

DETEMINANTS OF ACCOUNTING STUDENTS PERFORMANCE

Tareq A. Almunais, The Public Authority for Applied Education and Training, Kuwait
Mishari M. Alfraih, The Public Authority for Applied Education and Training, Kuwait
Faisal M. Alharbi, The Public Authority for Applied Education and Training, Kuwait

ABSTRACT

The purpose of this study is to explore determinants of accounting students' performance at the College of Business Studies at the Public Authority for Applied Education and Training in Kuwait. To accomplish this, a questionnaire was developed and distributed to second-year accounting students. The regression results show that the factors of gender, high school major, age, frequency of doing homework, participation in class discussion, engaging in peer interaction, and number of days studying before exam are significantly and positively related to students' performance in accounting. Results further reveal that high school major (scientific versus humanities) has the strongest impact on students' performance, followed by participation in class discussion. Findings of this study offer an important contribution to accounting education literature. In addition, the findings have important implications for university administrators, accounting instructors, and accounting students.

JEL: M41, I23

KEYWORDS: Accounting, College, Students' Performance, Grade Point Average, Kuwait

INTRODUCTION

Determinants of students' academic performance have long received considerable attention from members of the higher education community. Alfian and Othman (2005) argue that students' academic performance should concern not only academics and educators but also potential employers, often said to be the end users of university products. Hijazi and Naqvi (2006) argue that measuring students' academic performance is a challenging task as it results from many factors. Win and Miller (2005) argue, however, that students' academic performance can be attributed to two sets of influential factors: the first set originating with the individual, that is, the student's unique combination of abilities and socioeconomic background, and the second set relating to the educational system and its patterns of imparting knowledge to university students. The focus of this study is to explore the influence of first set of influential factors, that is, the association between students' demographic background, abilities, and learning behaviors and their academic performance. Consequently, the purpose of this study is to assess student performance and the factors potentially influencing that performance among accounting majors enrolled in the College of Business Studies at the Public Authority for Applied Education and Training.

To meet the study objective, a questionnaire exploring potential factors influencing student performance was developed and distributed to accounting students; the factors explored were identified in the literature and mentioned by local accounting faculty. Ordinary least squares regression analysis was used, with the dependent variable being students' major grade point averages, which served as a proxy for academic performance in accounting. Thirteen independent variables were included in the regression model to capture the potential influence of demographics and learning behaviors on accounting students' performance.

Study findings show significant differences in academic performance among accounting students based on the factors of gender, marital status, and type of high school education. Regression results show that the factors of gender, high school major, age, frequency of doing homework, participation in class discussion, engaging in peer interaction, and number of days studying before exam are significantly and positively related to students' performance in accounting. Results further reveal that high school major (scientific versus humanities) has the strongest impact on students' performance, followed by participation in class discussion. The findings of this study make an important contribution to the accounting education literature. In addition, the study findings have important implications offer important information to university administrators, accounting instructors, and accounting students.

The remainder of this paper is organized as follows: Section 2 briefly reviews prior studies related to determinants of academic performance. Section 3 describes the data used and the methodology followed. The results and discussion are presented in Section 4. Section 5 outlines the main conclusions, contributions, and implications drawn from this study.

RELATED LITRATURE AND BACKGROUND

Improvement in student performance has always been a central goal of the education community and a top priority of educators. To this end, several studies have attempted to empirically determine factors associated with student success and performance in higher education (Al-Tamimi and Al-Shayeb, 2002; Kirk and Spector, 2006; Al-Twajjry, 2010, Maksy and Zheng, 2010; Vealing and Baker, 2011). Hijazi and Naqvi (2006) claim that students' academic performance is a product of socioeconomic, psychological, and environmental factors. Harb and El-Shaarawi (2007) examine this issue empirically among business majors in the UAE and find that students who participate in class discussions and those on leave outperform other students. In addition, they find the factor that most negatively affects students' performance is missing too many lectures.

