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AN EMPIRICAL INVESTIGATION OF FACTORS RELATED TO STUDENT PERFORMANCE IN ACCOUNTING INFORMATION SYSTEMS

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Abstract

This study examines the association between several motivation, distraction, effort, and prior-ability factors and student performance in an undergraduate Accounting Information Systems (AIS) course. The study aims to identify motivation and distraction factors with the purpose of emphasizing the former and discouraging the latter in the AIS course. It also aims to expand on the scarce literature that exists on student performance in AIS courses. In this study, the intended grade in the course and the intention to take the CPA exam or to attend graduate school do not appear to motivate students to improve their performance in the AIS course. The number of work hours, and work type or course load do not show any significant negative association to student performance. The effort that students exert studying for the course has some significant positive association with student performance. Overall GPA and the grade obtained in the prerequisite Management Information Systems course are strong predictors of student performance in the AIS course.

Keywords: Accounting Information Systems; AIS; motivations; efforts; distractions; prior abilities; student performance.

1. Introduction

Several motivation, distraction, and effort factors associated with student performance in accounting courses have been studied in the past and can be found in the literature. However, these studies have been primarily undertaken using college students attending introductory and intermediate accounting courses, as well as auditing. In addition, these studies have varied in their findings, and thus, the topics continue to be studied in multiple settings (e.g., private, and public schools, undergraduate and graduate courses) where researchers believe future contributions can still accrue to the existing literature. As the accounting field continues to evolve, this trend has required accountants to gain technical skills beyond the boundaries of traditional accounting intelligence. In the summer of 2021, the CPA exam is undergoing changes that will enhance the coverage of information technology and Accounting Information Systems (AIS). AIS is composed of interrelated activities and emerging technologies designed to collect and to process data for decision-making in accounting (Wong & Wong, 2017). However, often students with limited or no industry experience tend to under appreciate the importance of information technology in business (Young & Aoun, 2009). Because of this lack of experience or familiarity with AIS, it is often difficult for beginners in the accounting discipline to identify relevant information for decision-making (Lehmann & Heagy, 2014). It appears as if greater efforts are necessary to highlight the usefulness of information and systems technology to help explain the importance of AIS in the workplace (Weli, 2015). AIS is an information-providing tool for business that has gained traction as a core course in the accounting curriculum. Educators should employ methods and tools to enhance student performance with systems and data analytics that will better prepare accounting students for the marketplace (Ahinful et al., 2019). Systems like Computer Assisted Audit Techniques (CAATs) and Interactive Data Extraction and Analysis (IDEA) software are some of the tools that can be employed (Antcliff et al., 2012). In this study, the authors aim to examine the association between several motivation, distraction, effort, and prior-ability factors and student performance in an undergraduate AIS course at a state university in the United States. This study also aims to identify motivation and distraction factors with the purpose of emphasizing the former and discouraging the latter in the teaching and learning process. A secondary purpose of this study is to support the notion that motivation increases student performance in the AIS course. A tertiary purpose of this study is to expand on the scarce literature that exists exploring the factors in this study and student performance in the AIS course. The rest of this paper shows a review of prior research, study objectives, study variables, research methodology, and study results. The paper ends with conclusions and recommendations, and study limitations and suggestions for further research.

2. Review of Prior Research

In the past couple of decades, researchers have studied the association between academic performance, motivation, distraction, and other factors and student performance. Often these studies have used students' overall GPA, and the grades obtained in prerequisite accounting courses as proxies for prior academic performance. Although several researchers have found support for overall GPA as a predictor of performance in various accounting courses (Ingram & Peterson, 1987; Kirk & Spector, 2006; Maksy & Zheng, 2008; Clark & Latshaw, 2012; Maksy, 2017; Maksy & Rodriguez, 2018; Rodriguez et al., 2021), Alonzo (2015) found that overall GPA had no significant association with student performance.

