

ADVANCES IN ACCOUNTING  
EDUCATION

# ADVANCES IN ACCOUNTING EDUCATION: TEACHING AND CURRICULUM INNOVATIONS

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ADVANCES IN ACCOUNTING EDUCATION: TEACHING  
AND CURRICULUM INNOVATIONS VOLUME 26

**ADVANCES IN ACCOUNTING  
EDUCATION: TEACHING  
AND CURRICULUM  
INNOVATIONS**

EDITED BY

**THOMAS G. CALDERON**

*The University of Akron, USA*



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# CONTENTS

<i>List of Contributors</i>	<i>ix</i>
<i>Call for Papers</i>	<i>xi</i>
<i>Writing Guidelines</i>	<i>xiii</i>
<i>Synopsis</i>	<i>xv</i>
<i>Statement of Purpose</i>	<i>xvii</i>

## THEME 1 CAPACITY BUILDING AND GOVERNANCE ISSUES IN THE PROFESSION

<b>MBA, MSA and MST: Do They Make a Difference on CPA Exam Performance?</b> <i>Dennis Bline and Xiaochuan Zheng</i>	<i>3</i>
<b>Does Accountancy Board Composition Influence the Supply of New Accounting Professionals in US Jurisdictions?</b> <i>Thomas G. Calderon and Albert Nagy</i>	<i>19</i>
<b>Factors That Influence a Private Institution Student’s Plan to Sit for the CPA Exam Soon After Graduation</b> <i>Ifeoma A. Udeh</i>	<i>33</i>
<b>Choosing Synchronous Versus Asynchronous Introductory Accounting Classes: A Data Analytics Approach to Student Advising and Scheduling</b> <i>R. Drew Sellers, Wendy Tietz and Yan Zhou</i>	<i>55</i>

## THEME 2 CURRICULUM AND PEDAGOGICAL INNOVATIONS

<b>Examining the Potential Impact of Change in Lease Accounting in an Intermediate Accounting Course</b> <i>Sean M. Andre and Joy L. Embree</i>	<i>79</i>
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<b>Accounting for Bond Liabilities and Investments: A Cash Flow Teaching Approach</b> <i>Robert Bloom</i>	105
<b>Leveraging the Ignatian Pedagogy Paradigm to Emphasize Professional Judgment in Accounting Education</b> <i>Alissa Choi, Albert Nagy and Tripp Petzel</i>	123

### THEME 3 EDUCATIONAL TAX CASES AND TAX LITERACY

<b>Does Experiential Tax Learning Matter? Evidence from College Students</b> <i>Jordan Moore, Jon D. Perkins and Cynthia Jeffrey</i>	137
<b>A Case in Assessing the Financial Stability and Effectiveness of 501(C)(3) Organizations</b> <i>Charles A. Barragato, Christie L. Comunale and Stephen Gara</i>	155
<b>A Review of Published Tax Cases: Contents, Value-added and Constraints</b> <i>Timothy Fogarty</i>	175
<b>Educational Tax Cases: An Annotated Bibliography</b> <i>Mollie T. Adams, Kerry K. Inger and Michele D. Meckfessel</i>	191

### THEME 4 INFORMATION TECHNOLOGY AND THE ACCOUNTING CURRICULUM

<b>A Framework for Integrating “R” Programming into the Accounting Curriculum</b> <i>Thomas G. Calderon, James W. Hesford and Michael J. Turner</i>	209
<b>Design Thinking Implications for Accounting Pedagogy in the Brave, New DeFi World</b> <i>Cory Campbell, Sridhar Ramamoorti and Kurt Schulzke</i>	233
<b>Two Decades of Teaching Information Systems Courses in the Accounting Curriculum: Predictions for the Next Two Decades</b> <i>Reza Barkhi</i>	255
<i>Index</i>	265

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# CALL FOR PAPERS

Submissions are invited for forthcoming volumes of *Advances in Accounting Education (AIAE)*. AIAE publishes a wide variety of articles dealing with accounting education at the college and university level. AIAE encourages readable, relevant, and reliable articles in all areas of accounting education including auditing, financial and managerial accounting, forensic accounting, governmental accounting, taxation, accounting systems, etc. Articles from authors outside the United States are encouraged. Papers can focus on:

- Innovation in teaching and learning, with evidence to demonstrate effectiveness.
- Research studies with implications for improving accounting education.
- Efficacy of technology in teaching and learning.
- Disruptive technologies, emerging business models and implications for accounting education.
- Assessment of learning and continuous improvement.
- Pedagogical implications of regulation.
- Administrative and leadership issues related to innovation and effective teaching and learning.
- Global challenges, constraints, and opportunities for accounting education.
- Critical reviews of the domain of accounting with implications for curriculum innovation.
- Conceptual models, methodology discussions, and position papers on particular issues.
- Historical discussions and literature reviews with implications for pedagogical efforts.