In Australia, Win and Miller (2006) examine factors that influence university students' academic performance, focusing on student background and school factors. Their study shows that high schools influence the academic performance of students at university apart from students' personal background characteristics. Similarly, in the Caribbean region, Cheesman et al. (2006) investigate determinants of students' university performance. They identify five factors as important determinants of performance, namely, gender, enrollment status, faculty of study, on campus versus off campus residence, and whether the student did or did not apply for financial assistance.

Using Turkish data, Erdem et al. (2007) empirically explore which socioeconomic and demographic factors impact students' academic performance. Their study findings show that factors such as the type of high school graduates, gender, number of sisters/brothers in school, education level of parents, expression of family expectations about the school, and study time impact students' performance.

Based on Malaysian data, an examination by Ali et al. (2009) of factors influencing students' performance finds that four factors are positively related to such performance: students' demographics, active learning, students' attendance, and involvement in extracurricular activities; course assessment was found to be negatively related to students' performance. Al-Rofo (2010) observes that the most significant reason for poor academic performance is studying a specialization against students' desires. Alfian and Othman (2005) examine the performance of business and accounting students in Malaysia and find that mathematical knowledge obtained prior to entering university is crucial in promoting students' performance. Al-Twajjry (2010) attempts to identify potential factors that possibly affecting accounting student's performance in Saudi Arabia. The study results suggest that mathematical skills have a significant impact on students' performance. In addition, the study show that the load of weekly

registered hours has no negative impact on the student performance. In contrast to Al-Twajry (2010), Al-Tamimi & Al-Shayeb (2002) conclude that semester load of student have a significant influence on student performance whereas skills in mathematics have no impact on the student performance.

Although previous studies have shown the potential factors likely to influence students' academic performance in general, to our knowledge, there is no study examining factors that influence accounting students' performance in Kuwait. Motivated by the lack of research on this issue in Kuwait, the objective of this study is to investigate this issue empirically among students majoring in accounting in Kuwait.

DATA AND METHODOLOGY

The Instrument

The aim of this paper is to investigate factors likely to influence accounting students' performance. For this purpose, prior research in the area of academic performance was reviewed to construct a questionnaire to explore factors that may influence academic performance. The questionnaire consists of two parts. Part 1 contains five questions obtaining demographic data and other background information about students. Part 2 contains nine questions assessing students' academic behavior based on a five-point Likert scale, with student answers ranging from "highly agree" to "highly disagree." The questionnaire content was validated by four faculty members of the Public Authority for Applied Education and Training. The pilot study found that students easily understood the questions and had no difficulty in completing the questionnaire in a reasonable period of time. To assess the reliability and internal consistency of the questionnaire, Cronbach's alpha test was used. According to Nunnally (1978) and DeVellis (2003), a Cronbach's alpha coefficient of 0.7 or higher is considered acceptable by most social science researchers. In the current study, the Cronbach's alpha coefficient was 0.79, indicating reliability of the scales used.

Data Collection

The population used in this study is comprised of students majoring in accounting at the College of Business Studies at the Public Authority for Applied Education and Training in the fall semester of 2011–2012. To ensure that only accounting majors were surveyed, the questionnaire was distributed in classes only offered to second-year accounting majors. The questionnaire was administered by the researchers during accounting lectures. Three hundred and fifty questionnaires were distributed in 13 various accounting classes offered only to second-year students majoring in accounting. Of the 350 questionnaires administered, 282 responses were considered appropriate for statistical analysis.

Statistical Analysis Methods

Data collected from the questionnaire were analyzed using quantitative methods. Descriptive statistics, independent sample t-tests, and multiple regression analyses were used to identify the relative importance of factors likely to influence accounting students' performance. Ordinary least squares regression analysis was used, with the dependent variable being the students' major grade point averages (MGPA), as a proxy for academic performance. Thirteen independent variables were included in the regression model to capture the potential influence of demographics and learning behaviors on accounting students' performance. The regression model is as follows:

$$\text{MGPA} = \beta_0 + \beta_1 (\text{Gender}) + \beta_2 (\text{Marital Status}) + \beta_3 (\text{High School Major}) + \beta_4 (\text{Age}) + \beta_5 (\text{Homework}) + \beta_6 (\text{Taking Notes}) + \beta_7 (\text{Participation}) + \beta_8 (\text{Peer Interaction}) + \beta_9 (\text{Office Hours}) + \beta_{10} (\text{Studying before Exam}) + \beta_{11} (\text{Studying Hours}) + \beta_{12} (\text{Days of Absence}) + \beta_{13} (\text{Advisor}) + \varepsilon \quad (1)$$

