Factors Associated with Student Performance in Managerial Accounting: An Empirical Study at a New England Public University

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The grade the student intends to earn in the course, and intentions to take the CPA exam attend graduate school do not seem to motivate students to improve performance in the managerial accounting course. The n*umber of work hours, job type, and course load do not seem to have any negative effect on student performance. Students seem to make remarkably accurate evaluation of their reading and listening abilities and to some extent their math abilities. However, students having poor performance overestimated their writing abilities. Lastly, GPA and financial accounting grade were strong predictors of student performance in managerial accounting.*

INTRODUCTION

Past research studies have explored multiple factors (e.g., academic performance, aptitude, prior exposure to mathematics, prior exposure to accounting, age, gender, motivation, effort, computer games and applications, online homework management packages, and other intervening variables) that have been found to be associated with student performance in college-level courses. It is widely believed that motivation and effort significantly influence individual performance in college; however, as the review of prior research indicates, few studies have investigated their impact on required undergraduate accounting courses. The current study investigates the associations between selected motivation, distraction, self-perceived ability, and the prior ability factors and student performance in the undergraduate Managerial accounting course at a New England public university in the United States.

As proxies for motivation, the authors used the grade the students intended to earn in the Managerial accounting course, intention to take the Certified Public Accountant (CPA) examination, and intention to attend graduate school. As proxies for distraction, the authors used the number of hours of work per week, the type of job (whether or not related to accounting, or business in general) and the number of courses taken for the semester. The current study measured students' self-perceived abilities using their own self-reported math, writing, reading, and listening abilities. Students' prior abilities were measured by the actual grade earned in the Financial accounting course (pre-requisite), and by Overall Grade Point Average (OGPA). The dependent variable, the student performance, was measured in two different ways as follows: the letter grade for the course (hereafter referred to as 'Grade'), and the total overall points percent score (hereafter referred to as 'Points') for the course.

One of the motivations of this study is predicated on the belief that identifying factors that motivate students to perform well and factors that distract them from performing well may help us emphasize the motivation factors and discourage the distraction factors. Another purpose of the study is to provide empirical support to the intuitive notion that motivation does indeed lead to better student performance. The latter could help us determine whether students make accurate assessment of their own writing, math, reading, and listening abilities. If this were the case, significant association between their assessment of these abilities and their performance should be evident in the results; otherwise, this would be an indication that the students are not making accurate evaluation of their abilities, which could be detrimental to their success in college.

The remaining parts of the paper present a review of prior research, discussion of the study objectives, variables and hypotheses, research methodology, and results. The paper ends with conclusions, recommendations, study limitations, and suggestions for further research.

REVIEW OF PRIOR RESEARCH

Several studies have examined the association between various factors (e.g., general academic performance, aptitude, prior exposure to mathematics, prior exposure to accounting, motivation, effort, age, gender, and other intervening variables, including metacognition and active learning approaches) and student performance in college-level courses.

The OGPA has been used frequently as a proxy for prior academic performance and aptitude. An overwhelming majority of researchers, using data from various U.S. colleges, have found evidence supporting OGPA as a significant predictor of performance in accounting courses (Eckel & Johnson, 1983; Hicks & Richardson, 1984; Ingram & Peterson, 1987; Eskew & Faley, 1988; Doran et al., 1991; Maksy & Zheng, 2008; Maksy, 2012, 2014, 2017; Maksy & Wagaman, 2012, 2013, 2015; Alanzi, 2015; and Maksy & Rodriguez, 2017). In the finance discipline, researchers (Paulsen & Gentry, 1995; Chan et al., 1997; Sen et al., 1997; Didia & Hasnat, 1998; Marks, 1998; Van Ness et al., 2000; Johnson et al., 2002; Biktimirov & Klassen, 2008, and Maksy & Rezvanian, 2017) found OGPA as a strong predictor of grade performance in Financial management courses required of all business majors. Gupta and Maksy (2014) found OGPA as a strong predictor of student performance in an Investments course, as well as Maksy and Resvanian (2017) in an Introductory finance course. Wooten (1998) found that aptitude, as measured by the Scholastic Aptitude Test (SAT) score and grade history were significant variables in influencing performance of students in an introductory accounting course. U.S. research findings are supported in Australia by Jackling and Anderson (1998) and in Scotland by Duff (2004). Some exceptions to these results include Gist et al. (1996) who, using a different measure (pre-university examination performance), found no significant association between academic performance and performance in accounting courses at the university level. Also, in Wales, Lane and Porch (2002) found that performance in introductory accounting can partially be explained by reference to factors in the students' pre-university background; however, the authors also found these factors as not significant as students progressed to upper level accounting courses.

Managerial accounting is a required course for the accounting major in most colleges, and often a required course for any business major, requiring basic quantitative skills. Some of these basic skills are acquired through high school and prerequisite college courses such as Financial accounting. Several studies have investigated the impact of prior exposure to mathematics and accounting on performance in college accounting courses and the results are inconclusive. A number of studies (Baldwin & Howe, 1982; Bergin, 1983; and Schroeder, 1986) found that performance was not significantly associated with prior exposure to high school accounting education, while other studies (Eskew & Faley, 1988; Bartlett, et al., 1993; Gul & Fong, 1993; Tho, 1994; and Rohde & Kavanagh, 1996) found that prior accounting knowledge, obtained through high school education, was a significant determinant of performance in college-level accounting courses. In addition, there is ambiguity with regards to the influence of mathematical background on performance in accounting courses. For example, Eskew and Faley (1988), and Gull and Fong (1993) suggested that students with strong mathematical backgrounds outperform

students with weaker mathematical backgrounds. Seow et al. (2014) reported that prior academic achievement, admission interview, critical thinking, and mathematical aptitude were significantly associated with successful academic performance in an undergraduate accounting degree at a Singapore University. Alanzi and Alfraih (2017) found that accumulated quantitative knowledge has positive impact on academic performance in Cost accounting; however, Gist et al. (1996) did not report the same results. Furthermore, Guney (2009) suggested that grades in secondary education mathematics are a very strong determinant of performance in accounting but only for non-accounting majors.