Another academic performance factor that has been studied is the grade that students earn in prerequisite courses and the effect on student performance in the subsequent accounting courses. For example, Tickell and Smyrniotis (2005), and Kirk and Spector (2006) found strong associations between principles in accounting courses and student performance in the subsequent accounting courses. Maksy and Zheng (2008) found that performance in Auditing is significantly enhanced by the grade that students obtain in the prerequisite Intermediate accounting II course. Al-Twaijry (2010), and Maksy and Rodriguez (2018) also found the grade in the prerequisite principles of Financial accounting course as a strong predictor of student performance in principles of Managerial accounting. However, Alanzi (2015) found that grades in prerequisite courses do not have positive significant associations with student performance in subsequent accounting courses. The study by Alanzi (2015) is counterintuitive to the notion that overall GPA and grade obtained in prerequisite courses are prior-ability factors that significantly enhance student performance. In this study, the authors used the grades that students obtained in the prerequisite Management Information Systems (MIS) course as prior-ability factor for student performance in the AIS course. Information technology plays a significant role in MIS and AIS courses; however, there is evidence that some accounting students consider Information technology as less important than more traditional accounting courses (Kearns, 2010). This presents an opportunity for faculty to stress to students the importance of Information technology, since attitudes toward technology has been positively associated with student performance (Kearns, 2010).

Multiple motivation and effort factors appear in various prior studies as having significant positive associations with student performance (Lane & Porsch, 2002). In this study, the grade that a student intends to earn in the AIS course is used by the authors as proxy for motivation. In the past, several studies that have used a student's intended grade for a course (e.g., Advanced accounting, Managerial accounting, and Auditing) as proxy for motivation have yielded significant positive associations with student performance in that course (Maksy & Zheng, 2008; Maksy, 2017; Maksy & Rodriguez, 2018; Rodriguez et al., 2021). Other factors that have been used in the past as proxies for motivation include a student's intention to attend graduate school, and a

student's intention to take the Certified Public Accountant (CPA) exam. One of the main motivation factors found to be significantly associated to student performance in the study by Coe (2016) was attractiveness of passing the CPA exam. Rodriguez et al. (2021) found a strong positive association between a student's intended grade in an Auditing course and student performance in that course. With regards to the efforts exerted by a student in a given course to assess student performance, researchers have used various factors (e.g., attendance, homework, overall study hours, and course study hours) as proxies for effort (Gupta & Maksy, 2014; Rodriguez et. al, 2021). In this study, the authors use the effort that a student exerts studying for the AIS course (Study Hours) as proxy for effort.

Researchers have also studied multiple factors that have been used as proxies for distraction (e.g., number of hours worked per week, number of courses taken in a semester, AIS projects, hands-on learning experience, and type of employment - particularly when it is not related to accounting or business) to assess student performance. The results of these studies range in significance from one spectrum to the other, that is, from significant negative associations to significant positive associations. For example, Paisey and Paisey (2004) found partial employment as a significant factor for students not to attend classes. For senior-level accounting courses, Lynn and Robinson-Backmon (2005) suggested that learning outcomes and employment status have a significantly negative association with student performance. On the other hand, Tessema et al. (2014) found that working up to ten hours per week may have a positive impact on students attaining a higher overall GPA. Another important observation made by Tessema et al. (2014), was the high level of satisfaction that students had with their schoolwork when contrasted with students who worked more hours. Studies by Maksy and Zheng (2008), Maksy (2017), Maksy and Rodriguez (2018), and Rodriguez et al. (2021) found no significant negative relationship between the number of hours worked per week and student performance in several accounting finance courses. In a graduate Information systems course study by Maksy and Yoon (2020), where the authors studied the relationship between several distraction factors (e.g., number of hours worked per week, type of work, or number of courses taken in the semester) and student performance, no significant negative association was found. Studies such as Barra and Savage (2007) have highlighted the importance of predesigned AIS projects, and hands-on learning experience, where students exert higher efforts than other passive learning methods (e.g., lectures, and videos). Willis (2016) stressed the importance of Microsoft (MS) Excel techniques to enhance student performance in the AIS course; this is usually embedded in accounting assignments and projects. Lee et al. (2019) also emphasized the use of MS Excel and data visualization techniques, as well as game-based approaches to enhance student performance.

