

Female accounting students and their academic performance: evidence from Kuwait

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Abstract

Purpose – This study aims to compare the academic performance of female accounting students with their male counterparts and to assess the impact and association between gender and the academic performance of accounting students graduating from the College of Business Studies (CBS) in Kuwait.

Design/methodology/approach – The sample consisted of 141 accounting students, who graduated during 2015 from CBS. Independent samples test, correlation and linear least squares regression analyses tested the hypotheses.

Findings – The results indicate that there was a statistically significant association between gender and accounting students' performance, which explained the superiority of the performance of the female students' group over the performance of the male students' group and explained the significant impact of gender on accounting students' performance, with and without controls for other factors.

Practical implications – The findings have practical implications for how the administration of CBS and similar educational institutions should take action. The findings suggest that the administration of CBS should adopt policies that impose and encourage the acceptance of more female accounting students, as they perform well in accounting and their academic performance is better than their male counterparts.

Originality/value – The study makes significant contributions to the existing knowledge in the area of students' performance by empirically supporting the theoretical expectation of the impact of gender on accounting students' performance. It provides a foundation for future comparative studies, potentially leading to the harmonization of international accounting education. It also addresses some of the shortfalls in the existing regional accounting education literature resulting from the scarcity of prior studies, where little has been published.

Keywords Kuwait, Accounting, Accounting education, Students' performance, Female students' performance

Paper type Research paper

1. Introduction

Whether one gender outperforms the other is a question that has remained open in the literature, primarily because measures have been confounded by rewards for effort (Fogarty and Goldwater, 2010, p. 1).

In a conservative Muslim society such as Kuwait, female accounting students might encounter some societal barriers such as prejudice and bias related to gender. At the present time, male accounting students encompass 23.6 per cent (1,133 out of 4,802 male students), while female accounting students comprise just 12.9 per cent (748 out of 5,792 female students) at the College of Business Studies (CBS), one of the five colleges of the Public Authority for Applied Education and Training in Kuwait.

Studies including gender have increasingly been represented within accounting education literature; yet, little is known about the impact of gender on accounting students' performance,



as a large amount of literature relating to this issue is represented as demographic factor and/or controlling variable for descriptive purposes. Several studies have recognized the importance of gender within accounting education literature (Doran *et al.*, 1991; Tho, 1994; Hill, 1998; Wooten, 1998; Al-Rashed, 2001; Murdoch and Guy, 2002; Elias, 2005; Tickella and Smyrniosb, 2005; Nelson *et al.*, 2008; Fogarty and Goldwater, 2010; Mohrweis, 2010; Du, 2011; Falon and Opstad, 2014; Alanzi, 2012, 2015; Magaji and Umar, 2015). Nonetheless, despite the fact that accounting education studies relating to this issue have been primarily conducted in developed countries, the outcomes of these studies have not provided strong and consistent evidence. The inconclusive results of these studies coupled with the scarcity of prior regional studies have consequently encouraged further research in this area.

The primary aim of this study was therefore to compare the academic performance of female accounting students with their male counterparts and to assess the impact and association between gender and the academic performance of accounting students graduating from CBS.

The study tracked 141 accounting students who graduated from CBS during 2015. The study compared the academic performance of female accounting students with the academic performance of male accounting students and assessed the impact and association between gender and the accounting students' performance. The subjects were divided into two groups: a female accounting students group (78 students) and a male accounting students group (63 students). The response variable in this study was accounting students' performance measured in terms of the accumulative grade point average (GPA) of each graduate student. The explanatory variable in this study was the accounting students' gender. In addition, some selected controlling attributes: students' age, nationality and college experience were considered in this study. Independent samples test, correlation and linear regression (OLS) were employed to test the study's hypotheses. The results indicate that there was a statistically significant association between gender and students' performance, which explained the superiority of the performance of the female students' group over the performance of the male students' group and explained the significant impact of gender on accounting students' performance, with and without controls for other factors.