The majority of researchers have observed strong associations between student performance in introductory accounting and their performance in non-introductory accounting courses, but there are some exceptions. For example, Canlar (1986) found evidence that college-level exposure to accounting is positively related to student performance in the first MBA-level financial accounting course. Additionally, Tickell and Smyrnios (2005) found that the best predictor of academic performance in any one year is the performance in the same discipline in the previous year. Maksy and Zheng (2008), Maksy and Wagaman (2012, 2013, 2015), and Maksy and Rodriguez (2017) found that OGPA and the grade in Intermediate accounting II are strong predictors of student performance in Advanced accounting, Auditing, and Senior seminar in accounting courses. Gupta and Maksy (2014) reported that OGPA and grades in Financial accounting and Managerial accounting courses were strong predictors of student performance in an Investments course. However, an exception to this was Doran et al. (1991) who reported surprising and counterintuitive results that performance in the Introductory accounting course has a negative impact on performance in subsequent accounting courses.

Most prior studies about the influence of motivation or the combination of motivation and effort on student performance show positive effect. For example, Pascarella and Terenzini (1991) reported that motivation and effort, among other factors, significantly influence students' performance in college. Paulsen and Gentry (1995) reported that students' academic performance in a large introductory Financial management course was significantly related to several motivational variables such as intrinsic and extrinsic goal orientations and task value, and learning strategy variables, including time, study, and effort. Wooten (1998) found that motivation significantly affects effort, which in turn significantly affects performance in an introductory accounting course. Lane and Porch (2002) suggested that other important factors like student motivation may explain student performance. Several studies involving different accounting courses have used the 'grade student intends to earn in the course' as a proxy for motivation, showing a consistent pattern of positive association with student performance. Some of these accounting studies involved participants taking Advanced accounting (Maksy & Zheng, 2008; Maksy & Wagaman, 2015; Maksy, 2017), Intermediate accounting (Maksy, 2012, 2014), Auditing (Maksy & Zheng, 2008; Maksy & Wagaman, 2012; Maksy & Rodriguez, 2017), and Senior seminar in accounting (Maksy & Wagaman, 2013). Finance courses with students taking Introduction to finance (Maksy & Rezvanian, 2017), and Investments (Gupta & Maksy, 2014) also have shown similar results.

Chan et al. (2016) developed an educational computer program to enhance intrinsic motivation and performance in accounting courses. Their results showed higher intrinsic motivation than with the use of Blackboard and other traditional paper forms. Brown et al. (2016) aimed to assess student perceptions on the implementation of guided reading questions to motivate and enhance student reading and adequate participation in class discussions or other course areas. Brown et al. (2016) found that student perception results demonstrated that the guided reading questions had a positive impact on student motivation, reading comprehension, effort level, and understanding of the material before attending class. Poh-Sun, and Suay-Peng (2016) used a mobile gaming app called Accounting Challenge (ACE) for learning accounting in a fun way, indicating that ACE won three international teaching awards. The ACE tool is free and allows students to learn accounting outside a classroom setting. The authors reported that the app received favorable reviews by users, and added that although the app was downloaded 23,230 times with users in 90 countries at the time of their study, that further investigations seem appropriate to identify and substantiate its academic benefits. Everaert et al. (2017) used first-year undergraduates to explore *deep learning* and *surface learning* (precedents and consequences of learning approaches, respectively) with motivation as precedent, and time spent and academic performance as consequences. They reported that

accounting students showed a higher score for deep learning over surface learning that lead to higher academic performance. The results also indicated a positive association between high intrinsic motivation and extrinsic motivation, and deep learning.

Prior studies about the effect of effort per se on student performance show conflicting results. For example, using self-reported data, Didia and Hasnat (1998) presented rather weak counter-intuitive evidence (for one of the two OLS models, but not for the ordered-probit models) that the more time spent studying per week the lower the grade in the introductory finance course; however, they did not control for OGPA. Using self-reported data, Nofsinger and Petry (1999) found no significant association between effort and performance in a Principles of finance course. Also, Biktimirov and Klassen (2008) found weak association between hits to course management system and grade in a finance course. In contrast, Johnson et al. (2002) utilize computerized quizzes and analyzed the effect of objectively measured effort on student performance in a Financial management course. These authors showed that, after controlling for aptitude, ability, and gender, effort (as measured by attempts and log time) remains significant in explaining the differences in performance. In addition, Rich (2006) used students' homework preparedness and unpreparedness in class as a proxy for effort and non-effort. Rich (2006) found significant positive association for the former and negative association for the latter with exam percent. More recently, Gupta and Maksy (2014) studied the effect of several effort factors (number of course study hours, overall study hours, homework score, class attendance, and class participation) on student performance in an Investments course. Gupta and Maksy (2014) found the number of course study hours, homework score, and class attendance to have varied levels of significance (in some cases lack thereof) depending upon how student performance was measured under ANOVA, Pearson and Spearman correlations, and OLS regression – including controlling for certain variables as part of the analysis.

Several prior studies also investigated various factors that distract students and cause them to have low performance or withdraw from college altogether. The results of some of these studies are expected but the results of some other studies are not. For example, in the accounting area, Paisey and Paisey (2004), and Guney (2009) demonstrated that there is a clear positive association between attendance and academic performance in accounting courses. Paisey and Paisey (2004) also reported that the most frequently cited reason for not attending classes was students' participation in part-time employment. Lynn and Robinson-Backmon (2005) found a significant adverse association between employment status and learning outcomes in upper-division accounting courses. Tessema et al. (2014) reported that students who work 10 hours or less per week are more satisfied and have higher OGPAs than students who work more than 10 hours per week. Alanzi (2015) found significant association between class attendance, college experience, and student performance in a Cost accounting course at a university in Kuwait. Fortin et al. (2016) investigated the reasons nontraditional students in several universities in Quebec, Canada, withdraw from undergraduate accounting programs. As expected, they found that the reasons include the following: returning to school after working for some time, enrollment in a non-first choice programs, dissatisfaction with program choice and courses, and low OGPA, the latter being the main reason for student withdrawal. Other factors found to influence withdrawal decisions were related to time management, and family responsibilities, especially for women. The authors suggested that students could benefit from university support that would enhance their learning strategies and improve student performance. Pavione et al. (2016) identified a number of factors influencing the process of teaching and learning according to accounting students in the state of Minas Gerais, Brazil. Those factors were *teacher's didactics* (how the teacher leads the class, interacts with students and provides for a learning environment), *content structure of the course,* desire to learn the subject (personal motivation), and *library resources* (institution support). The four highest scores related to low student performance were *lack of interest*, and *lack of dedication outside the classroom* (students), and *does not intend to address the concerns of students*, and *not mastering the subject matter to be explained* (instructors).