3. Study objectives

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 AIS course, the student's intention to take the CPA exam, and the student's intention to attend graduate school) and the student's performance in an AIS course. The authors hypothesize that there are positive and significant associations between these motivation factors and student performance. That students who intend to earn higher grades or intend to take the CPA exam or to attend graduate school, are motivated to perform well and do perform well in the course to achieve their intentions (Coe, 2016). In this study, the authors asked students about their intentions to take the CPA exam. The authors assumed that those who answered "yes" instead of "no" or "maybe" were motivated to gain some or all factors indicated by Coe (2016). A similar argument could be made for the 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 is related to accounting or business in general or not) and the student's performance in the AIS course. The authors assume that the higher the number of work hours per week, the less time the student will have to study for the course, thus yielding a lower course grade. Furthermore, it is expected for performance in the AIS course to be negatively impacted by a student taking a higher number of courses, since the hours devoted to study for the AIS course is expected to be reduced. Additionally, if the student's job is not related to accounting or business in general, the student's grade in the AIS course will be lower than if the student's job is related to one of these areas. The authors hypothesize that if the student's number of work hours per week is high, and/or the number of courses taken in the semester is high, and/or the student's job is not related to accounting or business in general that there will be a significant negative association between one or more of these factors and student performance. Since the potential for these distraction factors to offset each other exists, the authors test the effects of each distraction factor on student performance while controlling for the other two factors. The authors also investigate the associations among the distraction factors themselves.

The *third objective* is to study the association between an effort factor (Course Study Hours) and student performance in the AIS course. Students that are motivated usually spend more time studying for the course to get a high grade. The authors hypothesize that there is a positive and significant association between the course study hours and student performance. The *fourth objective* is to study the association between student performance in the AIS course and their grades in the pre-requisite Management Information Systems course, as well as their overall GPA. The authors hypothesize that there are positive and significant associations between these prior actual abilities and student performance.

4. Study variables

The study uses the final letter grade (A, B, C, D, F) in the AIS course as the dependent variable that measures student performance. In addition, there are nine independent variables as follows: 1) the grade that students intend to earn in the AIS course (IG), 2) intention to take the CPA exam (CPA), 3) intention to attend graduate school (Grad. Sch.), 4) job hours per week (J Hours), 5) type of job– whether accounting related or not (J Type), 6) number of courses in the semester (C Load), 7) numbers of study hours per week for the AIS course (C Study), 8) grade received in the prerequisite Management Information Systems course (MIS 201), and 9) overall GPA (OGPA).

5. Study hypotheses

Study hypotheses are presented in the alternate form only to prevent redundancy.

5.1 Motivation factors

H_1 : There is a significant positive association between the grade the student intends to earn in AIS 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 AIS.

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

5.2 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 AIS.

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

H_6 : There is a significant negative association between the number of courses a student is taking in the semester and student performance in AIS.

5.3 Effort factor

H_7 : There is a significant positive association between the student's number of study hours per week for the AIS course and student performance in that course.

5.4 Prior ability factors

H_8 : There is a significant positive association between the grade the student earns in the Management Information Systems course and student performance in AIS.

H_9 : There is a significant positive association between the student's overall GPA and student performance in AIS.

6. Research Method

6.1 Survey Instrument

The authors used survey questions from Ingram et al. (2002) with modifications that incorporated other information. For ethical conformance, confidentiality, and potential risk issues pertaining to participants the authors received Institutional Review Board (IRB) approval.

6.2 Study Sample

Data on the survey instrument was collected within the first two weeks of each semester from undergraduate students enrolled in five sections that were taught by the same instructor, one in summer 2020, two in fall 2020, and two in spring 2021, for a total of 122 students. Students that attempted to complete the survey were 68; however, only 61 usable responses were obtained. Data handling by authors followed rules established by the IRB at the study university.

6.3 Data Analysis

To test the formulated hypotheses, the researchers used one-way ANOVA, Spearman correlation coefficients, partial nonparametric correlation coefficients, and ordinary least square (OLS) linear regressions.

7. Study Results

The descriptive statistics show the minimum and maximum values, means, and standard deviations for the variables in this study (see Table 1). The average grade in the AIS course is 3.36 compared to 3.69 in the prerequisite Management Information Systems (MIS) course. The average grade is also lower than the overall GPA of 3.51. However, the average grade of 3.36 is higher than the mean grade of 2.77 that students intended to earn in the AIS course; this is indicative that students were somewhat pessimistic about the grade that they intended to earn in the AIS course. The following is an analysis of the study results by the type of factors investigated. The following is an analysis of the study results by the type of factors investigated.

