Student Performance in Managerial Accounting: An Empirical Study at a U.S. Small Private College

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This study examines several determinants of student performance in Managerial Accounting at a small private college and contrasts its results with those of a published study at a larger public university. Intended grade has a significant association with student performance at both schools but intention to take the CPA exam is significant only at the small college. Students' work hours and course loads do not impact student performance negatively at the small college but they do at the larger university. Math and Writing abilities, Financial Accounting grade, and GPA are strong predictors of student performance at both institutions. Based on these results suggestions are provided for faculty.

Keywords: accounting program, accounting education, student success

INTRODUCTION

Several prior studies have explored various factors to explain student performance in college-level accounting courses. While many past studies on introductory accounting courses were conducted in the late 1980s-1990s at large public institutions, few studies were directed at smaller residential private colleges (e.g. Doran et. al 1991, Eskew & Faley 1988, Gist et. al 1996, Gul & Fong 1993, Tho 1994; Wooten 1998; Ibrahim 1989). Moreover, recent studies have included several new variables such as distraction, self-perceived ability, prior ability, as well as other factors that provide insights into student performance in upper level accounting courses (e.g. Maksy & Rodrieguez 2017). This study investigates the associations between these recently applied variables and student performance in a lower-level Managerial Accounting course at a small residential private college in the U.S.

A study of Managerial Accounting is an essential bridge to student success in the business field because it introduces students to the various methods to measure cost for a company as well as examines its impact on the company's financial positions. Typically, students are required to take Introductory Financial Accounting as a prerequisite to Managerial Accounting. Hence, both courses are required for all business students at most universities and colleges, and are considered to be difficult courses for most business students. However, we found that Managerial Accounting is generally more difficult than Financial Accounting. At the small private college, after numerous years of administering the AACSB assessment tests, student average score continues to hover around 62 -72% compared to Financial Accounting with average scores of 85-88%. For this reason, we believe a better understanding of student performance in

Managerial Accounting is worthwhile to explore. This study examines the association of the new variables, motivation, distraction, self-perceived abilities, and prior ability, and student performance. Additionally, we contrast the results with that of a study conducted at a larger public institution at which this course is also required, allowing us to explore whether a closer student-faculty learning environment at a small residential college changes the impact of these variables to student performance. Murdoch & Guy (2002), for example, find that students in small section of an introductory accounting class perform better than in a large section of the same class.

The remaining parts of the paper present a review of prior research followed by a discussion of the study objectives. Next, we discuss the variables and hypotheses used in the study followed by research methodology and its results. The paper ends with conclusions, recommendations, study limitations, and some suggestions for further research.

REVIEW OF PRIOR RESEARCH

Several researchers, using data from various universities, find evidence supporting that overall Grade Point Average (OGPA) is a significant predictor of performance in accounting courses (Ingram and Peterson 1987; Eskew and Faley 1988; Doran et al. 1991). Others find evidence that both OGPA and the grade(s) earned in the prerequisite course(s) as significant predictors of performance in the course under investigation (Maksy & Rodriguez 2017 and 2018; Hao and Maksy 2019, and Maksy & Yoon 2019). In Saudi Arabia, Al-Twaijry (2010) finds that performance in high school, achievement in pre-university mathematics, and the grade in the Financial Accounting course as strong predictors of performance in Managerial Accounting. In contrast, Gist et al. (1996) find no significant association between academic performance and performance in principles of accounting courses at the university level.

Accounting is a subject area that requires quantitative skills and several studies find that strong mathematical abilities help students succeed in accounting classes. Eskew and Faley (1988), Gul and Fong (1993), and Al-Twaijry (2010) suggest that students with mathematical backgrounds outperform students with weaker mathematical backgrounds. Yet Gist (1996) observe no significant association between mathematics and performance in the accounting course.

Prior studies examine the influence of motivation and effort on student performance. For example, Wooten (1998) finds that motivation significantly affects effort which in turn significantly affects performance in an introductory accounting course. Other studies focused on upper-level accounting courses use "the grade the student intends to earn in the course" as a proxy for motivation and find it to be significantly associated with student performance in various upper-level accounting courses (Maksy & Rodriguez 2017; Maksy & Yoon 2019; Hao & Maksy 2019.)