AIAE provides a forum for sharing ideas and innovations in teaching and learning ranging from curricula development to content delivery techniques. Pedagogical research that contributes to more effective teaching and learning in colleges and universities is highlighted. All articles must include a discussion of implications for teaching, learning, and curriculum improvements. Non-empirical papers should be academically rigorous, and specifically discuss the institutional context of a course or program, as well as any relevant tradeoffs or policy issues. Empirical reports should exhibit sound research design and execution, and must develop a thorough motivation and literature review, possibly including references from outside the accounting field.

## **SUBMISSION PROCESS**

Send two MS Word files by email:

- (1) a manuscript with an abstract and any research instruments used, with no information to identify authors; and
- (2) a cover page with a list of all authors' names, institutional affiliations, mailing addresses, telephone numbers, and email addresses.

Two reviewers assess each manuscript submitted and reviews are completed in a timely manner, usually 60–90 days.

Send manuscripts to Thomas Calderon, editor, [aiae@uakron.edu](mailto:aiae@uakron.edu)

# WRITING GUIDELINES

1. Write your manuscript using active voice. Therefore, you can use the pronouns “we” and “I”. Also, please avoid using a series of prepositional phrases. We strongly encourage you to use a grammar and spell checker on manuscripts before you submit to AIAE. Parsimony is a highly desirable trait for manuscripts we publish. Be concise in making your points and arguments.
2. Each paper should include a cover sheet with the names, addresses, telephone number, and email address for all authors. The title page also should include an abbreviated title that you should use as a running head (see item 7 below). The running head should be no more than 70 characters, which include all letters, numbers, punctuation, and spaces between words.
3. The second page should consist of an abstract of approximately 150 words and up to five key words.
4. You should begin the first page of the manuscript with the manuscript’s title. DO NOT use the term “Introduction” or any other term at the beginning of the manuscript. Simply begin your discussion.
5. Use uniform margins of 1.5 inches at the top, bottom, right and left of every page. Do not justify lines; leave the right margins uneven. Do not hyphenate words at the end of a line; let a line run short or long rather than break a word. Type no more than 25 lines of text per page.
6. Double-space all lines of text, including titles, headings, and quotations.
7. Place each figure, table, and chart on a separate page at the end of the manuscript. Include a marker in the body of the paper to show approximately, where in the final manuscript each figure, table, or chart will appear.
8. After you have arranged the manuscript pages in correct order, number them consecutively, beginning with the title page. Number all pages. Place the number in the upper right-hand corner using Arabic numerals. Identify each manuscript page by typing an abbreviated title (header) above the page number.
9. Format all citations within your text with the author(s) name and the year of publication. An appropriate citation is Catanach (2004) or Catanach and Feldmann (2005), or Catanach et al. (2006) when there are three or more authors. You do not need to cite six or seven references at once, particularly when most recent references cite earlier works. Please try to limit yourself to two or three citations at a time, preferably the most recent ones. Use APA 6.
10. You should place page numbers for quotations along with the date of the material being cited. For example: According to Beaver (1987, 4), “Our knowledge of education research ...and its potential limitations for accounting ...”

11. List at the end of the paper the full bibliographic information (e.g., author, year, title, journal, volume, issue, and page numbers) for all references cited in the body of the paper. List references in alphabetical order by the first author's last name.
12. Center, capitalize each word and bold main headings; capitalize the first letter in each word, italicize and bold and center sub-headings; capitalize the first word, italicize and center the next level headings; capitalize the first word, italicize and left justify next level headings.

Authors may contact the editor, Thomas G. Calderon at [aiae.uakron.edu](mailto:aiae.uakron.edu), for further guidance. Members of the editorial review board, listed below, may also be contacted for information about the submission and review process.