Table 1

Descriptive statistics of the study variables

	N	Minimum	Maximum	Mean	Std. Deviation
Letter Grade ¹	61	0	4	3.36	.857
Intended Grade ¹	61	2	3	2.77	.424
CPA ²	61	1	3	2.66	.544
Grad School ²	61	1	3	2.66	.602
Job Hours	61	0	65	24.1	17.086
Job Type ³	61	0	3	1.59	1.086
Course Load	61	0	15	4.51	2.188
Course Study Hours	61	2	30	8.44	6.423
MIS 201 Grade ¹	61	2	4	3.69	.593
Overall GPA (out of 4.0)	61	2.68	4.00	3.51	.384

¹A = 4; B = 3; C = 2; D = 1; F = 0²No = 1; Maybe = 2; Yes = 3³I do not work = 0; Other = 1; Business related (but not accounting or finance) = 2; Finance related = 3; Accounting related = 4

7.1 Motivation factors associated with student performance

None of the three motivation factors included in this study, Intended Grade (IG), Intention to take the Certified Public Accountant exam (CPA), and Intention to go to Graduate School (Grad Sch) were significantly positively associated with student performance under any of the three statistical tests used in the study (see Tables 2, 3, and 5). The authors ran a partial correlation coefficients test controlling for prior ability factors (grade obtained in MIS, and overall GPA); nonetheless, the results were similar (see Table 4). Based on these results, the authors can generally state that the research does not lend support to H₁, H₂, or H₃ of the study.

Table 2One-way analysis of variance
Dependent Variable

Independent Variables	DF	Letter Grade	
		F Value	Sig.
Intended Grade	61	.137	.713
CPA	61	1.052	.356
Grad School	61	.554	.578
Job Hours	61	1.623	.100*
Job Type	61	1.156	.335
Course Load	61	.555	.827
Course Study Hours	61	1.152	.342
MIS 201 Grade	61	10.318	.000***
Overall GPA (out of 4.0)	61	4.750	.000***

*** $p < .01$; ** $p < .05$; * $p < .10$

Table 3

Spearman correlation coefficients

	Grade	IG	CPA	Grad School	Job Hours	Job Type	Course Load	Course StudyH	MIS 201	OGPA
Grade										
IG	.101									
CPA	.007	.040								
Grad Sch	-.061	.010	.404***							
J Hours	-.390***	-.018	.166	.274**						
J Type	-.216*	.074	.306**	.321**	.571***					
C Load	-.051	-.123	.026	.012	-.119	-.017				
C StudyH	.376***	.174	.051	.078	-.096	-.092	-.478***			
MIS 201	.490***	.239*	.060	-.156	-.381***	-.100	-.106	.286**		
OGPA	.604***	.268**	.000	-.050	-.219*	-.002	-.139	.333***	.510***	

*** $p < .01$; ** $p < .05$; * $p < .10$ **Table 4**

Nonparametric partial correlation coefficients (controlling for MIS 201 and OGPA)

	Grade	IG	CPA	Grad School	Job Hours	Job Type	Course Load	Course StudyH
Grade								
IG	-.117							
CPA	-.010	.033						
Grad Sch	.002	.044	.421***					
J Hours	-.269**	.088	.204	.236*				
J Type	-.249*	.093	.317**	.309**	.582***			
C Load	.054	-.086	.029	-.001	-.178	-.022		
C StudyH	.204	.077	.044	.125	.022	-.082	-.462***	

*** $p < .01$; ** $p < .05$; * $p < .10$ **Table 5**

Regression analysis

Independent Variables	Letter Grade	
	<i>t Coeff.</i>	<i>Sig.</i>
Constant	-1.578	.121
Intended Grade	-1.262	.213
CPA	.692	.492
Grad School	.587	.560
Job Hours	-.380	.705
Job Type	-1.428	.159
Course Load	.696	.490
Course Study H	.956	.344
MIS 201	1.660	.103
OGPA	4.619	.000***
Adj. R ²	.435	
F	6.141	.000***