Where

Gender	=	Gender of student (male vs. female)
Marital Status	=	Marital status of student (single vs. married)
High School Major	=	Type of high school education (scientific vs. humanities)
Age	=	Student age
Homework	=	How often do you do your homework?
Taking Notes	=	How often do you take notes in class?
Participation	=	How often do you participate in class discussion?
Peer Interaction	=	How often do you engage in peer interaction?
Office Hours	=	How often do you ask instructor questions during office hours?
Studying before Exam	=	How many days before exam do you start studying?
Hours in Study	=	How many hours do you study per week?
Days of Absence	=	Number of days of absence during a semester?
Advisor	=	How often do you consult your advisor?

RESULTS AND DISCUSSION

Table 1 provides a description of students’ demographics. It shows that the sample population was comprised of 120 males (42.6%) and 162 females (57.6%). Among the total of 282 students, only 40 (14.2%) were married as compared with 242 (85.8%) unmarried. Table 1 shows that 212 students (75.2%) majored in humanities in high school, while only 70 students (24.8%) had a scientific major in high school. Table 1 presents the frequency distribution of student accounting majors’ GPAs. It shows that 32.3% of students attained a GPA below 2.00, whereas 22% of students attained a GPA between 2.00 and 2.49. Also, 38.7% of the student sample attained a GPA between 2.5 and 3.5. Only 7% of the students surveyed attained a GPA above 3.50. In addition, Table 1 shows that 78.4% of the students surveyed were between 18 and 23 years old, 8.9% were between 24 and 26 years old, and 12.7% were 27 years or older.

Table 1: Characteristics of Sample Student Population

Variable	Frequency	Percentage
Male	120	42.6
Female	162	57.4
<i>Total</i>	282	100
Marital Status		
Single	242	85.8
Married	40	14.2
<i>Total</i>	282	100
Type of High School Education		
Scientific	70	24.8
Humanities	212	75.2
<i>Total</i>	282	100
Accounting Major GPA		
Below 2.00	91	32.3
2.00–2.49	62	22.0
2.50–2.99	60	21.3
3.00–3.50	49	17.4
Above 3.50	20	7.0
<i>Total</i>	282	100
Age		
18–23	221	78.4
24–26	25	8.9
Above 26	36	12.7
<i>Total</i>	282	100

This table shows the characteristics of sample student population investigated in the study.

Table 2 provides the results of t-tests conducted to determine whether there were significant differences between students’ demographic backgrounds and academic performances.

The results presented in Table 2 shows that significant ($p < 0.01$) gender differences exist in academic performance, as female students academically outperform male students. This could be partially attributed to the fact that female students are less socially active in the Kuwaiti environment and thus have more time to study as compared with male students. In addition, Table 2 shows a significant ($p < 0.01$) difference in academic performance between single and married students, as married students academically outperform single students. This finding may indicate that married students take their studies more seriously than single students. Furthermore, Table 2 shows a significant ($p < 0.01$) difference in academic performance between students with a scientific background and a humanities background, as students with a scientific background perform better than students with a humanities background. This finding could be partially explained on the grounds that students with a scientific background tend to take more and higher-level mathematics classes in high school, which likely helps them perform better in accounting classes.