In recent years, there has been increased interest in studying the influence of intervening variables on student performance. Lynn and Robinson-Backmon (2005) find a significant adverse association between employment status and learning outcomes in upper-division accounting courses. They also indicate that a student's self-assessment of course learning objectives is significantly and directly related to grade performance. In contrast, recent studies find no significant negative associations between job hours, job type (if it is not related to accounting or business in general) or course load and student performance in various accounting courses (Maksy & Rodriguez 2017 and 2018; Maksy & Yoon 2019.) Al-Twaijry (2010) finds that students carrying more than 15 hours course load per semester perform better than others in a Managerial Accounting course. In contrast, Hao and Maksy (2019) find a significant negative association between course load and student performance in Advanced Accounting, an upper-level course.

These new variables and conflicting results motivate a second look at an introductory Managerial Accounting course along with an ability to contrast it with the results of a study conducted at a larger, public university offering the same course.

STUDY OBJECTIVES AND HYPOTHESES

Since motivation and effort has generally been positively associated with student performance, this study includes selected motivation factors to determine whether it affects student performance in the Managerial Accounting course. The authors also look at several factors which are commonly viewed as possibly distracting student's performance such as number of hours worked. Moreover, the study investigates the impact of four self-perceived abilities factors and student performance and whether students make accurate assessment of those abilities. Finally, the study investigates the impact of two specific measures of prior abilities on student performance, and also uses them as control variables while testing for the association between motivation, distraction, self-perceived abilities, and student performance in the Managerial Accounting course.

We use hypotheses H_1 to H_3 to test for the association between motivation and performance described in Appendix A. Hypotheses, H_4 to H_6 test the effects of distraction on student performance while H_7 to H_{10} examine the students self-perceived abilities and its impact on performance. Finally, H_{11} to H_{12} examine how prior abilities of the students impact their outcome in the Managerial Accounting course.

STUDY DEPENDENT VARIABLES

In addition to the 12 independent variables described above, the study uses two dependent variables. We use the course letter grade (A, B, C, etc.) as a measure of student performance (dependent variable, Grade). However, if the instructor does not use pluses and minuses for the letter grade, a student with a total percentage points of 80% and another with a total percentage points of 89% would earn a B and be considered having equal performance, even though the first student is one percentage point away from a C grade and the other student is one percentage point away from an A grade. As a result, we utilize an overall percentage as an alternative dependent variable (Points) defined as the overall total points earned by a student divided by the total possible points for the course (before any curving by the instructor).

RESEARCH METHODOLOGY

Survey Instrument and Sample

Besides the study variables, the survey instrument includes some demographic variables and other information. The survey was administered, in Fall 2018 and Spring 2019, to 46 of 49 students enrolled in two sections of the Managerial Accounting course at a U.S. small residential private college. The enrollment in each semester averaged 23 per section. The college enrolls approximately 745 students, and is considered to be one of the smallest AACSB accredited school. The instructor teaching the two sections provided data representing the two dependent variables (the 'letter grade,' and 'overall points' before any curving). For confidentiality purposes, performance data were matched with survey responses using student IDs only. We compare our results to the results in Maksy & Rodriguez (2018) study which was conducted at a larger public university that serves almost 12,000 students with a business school that enrolls about 2,100, or about 3 times the size of the small private college at which this study was conducted.