*** $p < .01$; ** $p < .05$; * $p < .10$

7.2 Distraction factors associated with student performance

As the Spearman correlation test shows, the number of hours a student works per week (J Hours) is significantly negatively associated with student performance at $p < .01$ level (see Table 3). Once the authors control for prior ability factors (grade in MIS, and overall GPA), this significant negative association weakens to $p < .05$ level (see Table 4). These results suggest that of the students who receive approximately the same grade in the MIS course and about the same overall GPA, those who work more hours earn lower grades in the AIS course than students who work less hours. On the other hand, the possibility exists for students who work more hours to also be carrying higher course loads, and/or be working in non-accounting or finance-related jobs.

In such situation, this may be a plausible reason for the lower grades in the AIS course. To test for this possibility, the authors ran Spearman correlations between J Hours and Grade while controlling for C Load and J Type (see Table 6, Panel A). The result of that test shows a significant negative association at $p < .01$ level between J Hours and Grade. Based on these results, one can generally state that of the students who bear about the same course load and have about the same type of job, students who work more hours earn lower grades in the AIS course than students who work less hours. These results lend support to H_4 of the study; however, when the authors control for prior ability factors, in addition to C Load and J Type, the negative significant association at the $p < .01$ level between J Hours and Grade discussed herein dissipates. That signifies for students who have about the same overall GPA, course load, and type of job, that the number of hours those students work per week has no material bearing on the grades they receive in the MIS course. Interestingly, despite these results the ANOVA test shows a significant positive association between J Hours and Grade, albeit only at $p < .10$ level (see Table 2). Because these results contradict the results of the Spearman correlations test, the authors ran a cross tabulation between J Hours and Grade to obtain additional insights. An examination of this cross tabulation indicates that the primary reason of the positive association under the ANOVA test is due to one student that obtained an F grade in the course who reported working 15 hours per week, and one student that obtained an A grade in the course who reported working 65 hours per week. Even if only one of these two samples were to be dropped, under the assumption that both are outliers, the significant positive association between J Hours and Grade in the ANOVA test would dissipate since the current level of significance is $p = .10$.

As the Spearman correlations test indicates, job type (J Type) is significantly negatively associated with student performance but only at $p < .10$ level (see Table 3). After the authors control for prior ability factors this significant negative association remains the same. That means of the students who had about the same grade in the MIS course and about the same overall GPA, those who work in accounting or finance-

related jobs earn lower grades in the AIS course than students who work in other types of jobs. However, it is possible that those students who work in accounting or finance-related jobs are also carrying higher course loads and/or working more hours per week, which may have caused their lower grades in the course. To test for this possibility, the authors ran nonparametric correlations between J Type and Grade while controlling for C Load and J Hours (see Table 6, Panel A). The result of that test shows that the significant negative association between J Type and Grade disappears. That means of the students who carry the same course load and work the same hours per week, those who work in accounting or finance-related jobs earn about the same grades in the AIS course as the students who work in non-accounting or finance-related jobs, or do not work at all. In addition, the ANOVA test does not show any significance association between J Type and Grade (see Table 2). Based on these results and discussion, the authors can state that the research does not lend support to H_5 of the study.

As Tables 2, 3 and 5 indicate, none of the three statistical tests used in the study shows any significance association between C Load and student performance. Thus, the authors can generally state that the research results do not lend support to H_6 .

Table 6

Partial correlation coefficients of selected distraction factors with student performance^a

Panel A			Panel B		
Distraction Factors	Grade Coef.	Sig.	Distraction Factors	Grade Coef.	Sig.
J Hours	-.344	.008***	J Hours	-.151	.262
J Type	.016	.904	J Type	-.119	.377
C Load	-.108	.416	C Load	.019	.890

^a**Part A:** While controlling for the other two distraction factors

Part B: While controlling for the other two distraction factors and prior ability factors MIS 201 and overall GPA)

*** $p < .01$; ** $p < .05$; * $p < .10$

7.3 Effort factor associated with student performance

As the Spearman correlation test indicates, course study hours (C Study) has a significant positive association with student performance at $p < .01$ level (see Table 3). However, that positive significant association dissipates after the authors control for prior ability factors. That means of the students who had about the same grade in the MIS course, and about the same overall GPA, those who study more hours earn the same grades in the AIS course as the students who study less hours. In other words, the prior abilities factors are driving the grades, rather than the number of hours of study per week; therefore, the authors can state that the research lends limited support to H_7 .