Chan, et al. (1997), on the other hand, found no significant association between performance in a Financial management course, attendance, credit hours enrolled, and number of weekly work hours. Didia and Hasnat (1998) found strong positive association between number of credit hours enrolled in the semester and course grades. Wooten (1998) found no significant association between work, family, and

extra-curricular conflicts and students' performance in an introduction to accounting course. Van Ness et al. (2000) found no association between students' full-time or part-time status and grades in a Principles of finance class. However, the authors found that students who are enrolled in an online class are more likely not to complete the course. This appears to be counter-intuitive because the Internet course is designed to give students more control over their learning in terms of very flexible deadline for assignments and one full year to complete the course. Rich (2006) reported significant negative association between class absences and being late to the class, and exam percent. Maksy and Zheng (2008), Maksy (2012, 2014, 2017), Gupta and Maksy (2014), Maksy and Wagaman (2012, 2013, 2015), Maksy & Rezvanian (2017), and Maksy & Rodriguez (2017) found no significant negative association between the number of hours of work per week and student performance in several accounting, auditing, finance, and investment courses.

Age and gender are two demographic variables that received less attention than those factors discussed above, but most of the studies related to age and gender produced conflicting results. Some studies showed that younger students performed better than older students but other studies showed opposite results. Also, some studies indicated that female students perform better than male students but other studies showed opposite results. For example, in the field of accounting, Bartlett et al. (1993) and Kohl and Kohl (1999) suggested that younger students have better performance, particularly at the senior university level. However, Schrouder and Rhodd (2013) reported that older and more experienced students perform better than younger and less experienced students in a Public Administration course. With respect to gender, Mutchler et al. (1987) found that female students score significantly higher than male students. Gracia and Jenkins (2003) pointed out a significant difference in favor of the performance of female students over male students in Wales. Almunals et al. (2014) reported that females perform better than males in the accounting major. They also found other factors significantly associated with the performance of students majoring in accounting, including high school major (science majors perform better than humanities majors), marital status (married students perform better than single students), frequency of doing homework, class participation, peer interaction, and number of days studying before the exam (the higher the frequency the higher the performance). However, some studies indicated that male students perform better than female students, but the results are either insignificant (Lipe, 1989) or only hold true for introductory courses (Doran et al., 1991). Sen et al. (1997) showed that female students performed worse than male students in Principles of finance courses at two different mid-western U.S. universities.

Most studies have shown that the age and gender of students have no effect on students' performance. For example, Chan et al. (1997), Didia and Hasnat (1998), and Van Ness et al. (2000) found no significant association between grade in an introductory finance course and gender or age of students. Alanzi (2015) found that gender, age, nationality, scores and majors in high school, grades in prerequisite courses, and OGPA in college have no significant association with student performance in Cost accounting. Jenkins (1998), and Lane and Porch (2002) concluded that age is not a significant determinant of performance in Auditing and Management accounting courses. Tyson (1989) and Buckless et al. (1991) demonstrated that gender effect disappears after controlling for general academic ability. Henebry and Diamond (1998) and Johnson et al. (2002) also did not find any significant association between a finance principles course score and gender. However, Henebry and Diamond (1998) showed that students earn significantly higher grades in courses taught by female instructors. This difference was not attributable to adjunct, tenure track, or tenured status of instructors. Gammie et al. (2003) found very little indication of performance differential between males and females throughout the degree program.

There has also been increased interest in studying the influence of intervening variables on student performance. Bartlett et al. (1993) concluded that very few of the educational, demographic or financial characteristics variables appear to have a significant influence on student performance in university accounting examinations. In recent years, several studies have shown that metacognition attributes have positive effects on student performance. Metacognition is frequently described as 'thinking about thinking' and includes knowledge about when and how to use particular strategies for learning or for problem solving. Paulsen and Gentry (1995) found that academic performance in a large introductory

financial management class was significantly related to control over learning, test anxiety, self-efficacy, elaboration, organization and metacognition. Gracia and Jenkins (2003) observed that students who actively demonstrated commitment and self-responsibility towards their studies tended to do well in formal assessments. Lynn and Robinson-Backmon (2005) indicated that a student's self-assessment of course learning objectives is significantly and directly related to grade performance. Schleifer and Dull (2009) addressed metacognition in students and found a strong link between metacognitive attributes and academic performance. Lin and Songtao (2016) examined the impact of metacognitive awareness (measured by Learning Smart, an online learning tool supplemented with the textbook) on class performance in financial accounting courses and found that students with greater metacognitive awareness performed better.

Several prior studies also investigated the effect of *active learning* versus *passive learning* approaches on student performance with the majority showing that active learning approaches have much more positive effect on student performance than passive learning. For example, Andres (2017) examined active learning using Kolb's experiential learning, Pintrich's student learning motivation, and cognitive load theories and found that active learning was a positive predictor of course grade, reducing the negative relationship between course difficulty on learning motivation and course grade. Dutra de Oliveira Neto et al. (2017) investigated the performance of students from a public university in Brazil that used the *flipped classroom* and found that it improved student performance and that students approved of it as an appropriate teaching strategy. Riley and Ward (2017) examined the effectiveness of active learning, cooperative active learning, and passive learning methods in an Accounting Information Systems course. Their results indicated that active learning enhance student performance, especially for those students who work individually. Wynn-Williams et al. (2016) examined deep and surface approaches to learning in a university Intermediate-level accounting class that used business cases in group presentations. Their results supported the claim that students focus on what is required; hence, concluding that if deeper approaches to learning are desirable, assessments would likely need to reward such behavior.

While prior research has been largely inconclusive or replete with conflicting results, it is not the purpose of this study to resolve all those conflicts. The authors' objective in the current study, is to provide additional insight on those areas in which there have been some general consensus. Since motivation and effort usually have been positively associated with student performance, the authors aimed to test whether some new selected motivation factors affect student performance in the Managerial accounting course. The current study also looked at several factors which are commonly viewed as possibly distracting students from performing well and tested whether they indeed are negatively affecting student performance. Moreover, the study investigated the impact of four self-perceived abilities factors and student performance and whether students make accurate assessment of those abilities. Furthermore, the current study investigated the impact of two specific measures of prior abilities on student performance, and used them as control variables while testing for the association between motivation, distraction, and self-perceived abilities factors and student performance in the Managerial course.

