performance in an online learning environment in 10 universities and concluded that the online environment could impact the academic performance of students. Some other authors examined the grade difference between online and face-to-face students' performance. For instance, regarding grade differences among students in a Midwest public university, Cavabaugh and Jacquemin (2015), reflecting on the results of a study by Atchley et al. (2013), observed an increased grade disparity among online students. Atchley et al. (2013) noted that more students received A's, D's and F's in online courses, while more students in the face-to-face courses had B's and C's (as cited in Cavabaugh & Jacquemin, 2015). Even though Cavabaugh and Jacquemin's (2015) showed some differences in the grades for online and face-to-face, their study was done before the pandemic and may not have factored in the effect of the sudden shift and the psychological effects it may have on the students as in the study by Fawaz and Samaha (2021), who studied the effects of depression, anxiety, and stress on Lebanese university students during COVID-19.

### 2.3. Motivating Factors

**Intrinsic Motivators.** The enjoyment of completing a task is usually related



to internal perspectives and is significant to an individual career path (Jackling & Calero, 2006; Sugahara & Boland, 2006). According to Hasio and Nova (2016), self-satisfaction, creativity, autonomy, and a dynamic environment are areas of intrinsic motivation. Thing and Jalaludin (2018) found that most accounting graduates choose their career path because it gives them a challenge because of its dynamics. According to Joseph et al. (2012), as stated in Ng et al. (2017), a person's career path could also be influenced by their natural traits. Other factors influencing an individual's career path include attitude, subjective norms, career knowledge, and career self-efficacy (Amani & Mkumbo, 2016). Gracia and Jenkins (2003) explored the performance of undergraduate accounting students at a Welsh University. Attitudinal and behavioural factors were two of the areas studied and compared with academic performance. Gracia and Jenkins (2003) found that class participation and students whose first choice of subject was accounting performed better. A clear indication that attitude and interest play a significant role in academic performance. Fallan and Optad (2014) examined the impact of the academic interest of management accounting students. They found a positive and significant influence of academic interest on academic performance and concluded that academic achievement depends on the teacher peaking students' interest in the subject. However, they found no significant relationship between attendance and effort in management accounting with performance. In Ireland, Byrne and Flood (2008) studied students specialising in accounting at Dublin City University. Data collection was done with a questionnaire containing both open and close-ended questions. The results indicated that the academic performance of first-year university accounting students, to some extent, has no significant relationship with their expectations. Fogarty and Goldwater (2010), investigating academic attitude (effort) and achievement between males and females, concluded that it makes no difference when an effort is not explicitly rewarded in the academic environment.

**Extrinsic Motivators.** Bainbridge (2015) defined extrinsic motivation as factors that come from the outside of an individual. Abdul Rauf et al. (2020) stated that extrinsic motivation is related to monetary rewards, job opportunities, high salaries, and recognition. Additionally, Fernandez and Matos Pena (2017) expanded extrinsic motivation to include the prestige of being a professional accountant. A person may work hard for an expected reward but not enjoy the task (Bainbridge, 2015). A study conducted by Hejazi and Bazrafshan (2013) with a group of accounting students showed that students chose their specialisation and career path based on extrinsic motivation. The students included in the study preferred financial accounting over management accounting as they believed that financial accountants receive a better pay package and other benefits. Several studies show that the career path chosen is associated with extrinsic factors such as salary and availability of job opportunities (Demagalhaes et al., 2011; Jackling & Keneley, 2009; James & Hill, 2009). However, Porter and Woolley (2014) found that the effect of extrinsic motivation is not as important as intrinsic motivation in terms of career choice.



**Third Parties Influence.** An individual or group, such as family members, friends, career guidance teachers, and career consultants, can influence an individual's career path (Ng et al., 2017). Past studies have found that accounting students rely on the advice of a third party to decide on a career path. The third parties include parents (Byrne et al., 2012; Myburgh, 2005; Porter & Woolley, 2014; Tan & Laswad, 2006; Umar, 2014), subject teachers (Byrne et al., 2012; Myburgh, 2005), relatives (Myburgh, 2005), and friends (Porter & Woolley, 2014). However, Wally (2013) conducted a study at the University of Botswana with 51 final-year accounting students and found that influence by third parties is insignificant. Wally (2013) found that students valued the availability of career advancement, personal interest in the subject, job opportunities available, and higher earnings more.