Table 1 presents descriptive statistics (minimum, maximum, mean, and standard deviation) of all variables used in the study. It is interesting to note that the mean of Intended Grade (IG) of 3.58 is higher than the mean of the Letter Grade of 2.78 earned in the course. It is also higher than the mean of each of the prior ability factors (the grade in Financial Accounting and overall GPA) – 3.38 and 3.27 respectively. It is even higher than the mean of each of the self-perceived ability factors (Writing, Math, Reading, and Listening) that have means of 2.76, 2.80, 2.67, and 3.00 respectively. This indicates that the students were overly optimistic about the grades they intended to earn in the Managerial Accounting course, which suggests students' overconfidence. In comparison, Maksy and Rodriguez (2018) study of performance determinants in a Managerial Accounting course at a New England public university report a Managerial Accounting course grade of 2.81 (which is just slightly higher than the average grade in this study, 2.78), GPA in the prerequisite Financial Accounting course of 3.40 (which is just slightly higher than in this study,

3.38), and overall GPA of 3.02 (which is lower than the OGPA in this study, 3.27). It is noteworthy that the negative difference between the average course letter grade and the average Financial Accounting prerequisite course grade for our sample is .60 and very close to the negative difference of 0.59 reported by Maksy and Rodriguez (2018). However, the negative difference of 0.49 between the average course letter grade and overall GPA is much higher than the negative difference of 0.21 reported by Maksy and Rodriguez (2018). This may imply that the students at a large public university likely has a lower average OGPA as compared to the private residential college. That is, assuming the same grade outcome for the Managerial Accounting course (2.78), the OGPA on average is 3.27 for the small private residential college as compared to OGPA of 2.99 for a large public school in New England. Though we cannot disaggregate whether the difference in OGPA is due to higher grade inflation at the small private college or students working harder (or getting more faculty help), a significant benefit exists for students who attend a smaller private school.

Typically, Managerial Accounting is well-known for being a difficult required business class, especially for those not majoring in accounting or finance. This may explain the large difference between the larger public institution and small private school when it comes to the difference between the average course letter grade and the average Intended Grade for the Managerial Accounting course. The *negative* difference of .80 between the average course letter grade and the average Intended Grade in this study is significantly higher (by 1.07) than the *positive* difference of 0.27 reported by Maksy and Rodriguez (2018). Perhaps, student expectations at a small residential college is much higher than at a larger public university. This is another indication that the students in this study were overly optimistic about the grades they intended to earn in the Managerial Accounting course, which again suggests students' overconfidence. Also in a closer student-faculty environment, students are better acquainted with faculty, thereby conflating acquaintance with greater optimism about their performance. Moreover, it may imply that students at a larger public university perceive their success in Managerial Accounting to be lower given that most students consider it to be a difficult course for non-accounting majors.

Hence, the overconfidence could be related to the environment at a small residential college, where students are encouraged to be successful in all their classes where they study together and feel comfortable seeking faculty help.

Data Analysis

To test the formulated hypotheses we use standard statistical analysis such as one-way analysis of variance (ANOVA), Pearson and Spearman's correlation coefficients and ordinary least square linear (OLS) regressions.

STUDY RESULTS

The analysis of the statistical results of the association between student performance and the four categories of independent factors; motivation, distraction, self-perceived abilities, and prior abilities are presented in the following five sections.

Motivation Factors Associated With Student Performance

As Tables 2 through 5 indicate, of the three motivation variables discussed in H_1 to H_3, Intended Grade (IG) is significantly associated with student performance at varying levels of significance depending on how student performance is measured. When student performance is measured by Letter Grade, the significance level is .10 under the ANOVA test (Table 2) and the regression test (Table 5) and .05 under the Pearson and Spearman correlations (Table 3). However, when student performance is measured as Points, which is a finer measure than Grade, the significance level becomes stronger: .05 under ANOVA and regression tests, and .01 under Pearson and Spearman correlations. As Table 4 indicates, after controlling for prior ability, as measured by the grade earned in the prerequisite Financial Accounting course (ACC 201 Grade) and OGPA, this significant association continues, but at a lower level (almost .10 when performance is measured as Grade and .05 when performance is measured as Points). These results

differ from the study conducted at a larger public institution where the IG effect disappears completely with no statistical significance when controlled for ACC201 Grade and OGPA effects while it continues to exist for the small private college. It appears that ACC201 Grade and OGPA drives student performance in the subsequent Managerial Accounting course at a larger public university, rather than motivated by IG.