STUDY OBJECTIVES AND HYPOTHESES

The *first objective* of this research is to study the association between three selected motivation factors (the grade the student intends to earn in the course, the student's intention to take the CPA examination, and the student's intention to attend graduate school), and the student's performance in the AC 212 Managerial accounting course at a New England public university in the United States. The authors hypothesized that there are positive and significant associations between those motivation factors and student performance. That is, students who intend to earn higher grades, take the CPA exam, or attend graduate school are motivated to perform well and do perform well in the course to achieve their intentions. Coe (2016) surveyed upper-level accounting students from six different academic institutions in Iowa, and in Illinois, about the several factors that may affect their intention to take the CPA exam as

soon as they are eligible. Coe (2016) found the following factors with positive association: option to sit for the CPA exam after completing 120 credit hours of education versus 150 credit hours, self-efficacy, attractiveness of passing the CPA exam, perception of social support from family and friends, access to a role model who is a CPA, perceptions of psychological and functional support from faculty, and protean career attitude. In the current study, we asked students whether they intend to sit for the CPA exam. We assumed that those who answered "yes" instead of "no" or "maybe" were motivated to gain some or all of the factors indicated by Coe (2016). A similar argument could be made for intention to attend graduate school, since most of these factors may be gained by attending graduate school.

The *second objective* is to study the association between three distraction factors (the student's number of working hours per week during the semester, the student's number of courses taken in the semester, and the student's job type - whether or not it is related to accounting or business in general, and the student's performance in the AC 212 Managerial accounting course). Intuitively, the higher the number of work hours per week, the less time the student will have to study for the course resulting in lower course grade. Furthermore, it is likely that the performance of a student taking higher number of courses will be affected negatively because the student may not be able to devote sufficient number of hours of study to the course. Additionally, if the student's job is not related to accounting or business in general, the student's grade in the AC 212 Managerial accounting course will be lower than if the student's job is related to one of these areas. In light of the prior discussion, the authors hypothesize that if the student's number of work hours per week is higher, and/or the number of courses taken in the semester is higher, and/or the student's job is not related to accounting or business in general, there will be a significant *negative* association between these distraction factors and the student's performance in the AC 212 Managerial accounting course. The potential exists for distraction factors to offset each other, thereby cancelling out any single factor effect. For example, a student who works higher number of hours per week may take fewer courses, and vice versa, so that there is no negative effect on performance. For this reason, the authors tested the effect of each distraction factor on student performance while controlling for the other two factors. The authors also investigated the associations among the distraction factors themselves.

The *third objective* is to study the associations between students' performance in the AC 212 Managerial accounting course and their current self-perceived abilities in writing, math, reading, and listening. A positive association between self-reported abilities and performance may indicate that students make reasonably accurate assessment of their abilities. A lack of positive and significant association between certain abilities and performance could be due to the possibility that those abilities are not relevant to the performance in the AC 212 Managerial accounting course or to students' inaccurate assessment of their abilities. Before the students filled out the questionnaires, they were instructed to be as honest as possible in their answers so students who plan to take this course in the future would benefit from the results of this research. The authors assumed that the students followed those instructions, and thus, hypothesized positive and significant associations between students' self-perceived abilities and their performance in the AC 212 Managerial accounting course.

The *fourth objective* is to study the association between students' performance in the AC 212 Managerial accounting course and their grade in the pre-requisite Financial accounting course, and their OGPA. Based on the results of several prior studies, the authors hypothesized that there are positive and significant associations between these prior actual abilities and student performance. Thus, the hypotheses are that students who earned higher grades in Financial accounting, or have high GPAs, will earn higher grades in the AC 212 Managerial accounting course, and vice versa.

STUDY DEPENDENT VARIABLES

In addition to the 12 independent variables described under the study objectives above, the study uses two dependent variables. The authors used the letter grade in the course (A, B, C. etc.) as the student performance dependent variable; however, the letter grade treats a student earning the lowest end of the grade range as having the same exact performance as that of a student earning the highest end of the grade

range. For example, a student with a total percentage points of 80 and another with a total percentage points of 89 would be considered having equal performance since both students receive a B for the course, 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, the authors also used overall points percentage earned by a student in the course as a dependent variable.

STUDY HYPOTHESES

The study tests one hypothesis for each independent variable. The formal statements of all 12 hypotheses are presented (classified under four categories of factors) in APPENDIX A. To prevent redundancy, each hypothesis is presented in the alternate form only.

RESEARCH METHODOLOGY

Survey Instrument

The authors modified a list of survey questions, from Ingram et al. (2002) to include, besides the study variables, some demographic and other information. For ethical, confidentiality, and potential risk issues pertaining to participants, the authors had to submit a comprehensive 22-page application (including a copy of the survey instrument) to the University's Institutional Review Board (IRB) for approval. As part of this process, the authors showed satisfactory completion of program and good standing with either the National Institute of Health (NIH) or the Collaborative Institutional Training Initiative (CITI) intended to protect human research participants. The certificate of completion for either course was required to be submitted with the application to the University's IRB.

Study Sample

In fall 2017, the authors were able to collect the data on the survey instrument from 151 students (usable samples) enrolled in the seven sections of the undergraduate Managerial accounting course offered at Central Connecticut State University (CCSU). CCSU serves nearly 11,800 students - 9,800 undergraduates, and 2,000 graduates. Female students account for 48 percent of the student population; males, 52 percent. The School of Business enrolls approximately 2,100 students. The university is located near Hartford, CT, and is centered at only a two-hour driving distance away from Boston and New York City.

All instructors and researchers involved in the current study did not have access to the completed questionnaires and consent forms, except for the primary researcher only after final grades were released to students by the registrar office. Until then, the data was kept secured by the secretary of the accounting department being the only person with access to the data. Information made available to the primary researcher by the registrar office after grades were released, was used to verify some of the answers provided by participants (e.g., grade obtained in prerequisite course, and OGPA). The authors worked with multiple Excel spreadsheets where data was matched and actions taken to solve for discrepancies. There were minor differences in the OGPA, most of which were due to the fact that several students rounded their GPA from two decimal places to one decimal place. The authors used two decimal places for all students.