According to Amaning (2021), teachers play a crucial role in the choice of career paths of the student. Teachers work to shape the attitude and perceptions of students (Jackling & Calero, 2006). Wyness and Dalton (2018), on the other hand, argued that students' success is dependent on their active involvement in education and acquiring the skillsets needed. As such, De Lange et al. (2006) thinks that the role of the teacher is to ensure that the curriculum incorporates the skillsets needed by graduates to ensure job readiness.

Age is notably another variable that researchers believe impacts academic performance. Findings from previous research vary. According to Koh and Koh (1999), as cited in Jansen and de Villiers (2015), and Müller et al. (2007, as cited in Papageorgiou, 2017), younger students tend to outperform older students. Older students sometimes have difficulty adapting to routine undergraduate studies and examinations. Brook and Roberts (2021) found that students as young as sixteen with a strong mathematical background tend to excel in undergraduate accounting courses. Pellizzari and Billari (2012) also found that students at the undergraduate level perform better than their older peers based on their cognitive ability but are sometimes confused with social activities. The academic performance of younger students can be attributed to early learning and progression. Black et al. (2011), and Fredriksson and Ockert (2005), as cited in Pellizzari and Billari (2012), posited that starting school at an early age is associated with improved learning outcomes. The results coincided with studies conducted by Cunha and Heckman (2007), which stated that later human capital return is attributable to early investment in skills. However, other studies establish quite the opposite. Bartlett et al. (1993) suggested that older students show more maturity, while Van Wyk (2011, as cited in Brook and Roberts (2021), added that older students are more motivated and disciplined than younger students. Additional studies find that age has no statistically significant relationship with student performance in an accounting degree programme in the UK (Gammie et al., 2003).

Like prior academic achievement and age, gender impacts academic performance; the results are also mixed. Koh and Koh (1999), Jansen and de Villiers (2015), and Seow et al. (2014) found in their studies that males significantly per-

formed better than females even though males formed the minority of the sample studied. Although some studies cannot clearly state the reason for the performance, other studies suggested that the results can be linked to the fact that males started university later than females due to requirements to undertake national service in Singapore. Looking at the minority groups, other studies hold the opposite truth; females outperformed males (Mutchler et al., 1986). Wally-Dima and Mbekomiza's (2013) research findings coincided with studies conducted by Mutchler et al. (1986), which concluded that females being the minority, may have been motivated to outperform the majority to level up in a male-dominated profession. Females mature faster, are more serious about getting an education, and are more success-driven and career-motivated than males. Another researcher found no significant correlation between students' gender and performance (Byrne & Flood, 2008; Gammie et al., 2003).

### 3. Methodology

#### 3.1. Research Design

The correlational design was used in this study to determine if there was any relationship between the undergraduate students' attitudes to and academic performance in an accounting course. The study was also aimed at determining the factors that impacted students' attitudes.

#### 3.2. Population and Sample of Participants

In the 2021/2022 academic year, 331 undergraduate students were registered for the Introduction to Accounting course offered at the College of Business and Management at the University of Technology, Jamaica. No sampling was done. All the undergraduate students in the course were sent the link to the e-questionnaire but had to give their consent before responding to the questions.

#### 3.3. Data Collection

Two sets of data were collected. The students' academic scores in the course were collected with permission from the programme leader. The students' scores were used to ascertain if there was any relationship between their academic performance and attitude toward the course. Furthermore, students' attitudes were measured with an e-questionnaire, which was designed by the researchers. The items were adapted from Roofe-Bowen et al. (2011) and Onyefulu (2004), respectively. The e-questionnaire contained two sections. Section A comprised four demographic close-ended items, and Section B had 22 Likert items with the following response format, Not Applicable (NA) with a value of zero (0), Strongly Disagree (SD) with a value of 1, Disagree (D) with a value of 2, Agree (A) with a value of 3, and Strongly Agree (SA) with a value of 4. These 22 items measured the students' attitudes on affective, behavioural, and cognitive dimensions.

Although, the students' academic data showed grades for a total of 319, the link to the e-questionnaire was sent via email to 331 students enrolled in the In-

roduction to Accounting course in the 2021/2022 academic year. The number that completed the e-questionnaire was 201 completed the questionnaire; resulting in a response rate of 60.7%. This rate is considered good because online surveys usually have a 30% average (Saldivar, 2012).