Table 2: T-test for Differences among Sample Characteristics with Respect to Academic Performance

Category	Variable	Mean	Standard Deviation	T-value	Significant Level
<i>Gender</i>	Male	2.12	0.68	6.30	***
	Female	2.64	0.71		
<i>Marital Status</i>	Single	2.35	0.71	3.35	***
	Married	2.84	0.83		
<i>Type of High School Education</i>	Scientific	3.08	0.69	9.47	***
	Humanities	2.19	0.63		

*This table shows the differences among the sample characteristics with respect to academic performance. *** indicates significant at 0.01 level.*

Table 3 provides the means and standard deviations of nine factors likely to influence accounting students' performance (on a five-point Likert scale). Among the nine factors, doing homework ($M = 3.64$) and taking notes during class ($M = 3.60$) were the most influential on students' performance in accounting. In contrast, consulting an academic advisor ($M = 1.95$) had the least influence on students' performance in accounting. Table 4 present Pearson's correlations among the independent variables. The correlation matrix presented in Table 4 shows that no pair-wise correlation coefficient exceeds 0.8, suggesting that multicollinearity is unlikely to be a serious problem in interpreting the multiple regression results (Gujarati, 2003; Kennedy, 2003).

Table 3: Means and Standard Deviations of Factors Contributing to Academic Performance

Factor (n = 282)	Mean	Standard Deviation
Doing Homework	3.64	1.19
Taking Notes during Class	3.60	1.29
Participation in Class	3.27	1.13
Engagement in Peer Interaction	2.99	1.17
Asking Questions during Office Hours	2.84	1.31
Days Studying before Exam	2.66	1.16
Studying Hours per Week	2.60	1.06
Days of Absence	2.23	0.88
Consulting an Academic Advisor	1.95	1.14

This table shows the means and standard deviations of factors contributing to academic performance.

Table 5 shows that the multiple regression model is highly significant ($p < 0.000$, $F = 31.620$). Factors identified as likely influencing accounting students' performance in this study explain about 59% of the association between students' performance in accounting and the potentially influential factors. According to the regression results presented in Table 5, the gender ($p < 0.05$), school major ($p < 0.01$),

age ($p < 0.05$), homework ($p < 0.01$), participation ($p < 0.01$), peer interaction ($p < 0.10$), and studying before exam ($p < 0.10$) variables are significantly and positively related to students' performance in accounting.

Table 4: Bivariate Correlations among Independent Variables

Variable	A	B	C	D	E	F	G	H	I	J	K	L	M
Gender (A)	1												
Status (B)	.23**	1											
Major (C)	-.18**	-.24**	1										
Age (D)	.01	.36**	-.23**	1									
Work (E)	.41**	.23**	-.30**	.19**	1								
Notes (F)	.45**	.18**	-.26**	.24**	.64**	1							
Part. (G)	.23**	.22**	-.39**	.27**	.59**	.56**	1						
Peer (H)	.31**	.15*	-.26**	.22**	.66**	.65**	.57**	1					
Office (I)	.31**	.19**	.27**	.25**	.51**	.50**	.48**	.52**	1				
Exam (J)	.29**	.20**	.23**	.24**	.50**	.53**	.49**	.50**	.43**	1			
Absence (K)	-.01	.09	.15**	-.05	-.37*	-.30**	-.33**	-.31**	-.24**	-.27**	1		
Advisor (L)	.05	-.02	-.17**	.14	.19**	.13*	.24**	.29**	.27**	.46**	-.05	1	
Hours (M)	.09	.20**	-.33**	.34**	.43**	.32**	.51**	.40**	.37**	.18**	-.14*	.25**	1

This table shows the bivariate correlations among independent variables. *, ***, indicate significant at the 0.05, and 0.01 levels respectively (two-tailed).

