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FACTORS AFFECTING ACCOUNTING STUDENTS' ACADEMIC PERFORMANCE

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Abstract

This research attempts to explore contributing factors that affected accounting students' academic performance. Respondents of the research were first degree accounting students from two private universities in Malaysia. The aim of the research is to investigate whether gender, prior accounting knowledge, accounting anxiety and age affect academic performance. Correlation test revealed that there is significant association between academic performance with gender, prior accounting knowledge and academic anxiety, while age is not significantly associated with academic performance. Multiple regression test was also administered to discover whether academic performance could be predicted by gender, prior accounting knowledge, accounting anxiety and age. Test results revealed that gender, prior accounting knowledge and accounting anxiety were predictors of academic performance, whilst age is not a predictor. In conclusion, the research suggests that students without prior accounting knowledge and has accounting anxiety should complete an introductory accounting program to develop and strengthen their basic accounting aptitude and confidence before pursuing an accounting degree.

Keywords: Academic performance, accounting, students, anxiety, gender, prior knowledge

1. Introduction

The accounting program is considered as difficult and complex (Bahari et al., 2014). Students who have entered university and pursuing an accounting degree may face challenges in completing and excelling in their studies.

The longing to succeed can be a trigger variable for nervousness next to the anxiety of disappointment or failure. Some students face extreme pressure when learning accounting, which led to a deterioration of mental health due to the stress of learning the course (Ison et al., 2020). Anxiety, nervousness, mentality, inspiration, individual qualities and so forth can influence the learning. Sometimes students who face these situations are disappointed because they could not manage these situations. However, research found that students who have had past experience in learning accounting fares better than those who have no experience. Research also suggests that students who have no prior accounting knowledge should at least go through a course to get to know accounting terms for them to understand the jargons used in classes at tertiary level. This would positively affect the students' eagerness to learn accounting subjects. Other studies discovered that gender is associated with academic performance, where female students were found to perform better academically, but when it comes to mathematical-related subjects, the male counterparts fared better. Likewise, age is regarded as a determinant of academic performance. For example, Koh and Koh (1999) state that age is a factor of academic performance. They discovered that junior accounting students were academically outstanding to their seniors. Jansen and de Villiers (2015) also presented similar findings concerning age and academic performance.

Explorations of the factors that contribute to academic performance, whether positively or negatively, is important because discoveries from these studies will enable related parties such instructors, higher education institutions and accounting professional associations, address issues that may impede accounting students from obtaining excellent academic performance and becoming talented accountants of the future. Consequently, this research intends to investigate determinants affecting accounting students' academic performance (henceforth academic performance and CGPA are used interchangeably in this research).

2. Review of Literature

2.1. Academic performance

The decision to choose area of interest to pursue at tertiary level can be difficult. Some students may have a clear picture of their choice of study during high school, whilst some had that eureka! moment after they have completed their high school, or they were advised by people close to them. Some students may not have accounting knowledge prior to joining university. Conversely, Onay and Benligiray (2018) discovered that prior accounting background, prerequisite achievement, mathematical and statistical background significantly influence academic performance. Brook and Roberts (2021) suggest that math and accounting subjects taken in high school are significant predictors of student performance at tertiary level; whilst gender was not a predictor. However, Alfan and Othman (2005) reported the female students

outdone their male counterparts academically. They also posit that entry qualifications and prior knowledge in economics, math an accounting are predictors of performance in students' accounting degree program.

2.2. Gender

Contradictions concerning gender influencing academic performance is not a new subject. Coetzee et al. (2016) for example, discovered that female students in South Africa are more academically outstanding in accounting. Studies conducted in Thailand by Syukur (2021) and in India by Arora and Singh (2017) discovered the similar findings about the female students. Another study by Le Roux (2017) revealed the same result but this time for professional accounting exams. Jansen and de Villiers (2015), on the other hand revealed that the male students achieved better academically for undergraduate accounting courses in South Africa. Likewise, Koh and Koh (1999) reported that male students in Singapore outperformed their female counterpart at bachelor degree level. Further, Ghazvini and Khajehpour (2011) claim that even though female students studied harder, the male students had higher cognitive-motivational functions and perform better in calculation subject. Nonetheless, other previous literature reported no association between gender and academic performance (Brook & Roberts, 2021; De Hart et al., 2011; Guney, 2009; Papageorgiou, 2017; Steenkamp, 2014). Therefore, the hypothesis generated is:

H_1: Gender affects academic performance (CGPA).