Data Analysis

To test the formulated hypotheses in APPENDIX A, the researchers used a one-way analysis of variance (ANOVA), Pearson and Spearman correlation coefficients, partial correlations, and ordinary least square (OLS) linear regressions.

STUDY RESULTS

TABLE 1 presents descriptive statistics (e.g., minimum and maximum value, mean, and standard deviation) for each of the 17 variables of the study. TABLE 1 shows an average grade in the Managerial accounting course of 2.81which is significantly lower than the average Grade of 3.40 in the Financial accounting course (a pre-requisite for the Managerial accounting course) and also lower than the OGPA of 3.02, but nonetheless, surprisingly higher than the average Intended Grade of 2.54. In comparison, Didia and Hasnat (1998) study of performance determinants in a finance course reported a Financial management course grade of only 1.85, GPA in a pre-requisite course of 2.71, and OGPA of 2.61. It is interesting to note that the difference of 0.59 between the average course letter grade and the average Financial accounting pre-requisite course grade is much smaller than the comparable difference of 0.86 reported by Didia and Hasnat (1998). Also, the difference of 0.21 between the average course letter grade and OGPA is much lower than the difference of 0.76 reported by Didia and Hasnat (1998). No comparable data is available in the literature for the difference between the average grade in the course and the average Intended Grade.

The following is an analysis of the study results by the type of factors investigated (motivation, distraction, self-perceived abilities, and prior abilities) taking all observations into account.

Motivation Factors Associated with Student Performance

As TABLES 2 and 3 indicate, of the three motivation variables discussed in H_1 to H_3, only Intended Grade (IG) is significantly associated (at the 01 level of significance) with student performance (however defined) based on ANOVA, Pearson and Spearman correlations. The regression analysis test (TABLE 5) showed no significant association between IG and student performance, however defined. Furthermore, as TABLE 4 indicates, when the authors controlled for the prior ability factors (Financial accounting grade, and OGPA) the significant associations between IG and student performance shown under Pearson and Spearman correlations totally disappear. Intention to take the CPA exam or to attend graduate school are not significantly associated with student performance (however defined) under all tests. The disappearance of the significant association between IG and student performance after controlling for the prior ability factors, indicates that IG per se is not motivating the student to work hard and earn higher grades. The higher grades obtained are a function of the prior ability factors and not the intention to earn higher grades. While these results are in agreement with some prior studies (Maksy 2012; and Maksy & Rodriguez, 2017), they are not in agreement with some prior studies (Maksy & Zheng, 2008; Gupta & Maksy, 2014; and Maksy, 2017) that reported significant association between IG and student performance, even after controlling for the prior ability factors. The lack of significant associations between intention to take the CPA exam or intention to attend graduate school and student performance observed in this study is consistent with the results reported by Maksy (2012, 2017), Gupta and Maksy (2014), and Maksy and Rodriguez (2017).

Distraction Factors Associated with Student Performance

As TABLES 2, 3, and 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 the ANOVA, Pearson and Spearman correlations, and OLS regression tests. However, as TABLE 4 indicates, when the authors controlled for the prior ability factors (Financial accounting grade, and OGPA) Job hours had a negative association with student performance with a .10 significance level when student performance is defined as Grade, and a .05 level when student performance is defined as Points. This means that of the students who have the same grade in Financial accounting and about the same OGPA, those who work more hours perform worse than those who work less hours or do not work at all. This lends support to H_4. The one-way ANOVA test (TABLE 2) shows significant association (at the .05 level) between Job Type and student performance, however defined. Because of the nature of the ANOVA test, we cannot tell whether the association is positive or negative. However, Spearman correlations (TABLE 3) and the Pearson partial correlations (TABLE 4) give us a clue that the significant association shown by the ANOVA test

between Job Type and student performance is negative because those correlations in TABLES 3 and 4 show negative associations, albeit at the lowest significance level of .10, between Job Type and student performance. This means that students who work in accounting-related jobs, or business but not accounting-related jobs, perform worse than students who work in jobs that are not accounting or business related. Because this result is surprising and does not support H_5, the authors ran a cross tabulation test (which is not reported herein) between Job Type and Grade and uncovered the following reasons for the negative association: (1) of the 151 students taking the survey, only seven, or less than 5%, work in accounting-related jobs and of those seven, two earned an *A* grade and five earned a *B* grade in the course; (2) of the 151 students taking the survey, 44, or 29%, work in business but not accounting-related jobs, and of those 44, six earned an *A*, 18 earned a *B*, 14 earned a *C*, two earned a *D*, and four got an *F*; and most importantly (3) of the 151 students taking the survey, 74, or 49%, work in non-accounting or non-business-related jobs and of those 74, 37% earned an *A*, 31% earned a *B*, 28% earned a *C*, only one student got a *D*, and two students got an *F*. Because most of the students taking managerial accounting are sophomore students, they probably work in the school library or cafeteria, or at local restaurants outside the school. As a result, these students classified their job type as "other." In light of this analysis, the authors cannot make a general statement that working in accounting or business-related jobs will negatively affect student performance or will not positively affect student performance in the Managerial accounting course. However, the authors can make a general statement that working in non-accounting or non-business related jobs will not negatively affect student performance. The one-way ANOVA test (TABLE 2) showed that there is a significant (and presumably *positive)* association (at the .01 level) between Course Load and student performance, however defined. Also, the Spearman correlation test (Table 3) showed that there is some significant *positive* association (only at the .10 level when student performance is defined as Grade) between Course Load and student performance. However, as TABLE 4 indicates, when the authors controlled for the prior ability factors (Financial accounting grade, and OGPA), the significant associations between Course Load and student performance shown under the Spearman correlation test totally disappeared. Because of that disappearance, and because no other test showed any significant association between Course Load and student performance, the authors can generally state that Course Load does not affect student performance.