Intention to take the CPA exam (ICPA) is also significantly associated at the .05 level with student performance under the Spearman correlation and at almost the same level (.05) under the Pearson statistics (Table 3) and at the .10 level under the regression test using both performance measures, Grade and Points. The private school shows a statistical association between ICPA and performance while the larger public university does not exhibit any relationship to ICPA. These results provide some evidence that smaller school may be advising students more closely regarding their future endeavors. However, the ANOVA test (Table 2) does not show any significant association between ICPA and student performance, however defined. As Table 4 indicates, after controlling for prior ability factors (ACC 201 Grade and OGPA) the significant associations under the correlations tests disappear, indicating that strong prior abilities override the motivation to take the CPA exam when related to student performance. Another confounding factor is whether the students are intending to be accounting majors. Only if they intend to go into accounting would they consider taking the CPA exam.

The third motivation variable, intention to attend graduate school (IGS) is not significantly associated with student performance (however defined) under any test. Since students typically take Managerial Accounting as sophomores or possibly first semester juniors it may be too early for them to consider their future beyond the undergraduate program. As expected, this explanation would apply to both a small private school as well as a larger, public university.

The results of this study, which exhibit significant association between IG and student performance and no significant association between IGS and student performance, are in agreement with several prior studies (e.g., Maksy & Rodriguez 2017 and 2018, and Hao & Maksy 2019.) It implies that the motivation factor at a small residential U.S. college displays similar effects as a larger, public university for IG and IGS. However, the results for the relationship between ICPA and student performance differ. It appears that students at a smaller school may become informed earlier in their academic career about the importance of taking the CPA exams to succeed in the accounting profession, thereby leading to a statistical relationship between the intention to take the CPA exams and performance.

Distraction Factors Associated With Student Performance

As Tables 2 through 5 indicate, none of the three distraction factors discussed in H_4 to H_6, has any significant negative association with student performance (however defined) under any of the four statistical tests used in the study. In fact, Table 3 shows some significant *positive* association between course load and student performance, but only when it is defined as Points, and only under the Pearson correlation, and at the lowest level of significance of .10. Furthermore, when controlled for the prior ability factors (ACC 201 Grade and OGPA), as Table 4 indicates, the significant *positive* association between course load and student performance disappears. This disappearance implies that the grade in Financial Accounting and overall GPA are the determining factors of the student performance earned in Managerial Accounting, i.e., regardless of how many courses per semester the students are taking, those who have high grades in the prerequisite Financial Accounting (ACC201 Grade) and high GPAs earn high grades in Managerial Accounting. The lack of negative associations between each of the three distraction factors and student performance, are in agreement with several recent studies (e.g., Maksy & Rodriguez 2017 and 2018, and Maksy & Yoon 2019.) Also, working while in college is not detrimental to student performance in the Managerial Accounting course at the private college. However, in contrast, it is significantly detrimental to student performance at a larger, public school. Also, at the large public school, job Type is significant at the .05 level relative to Grade while it is statistically significant at the .10 level relative to Points. Once controlled for the Financial Accounting class and OGPA, Job Hours becomes significant at the .10 level. These results imply that there is a negative association for students working at larger, public institutions while there is no effect for the private school. It may be related to better student advising by academic counselors and faculty at the smaller college. For example, the smaller college provides mid-term grades to

students that is recorded on the student academic record (though not on their transcripts). It provides a formalized method of alerting students about their academic progress, thereby, encouraging students to reassess their work hours should they earn low mid-term grades or to drop the course. Additionally, students with a mid-term grade lower than a C must meet with their advisors, who are given written suggestions by faculty as to how the student might improve their performance.