The present study provided additional empirical evidence on the impact of gender over the academic performance of accounting students for the purpose of providing comparative evidence for the harmonization of international accounting education. Consequently, it is expected that the present study would serve as a base for future comparative studies in this area of research. Furthermore, the present study addressed some of the gaps in the existing regional accounting education literature resulting from the scarcity of prior studies, where little has been published. Respectively, the present study is believed to have a number of significant contributions to the existing body of knowledge in this area of research.

The remainder of this paper begins with the literature review and hypotheses development section, which covers earlier studies that are relevant to the under-investigated factors and to formulate the study's hypotheses. The research methodology section, which describes the data collection and data processing procedures adopted in this study, is then presented. Followed by the results and analysis section, which discusses and analyzes the findings of the research. Finally, the summary and conclusions section is presented to summarize the study, note its limitations and provide guidelines for future studies.

2. Literature review and hypotheses development

The aim of this section is to briefly examine the findings from prior literature, which provides the needed background to develop the current research hypotheses. To achieve this aim, this section is divided into four subsections as follows:

2.1 Response variable (students' performance)

Students' performance has long received a considerable attention from many accounting education scholars. Prior studies have attempted to identify factors that are thought to influence students' performance such as gender, age, race, nationality, major, marital status, personality type, grade history, college GPA and experience, high school GPA and experience, motivation and expectations, study approaches, lecture attendance (absenteeism), lecture environment, delivery method and residential status (Eskew and Faley, 1988; Doran *et al.*, 1991; Gul and Fong, 1993; Tho, 1994; Hill, 1998; Wooten, 1998; Mladenovic, 2000; Al-Rashed, 2001; Jones and Fields, 2001; Murdoch and Guy, 2002; Yunker and Yunker, 2003; Paisey and Paisey, 2004; Chen *et al.*, 2005, 2013; Elias, 2005; Tickella and Smyrniosb, 2005; Nelson *et al.*, 2008; Bealing *et al.*, 2009; Byrne *et al.*, 2010; Al-Twajiry, 2010; Fogarty and Goldwater, 2010; Mohrweis, 2010; Du, 2011; Alanzi, 2012, 2015; Christensen *et al.*, 2012; Falon and Opstad, 2014; Magaji and Umar, 2015; Phillips, 2015; Polat *et al.*, 2015). Nonetheless, the results of these studies are inconclusive and have not provided strong and consistent evidence regarding students' performance. It is also noticeable that most of these studies have been conducted in developed countries, and little has been published in developing (Islamic) countries, such as Kuwait, which have consequently encouraged further research in the students' performance area.

2.2 Explanatory variable (students' gender)

Studying at CBS is based on the separation of gender into two different campuses – one for male students and the other for female students. This separation comes in parallel with Islamic principles "Shariah", and, so far, there is no sound of discrimination. *Shariah* has given female complete rights in all matters of life; however, female accounting students seem not to have equal access to the accounting programme at CBS. Societal barriers such as stereotypes (e.g. female students cannot do well in accounting programmes or there is no future for female accountants) could be the reason behind this non-equal access. One other possible reason could be that female students cannot really do well in accounting. Accordingly, this study aimed to empirically investigate the academic performance of female accounting students graduating from CBS. To achieve this aim, a brief examination of the findings from prior literature related to gender is needed to provide the desirable background.

Several studies have recognized the importance of gender within accounting education literature (Doran *et al.*, 1991; Tho, 1994; Hill, 1998; Wooten, 1998; Al-Rashed, 2001; Murdoch and Guy, 2002; Elias, 2005; Tickella and Smyrniosb, 2005; Nelson *et al.*, 2008; Fogarty and Goldwater, 2010; Mohrweis, 2010; Du, 2011; Falon and Opstad, 2014; Alanzi, 2012, 2015; Magaji and Umar, 2015). Yet, these studies have diversified in their purposes, while some studies have attempted to assess the impact of gender on students' performance and to examine the relationship between gender and students' performance, others have considered gender as demographic factor and/or controlling variable for descriptive purposes.