## SYNOPSIS

*Advances in Accounting Education: Teaching and Curriculum Innovations* publishes both non-empirical and empirical articles dealing with accounting education. All articles emphasize teaching, learning, and curriculum development, and discuss vital matters pertaining to the improvement of accounting programs at colleges and universities. Non-empirical papers are academically rigorous, and specifically discuss the institutional context of a course or program, as well as any relevant tradeoffs or policy issues. Empirical reports exhibit sound research design and execution, and develop a thorough motivation and literature review, including references from outside the accounting field, where appropriate.

This 26th volume features 14 peer-reviewed papers surrounding four themes: (1) capacity building and governance issues in the profession; (2) curriculum and pedagogical innovations; (3) educational tax cases and tax literacy; and (4) information technology and the accounting curriculum. The first theme contains four empirical articles that focus on such topics as degree type and CPA exam performance, state accountancy board composition and supply of new accounting professionals, factors that influence students at a private university to sit for the CPA exam, and issues related to the choice of delivery format in introductory accounting. The second theme focuses on classroom innovations that cover such areas as lease accounting, cash flow statements, and certain non-current balance sheet items, and professional judgment. The third theme is somewhat eclectic, but taxation issues are found either directly or indirectly in all four articles included in this section. One paper in that theme is empirical and examines the link between tax literacy among college students and their business experience. Another article provides a comprehensive review of published pedagogical cases with a tax focus and offers highly insightful insights into various characteristics of published pedagogical tax cases. Immediately following this article is an annotated bibliography and a brief commentary that complements the paper it follows. The final theme contains a somewhat technical paper on integrating R into the accounting curriculum and two insightful commentaries on the implications of contemporary developments in information technology for the accounting curriculum.

Faculty with an interest in accounting education as well as accounting program administrators should find all four themes to be highly informative and interesting. Some practitioners and regulators in the accounting profession may also find useful policy-related nuggets in Volume 26.

*Advances in Accounting Education:  
Teaching and Curriculum Innovations*

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## STATEMENT OF PURPOSE

*Advances in Accounting Education: Teaching and Curriculum Innovations* is a refereed academic journal whose purpose is to help meet the needs of faculty members and administrators who are interested in ways to improve teaching, learning, and curriculum development in the accounting area at the college and university level. We publish thoughtful, well-developed articles that are readable, relevant, and reliable.

Articles may be either empirical or non-empirical and should emphasize innovative approaches that inform faculty and administrators as they seek to advance their classrooms, curricula, and programs. All articles should have well-articulated and strong theoretical foundations. Establishing a link to the non-accounting literature is desirable. Further, we expect all manuscripts to address implications for the scholarship of teaching and learning.

Normally, articles that emphasize pedagogy and classroom innovation (e.g., cases, exercises, specific approaches to teaching a topic, etc.) must demonstrate efficacy in a college setting. That is, the authors offer evidence to show that the innovation has been tried and it is effective.

Non-empirical manuscripts should be academically rigorous. They can be theoretical syntheses, conceptual models, position papers, discussions of methodology, comprehensive literature reviews grounded in theory, or historical discussions with implications for efforts to enhance teaching, learning, and curriculum development. Reasonable assumptions and logical development are essential.

Sound research design and execution are critical for empirical reports. Reviewers focus on the quality of method, data, results, and analysis as well as the implications for teaching, learning, and curriculum development.

## REVIEW PROCEDURES

*Advances in Accounting Education: Teaching and Curriculum Innovations* provides authors with timely reviewer reports that clearly indicate the status of the manuscript. Each manuscript is reviewed by at least two reviewers. Authors receive initial reviews normally within eight to 12 weeks of manuscript submission.

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# THEME 1

## CAPACITY BUILDING AND GOVERNANCE ISSUES IN THE PROFESSION

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# CHAPTER 1

## MBA, MSA AND MST: DO THEY MAKE A DIFFERENCE ON CPA EXAM PERFORMANCE?

Dennis Bline and Xiaochuan Zheng

### ABSTRACT

*This study empirically investigates whether graduate degrees (MBA, MSA and MST) earned by candidates affect their performance on the CPA exam. By examining more than half million first-time exam sittings taken during the period 2005–2013, the authors find that candidates with a graduate degree performed better on each section of the CPA exam than those who only have an undergraduate degree. In addition, the authors find that the type of graduate degree also has an effect on the CPA exam performance. While candidates with an MBA degree generally performed better on the BEC section than those with an MSA or MST degree, those with an MSA degree performed best on the AUD and FAR sections; and those with an MST degree excelled on the REG section. This study contributes to the existing literature on the determinants of CPA exam success. In addition, this investigation provides valuable insights to candidates, academics and regulators. The findings of this chapter should be useful for academic administrators as they revise their accounting curricula to prepare for the new CPA licensure model. Furthermore, the results of this study should benefit accounting regulators in determining education requirements for future CPAs.*