Self-Perceived Ability Factors Associated With Student Performance

The four self-perceived ability factors discussed in H_7 through H_{10}, have varying associations with student performance depending on how performance is defined and what statistical test is used. As Table 2 indicates, none of the four self-perceived abilities are significantly associated with student performance, however defined under the ANOVA test. As Table 3 indicates, Spearman correlations show significant association between Writing and student performance, but only when it is measured by Grade, and at the lowest level of significance of .10. Furthermore, when we control for the prior ability factors (ACC 201 Grade and OGPA), Table 4 indicates that the significant association between Writing and student performance disappears. Table 5 regression test demonstrates a significant association between Writing and student performance, however defined, at the .10 significance level. When examining the association between Math and student performance, Pearson and Spearman correlations display significance, at the .10 and .05 levels, respectively using both measures, Grade and Points. However, when controlled for prior ability factors (ACC 201 Grade and OGPA), Table 4 indicates that the significant association between Math and student performance disappears at the small private school, exhibiting similar behavior to that of a larger public university.

As shown in Tables 2 and 3, the ANOVA test and the correlation tests did not show any significant association between Reading and student performance, however defined for this study. But, interestingly, the regression test in Table 5 shows a significant *negative* association between Reading and student performance. The significance level of this association is .10 when performance is defined as Grade and .05 when defined as Points. It implies that students who reported that their reading abilities are Very Good or Good earned lower grades whereas students who reported that their reading abilities are Average (or even Poor) secured relatively higher grades. This seems to be a clear indication that students (particularly those with poor performance) severely overestimated their reading abilities.

As Tables 2, 3 and 5 indicate, none of the statistical tests used in the study showed any significant associations between Listening and student performance, however defined. In contrast, the larger school shows a .05 significance between Listening and student performance using both dependent variable measures. The Pearson correlation for the public university shows a .01 significance level between Listening and performance. Perhaps, students at larger institution believe their listening skills are better than writing or reading skills. We would need to conduct a more detailed evaluation as to the reasons for this interesting result.

In summary, the results from the former study at a larger public institution show a different association between perceived abilities and student performance on Writing, Reading and Listening. Writing showed a .10 significance for the small college while the larger institution showed no correlation using both Pearson and Spearman tests. The differences are also exhibited with Reading and Listening. Reading showed no relationship to performance for the small college using both performance measures, while the larger school showed a .05 significance using Points with the Spearman test, and both measures showed a .05 significance level for the Pearson test. Similarly, perceived Listening skills also exhibit .05 significance level for the larger university for both performance measures, while the relationship is nonexistent for the small private college. Moreover, the relationship did not disappear (for the larger school) after controlling for ACC201 Grade and OGPA, still indicating a .10 level using Grade and .05 using Points. Students at a larger, public school do not display the same confidence that exists with the private school counterparts.

Prior Actual Ability (Control) Factors Associated With Student Performance

The ANOVA test (in Table 2) and the regression test (in Table 5) do not show any significant association between ACC 201 Grade and student performance, however defined, but both Pearson and

Spearman correlations tests (in Table 3) show significant association (at .01) between ACC 201 Grade and student performance, however defined. The ANOVA test (in Table 2) shows significant association between OGPA and student performance, (at the .10 significance level when performance is defined as Grade and at the .05 when performance is defined as Points). The Pearson correlations test (in Table 3) shows significant association between OGPA and student performance, (at the .01 significance level when performance is defined as Grade and at the .05 level when performance is defined as Points). The Spearman correlations test (in Table 3) shows significant association (at .01) between OGPA and student performance, however defined. The regression test (in Table 5) does not show any significant association between OGPA and student performance, however defined.

The results of this study showing significant associations between the prerequisite course (ACC201) and student performance, are in agreement with the larger, public institutions in prior studies (e.g., Al-Twaijry 2010, Maksy & Rodriguez 2017 and 2018, Hao and Maksy 2019, and Maksy & Yoon 2019). The results of this study showing significant associations between OGPA and student performance, are in agreement with almost all prior studies mentioned in this paper. Therefore, we can generalize the relationship between the prerequisite course grade and student performance in the second accounting course, and similar association exist for overall GPA and student performance in Managerial Accounting.