Likewise, the outcomes of these studies have produced conflicting results. On one hand, some studies (Elias, 2005; Fogarty and Goldwater, 2010; Du, 2011; Falon and Opstad, 2014; Magaji and Umar, 2015) found that gender influences students' performance. On the other hand, some studies (Doran *et al.*, 1991; Murdoch and Guy, 2002; Tickella and Smyrniosb, 2005; Alanzi, 2012, 2015) concluded that students' gender is not a significant determinant of students' performance. These conflicting results have correspondingly motivated further research in this area.

2.3 Controlling variables

Students' age is a demographic variable that has attracted the attention of some scholars. Some of these studies examined the relationship between students' age and students' performance. Still, the results of these studies are also inconclusive. While some scholars (Wooten, 1998; Elias, 2005;

Tickella and Smyrniosb, 2005; Mohrweis, 2010; Yousef, 2011) found that students' age is significantly associated with students' performance, others (Murdoch and Guy, 2002; Alanzi, 2012, 2015) did not find any significant relationship between students' age and students' performance. Consequently, it is trusted that including the impact of accounting students' age on accounting students' performance, as a controlling attribute, is fundamental to the current study.

Students' nationality is another demographic variable that has also attracted the attention of some scholars (Al-Rashed, 2001; Tickella and Smyrniosb, 2005; Yousef, 2011, Alanzi, 2015). Kuwait is one of the richest countries in the world where many non-Kuwaitis (foreigners) have been attracted to work and live with their families in Kuwait (about 70 per cent of the population are non-Kuwaitis). This made Kuwait a multicultural country where foreign students are residents in Kuwait, unlike many developed countries where foreign students have come from overseas for studying purposes only. Accordingly, it is believed that including the impact of accounting students' nationality on accounting students' performance, as a controlling attribute, is necessary to the current study.

Several studies have recognized the importance of college experience (as represented in time of schooling at college level) within accounting education literature (Eskew and Faley, 1988; Elias, 2005; Alanzi, 2012, 2015; Phillips, 2015). However, these studies are usually associated with students' performance in particular subjects. As the current study is concerned with overall female accounting students' performance, where female accounting students might take longer time than male accounting students to graduate, which might affect the academic performance of accounting students. Accordingly, it is trusted that including this factor, as a controlling variable, is also imperative to the current study.

In light of the foregoing literature review and given the data available for this study, the following testable hypotheses will be developed in the next part of this section.

2.4 Hypotheses development

The current study hypothesized that accounting students' performance would be influenced by their gender. This statement needs to be empirically examined; if this statement is true, then the performances of the groups would be different, as students were divided into two groups according to their gender. For the purpose of this study, the accumulative GPA of each graduate student was used to measure students' performance; correspondingly, the first null hypothesis was developed:

- H1.* There is no significant difference between the academic performance of the female accounting students' group and the academic performance of the male accounting students' group.

Examining the relationship between gender and students' performance is believed to be very dynamic to any study that is associated with students' performance. The present study hypothesized that gender and the academic performance of accounting students are significantly associated. Correspondingly, it is believed that examining the relationship between gender and accounting students' performance as measured in terms of their accumulative GPAs is fundamental to the present study; accordingly, the second null hypothesis was developed:

- H2.* There is no statistically significant association between gender and the academic performance of accounting students.

The present study also hypothesized that the academic performance of accounting students would be influenced by their gender. Whereas correlation measures the degree to which two or more variables are related, regression analysis involves identifying the relationship between

the response variable and one or more of the explanatory variables. Accordingly, it is trusted that examining the impact of gender on the academic performance of accounting students is fundamental to the present study; consequently, the third null hypothesis was developed:

H3. Gender does not significantly influence the academic performance of accounting students.

3. Research methodology

The aim of this study was to compare the academic performance of female accounting students with their male counterparts and to assess the impact and association between accounting students' gender and their academic performance when they graduate from CBS. To achieve this aim, subjects were divided into two groups according to their gender. One group included accounting students who were female. The other group was comprised of accounting students who were male.