2.3. Prior accounting knowledge

Experience provides the knowledge for us to make better choices and do better. A student who had prior academic knowledge would usually be able to appreciate a certain topic better; will be able to get better results in examinations. Doran et al. (1991) posit that students who had studies accounting at school is more confident when they do accounting subject at tertiary level. Nonetheless, Koh and Koh (1999) reported no difference in accounting performance for students who had no accounting background during high school to those with previous accounting background. Further, findings from literature indicate that previous accounting performance is indicative of later academic performance (Onay & Benligiray, 2018; Myers, 2017). Husin et al. (2014) suggest that prior knowledge correlated positively with excellent performance in accounting. Joynt (2022) claims that introductory program introduced to students without accounting background positively improved their academic performance. Guney (2009) also found similar outcome where prior learning experiences affect academic results. However, the results were inconclusive as other literature presented evidence that prior accounting knowledge did not affect students' grades in accounting (Byrne & Flood, 2008, Velasco, 2019). Likewise, Procházka (2016) discovered no association between prior knowledge with student performance. Further, Rossouw and Brink (2021) discovered that students who changed their major to accounting after the first year of study with no accounting background, succeeded in graduating with an accounting degree after three years. This means that prior accounting knowledge was not a factor deterring students to graduate. Therefore, the hypothesis generated based on previous literature is:

H2: Prior accounting knowledge affects academic performance (CGPA).

2.4. Accounting anxiety

Prior research states that a student's level of accounting anxiety increases as she moves higher in the degree level (Malgwi, 2004). Fairbanks (1992) asserts that anxiety is frequently found in arithmetic courses required for non-technical majors. De Borja (2012) on the other hand emphasizes that studying accounting education is similar to learning a foreign language and so it affects them comparably. Further, Arianpoor and Khayoon (2021) claim that students' eagerness to learn accounting is negatively associated with anxiety, implicating that students will not be eager to learn accounting when anxiety is high. However, Brooks (2013) claims that a person who reappraise their anxiety into excitement is able to positively change their negative mindset and improve performance. Therefore, the hypothesis generated based on literature is:

H3: Accounting anxiety affects academic performance (CGPA).

2.5. Age

According to Jansen and de Villiers (2015), age affects accounting performance. Säljö (1979) declares that older students are more conscious and motivated to achieve good academic performance, and this assertion is echoed by Guney (2009) thirty years later. However, Koh and Koh (1999) reported that junior students in Singapore outperformed the seniors at bachelor degree level. They explained that they younger students might perform better well because the knowledge they learnt were still fresh in their memory, whereas the older students did well because of their experience. The effect of age on academic performance is inconclusive. However, following Guney assertion, the hypothesis generated for this research is:

H4: Age affects academic performance.

3. Method

3.1. Population and sample size

Population for the research is students taking their Bachelor in Accounting. Two private universities were chosen, as they were the most convenient and cooperative among the universities approached. Minimum sample size targeted for this research is 384 based on accounting student population in Malaysia (Krejcie & Morgan, 1970).

3.2. Data collection

Questionnaire survey was the method for data collection. The questionnaires were distributed to Bachelor of Accounting students of two private universities in Malaysia. The universities were chosen because they were the most convenient and cooperative among those approached. 450 questionnaires were distributed equally to both universities and only 425 collected were usable for analysis. Prior to distribution of the questionnaire, reliability test was conducted on the accounting anxiety rate scale (AARS). The alpha for accounting anxiety was .849 and deemed acceptable (Field, 2009).

3.3. Measurement of variables

The research questionnaire used for the research consists of three sections, namely: demographic profile and AARS, an instrument developed by Malgwi (2004) to measure student's anxiety towards accounting. The following table 1 summarises the measurements of variables enquired in the questionnaire such as gender, race, age, prior accounting knowledge, cumulative grade point average and the AARS.

Table 1. Measurement of variables

Variable	Measurement
Gender	1= Male, 2= Female
Race	1= Malay, 2= Chinese, 3= Indian, 4= Others
Age	1=18-20 years old, 2=21-23 years old, 3=24-26 years old
Prior accounting knowledge	0=No, 1= Yes
CGPA	1= Below Average (< 2.00), 2= Average (2.00 - 2.99), 3= Good (3.00 - 3.49), 4= Excellent (3.50 - 4.00)
Accounting anxiety (AARS)	5-point Likert scale from 1= Strongly Disagree to 5= Strongly Agree

4. Result and Discussion

4.1. Demographic profile

Demographic profile of respondents is summarised on Table 2. All respondents were undergraduate students taking accounting degree from two private universities. Accounting students from two universities took part in the questionnaire survey, with a total of 450 questionnaires distributed and collected from both universities. However, only 425 responses were usable for analysis.