CONCLUSIONS AND RECOMMENDATIONS

Similar to the larger public institution, the study finds that student performance at a small private school are impacted primarily by prior abilities, measured by Financial Accounting Grade (ACC201 Grade) and overall GPA (OGPA). As in past studies, students who are academically strong do well in Managerial Accounting. However, motivation has some bearing on their outcome in the course, and the results differ somewhat between larger and small institutions. Using Intended Grade (IG) as a measure of motivation, both schools show a strong correlation to student performance (using Grade the significance is .05 and using Points it equals .10). It differs when we control for prior abilities which indicates that IG response from the larger school has no association to student performance while the smaller school in this sample continues to exhibit statistical significance at the .10 and .05 for the dependent variable, Grade and Points, respectively. This implies that motivated students at the private school perform significantly better in the Managerial Accounting course than non-motivated students notwithstanding their prior abilities. Other differences between the two types of schools exist. Students appear more confident with their perceived abilities in writing and math at the small college, and they are unaffected by distractions as compared to students at a larger, public university.

In light of the above general conclusion, we recommend that accounting faculty should encourage their students to measure the student intention at the beginning of the semester, raising their awareness that being motivated by their intention are correlated to doing well in the class. We recommend giving this short survey to identify the students who have intentions to do well in Managerial Accounting (or any course). If the intent to excel exists, a faculty might be able to use methods to engage these students to keep them motivated. While a faculty at a small college might be able to target the entire class of 24 students, a professor at a larger institution might use the survey to identify the students who are interested in exceling in the course. These results are consistent with Batra & Klein (2020) who find that undergraduate business courses with class size of 27 or less benefit from various pedagogy that fits the students' learning style.

The results suggest that students are not distracted from working too many hours or taking too many classes at a small private school. This may be a result of more time advising students to ensure they do not overcommit. In comparison, students at a larger, public institution show some negative effects from these factors, implying they are left to make their own decisions regarding the number of hours they work or courses taken.

The study provides evidence that there is a strong significant association between students' self-perceived math abilities and their performance in the Managerial Accounting course. A small residential college allows faculty to interact more closely with students with lower abilities or lack confidence in math. This is possible at any institution, large or small, but the ability to work with students in a class of 24 is far

greater than one with 45 students. There is also some moderate significant association between students' self-perceived writing abilities and their performance in the Managerial Accounting course at the small college while none exists at a larger school.

Because of the strong significant association that exists between students' grades in the Financial Accounting course (ACC201 Grade) and OGPA and their performance in the Managerial Accounting course, accounting faculty might target students who earned lower grades in ACC201 and mentor them, knowing a priori, they will need more help, and especially if they are motivated to do well. This is certainly more doable at a smaller private school, than a larger public one. However, with the survey response faculty at a larger institution may be able to identify students who need help sooner rather than later.

The findings of the study are helpful in designing the Managerial Accounting course which is known to be difficult for most business students. A faculty could use some of the factors mentioned in the study to help design a course that will enhance learning among all levels of students.

STUDY LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This study is subject to some limitations. One limitation is that the study examines one small private college contrasted to a larger public institution examined in past studies. A more comprehensive study of several small, private schools might be helpful to determine whether other private schools exhibit similar characteristics. It will allow us to see if all private schools are alike or not. Another limitation is the small sample size relative to the number of independent variables analyzed and, hence, the results may not be as robust as they would have been if the sample were larger. Thus, another suggestion for further research is to replicate the study using a somewhat larger sample at the same school.

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APPENDIX A
STUDY FORMAL STATEMENTS OF HYPOTHESES

Motivation Factors

H_1: *There is a significant positive association between the grade the student intends to earn in the Managerial Accounting course and student performance in that course.*

H_2: *There is a significant positive association between the student's intention to take the CPA exam and student performance in the Managerial Accounting course.*

H_3: *There is a significant positive association between the student's intention to attend graduate school and student performance in the Managerial Accounting course.*

Distraction Factors

H_4: *There is a significant negative association between the student's average number of hours of work per week and student performance in the Managerial Accounting course.*

H_5: *There is a significant negative association between the student's job type (if it is not related accounting, or business in general) and student performance in the Managerial Accounting course.*

H_6: *There is a significant negative association between the number of semester courses a student is taking and that student's performance in the Managerial Accounting course.*