Table 5: Multivariate Regression Analysis Results

Variable	Unstandardized Coefficient		Standardized Coefficient	t-statistic	Significant
	B	Std. Error	Beta		
Intercept	1.152	0.288		3.994	***
Gender	0.144	0.069	0.096	2.077	**
Marital Status	0.106	0.095	0.050	1.123	
School Major	0.450	0.075	0.261	6.038	***
Age	0.019	0.008	0.107	2.412	**
Homework	0.123	0.039	0.196	3.137	***
Taking Notes	0.036	0.035	0.061	1.017	
Participation	0.138	0.038	0.207	3.592	***
Peer Interaction	0.069	0.037	0.108	1.843	*
Office Hours	0.007	0.028	0.013	0.259	
Studying before Exam	0.055	0.032	0.085	1.695	*
Studying Hours	0.051	0.035	0.072	1.467	
Days of Absence	0.026	0.037	0.030	0.701	
Advisor	0.033	0.027	0.051	1.221	
N		R²	Adj.R²	F-statistic	p-value (F-statistics)
282		0.605	0.586	31.620	0.000

This table shows the multivariate regression analysis results. Student Performance = $\beta_0 + \beta_1$ (Gender) + β_2 (Marital Status) + β_3 (High School Major) + β_4 (Homework) + β_5 (Taking Notes) + β_6 (Participation) + β_7 (Peer Interaction) + β_8 (Office Hours) + β_9 (Studying before Exam) + β_{10} (Studying Hours) + β_{11} (Days of Absence) + β_{12} (Advisor) + ϵ , *, **, *** indicate significant at the 0.1, 0.05, and 0.01 levels respectively.

In comparing the impact of the identified factors influencing academic performance, the standardized coefficient beta presented in Table 5 reveals that school major (scientific vs. humanities) has the strongest impact on students' performance, followed by participation. In contrast, asking during office hours has the least impact on students' performance.

CONCLUSION

The purpose of this study is to explore the determinants of accounting students' performance at the College of Business Studies at the Public Authority for Applied Education and Training in Kuwait. To meet this aim, a questionnaire exploring factors that potentially influence academic performance was developed and distributed to 350 second-year accounting majors in the fall semester of 2011–2012. Of the 350 questionnaires administered, 282 responses were considered appropriate for statistical analysis. Ordinary least squares regression analysis was used, with the dependent variable being the student major grade point average (MGPA), as a proxy for academic performance. Thirteen independent variables were included in the regression model to capture the potential influence of demographics and learning behaviors on accounting students' performance. The results show significant differences in academic performance among accounting students based on factors of gender, marital status, and type of high school education.

Two main conclusions and implications could be drawn from the regression analyses. First, a scientific major in high school is associated with the strongest positive impact on student performance in accounting. The finding that students with a scientific background outperform humanities students is not particularly surprising given their stronger preparation in mathematics as compared with humanities students. This finding may suggest that mathematics skills are essential in promoting the performance of accounting students. Consequently, this finding suggests that providing some mathematics courses to humanities majors prior to taking accounting classes may improve their performance in accounting. This finding has important implications for accounting curriculum setters, suggesting that incorporating mathematics course prerequisites for high school students majoring in humanities might bridge the mathematical deficiency observed among such students who later major in accounting. Second, the findings show that students who actively participate in class and engage in peer interaction are associated with a stronger academic performance in accounting. This highlights the importance of communication skills in academic performance. Consequently, active interaction between instructors and students may likely promote participation in class and peer interaction among students outside the class, which will likely improve academic performance. An implication of this finding is that in order to enrich the learning environment and improve students' performance, accounting instructors should alter their teaching methods in ways that foster active discussions and encourage students' participation in class discussions.

To better understand determinants of students' academic performance in accounting, future research could explore more variables likely to influence students' performance, such as instruction styles and methods or students' personality characteristics. In addition, qualitative research in this area could complement the quantitative research undertaken in this study to provide more comprehensive insights into the determinants of students' academic performance in accounting.

REFERENCE

- Al-Rofo, M. (2010). The Dimensions That Affect the Students' Low Accumulative Average in Tafila Technical University. *Journal of Social Sciences*, 22(1), 53-59.
- Al-Tamimi, H., & Al-Shayeb, A. (2002). Factors Affecting Student Performance in the Introductory Finance Course. *Journal of Economic & Administrative Sciences*, 18(2).