As TABLE 6, Part A indicates, each distraction factor has no significant *negative* effect on student performance (however defined) even when the authors controlled for the other two distraction factors. As TABLE 6, Part B indicates, controlling for the other two distraction factors, as well as the two prior actual ability factors, the results remain the same. The results observed in this study, indicating significant negative association between Job hours and student performance, when prior abilities are controlled for, are not in agreement with some prior studies (Maksy & Zheng, 2008; Gupta & Maksy, 2014; Maksy 2017; Maksy & Rezvanian, 2017; and Maksy & Rodriguez, 2017) that found no significant associations whatsoever between Job hours and student performance, before or after controlling for the prior ability factors. The result observed in this study that there is a significant negative association between Job Type and student performance (albeit in only two out of five tests or when prior abilities are controlled for, particularly when student performance is defined as points) is not in agreement with the same prior studies (Maksy & Zheng, 2008; Maksy, 2012, 2017; Gupta & Maksy, 2014; Maksy & Rezvanian, 2017, and Maksy & Rodriguez, 2017) that found no significant association between Job Type and student performance before or after controlling for the prior ability factors. The result obtained in this study that there is no significant association between Course Load and student performance is consistent with the results reported by Maksy and Zheng (2008), Maksy (2012, 2017), Gupta and Maksy (2014), and Maksy and Rodriguez (2017). However, this result is in disagreement with the result reported by Maksy and Rezvanian (2017), who found some significant positive correlations (albeit at only the .10 level) between Course Load and student performance, even after controlling for the prior ability factors.

Self-perceived Abilities Factors Associated with Student Performance

As TABLES 2 and 3 indicate, of the four self-perceived ability factors discussed in H_7 to H_{10}, Reading and Listening have significant associations (at the .05 significance level) with student

performance, however defined. Some minor exceptions to this statement are (1) the Spearman correlation test does not show any significant association between Reading and student performance when it is defined as Grade, (2) the ANOVA test shows significant association (at the .10 significance level) between Listening and student performance when it is defined as Grade, and (3) the Pearson correlation test shows significant association (at the .01 significance level) between Listening and student performance when it is defined as Points. However, as TABLE 4 indicates, when the authors controlled for the prior ability factors (Financial accounting grade, and OGPA), the significant associations between Reading and student performance defined as Grade totally disappeared, and the significant associations between Listening and student performance defined as Grade is weakened to the .10 level of significance. As TABLE 3 indicates, the Pearson Correlations test shows significant association (at the .05 significance level) between Math and student performance, but only when it is defined as Grade. The Spearman correlation test shows the same significant association (at .05) between Math and student performance, however defined. As TABLE 5 indicates, the regression test does not show any significant association between Math, Reading, or Listening and student performance, however defined. The only significant association that the regression test shows is a *negative* association (at the .05 significance level) between Writing and student performance when defined as Grade. In light of the above analysis, the authors can generally state that the students made remarkably accurate evaluations of their reading and listening abilities. This result is not in agreement with Gupta and Maksy (2014), and Maksy and Rezvanian (2017) who found no significant association between each of these two self-perceived abilities and student performance (however defined) under any test. Maksy and Zheng (2008) found significant association (at the .01 significance level) between each of these two abilities and student performance (but only when defined as Points in the ANOVA test). Maksy (2012, 2017) found significant associations (at the .05 significance level) between Listening and student performance (but only when it is defined as Points and only under the ANOVA test). Also, Maksy (2017) found significant associations between Reading and student performance (at .10 significance level when it is defined as Grade, and at the .05 significance level when it is defined as Points), but only under the ANOVA test. Similarly, Maksy and Rodriguez (2017) found significant associations between Reading and student performance (at the .10 significance level when defined as Grade), but only under the ANOVA test. The result reported in this study that the significant association under the correlations tests between Math and student performance totally disappeared after controlling for the prior ability factors, is consistent with the results reported by Gupta and Maksy (2014), Maksy and Rezvanian (2017), and Maksy and Rodriguez (2017). However, that result is not in agreement with Maksy (2012), who reported significant association between Math and student performance (however defined) even after controlling for the prior ability factors. Maksy and Zheng (2008), and Maksy (2017) found no significant association between Math and student performance, however defined. The significant negative association reported in this study between Writing and student performance, only under the regression test and only when student performance is defined as Grade, is not in agreement with any of the six studies mentioned above. Four of the studies mentioned above (Maksy & Zheng, 2008; Maksy, 2012, 2017; and Gupta & Maksy, 2014) found no significant associations under any test between Writing and student performance, however defined. Maksy and Rodriguez (2017) found significant association (only at the .10 level) between Writing and student performance, but only under the ANOVA test and only when student performance is defined as Grade. Also, Maksy and Rezvanian (2017) found significant association (only at the .10 significance level) between Writing and student performance (under the regression test when student performance is defined as Points) and after controlling for the prior ability factors whether student performance was defined as Grade or Points. In light of the above discussion, the authors can generally state that the students made somewhat accurate evaluations of their math abilities but students with poor performance in the course way overstated their writing abilities.

Prior Actual Ability (Control) Factors Associated with Student Performance

The ANOVA test (TABLE 2) and Pearson and Spearman correlation tests (TABLE 3) show significant associations (at the .01 level) between the Financial accounting grade and student

performance, however defined. Nevertheless, the regression tests (TABLE 5) does not show any significant association between the Financial accounting grade and student performance, however defined. While the ANOVA test (TABLE 2) does not show any significant associations between OGPA and student performance (however defined), Pearson and Spearman correlation tests (TABLE 3) and the regression test (TABLE 5) show significant association (at the .01 significance level) between OGPA and student performance, however defined. The strong significant associations between the grade in the prerequisite course, as well as OGPA and student performance in this study, are consistent with the results reported by all the six studies mentioned under the results of the self-perceived abilities factors discussed in the previous paragraph.

CONCLUSIONS AND RECOMMENDATIONS

One general conclusion of the study is that students who reported that they intend to earn a high grade (such as an *A* or at least a *B*) did indeed perform well and earned those high grades, and vice versa. As TABLE 1 shows, the average Letter Grade of 2.81 was actually higher than the average Intended Grade of 2.54. However, the high grades obtained seem to be a function or prior abilities (measured by the grade in Financial accounting, and OGPA) and not by motivation to earn high grades. That is why controlling for those prior abilities made the significant correlations between Intended Grade and student performance (however defined) disappear. Speaking of motivation, all tests also show that intention to take the CPA examination and intention to attend graduate school do not seem, in this study, to be motivating factors for the students to perform well in the Managerial accounting course.