7.4 Prior actual ability (control) factors associated with student performance

As the ANOVA and Spearman correlation tests indicate, there are significant associations at $p < .01$ level between the MIS grade and student performance in the AIS course (see Tables 2 and 3). In addition, as Tables 2, 3 and 5 indicate, there are significant positive associations at $p < .01$ level between overall GPA and student performance in the AIS course. Thus, the authors can state that the research lends strong support to H_8 and H_9 . Based on these results, the authors could infer that there is strong evidence that students with high grades in MIS and students with high overall GPA will earn high grades in the AIS course, and vice versa.

8. Conclusions and Recommendations

A general conclusion of this study is that neither the grade the students intend to earn in the course, nor the students' intention to take the CPA exam, nor the students' intention to pursue graduate studies are motivating factors for the students to study hard and to earn higher grades in the AIS course. This is surprising because prior research has shown that some of these factors, and sometimes all of them, have been found to be strong motivators for students to perform better in other accounting and finance courses. Based on this conclusion, the authors recommend that accounting faculty, as well as accounting researchers, should think about and explore other factors that may motivate students to do well in the AIS course.

Another general conclusion from the statistical tests of this study is that there is some evidence that the number of hours of work per week have some significant negative effect on student performance. However, when we hold the course load, the job type, and the prior ability factors constant, the number of hours of work per week does not have any significant negative effect on student performance in the AIS course. Based on these results, the authors recommend that, if some students need to work more hours per week to support their families, accounting faculty need not discourage them from doing so on the assumption that their grades will suffer.

A third general conclusion is that there is some initial evidence that students who work in accounting or finance-related jobs get lower grades in the AIS course than students who work in other types of jobs. However, when we hold the number of hours of work per week and the course load constant, the type of job does not have any significant negative effect on student performance in the AIS course. Based on these results, the authors recommend that, if some students need to work in any type of job, accounting faculty need not discourage them from doing so on the assumption that their grades will suffer.

A fourth general conclusion of the study is that there is some evidence, albeit under only one of the statistical tests, that the number of hours of study for the course has a positive effect on student performance. However, when we hold the prior ability factors constant, the number of hours of study for course does not have any effect on student performance in the AIS course. Based on this conclusion, the authors recommend for faculty to emphasize the importance of understanding the material rather than the number of hours spent studying. In other words, the quality of the understanding should be emphasized over the quantity of hours spent studying. The authors assume that most faculties make such suggestion; hence, this recommendation is for faculty members who might not be making these suggestions.

A fifth and final general conclusion, as expected from prior studies in other courses, is that students with high prior actual ability end up earning high grades in the AIS course. Specifically, the study provides evidence that there is a strong significant association between students' overall GPA and their performance in the AIS course. In consideration of this general conclusion, the authors recommend that accounting faculty encourage their students to study hard to earn good grades in all courses to improve their GPA. 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.

9. Study Limitations and Suggestions for Future Research

Like most studies, this study is subject to some limitations. One such limitation pertains to the subjectivity of factors pertaining to Intended grade, Intention to take the CPA exam, and Intention to attend graduate school that are exposed to a student's bias. Second, the school is a state-supported university with the distinctive characteristic that many students are first-generation college students; therefore, some conclusions raised in this study may lack applicability to private schools. Third, since the authors used the letter grade (A, B, C, D, F) as the dependent variable to measure student performance, the study treats a student earning the lowest end of the grade range as having the same performance as that of a student earning the highest end of the grade range, and vice versa. Given these limitations, the authors recommend that this study be replicated at a private university for comparison purposes. In addition, the authors recommend for researchers to explore with other factors that may motivate students to perform well in the AIS course. Lastly, the authors recommend that this study be replicated using percentage grades instead of full letter grades to measure student performance; this recommendation should circumvent the letter grade limitation raised herein.

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