Al-Twajjry, A. (2010). Student Academic Performance in Undergraduate Managerial-Accounting Courses. *Journal of Education for Business*, 85(65), 311-322.

Alfan, E., & Othman, M. N. (2005). Undergraduate Students' Performance: The Case of University of Malaya. *Quality Assurance in Education: An International Perspective*, 13(4), 329-343.

Ali, N., Ali, S., Mokhtar, N., & Salamat, A. (2009). The Factors Influencing Students' Performance at Universiti Teknologi MARA Kedah, Malaysia. *Management Science and Engineering*, 3(4), 81-90.

Bealing, W., & Baker, R. (2011). Student Performance in Their First Accounting Course: Accounting 101 is the Key to Future Success in the Classroom. *The Business Review, Cambridge*, 8(1), 76-82.

Cheesman, J., Simpson, N., & Wint, A. (2006). Determinants of Student Performance at University: Reflections from the Caribbean. *Caribbean Journal of Education*, 28(2).

DeVellis, R. (2003). *Scale Development: Theory and Applications* (2nd ed. ed.): Sage Publications.

Erdem, C., Şentürk, I., & Arslan, C. (2007). Factors Affecting Grade Point Average of University Students. *The Empirical Economics Letters*, 6(5), 359-368.

Gujarati, D. N. (2003). *Basic Econometrics*. 3rd ed. New Yourk : McGraw-Hill.

Harb, N., & El-Shaarawi, A. (2007). Factors Affecting Business Students' Performance: The Case of Students in United Arab Emirates. *Journal of Education for Business*, 82(5), 282-290.

Hijazi, S., & Naqvi, S. (2006). Factors Affecting Students's Performance: A Case of Private Colleges. *Bangladesh e-Journal of Sociology*, 3(1).

Kennedy, P. (2003). *A Guide to Econometrics*, 5th ed. Cambridge, Massachusetts: MIT Press.

Kirk, F., & Spector, C. (2006). Factors Affecting Students Achievement in Cost Accounting. *Academy of Educational Leadership Journal*, 10(1), 91-104.

Maksy, M., & Zheng, L. (2010). Factors Associated with Student Performance in Advanced Accounting and Contemporary Financial Accounting Issues: An Empirical Study in a Commuter University. *SSRN eLibrary*.

Nunnally, J. (1978). *Psychometric theory* (2nd ed ed.). New York: McGraw-Hill.

Win, R., & Miller, P. (2005). The Effects of Individual and School Factors on University Students' Academic Performance. *Australian Economic Review*, 38(1), 1-18.

ACKNOWLEDGEMENT

The authors acknowledge funding from the Public Authority for Applied Education and Training, Kuwait. The authors also acknowledge the helpful comments of two anonymous reviewers.

BIOGRAPHY

Tareq A. Almunais, Ph.D., is an Assistant Professors of Accounting at the College of Business Studies, The Public Authority for Applied Education and Training, Kuwait. He holds a Ph.D. in Accounting from

the American University of Athens. His research interests include accounting education and governmental accounting. E-mail address t_nn2009@hotmail.com

Mishari M. Alfraih, Ph.D., CPA, CIA, is an Assistant Professor of Accounting at the College of Business Studies, The Public Authority for Applied Education and Training, Kuwait. He holds a Ph.D. in Accounting from Queensland University, Australia. Dr. Alfraih's research interest focuses on the role of information in capital markets and IFRS reporting practices. His research has been published in international academic journals including: *International Business & Economics Research Journal*, *Accounting & Taxation*, *Journal of Economic & Administrative Sciences*, *International Journal on Global Science & Technology Forum Business Review*, *Arab Journal of Administrative Sciences* and *International Business Research*. E-mail address: m@dralfraih.com

Faisal M. Alharbi, Ph.D., is an Assistant Professors of Accounting at the College of Business Studies, The Public Authority for Applied Education and Training, Kuwait. He holds a Ph.D. in Accounting from the American University of Athens. His research interests include accounting education and accounting information system. E-mail address dr.falharbi@gmail.com