### 3.4. Reliability and Validity

Cronbach's alpha method was used to estimate the internal consistency reliability of the e-questionnaire. The overall reliability coefficient for the 22 Likert-type items was ( $r = .874$ ).

The validity of the e-questionnaire data was assessed qualitatively using content validity. For instance, content validity was achieved by using a matrix table to ensure the degree to which the instrument measured what it was designed to measure (Thomas et al., 2015). Finally, an expert was asked to review the e-questionnaire items for content and face validity (Fernández-Gómez et al., 2020).

### 3.5. Data Analysis

Data were imported into the statistical package for the social sciences (SPSS) programme. The scores for 319 students were used for the analysis. However, to accommodate the missing data for the 118 students who did not complete the e-questionnaire, this was treated as missing data in the SPSS programme.

The statistical analyses included the use of descriptive statistics for students' academic performance for research question one, and for describing the students' demographic data. The Mann-Whitney  $U$  test was used to analyse research question two, factor analysis was used for analysing data for research question three, and correlation (Pearson  $r$ ) for research question four. Where necessary, negatively stated items were recoded before analysis was done.

### 3.6. Ethical Issues

The proposal for the study was submitted to the College Research Ethics Committee for approval. After the approval was granted with protocol number 2022/11/UTech.Ja./1034, the researchers observed the five sets of ethical issues described by Roberts and Allen (2015). These include 1) dual teacher/researcher roles, 2) informed voluntary consent, 3) uses of incentives, 4) privacy, anonymity, and confidentiality, and 5) data quality. Each is described below.

**Dual Teacher/Researcher Roles.** One of the researchers was a lecturer in the course. Therefore, there was an overlap of both roles. However, the participants, that is, students' academic records and survey data used in this study, were collected after the course ended. The students' academic records with obtained with permission from the administrator in charge of the academic programme. The researchers did not encourage the students to participate since participation was voluntary. The link to the e-questionnaire was sent by someone who had access to the students' emails and was not a part of the study (Roberts & Allen, 2015).

**Informed Voluntary Consent.** The students who responded to the e-questionnaire were informed about their rights to agree or not agree to participate in the study. Although students are considered a vulnerable population (Roberts & Allen, 2015), they are all of the legal age in Jamaica, which is 18 years (Office of the Children’s Advocate, 2014). The participants were fully informed about the study through a written message presiding the survey. The message includes the study purpose, risks and possible benefits, and the right to agree or refuse to participate (Roberts & Allen, 2015). Those who responded were those who consented.

**Uses of Incentives.** No incentives or appreciation for participating in the study were used. There was also no need for “coercion associated with dual teaching/research roles”, as pointed out by Roberts and Allen (2015: p. 99). The students who participated in the study had already completed the course used in this study.

**Privacy, Anonymity, and Confidentiality.** The privacy of the students was not violated. The emails used for sending the link were others provided by the students upon registering for the programme offered by the university. The emails did not contain students’ names, and no unique tracking links were also not collected and stored upon completing the survey (Roberts & Allen, 2015). Furthermore, the students’ identities were concealed as codes were assigned to each respondent when data were entered into the SPSS programme.

**Data Quality.** The incorrect email and low response concerns were raised by Roberts and Allen (2015) as factors that limit data quality; however, this was not the case in this study. No email returned undelivered, and the response rate was good (see results section). All data were stored in a password-protected computer. All two researchers had access to the data used for the study.

## 4. Results and Discussion

### 4.1. Respondents’ Characteristics

Of the 201 respondents who completed the e-questionnaire, 164 (81.6%) are females, and 37 (18.4%) are males. As shown in **Table 1**, most respondents were

**Table 1.** Sex and age range of respondents.

Age Range	Sex		Total
	Female	Male	
Less than 25 years	140 (69.7%)	30 (14.9%)	170 (84.6%)
26 - 30 years	12 (6.0%)	3 (1.5%)	15 (7.5%)
31 - 35 years	5 (2.5%)	2 (1.0%)	7 (3.5%)
36 - 40 years	5 (2.5%)	2 (1.0%)	7 (3.5%)
Above 40 years	2 (1.0%)	0	2 (1.0%)
Total	164 (81.6%)	37 (18.4%)	201 (100.0%)

less than 25 years old. While 31 (15.4%) were above 25 years old. One hundred and fifty-three of the respondents indicated that they had done an accounting course before doing the Introduction to Management Accounting course. Of this number, 126 (62.7%) were female, and 27 (13.4%) were male. The gender disparity in the present study was consistent with the studies by Garkaz et al. (2011), which found that more female students at The Islamic Azad University in Iran did accounting, and Nasu (2020), who also found more female students in Brazil doing accounting courses.