Self-Perceived Ability Factors

H_7: *There is a significant positive association between the student's self-reported writing ability and student performance in the Managerial Accounting course.*

H_8: *There is a significant positive association between the student's self-reported math ability and student performance in the Managerial Accounting course.*

H_9: *There is a significant positive association between the student's self-reported reading ability and student performance in the Managerial Accounting course.*

H_{10}: *There is a significant positive association between the student's self-reported listening ability and student performance in the Managerial Accounting course.*

Prior Ability Factors

H_{11}: *There is a significant positive association between the grade the student earned in the Financial Accounting course and student performance in the Managerial Accounting course.*

H_{12}: *There is a significant positive association between the student's overall GPA and student performance in the Managerial Accounting course.*

APPENDIX B

TABLE 1
DESCRIPTIVE STATISTICS OF THE STUDY VARIABLES

	N	Minimum	Maximum	Mean	Std. Deviation
Letter Grade[1]	46	0.00	4.00	2.78	0.891
Overall Points (in %)	46	19.00	93.00	75.72	12.968
Intended Grade[2]	46	2	4	3.58	0.621
ICPA[3]	31	0	3	1.87	0.885
IGS[3]	46	1	3	2.00	0.943
Job Hours	46	0	56	11.87	13.562
Job Type[4]	46	1	4	2.13	0.934
Course Load	46	3	7	5.38	0.936
Writing Ability[5]	46	2	4	2.76	0.766
Math Ability[5]	46	1	4	2.80	0.885
Reading Ability[5]	46	1	4	2.67	0.818
Listening Ability[5]	46	1	4	3.00	0.943
ACC 201 Grade[1]	45	1	4	3.38	0.658
OGPA (out of 4.0)	44	2.00	4	3.27	0.514

[1]A = 4.00; A- = 3.67; B+ = 3.33; B = 3.00; B- = 2.67; C = 2.00; D = 1.00; F = 0.00.
[2]An A 4.00; At least a B = 3.00; C is fine with me = 2.00
[3]No = 1; Maybe = 2; Yes = 3
[4]Do not work = 1; Other = 2; Business Related (but not accounting) = 3; Accounting related = 4.
[5]Very Good =4; Good =3; Average =2; Poor =1.

TABLE 2
ONE-WAY ANALYSIS OF VARIANCE
(All numbers are for Between Groups Only)

		Dependent Variables			
		Letter Grade (Grade)		**Overall Points % (Points)**	
Independent Variables	**DF**	**F Value**	**Sig.**	**F Value**	**Sig.**
Intended Grade	2/44	2.795	.072*	3.983	.026**
CPA	3/30	1.355	.278	1.298	.295
Grad School	2/45	0.820	.447	0.167	.847
Job Hours	21/45	0.666	.825	0.599	.880
Job Type	5/45	0.663	.654	0.968	.449
Course Load	5/45	1.080	.386	0.881	.503
Write	2/45	1.509	.233	0.696	.504
Math	3/45	1.678	.186	2.012	.127
Read	3/45	1.271	.297	1.094	.362
Listen	3/45	0.981	.411	0.617	.608
ACC 201 Gr	9/44	1.741	.116	1.092	.393
OGPA	28/43	2.051	.073*	2.539	.031**

*Significant at 10% level of significance using two tails test
**Significant at 5% level of significance using two tails test
***Significant at 1% level of significance using two tails test

TABLE 3
PEARSON/SPEARMAN CORRELATION COEFFICIENTS[a]