**Keywords:** CPA exam; performance; graduate degree; new CPA licensure model; first-time exam takers; regulators

## INTRODUCTION

Since the Florida legislature first required 150 semester credits of education to sit for the CPA exam in 1979, there has been increased attention on how candidates would obtain the additional education to become certified. Eventually, all states adopted the requirement of 150 credits of education to become a CPA; however, most states permit candidates to sit for the exam before completing all 150 credits. In fact, many states allow candidates to sit for the exam as long as they have 120 credits and a bachelor's degree. In addition, candidates have a range of options for obtaining the additional 30 credits of education. At one end of the spectrum is completing 30 additional credit of undergraduate course work. The other end of the spectrum is completing a graduate program. There is no specific requirement regarding the composition of the additional credits so candidates could complete any master's program he/she chooses but most would choose an MBA, a Master of Accounting (MSA), a Master of Taxation/JD in Taxation (MST).

Students, and their parents, have a choice to make regarding the manner in which the additional 30 semester credits of education will be earned; however, there is little information available to help them make an informed decision. Students who choose to take 30 additional undergraduate credits likely do so for one of four reasons: (1) they view this option as being expedient. They can take additional courses during the regular academic year and supplement their undergraduate education with summer courses; (2) students may choose this option because they believe that it is less costly than obtaining a graduate degree; (3) some students may not be eligible for graduate school due to their undergraduate academic performance; and (4) some students may pursue a double major to explore more interests and opportunities. None of these reasons for obtaining the additional 30 credits with undergraduate course work is based on the level of preparation that the candidate will get from the selected option – that is, will the additional undergraduate credit option help the candidate prepare for the CPA exam?

Students who choose to pursue the graduate option for obtaining the 30 additional credits often do so with little informed input as to which program to pursue. Little research has been conducted with regard to the additional benefit to candidates from taking graduate courses in lieu of additional undergraduate courses. One study (Nagle, Menk, & Rau, 2018) investigated whether candidates who obtain the additional credits by earning a graduate degree perform better on the CPA exam than students who take 30 additional undergraduate credits. These authors found that the candidates who complete the graduate program have a higher pass rate on the CPA exam than candidates who did not complete a graduate program. The purpose of the current study is to extend this research to investigate the performance of students who completed different types of graduate degrees (MBA, MSA and MST) to earn the additional 30 credits. In addition, unlike prior literature that examines the CPA exam performance on the school level by using the exam pass rate, this study investigates performance on each section of the CPA exam and analyzes the score earned by the candidate on each section.

The findings indicate that candidates with graduate degrees have higher scores on the CPA exam than do those who did not complete a graduate degree.

However, the performance among the graduate programs reveals some interesting results with no particular graduate program being superior or inferior for all parts of the CPA exam. This information is potentially useful to both candidates and faculty alike. It demonstrates to students the importance of receiving the higher-level instruction that is expected to occur in graduate programs. Faculty can use this information to consider modifications to the individual program to help strengthen the coverage in the area where performance is not as strong as another graduate program.

The new CPA licensure model unveiled by [NASBA and AICPA.\(2020\)](#) has a profound impact on the 150 credits educational requirements ([Calderon & Nagy, 2020](#)). In their call for future research, [Calderon and Nagy \(2020\)](#) post a research question: "...should the additional hours lead to: a Master of Accountancy degree, a graduate degree, accounting concentrations in line with plus one CPA Evolution model, or overall general education." The findings of this chapter may shed some light on this question.

The remainder of this chapter is organized as follows: the next section presents the background and literature as well as presenting the hypotheses tested. The subsequent section presents the methodology and results. The final section of this chapter presents the discussion, limitations, and conclusions of the study.

## LITERATURE AND HYPOTHESES

The 150-hour requirement has been a subject of debate and discussion in the accounting profession for a long time. However, the CPA exam has undergone significant changes so some prior research may not be applicable to the current study. In 2004, the CPA exam changed from a paper and pencil format where candidates completed the exam in two days in May or November to a computerized format where candidates take the exam one section at a time. As a result, studies using data prior to 2004 will not be considered in the current study.