There were nearly equal number of male and female responses collected, with 238 female (56 percent) and at 187 male (44 percent). Distribution of race among the students were nearly equal for the three main races in Malaysia, where of the 425 responses, approximately 34 percent were Malay, 27 percent Chinese and 37 percent Indian, while other race was at 2 percent.

Further, majority of the students were discovered to have prior accounting knowledge (62 percent) when they continued their tertiary studies at their respective universities. In terms of the distribution of CGPA of the respondents, 47 percent of them acquired a cumulative point average (CGPA) of between 3.00 to 3.49. Only 7 percent of the respondents had below than average CGPA. Additionally, nearly majority of the students were between the age of 21 to 23 (48 percent).

Table 1. Demographic profile (n=425)

		Freq.	%
Gender	Male	187	44.0
	Female	238	56.0
Race	Malay	144	33.9
	Chinese	115	27.1
	Indian	158	37.2
	Others	8	1.9
CGPA	Below Average (< 2.00)	31	7.3
	Average (2.00 - 2.99)	137	32.2

	Good (3.00 - 3.49)	200	47.1
	Excellent (3.50 - 4.00)	57	13.4
Age	18-20 years old	98	23.1
	21-23 years old	205	48.2
	24-26 years old	122	28.7
Prior accounting	Yes	264	62.1
knowledge	No	161	37.9

4.2. Correlation coefficient

Correlation test provides results whether gender, prior accounting knowledge, accounting anxiety, year of study and age influence academic performance. Results in the Table 3 indicate that gender, prior accounting knowledge and accounting anxiety were significantly correlated with CGPA ($p<0.01$). Although the three factors were significantly correlated, the strength of the relationships were weak at .15 (gender), .14 (prior accounting knowledge) and .125 (accounting anxiety). Year of study and age were not correlated with academic performance. This is indicative of prior study from Guney (2009) and more recently Sothan (2019) and Yousef (2019) where age is found not correlated with academic performance.

Table 2. Correlation coefficient (n=425)

	CGPA	Gender	Prior accounting knowledge	Accounting Anxiety	Year of study	Age
CGPA	1.000	.153**	.140**	.125**	.046	.031
Gender	.153**	1.000	-.028	.041	.060	.015
Prior accounting knowledge	.140**	-.028	1.000	.053	.042	.068
Accounting Anxiety	.125**	.041	.053	1.000	-.156**	-.154**
Year of study	.046	.060	.042	-.156**	1.000	.661**
Age	.031	.015	.068	-.154**	.661**	1.000

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

4.3. Regression analysis

Multiple regression analysis was executed to determine predictors of academic performance from gender, prior accounting knowledge, accounting anxiety and age. The result of multiple regression analysis revealed statistically significant association between gender, prior accounting knowledge and accounting anxiety. The result indicate that the most significant predictor variables are gender and prior accounting knowledge (p=0.001), and accounting anxiety (p<0.05).

Table 3. Regression analysis for predictors

	b	*t*	*Sig.*
(Constant)	1.474	4.636	.000
Gender	.246	3.232	.001
Prior accounting knowledge	.251	3.222	.001
Accounting anxiety	.164	2.260	.024
R^2	.062		
Adjusted R^2	.053		
F-value	6.899		

Results indicate that gender, prior accounting knowledge and accounting anxiety are weak predictors of academic performance at $[F(4, 420) = 6.899, p=0.000]$ with R^2 at .062 (refer Table 4). The R^2 of .062 indicates that 6.2 percent of academic performance is accounted for by gender, prior accounting knowledge and accounting anxiety, while the other 93.8% by other factors.

The predicted academic performance is 1.474 + .246 (Gender) + .251 (Prior accounting knowledge) + 0.164 (Accounting anxiety). However, no significant relationship was observed for age, denoting that it is not a predictor of academic performance. Therefore, we can define the CGPA model as:

Academic performance = b_0 + b_1Gender$_i$ + b_2Prior accounting knowledge$_i$ + b_3Accounting anxiety$_i$

= 1.474 + (.246 Gender$_i$) + (.251 Prior accounting knowledge$_i$) + (.164 Accounting Anxiety$_i$)

The result shows that gender is a predictor of academic performance, consistent with Koh and Koh (1999), Alfan and Othman (2005), Guney (2009), van Wyk (2011), Jansen and de Villiers (2015) and Almutawa and Suwaidan (2020); but inconsistent to Brook and Roberts (2021). Indeed, prior literature has indicated that female students are more academically diligent than their male counterpart is. Further analysis of test of significant difference discovered, female students were performing better than the male students (mean rank female = 228.46, mean rank male = 193.33). The current research did not explore reasons for the result that favours female students. Thus, there is a need for future research to determine why the female students outperform the male students.