Studying at CBS is based on a credit-hours or courses system and genders are separated into two different campuses – one for male students and the other for female students. Studying is done in the Arabic language and lasts for two academic years; each year consists of fall, spring and summer semesters, in addition to field training which usually takes place in the summer semester. Students must successfully complete 68 credit-hours with a minimum accumulative GPA of 2.00 points (out of 4.00 points) to graduate from CBS.

The subjects of this study were 141 students (78 female and 63 male) who graduated from CBS during 2015. The response variable in this study was accounting students' performance measured in terms of the accumulative GPA of each graduate student (2-4 points). The explanatory variable in this study was accounting students' gender (0 female; 1 male). In addition, students' age (17-30), nationality (0 Kuwaiti; 1 Non-Kuwaiti) and college experience (4-14 semesters) were considered.

Data were drawn from each student's academic record, which is accessible to all faculty members through CBS's registration system. Data were then entered into the researcher's personal computer for statistical analyses using Statistical Package for Social Sciences (SPSS). A descriptive statistic was used to describe the study findings, while an independent samples test (*t*-test) was employed to examine the significance of the performance difference between the two groups and to test the first hypothesis to determine if it could be accepted or rejected. Subsequently, a correlation analysis was conducted to examine the relationship between the response variable, the explanatory variable and the controlling attributes, as well as to test the second null hypothesis to determine if it could be accepted or rejected. A linear regression model (OLS) was also employed to examine the impact of the explanatory variable on the response variable and to test the third null hypothesis to determine if it could be accepted or rejected. The regression model is as follows:

$$\begin{aligned} \text{Graduating GPA} = & \beta_0 + \beta_1(\text{Gender}) + \beta_2(\text{Age}) + \beta_3(\text{Nationality}) \\ & + \beta_4(\text{College Experience}) + \varepsilon \end{aligned} \quad (1)$$

where:

Graduating GPA = The overall academic performance of accounting students as measured by their graduating GPAs (2-4 points)
 Gender = Gender of student (0 female; 1 male)
 Students' Age = Students' age (17-30 years)
 Nationality = Students' nationality (0 Kuwaiti; 1 Non-Kuwaiti)
 College Experience = College experience (4-14 semesters).

4. Results and analysis

4.1 Descriptive statistic

Table I presents the number of subjects in terms of total, students' gender (groups) and students' age, as well as the mean and standard deviation (SD) of accumulative GPA. The total number of participants was 141 students. The number of female students was 78 students (55.3 per cent), and the number of male students was 63 students (44.7 per cent). The total students' average GPA (mean \pm SD) was 2.632 ± 0.493 out of a possible 4 points. The female students' average GPA (mean \pm SD) was 2.763 ± 0.487 , while male students' average GPA (mean \pm SD) was 2.469 ± 0.454 points.

There were 119 traditional students (84.4 per cent) who were less than 21 years of age and 22 nontraditional students (15.6 per cent) who were above 21 years of age when they start studying at CBS. The students' age ranged from 17 to 30 years old with an average of 19.18 years. College experience duration ranged from four semesters to 14 semesters with an average of 6.47 semesters.

4.2 Analysis of differences

Table II shows the degree and significance of difference between the performances of the two groups by employing an independent-sample test. The outcome of the *t*-test as assessed by Levene's test for equality of variance shows that there was a statistically significant difference in mean performance between the two groups ($t = 3.672, p < 0.000$). The results presented on **Table II** suggest that female accounting students mean GPA score was 0.294 higher than male accounting students mean GPA score with a 95 per cent confidence interval {0.136 to 0.452}. The difference in performance was in favor of the female students' group; consequently, the first null hypothesis was rejected, as there was a significant difference between the performance of the female students' group and the performance of the male students' group.

4.3 Correlations analysis

Table III reveals that the factor that was correlated the most with a students' performance was college experience, with a negative and significant relationship ($r = -0.632, p < 0.000$), followed by student gender with a negative and significant relationship ($r = -0.297, p < 0.000$), while students' age and students' nationality did not show any significant correlations with academic performance. Accordingly, the second null hypothesis was rejected, as gender was significantly associated with the academic performance of accounting students.