#### 4.2. Research Question 1: How Well Do Undergraduate Students Perform in an Accounting Course?

The Introduction to Management Accounting course was used for this study. In this course, the respondents had three formative assessments and a final examination (summative assessment). All assessments were done online. See Table 2 for the descriptive statistics results from the analysis of the students' raw scores.

**Assessment 1.** The first assessment was an online test. This type of test is formative in nature, which means that the students will be provided with feedback that will help them to improve during the semester (Ahmed et al., 2019; Onyefulu, 2018). This assessment was 30 multiple-choice questions. The mean value was approximately 57%, 19 (6%) of the students' scores fell at the mean, 150 (47%) obtained scores below the mean, while another 150 (47%) students had scores above the mean. The median was 57%, while the standard deviation was 16.2, showing a little spread in the students' performance in this assessment. The distribution was multi-modal, with 50% appearing 27 times, 57% appearing 29 times, and 70% also appearing 29 times. The skewness level of -.355 showed a negatively skewed distribution.

**Assessment 2.** The second assessment was also an online test comprising 30 multiple-choice questions. This was also a formative assessment. The mean value was approximately 74%, 4 (1.2%) of the students' scores fell at the mean, 132 (41.4%) obtained scores below the mean, while 183 (57.4%) students had scores above the mean. The median was 80%, while the standard deviation was 24.8, showing a widespread in the students' performance in this assessment. The distribution was multi-modal, with 93% appearing 29 times, 97% appearing 28 times,

**Table 2.** Assessments in the introduction to management accounting course.

Assessment Type	Mean	Median	Mode*	SD	Skewness
Assessment 1	56.7	57	57	16.2	-.355
Assessment 2	73.6	80	100	24.8	-.291
Assessment 3	75.9	83	79	22.9	-.2.325
Final Examination	54.1	60	70	26.7	-.503
Final Score	61.7	65.9	50	19.5	-.874

\*Multiple modes existed.

and 100% appearing 32 times. The skewness level of  $-0.291$  showed a negatively skewed distribution.

**Assessment 3.** The third assessment was a group project, which was also a formative assessment. The mean value was approximately 76%, 11 (3.4%) of the students' scores fell at the mean, 78 (24.5%) obtained scores below the mean, while 230 (72.1%) students had scores above the mean. The median was 83%, while the standard deviation was 22.9, showing a wide spread in the students' performance in this assessment. The distribution was uni-modal, with 79% appearing 31. The skewness level of  $-2.325$  showed a negatively skewed distribution.

**Final Examination.** The examination is considered a summative assessment. This type of test is summative in nature, which means it was done at the end of the course for the purpose of awarding a grade. It also helps the instructors to make modifications before the next cohort is taught (Ahmed et al., 2019; Onyefulu, 2018). This examination was administered online at the end of the semester. The mean value was approximately 54%, 6 (1.9%) of the students' scores fell at the mean, 136 (42.6%) obtained scores below the mean, while 177 (55.5%) students had scores above the mean. The median was 60%, while the standard deviation was 26.7, showing a wide spread in the students' performance in this assessment. The distribution was bi-modal, with 60% appearing 9 times and 70% appearing 10. The skewness level of  $-0.503$  showed a negatively skewed distribution. See Figure 1 for the illustration of the students' performance in the four assessments.

**Students' Overall Performance.** The final course scores for each student were obtained by adding the scores from all three formative assessments and the final examination. These scores were analysed using descriptive statistics. The mean value was approximately 62%, 139 (43.6%) of the students' scores fell at the mean, 3 (0.9%) obtained scores below the mean, while 177 (55.5%) students had scores above the mean. The median was approximately 66%, while the standard deviation was 19.5, showing some amount of spread in the students'