	Letter Grade	Points	IG	ICPA	Grad Sch IGS	Job Hours	Job Type	Course Load	Write	Math	Read	Listen	ACC 201 Gr.	OGPA
Letter Gr		.941***	.343**	.354*	.089	-.004	-.240	.211	.234	.262*	.141	.114	.441***	.444***
Points	.957***		.389***	.353*	-.011	-.022	-.236	.260*	.105	.266*	.023	-.020	.380***	.329**
IG	.313**	.402***		.071	.217	-.070	-.072	.061	-.125	.191	.030	-.217	.581***	.256*
ICPA	.379**	.431**	.041		.060	.363**	-.212	.365**	.145	.464***	.175	.154	.240	.340*
IGS	.128	.084	.231	.044		.071		.126	.123	.133	.259*	.150	.253*	.199
Job HRS	-.002	-.034	-.085	.314*	.140		.330**	.240	.220	.124	.275*	.226	-.028	.069
Job Type	-.201	-.243	-.081	-.080	.022	.499***		-.289*	-.022	-.119	-.173	-.064	-.092	-.222
C Load	.097	.173	.127	.327*	.158	.287*	-.017		.119	.091	.263*	.136	.051	.333**
Write	.249*	.154	-.082	.137	.130	.206	.059	.096		-.071	.724***	.554***	.007	.331**
Math	.319**	.363**	.192	.456***	.139	.178	-.094	.063	-.087		.125	.080	.509***	.507***
Read	.191	.160	.074	.173	.239	.247*	-.122	.216	.742***	.143		.461***	.154	.360**
Listen	.143	.033	-.237	.125	.154	.246*	.088	.041	.553***	.103	.451***		.017	.248
ACC 201 Gr.	.518***	.582***	.502***	.351*	.216	.145	-.086	.090	.063	.515***	.196	.001		.644***
OGPA	.508***	.523***	.320**	.353*	.227	.173	-.151	.248	.305**	.510***	.334**	.191	.693***	

a Pearson correlations are above the diagonal and Spearmen correlations are below the diagonal.
*Significant at 10% level of significance using two tails test
**Significant at 5% level of significance using two tails test
***Significant at 1% level of significance using two tails test

TABLE 4
PEARSON PARTIAL CORRELATION COEFFICIENTS
(CONTROLLING FOR ACC 201 Grade AND OGPA)

	Letter Grade	Points	IG	ICPA	IGS	Job Hours	Job Type	Course Load	Write	Math	Read	Listen
Letter Gr	1											
Points	.941***	1										
IG	.321*	.418**	1									
ICPA	.294	.321	-.099	1								
IGS	-.137	-.165	.182	.089	1							
Job HRS	-.100	-.087	-.067	.392**	.057	1						
Job Type	-.181	-.172	.078	-.171	-.112	.366*	1					
C Load	.224	.272	.144	-.348*	.275	.226	-.122	1				
Write	.139	.006	-.072	.114	.049	.100	-.035	.002	1			
Math	-.031	.106	-.167	.378*	.012	.094	-.105	.187	-.352*	1		
Read	-.135	-.261	-.034	.180	.320	.207	.001	.095	.794***	-.277	1	
Listen	.061	-.073	-.407**	.163	.038	.116	.019	.260	.464**	-.101	.341*	1

*Significant at 10% level of significance using two tails test
**Significant at 5% level of significance using two tails test
***Significant at 1% level of significance using two tails test

TABLE 5
REGRESSION ANALYSIS
(All numbers are for 46 Observations)

	Dependent Variables			
	Letter Grade		Overall Points %	
Independent Variables	t Coeff.	Sig.	t Coeff.	Sig.
Constant	-1.813	0.089*	-.510	0.617
IG	1.785	0.093*	2.493	0.024**
ICPA	1.871	0.080*	2.082	0.054*
IGS	-.438	0.667	-.717	0.484
Job Hours	-.602	0.555	-.547	0.592
Job Type	-.397	0.697	-.510	0.617
Course Load	.670	0.512	1.018	0.324
Write	1.778	0.094*	2.014	0.061*
Math	-0.515	0.613	0.046	0.964
Read	-2.063	0.056*	-2.546	0.022**
Listen	0.349	0.732	0.048	0.962
ACC 201 Gr	1.162	0.262	1.192	0.251
OGPA	0.481	0.637	-.364	0.721
Adj. R^2	0.309		0.434	
F	2.044	0.091*	2.789	0.029**

*Significant at 10% level of significance using two tails test
**Significant at 5% level of significance using two tails test
***Significant at 1% level of significance using two tails test