4.4 Linear regression analysis

Panel A of **Table IV** presents the model summary that shows the *R*, the *R*-squared, the adjusted *R*-squared and the standard error of the estimate. These measures indicate that the regression model is a good fit. Panel B of **Table IV** presents an analysis of variance (ANOVA), which

| | Female | | Male | | Total | |
|--------------------|--------|------|-------|------|-------|------|
| | No. | (%) | No. | (%) | No. | (%) |
| No. of graduates | 78 | 55.3 | 63 | 44.7 | 141 | 100 |
| Kuwaiti | 61 | 57.5 | 45 | 42.5 | 106 | 75.2 |
| Non-Kuwaiti | 17 | 48.6 | 18 | 51.4 | 35 | 24.8 |
| >21 of age | 67 | 85.9 | 52 | 82.5 | 119 | 84.4 |
| <21 of age | 11 | 14.1 | 11 | 17.5 | 22 | 15.6 |
| Mean of GPA | 2.763 | = | 2.469 | = | 2.632 | = |
| Standard Deviation | 0.487 | = | 0.454 | = | 0.493 | = |

Table I.
Descriptive statistic

Table II.
Independent
samples test

| | Levene's test for equality of variances | | t-test for equality of means | | 95% confidence interval of the difference | | | | |
|-----------------------------|---|-------|------------------------------|---------|---|-----------------|-----------------------|----------|----------|
| | F | Sig. | t | df | Sig. (two-tailed) | Mean difference | Std. error difference | Lower | Upper |
| <i>Overall GPA</i> | | | | | | | | | |
| Equal variances assumed | 1.899 | 0.170 | 3.672 | 139 | 0.000 | 0.293929 | 0.080042 | 0.135671 | 0.452186 |
| Equal variances not assumed | | | 3.700 | 136.178 | 0.000 | 0.293929 | 0.079432 | 0.136849 | 0.451008 |

shows the sum of squares, the degrees of freedom, the mean square error, the F ratio and the significance level. Panel C of [Table IV](#) presents the beta coefficients, the t -values, the significance and the variance inflation factor (VIF) as well as Tolerance.

The outcomes of the regression model verify that gender significantly influenced accounting students' performance. Panels B and C of [Table IV](#) present the regression values for gender ($\beta = -0.187$ and $t = -2.926$, $p = 0.004$; and $f = 30.804$, $p < 0.000$) (without controls for other variables: $\beta = -0.297$ and $t = -3.672$, $p < 0.000$; and $f = 13.485$, $p < 0.000$). Consequently, the third null hypothesis was rejected. Panel C of [Table IV](#) also presents the VIF and Tolerance where multicollinearity does not appear to impair the stability of the model in this case.

Obviously, female accounting students outperformed male accounting students in the accounting programme of CBS. One possible explanation for the superiority of female accounting students can be interpreted culturally. In a conservative society such as Kuwait, male students have more freedom and independence than female students, which gives female students more time to put in studying (more effort) that has accordingly been reflected in their performance.

The results of the current study reflect the significance of gender on accounting students' performance, where any attempt to improve accounting education programmes by investigating the influential factors that might affect accounting students' performance, such as gender, should be considered as an indispensable effort. However, some societal barriers such as stereotypes could be behind the low rate of admittance to the accounting programme at CBS. Stereotypes made by students, their families and/or the administration of CBS, such as that female student cannot do well in accounting programme or there is no future for female accountants, could be the reason behind the low rate of admittance to the accounting programme at CBS.

The findings of the current study have proven that female accounting students can do well in the accounting programme. The awareness of these findings might encourage female students to major in accounting. The more female students' study and graduate from the accounting programme of CBS, the better accounting profession in Kuwait might be, which would be reflected in the enrichment of the whole Kuwaiti economy.