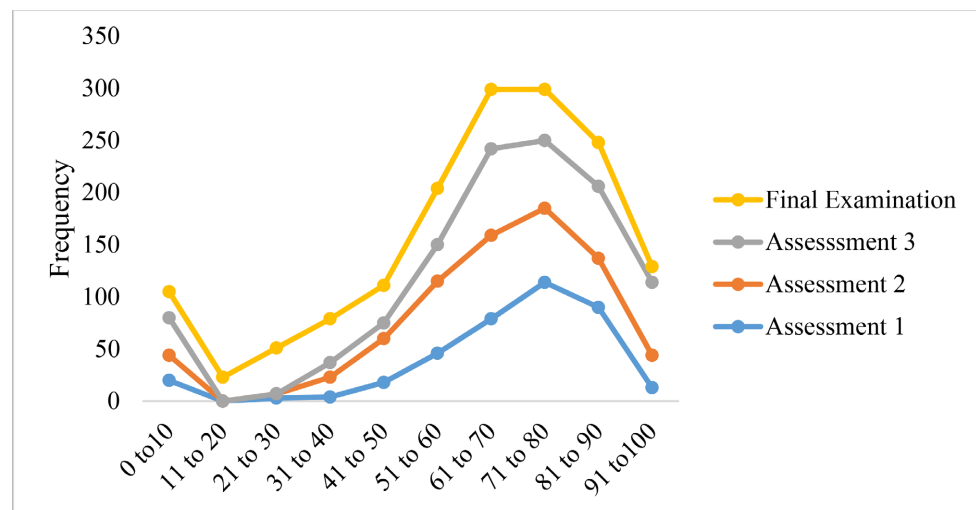


Figure 1. Respondents' academic performance.

performance overall performance in the course. The distribution was multi-modal, with 50% appearing 12 times, 68% appearing 11, and 73% appearing 12 times. The skewness level of  $-0.874$  showed a negatively skewed distribution. This implied that more students' scores were at the high part of the distribution (Moore & McCabe, 2003). See Figure 2 for the overall students' academic performance at the end of the semester.

In the university, the following letter grades are used: A- to A+ (75 - 100) is Excellent, B- to B+ (60 - 74.99) is Good, C to C+ (50 - 59.99) is Satisfactory, 0.00 to D (0 - 49.99) Unsatisfactory (University of Technology (UTech), Jamaica, 2021-2022, p. 171). As noted earlier, students' performance may be due to several reasons, such as the way they perceive accounting subjects which some see as difficult and boring, psychological issues such as anxiety and stress, prior knowledge, and the sudden shift from face-to-face to the online environment (Bakar et al., 2020; Butt et al., 2021; Dangi et al., 2017; Fawaz & Samaha, 2021; Huang & Si, 2019; Jansen & de Villiers, 2015). For instance, Atchley et al. (2013) found grade disparity among online and face-to-face students (as cited in Cavabaugh & Jacquemin, 2015), while Jansen and de Villiers observed that students who did accounting at the secondary school level demonstrated strong academic performance when they do it at the tertiary level.

#### 4.3. Research Question 2: What Are the Undergraduate Students' Attitudes toward an Accounting Course?

Data were collected to examine students' attitudes to the subject. The results showed that 120 (37.6%) students had scores above the overall mean value of 33.7%, indicating that fewer respondents had a high attitudinal score toward accounting compared to those with low attitudinal scores. The minimum value was 0, and the maximum was 78%. This result was not consistent with the study by Hatane et al. (2021), who found that students had positive attitudes toward choosing the course accounting, and Geiger and Ogilby (2000) noted that students in two universities in the States had fairly positive perceptions of introductory

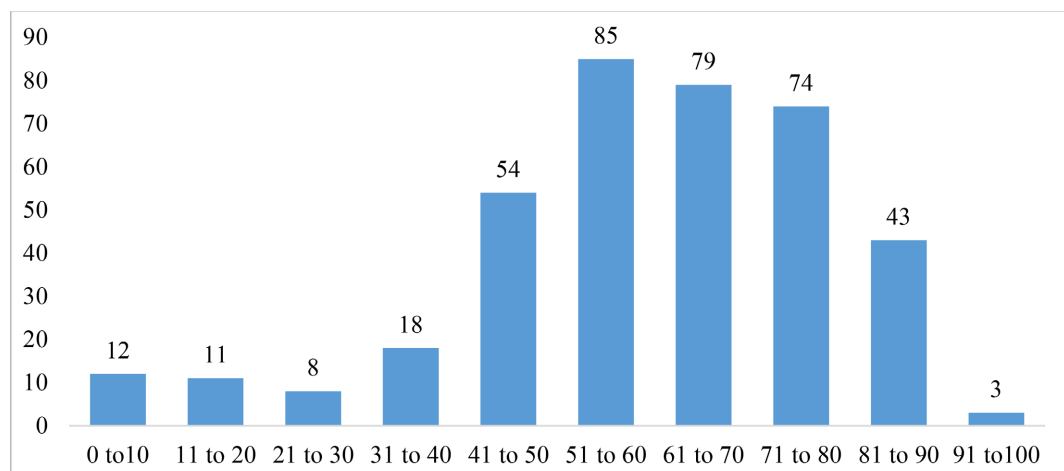


Figure 2. Overall Students' academic performance.