In light of the above general conclusion, the authors recommend that accounting faculty should consider other factors (other than those tested in this study) to motivate students to put the time and effort to study hard and to do well in the Managerial accounting course. Accounting researchers should also think of other motivating factors and test whether they are indeed motivating the students to perform well in the Managerial accounting course.

Another general conclusion from the statistical tests of this study, is that the distraction variables (i.e., number of hours of work per week, working in non-accounting, or non-business- related jobs, and number of courses taken in the semester) have no significant negative associations with student performance. That is, they do not distract the students and prevent them from earning higher grades in the Managerial accounting course. Because a very small percentage (less than 5%) of the students reported that their job type is accounting-related, and almost half the students reported that their job type is non-accounting and non-business related and of those latter group more students got A's and B's than C's and D's, the statistical tests showed negative association between accounting and business-related jobs and student performance and positive association between non-accounting and non-business related jobs and student performance. However, because of the very small number of students working in accounting-related jobs, the authors cannot make the conclusion that accounting-related jobs negatively affect student performance, or that non-accounting and non-business-related jobs positively affect student performance.

In light of the above general conclusions, the authors recommend that accounting faculty need not encourage their students to work as few hours per week as possible to earn high grades in the Managerial accounting course. Furthermore, if students have to work a significant number of hours anyway to support their families, accounting faculty need not stress to the students that they must work in accounting-related or business-related jobs. In addition, accounting faculty need not encourage those students to take as few courses per semester as possible to earn high grades in the Managerial accounting course. Accounting faculty, when advising students with poor performance, need to think of causes (e.g., poor study habits, poor time management, etcetera) other than too many working hours per week, or jobs that are non-accounting or non-business related, or too many courses taken per semester to pinpoint to those students.

A third general conclusion of the study is that, Reading, Listening and, to some extent, Math abilities have significant association with student performance. On the other hand, students' estimates of their own Writing abilities have no significant association with students' performance. On the contrary, those estimates actually have significant *negative* association, albeit in only one of the four tests used in the

study (the regression test) and student performance in the Managerial accounting course. This is an indication of the possibility that students, particularly those that have poor performance in the course, are providing inaccurate evaluation of their own writing abilities. The students' inability to accurately evaluate their writing abilities can have negative consequences on their performance because they may not seek help, for example, by going to the Writing Lab at the school.

In light of this general conclusion, the authors recommend that the college of business faculty in general, and accounting faculty in particular, should encourage students to make more accurate evaluations of their writing, and also their math abilities, and to seek help for those areas, for example, by going to the Writing Lab, and the Math Lab at the University. Another recommendation for faculty, is to encourage their students to read the chapters and other assigned materials from beginning to end, and to listen attentively to the lecture, and to ask for clarification, if necessary. Also, students should be advised not to be distracted by using their cell phones and/or laptops, if allowed in class. As support for this advice, faculty can indicate the existence of empirical research documenting the strong associations between Reading and Listening abilities and student performance in the Managerial accounting course.

As expected, and as shown in prior studies with respect to other courses, a fourth general conclusion of the study is that students with high prior actual ability end up earning high grades in the Managerial accounting course. Specifically, the study provides evidence that there is a strong significant association between students' grades in the Financial accounting course and OGPA and their performance in the Managerial accounting course.

In light of this general conclusion, the authors recommend that accounting faculty encourage their students to study hard to earn good grades in all courses (including Financial accounting) to improve their GPA by emphasizing that research shows that students with high OGPA tend to earn high grades in Managerial accounting. The authors recognize that many faculty members may already be encouraging their students to do just that; thus, these recommendations are primarily for faculty members who may not be encouraging their students in that regard.

STUDY LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Like most studies, this study is subject to some limitations. One such limitation pertains to the subjectivity embedded in the self-perceived ability factors - Writing, Math, Reading, and Listening. Contrary to historical data (e.g., the grade received in prerequisite course) that can be verified against specific answers from the questionnaire, self-perceived ability factors are accepted as reported in the questionnaire regardless of whether these items accurately depict a student's self-reported abilities. As articulated in the literature, there seems to be a tendency for students to overestimate their self-ability factors. Surprisingly, in the current study, students seemed to have made rather accurate evaluations of their Reading and Listening abilities and to some extent their Math ability. A suggestion for further research would be to consider a more reliable method, that is, not entirely dependent on a self-assessment approach. For example, using historical course grades relating to these ability factors, or employing an exercise design to better measure these abilities. It should also be noted that factors pertaining to Intended grade, Intention to take the CPA exam, and Intention to attend graduate school are similarly exposed to a student's bias. Another limitation of this study is that the school is a public (state-supported) university; therefore, conclusions reached may not be applicable to private schools. A suggestion in this area is to replicate the study at a private college or university in order to compare and to contrast the results, and thus, to add to the literature.

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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 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 OGPA 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]	151	0	4	2.81	1.044
Overall Points (in %)	151	18.25	100.94	79.88	14.257
Intended Grade[1]	151	1	3	2.54	.563
CPA[2]	151	1	3	1.64	.733
Grad Sch[3]	151	1	3	2.12	.748
Job Hours	151	0	60	18.90	14.008
Job Type[4]	151	0	3	1.21	.780
Course Load	151	1	7	4.77	.953
Writing Ability[5]	151	1	4	3.07	.749
Math Ability[5]	151	1	4	2.82	.895
Reading Ability[5]	151	1	4	3.17	.787
Listening Ability[5]	151	1	4	3.16	.775
AC 211 Grade[1]	151	2	4	3.40	.741
OGPA (out of 4.0)	151	1.83	4.00	3.02	.537
D/I Major[6]	151	0	4	2.34	1.327
Gender[7]	151	1	2	1.40	.492
Age[8]	151	1	3	1.19	.472

[1]A = 4.00; B = 3.00; C = 2.00; D = 1.00; F = 0.00.
[2]No = 0; Maybe = 1; Yes = 2
[3]No = 0; Maybe = 1; Yes, at this school = 2; Yes, at another school = 3
[4]Other = 1; Business Related (but not accounting or finance) = 2; Finance related = 3; Accounting related = 4
[5]Very Good =4; Good =3; Average =2; Poor =1
[6]Other non-business related = 0; Marketing = 1; Management = 2; Finance = 3; Accounting = 4
[7]Male = 1; Female = 2
[8]18-22 years = 1; 22-23 years = 2; 28 years or more = 3