This result promotes the results of [Elias \(2005\)](#), [Fogarty and Goldwater \(2010\)](#), [Du \(2011\)](#), [Falon and Opstad \(2014\)](#) and [Magaji and Umar \(2015\)](#), who found that gender influences students' performance. However, this result is in disparity with [Doran et al. \(1991\)](#), [Murdoch and Guy \(2002\)](#), [Tickella and Smyrniosb \(2005\)](#) and [Alanzi \(2012, 2015\)](#), who concluded that students' gender is not a significant determinant of students' performance.

5. Summary and conclusions

The aim of this study was to compare the academic performance of female accounting students with their male counterparts and to assess the impact and association between accounting students' gender and their academic performance when they graduate from the

| | Overall GPA | Gender | Age | Nationality | College experience |
|--------------------|-------------|--------|---------|-------------|--------------------|
| Overall GPA | 1 | | | | |
| Gender | -0.297** | 1 | | | |
| Age | 0.122 | 0.066 | 1 | | |
| Nationality | 0.156 | 0.078 | 0.298** | 1 | |
| College experience | -0.632** | 0.210* | -0.110 | 0.78 | 1 |

Notes: **Correlation is significant at the 0.01 level (two-tailed); *correlation is significant at the 0.05 level (two-tailed)

Table III.
Pearson correlation

| Model | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | Std. error of the estimate | | | |
|--|-----------------------------|-----------------------|--------------------------------|----------------------------|-------------------------|-----------|-------|
| <i>Panel A: Model Summary</i> | | | | | | | |
| 1 | 0.690 ^a | 0.475 | 0.460 | 0.362416 | | | |
| Model | Sum of squares | df | Mean square | <i>F</i> | Sig. | | |
| <i>Panel B: ANOVA^b</i> | | | | | | | |
| 1 | | | | | | | |
| Regression | 16.184 | 4 | 4.046 | 30.804 | 0.000 ^a | | |
| Residual | 17.863 | 136 | 0.131 | | | | |
| Total | 34.047 | 140 | | | | | |
| Model | Unstandardized coefficients | | Standardized coefficients | | Collinearity statistics | | |
| | B | Std. error | β | <i>t</i> | Sig. | Tolerance | VIF |
| <i>Panel C: Coefficients^b</i> | | | | | | | |
| 1 | | | | | | | |
| (Constant) | 3.852 | 0.275 | | 14.001 | 0.000 | | |
| Gender | -0.185 | 0.063 | -0.187 | -2.926 | 0.004 | 0.947 | 1.056 |
| Age | 0.001 | 0.012 | 0.003 | 0.050 | 0.960 | 0.888 | 1.126 |
| Nationality | 0.247 | 0.075 | 0.217 | 3.313 | 0.001 | 0.898 | 1.114 |
| College experience | -0.187 | 0.020 | -0.610 | -9.468 | 0.000 | 0.930 | 1.075 |

Table IV.
Results of regression analysis

Notes: ^aPredictors: (Constant), gender, age, nationality and college experience; ^bdependent variable: Overall GPA

CBS in Kuwait. To achieve this aim, students were divided into two groups according to their gender. The results indicate that there was a statistically significant association between gender and accounting students' performance, which explained the superiority of the performance of the female students' group over the performance of the male students' group and explained the significant impact of gender on accounting students' performance, with and without controls for other factors.

The results of the current study reflect the significance of gender on accounting students' performance. The realization of the significance of gender on accounting students' performance would improve accounting education in general, which should be considered as an indispensable effort, as this improvement would be reflected in the enrichment of the accounting profession and the economic welfare of any country.

The study's findings have practical implications for how the administration of CBS and similar educational institutions should take action. The findings suggest that the administration of CBS should adopt policies that impose and encourage the acceptance of more female accounting students, as they perform well in accounting, and their academic performance is better than their male counterparts.

Generalization of the study's findings is a matter of concern, as the sample was comprised of a group of students from one educational institution alone. Yet, despite this fact, this study makes significant contributions to the existing knowledge in the area of students' performance by empirically supporting the theoretical expectation of the impact of gender on accounting students' performance. Accordingly, reexamining the impact of gender on students' performance in different educational environments is recommended. Another potential avenue for future research is to use the results of this study for another comparative research study.

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