accounting courses in the United States. However, such perceptions diminished by the end of the semester when compared to the beginning of the semester (Geiger & Ogilbey, 2000). Further, the Mann-Whitney  $U$  test was used to determine whether there was a difference in attitude scores between those respondents who indicated that they had done accounting in high school and those who did not (see Table 3).

As shown in Table 3, the Mann-Whitney  $U$  test results indicated a significant difference between the groups [ $U = 2152$ ,  $p = .001$ ]. This result showed that those who did an accounting subject at the high school level had a mean rank in attitude. No study was found to support this result.

#### 4.4. Research Question 3: What Factors Influence Undergraduate Students' Attitudes toward an Accounting Course?

To determine the number of factors influencing the respondents' attitudes, an exploratory factor analysis (EFA) was conducted (see Table 4). The Kaiser-Meyer-Olkin measure of sampling adequacy was .882, and Bartlett's test of sphericity was statistically significant ( $p < .001$ ). Since the KMO was greater than .6, and Bartlett's test of sphericity was less than .05, it meant that "factorability of correlation matrix was assumed"; that is, the data was adequate to conduct factor analysis (Chan & Idris, 2017: p. 403).

As shown in Table 4, the EFA results showed four-factor loadings: positive attitude, negative attitude, regrets, and influences. The percentages of variance explained by the four factors were 34.5% for factor 1, 13.1% for factor 2, 7.3% for factor 3, and 6.5% for factor 4.

As shown in Table 4, the first two factors were positive and negative attitudes that influenced the students' in the accounting course. In the study by Banahene et al. (2018), they noted that attitude to learning could either be positive or negative. Additionally, Chawla et al. (2013) found that the students' attitudes to accountancy were negative. While Kutlu and Öztürk (2018) noted that students' attitudes toward accounting were influence by bias to accounting, prior knowledge, teaching methods, teachers' attitude, and among others. Regarding the third factor, the students expressed regrets about their cognitive efforts in the course. No study was found to support this result. Concerning the fourth factor, which was influence, the results showed that students were influenced by their parents and their previous high schools. This result was consistent with the findings by several authors (Byrne et al., 2012; Myburgh, 2005; Ng et al., 2017; Porter & Woolley, 2014; Tan & Laswad, 2006; Umar, 2014), who noted third party influence by individuals such as parents, friend, and teachers. However,

**Table 3.** Mann-whitney  $U$  test results.

Did Accounting	( $n$ )	Mean Rank	Sum of Ranks
Yes	153	110.9	16,973.00
No	48	69.3	3328.0

**Table 4.** Factor loading on the students' attitude to accounting.

Positive Attitude	Factor			
	1	2	3	4
2. Accounting is useful for my career.	.858			
11. Accounting-oriented thinking plays an important role in my profession.	.834			
10. Accounting is important in improving work practice.	.819			
12. I have acquired skills in Accounting that will be helpful to me in future.	.770			
9. I am confident in my ability to understand Accounting terminologies.	.710			
3. I find Accounting modules interesting.	.661			
4. I enjoy doing Accounting modules.	.649			
1. Accounting should be taught to all students.	.638			
14. I am doing Accounting to be able to find a job.	.606			
7. I could like to be an Accountant.	.601			
5. I love reading Accounting papers.	.557			
15. Jobs in Accounting pay well.	.516			
<b>Negative Attitude</b>				
6. Accounting modules are difficult.		.763		
8. Accounting modules make me anxious.		.731		
18. I find it difficult to understand the concepts of Accounting.		.648		
19. I feel insecure analysing Accounting data.		.625		
13. I did Accounting modules because they were compulsory.		.588		
<b>Regrets</b>				
21. I would have done well in Accounting if I had been supervised properly.			.801	
22. I would have liked Accounting if it was properly taught with clear examples.			.798	
20. I would have done better in Accounting if I had the necessary skills.			.697	
<b>Influences</b>				
16. My parents influenced me to do Accounting.				.778
17. My high school influenced me to do Accounting.				.736
% of Total Variance	34.5%	13.1%	7.3%	6.5%
Mean	30.7	10.8	8.4	3.8
Standard Deviation	8.5	3.6	2.3	1.5
Cronbach's Alpha	.921	.775	.698	.540

Note: Items 6, 8, 13, 18, & 19 were reversed because they were negatively worded.