TABLE 2
ONE-WAY ANALYSIS OF VARIANCE
(ALL NUMBERS ARE FOR BETWEEN GROUPS ONLY)

		Dependent Variables			
		Letter Grade		Overall Points %	
Independent Variables	**DF**	**F Value**	**Sig.**	**F Value**	**Sig.**
Intended Grade	2/151	5.566	0.005***	4.748	0.010***
CPA	2/151	2.215	0.113	2.136	0.122
Grad School	2/151	0.497	0.609	0.135	0.874
Job Hours	34/151	1.009	0.468	0.909	0.615
Job Type	3/151	2.892	0.037**	3.514	0.017**
Course Load	6/151	3.322	0.004***	3.757	0.002***
Write	3/151	0.568	0.637	1.217	0.306
Math	3/151	1.830	0.144	1.220	0.305
Read	3/151	2.756	0.045**	3.045	0.031**
Listen	3/151	2.399	0.070*	3.267	0.023**
AC 211	2/151	6.836	0.001***	5.791	0.004***
OGPA	102/151	1.235	0.209	1.146	0.304
D/I Major	4/151	1.089	0.364	0.376	0.826
Gender	1/151	2.936	0.089*	4.438	0.037**
Age	2/151	0.756	0.472	0.338	0.714

*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	CPA	Grad Sch	Job Hours	Job Type	Course Load	Write	Math	Read	Listen	AC 211	OGPA
Letter Gr		.938***	.245***	.066	-.082	-.108	-.073	.070	.027	.170**	.161**	.194**	.291***	.540***
Points	.939***		.214***	.006	-.041	-.130	-.096	.038	.129	.130	.199**	.220***	.252***	.488***
IG	.286***	.280***		.225***	.069	-.052	-.048	.040	.002	.337***	-.036	.048	.468***	.389***
CPA	.080	.043	.189**		.212***	-.021	.063	.122	-.207**	.166**	-.174**	-.052	.084	.091
Grad Sch	-.093	-.093	.054	.200**		.027	.025	-.018	.127	-.137*	.046	.128	-.039	-.081
Job HRS	-.064	-.062	-.047	.005	.049		.518***	-.420***	.046	-.180**	.027	.143*	-.093	.032
Job Type	-.112	-.147*	-.072	.046	.037	.524***		-.186**	-.015	-.232***	-.047	.054	-.068	.073
C Load	.148*	.124	.087	.102	-.013	-.328***	-.159*		-.154*	.124	-.137*	-.150*	.035	.039
Write	.007	.095	.037	-.241***	.121	.051	.008	-.132		-.140*	.500***	.359***	.019	.170**
Math	.202**	.189**	.326***	.148*	-.140*	-.166**	-.236***	.139*	-.126		-.081	.080	.291***	.209***
Read	.132	.172**	-.021	-.190**	.063	.019	-.046	-.094	.508***	-.075		.536***	.102	.088
Listen	.181**	.204**	.044	-.078	.125	.132	.031	-.086	.362***	.086	.573***		.038	.142*
AC 211	.326***	.319***	.507***	.102	-.053	-.112	-.101	.053	.002	.312***	.102	.059		.520***
OGPA	.580***	.565***	.409***	.082	-.076	.028	.051	.128	.172**	.215***	.107	.155*	.481***	

[a] Pearson correlations are above the diagonal and Spearman 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 AC 211 AND OGPA)

	Letter Grade	Points	IG	CPA	Grad Sch	Job Hours	Job Type	Course Load	Write	Math	Read	Listen
Letter Gr												
Points	.918***											
IG	.042	.033										
CPA	.020	-.044	.205**									
Grad Sch	-.045	-.001	.115	.221***								
Job HRS	-.148*	-.169**	-.029	-.019	.031							
Job Type	-.133	-.153*	-.044	.063	.032	.510***						
C Load	.058	.022	.023	.119	-.015	-.423***	-.189**					
Write	-.075	.054	-.046	-.224***	.144*	.031	-.039	-.163**				
Math	.068	.034	.229***	.145*	-.127	-.168**	-.234***	.118	-.168**			
Read	.135	.180**	-.105	-.187**	.053	.033	-.046	-.142*	.502***	-.119		
Listen	.142*	.174**	.006	-.064	.142*	.135*	.040	-.156*	.341***	.062	.535***	

*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 55 Observations)

Independent Variables	Dependent Variables			
	Letter Grade		Overall Points %	
	t Coeff.	Sig.	t Coeff.	Sig.
Constant	-0.572	0.568	3.468	0.001***
IG	0.555	0.580	0.550	0.583
CPA	0.247	0.805	-0.259	0.796
Grad Sch	-0.603	0.548	-0.177	0.860
Job Hours	-1.253	0.212	-1.624	0.107
Job Type	-0.769	0.443	-0.797	0.427
Course Load	0.017	0.986	-0.312	0.756
Write	-2.030	0.044**	-0.730	0.467
Math	-0.170	0.865	-0.267	0.790
Read	1.530	0.128	1.230	0.221
Listen	1.518	0.131	1.502	0.135
AC 211	-0.539	0.591	-0.586	0.559
OGPA	6.428	0.000***	5.561	0.000***
Adj. R^2	0.301		0.245	
F	6.393	0.000***	5.055	0.000***

*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 6
PARTIAL CORRELATION COEFFICIENTS OF SELECTED DISTRACTION FACTORS WITH STUDENT PERFORMANCE[a]

Part A					***Part B***				
Dependent Variable	**Letter Grade**		**Overall Points %**		**Dependent Variable**	**Letter Grade**		**Overall Points %**	
Distraction Factor	***Coef.***	***Sig.***	***Coef.***	***Sig.***	**Distraction Factor**	***Coef.***	***Sig.***	***Coef.***	***Sig.***
JHours	-.065	.432	-.094	.254	**JHours**	-.088	.288	-.120	.149
JType	-.021	.801	-.033	.691	**JType**	-.067	.418	-.077	.355
CLoad	.029	.730	-.017	.836	**CLoad**	-.003	.971	-.053	.521

[a] ***Part A:*** *While controlling for the other two distraction factors.*
Part B: *While controlling for the other two distraction factors and prior actual ability factors (AC 211 & OGPA)*