Prior accounting knowledge is the second predictor that affects academic performance. Literature suggests that students with no accounting experience should enroll and pass introductory accounting level before registering in an accounting degree (Joynt, 2022). Nonetheless, other literature claim that prior accounting knowledge did not have an impact on academic performance (Brook & Roberts, 2021). Accounting enrollment at universities is on the increase as Malaysia strives to achieve 60,000 accountants by the year 2030. Thus, it is suggested that institutions of higher learning (IHL) create a bridging program that can help the weak students understand accounting better and at the end of the program decide whether they want to pursue an accounting degree.

The final predictor is accounting anxiety, which is commonly linked with self-efficacy. A person requires the competence to learn and work hard to excel in her studies, and the motivation to achieve success academically. Self-efficacy is when a person believe that she is capable of achieving certain goals and is willing to go the extra mile to achieve the goals (Bandura, 1977). When a person beliefs that they are incapable of controlling their actions and achieving goals (self-inefficacy), anxiety kicks in (Bandura, 1988). According to the regression model, when the level of anxiety increases, academic performance will increase. The result may indicate that students are driven to work harder to get good grades when they worry of not performing well. Interestingly, Brooks (2013) discovered a coping mechanism that a person does when faced with anxiety. They will reappraise their anxiety into excitement, to positively change that negative mindset and improve performance. Thus, this research proposes that the positive predictor of accounting anxiety to academic performance is the "opportunity mindset" as suggested by Brooks (2013).

5. Conclusion and Recommendations

The aim of the research was to investigate determinants of academic performance. Four elements established by previous research as determinants were gender, prior accounting knowledge, accounting

anxiety and age. Regression analysis concluded that gender, previous accounting knowledge and accounting anxiety were predictors of academic performance, whilst age was not a predictor. This means that all hypotheses except for age were supported.

The current research highlights the importance of overcoming both internal and external factors affecting students' academic performance. Results indicate female students were academically superior than their male counterparts. Related parties should investigate reasons behind the dissimilarity, how to assist the male students to overcome their academic issues: whether it was due to internal factors such as self-efficacy, motivation or external such as insufficient learning materials, distractions, etc. The issues that impede good academic performance can be tackled immediately with sufficient data from research.

Next is the importance of prior accounting knowledge. Accounting is known as one of the most difficult field. Equipping students with basic knowledge of accounting before they embark on an accounting degree, would strengthen their understanding of accounting, reduces accounting anxiety, improve performance and build an appreciation of the accounting profession. No longer will accounting be difficult for students who have no prior accounting background because they are academically prepared to go to the next level.

The research findings also lead to the following recommendation that can overcome both issues of prior academic knowledge and accounting anxiety. Firstly, IHL should introduce appropriate student selection procedure to gauge level of accounting knowledge before enrolling them into the bachelor of accounting. This may ensure students are capable of achieving good grades throughout they study. Secondly, IHL should enroll students that does not meet the minimum acceptable accounting knowledge and students with no prior accounting knowledge into introductory accounting pathway so that they can learn the basics of accounting. Upon completion of their introductory class, the students would already be equipped with accounting knowledge and would be more confident to move to the next level.

Next, are limitations to the current research and improvements recommended for future research. Firstly, the current research only investigated four determinants of academic performance (gender, prior accounting knowledge, accounting anxiety and age) based on past literature, which predicted only 6 percent of academic performance. Future research could introduce other determinants such as absenteeism or class attendance. Previous literature discovered that absenteeism is a factor that negatively affects the students' academic performance (Almutawa & Suwaidan, 2020), which means that a student who is absent frequently will not perform well in accounting.

Another determinant that can be included in future research that was discussed by Almutawa and Suwaidan (2020) is the availability of course materials and lecture explanation, which are important to help student understand the subject and improve academic performance. Next possible predictor recommended is student-learning time (SLT). Although student learning time is essential because student need to spend time learning their topics, it was found from previous study that a student will not be able to master accounting just by studying hard without understanding what he is studying (Guney, 2009). We also recommend future research to tap into student skill building activities, which include to students' ability to master accounting subjects attributed by the instructor, as suggested by Dull et al. (2015) and Velasco (2019).

The second limitation is the research sample size. The sample population used for this research was accounting students from two private universities. The scope of the research should be extended to get more generalised results. Research results from a larger sample size, encompassing private and public universities in Malaysia would provide better representation. Thus, it is recommended to increase the sample size of accounting students, with various student background from public and private universities so that that the results are representative of accounting students in Malaysia.

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