Wally (2013) found that third party influence was not significant.

#### 4.5. Research Question 4: To What Extent Is There a Statistically Significant Relationship between Undergraduate Students' Attitudes and Their Academic Performance in an Accounting Course?

A Pearson product-moment correlation was conducted to determine the rela-

relationship between the respondents' attitude and their scores in the four different assessments done in the course, including their overall academic performance in the accounting course. As shown in **Table 5**, there were significant positive relationships between assessments 1 and 2 ( $r = .436$ ), assessments 2 and 3 ( $r = .329$ ), assessment 3 and the final examination ( $r = .362$ ), and the students' total course score and the final examination. However, there was a low negative relationship ( $r = -.173$ ) between the respondents' attitudes and performance in assessment two only. These correlation coefficients were all significant at the .001 level. Therefore, the null hypothesis was rejected.

Since the current study only showed a weak negative relationship between one assessment and students' attitude to accounting. It was not surprising that studies by *Byrne and Flood (2008)* and *Fogarty and Goldwater (2010)* that found no significant relationship between attitude in management accounting with performance unless individual effort was rewarded. Furthermore, although these authors did not directly study students' attitudes, they noted that the relationship between introductory accounting courses and academic performance was insignificant or even negative (*Adewale & Adhuze, 2014; Jansen & de Villiers, 2015; Yusuf et al., 2016*).

## 5. Conclusion

The students targeted for this study were those enrolled in Introduction to Management Accounting, which has no pre-requisite as it is a core course that the students should take during their four-year undergraduate programme. The main purpose of this correlational study was to determine if there was any relationship between undergraduate students' attitudes to and academic performance in an accounting course. The study was also aimed at determining the factors that impacted students' attitudes. The 331 undergraduate students who registered for the Introduction to Accounting course at the University of Technology, Jamaica, were asked to participate if they gave their consent. However, 201 students responded to the e-questionnaire. The response rate for the e-questionnaire was 60.7%. Data were also collected from students' academic scores in the course. More females (81.6%) participated in the study compared

**Table 5.** Relationship between students' attitudes and academic performance.

Variable	Mean	SD	1	2	3	4
Assessment 1	56.7	16.2				
Assessment 2	73.6	24.8	.436**			
Assessment 3	75.6	22.9	.208**	.329**		
Final Examination	54.1	26.7	.441**	.561**	.362**	
Total Course Score	61.7	19.5	.573**	.750**	.533**	.944**
Attitude to Accounting	33.7	27.5	-.031	-.173**	.046	-.067

\*\*Correlation is significant at 0.01 level (2-tailed).

to males (18.4%). The results showed that both formative and summative assessments were used in the online course, and students' performance was fairly good; hence the distribution was negatively skewed. The result also showed that students had positive and negative attitudes toward accounting. Regarding factors that influenced the students' attitudes toward an accounting course, the results showed positive and negative attitudes, regret, and third-party influences. Finally, there were significant positive relationships between assessments 1 and 2 ( $r = .436$ ), assessments 2 and 3 ( $r = .329$ ), assessment 3 and the final examination ( $r = .362$ ). However, there was a low negative relationship ( $r = -.173$ ) between the respondents' attitudes and performance in assessment two only, which was one of the formative assessments. Therefore, the null hypothesis was rejected.

### 5.1. Limitations of the Study

The study had some limitations. For instance, there were several other factors that affect student performance, which were not considered. Furthermore, qualitative data such as interviews and/or focus group discussions that would have helped to explain student academic performance and attitude were not used. Despite these limitations, the study will certainly contribute to the existing literature on accounting students' attitudes and academic performance.

### 5.2. Recommendations

Based on the results, it is recommended that efforts be made to improve students' attitudes to and academic performance in the course. This could be done by ensuring that more students get skills that will help them be less anxious doing the course. It is also recommended that future research be undertaken to determine if teaching styles and assessment methods used in the course contribute to the students' attitudes and academic performance.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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