The debate surrounding the 150-hour requirement has generally focused on two issues. The first issue is whether 150 semester hours of education should be required to be licensed as a CPA. The [American Institute of Certified Public Accountants \(2012\)](#) gives three reasons for requiring 150 semester credits of education for CPA licensure: increased technical competence, improved quality of work, and a complete education. The first and second reasons would argue for more accounting and business courses in the additional 30 credits while the third reason would argue for a broad set of courses in the additional credits. Regardless of the view taken, the board of accountancy in every state requires, at a minimum, 150 semester credits of education to obtain a CPA license. As a result, there seems to be substantial agreement that the additional education is needed to obtain the CPA license.

The second issue that has been debated is whether the 150 semester credits should be required prior to taking the CPA exam. This issue has resulted in substantial variation in state requirements to sit for the CPA exam. Many jurisdictions allow candidates to take the CPA exam after completing undergraduate

degree with additional stipulations about the number of accounting and other business credits required as part of the total credits. However, there are a few jurisdictions (such as Utah, Texas, and Washington) that require the completion, or near completion, of 150 credits before the CPA exam can be attempted. A limited amount of research has investigated the difference between jurisdictions with, and without, the 150 credit requirement based on data after the 2004 change in the CPA exam. [Briggs and He \(2012\)](#) found conflicting results when they compared jurisdictions that require 150 credit hours to attempt the CPA exam and those that require an undergraduate degree and 120 credits. They found that 150 credit jurisdictions had higher pass rates for the auditing (AUD) and regulation (REG) sections but not for the financial accounting and reporting (FAR), and business environment and concepts (BEC) sections. [Briggs and He \(2012\)](#) used summary level data provided by the National Association of State Boards of Accountancy (NASBA) to conduct their analysis. Their analysis presumes that candidates in jurisdictions where 150 credits is not required attempted the CPA exam before pursuing the 30 additional credits to be a member of the AICPA. In addition, the summary level data did not allow for the analysis to consider any differences in the composition of the additional 30 credits in the states where the 150 credits are required because the data were not at an individual candidate level.

More recently, the debate about the need to complete 150 credits before attempting the CPA exam has started to morph into a discussion around the value of a graduate degree versus an expanded undergraduate education. A possible reason that the debate has turned into a referendum on graduate education is because it is possible to determine if a candidate has completed a graduate degree, and therefore has 150 credits, but it is not possible to determine the number of credits completed if the candidate is obtaining the additional 30 credits with undergraduate courses. Candidates, when taking the CPA exam, disclose their educational background. A candidate who has completed 150 credits of undergraduate studies will list the same undergraduate degree as the candidate who has completed a 120 credit program. However, the candidates who have completed a graduate program will disclose both the undergraduate degree and the graduate degree.

Students taking additional accounting and business courses at the undergraduate level would tend to bias against finding a difference between candidates with an undergraduate degree taking the CPA exam and those with a graduate degree. The additional undergraduate business and accounting courses would be expected to provide the student with an increased level of technical understanding. While the graduate degree would be expected to provide students with a greater level of incremental understanding than would additional undergraduate courses, the difference between graduate and undergraduate degrees would likely be lessened making it more difficult to find a statistical difference between those with an undergraduate degree and those with a graduate degree. An exception to this biasing would be in states where 150 credits are required to sit for the exam because candidates who disclose only an undergraduate degree would have had to have taken additional undergraduate credits to qualify for attempt the exam.

Research into graduate versus undergraduate education for the additional 30 credits has taken two approaches. One approach was taken by [Haen, Vandenberg, Janes, and Conlon \(2013\)](#) when they researched CPA exam performance of graduates from five universities in Wisconsin, a jurisdiction that requires 150 credits to sit for the exam. Three of the five universities offered an undergraduate degree only. Students at these universities were surveyed to gain insights into how these students plan to obtain the additional credits beyond the undergraduate degree. The graduate program of the other two universities was evaluated to determine the composition of the courses in the graduate accounting program. These authors concluded that the composition of the additional credits beyond the bachelor's degree did not predict CPA exam pass rates. Two important presumptions were made in this analysis: (1) it was presumed that candidates at the undergraduate only universities did not obtain graduate credits from a different university; and (2) it was presumed that all of the candidates completed 150 credits prior to attempting the CPA exam. The data analyzed were at the school level so neither of these presumptions could be tested. It is possible that some, or many, of the candidates from the undergraduate only universities attended graduate school at one of the other Wisconsin universities; and it is possible that some of the candidates from universities with graduate programs attempted the CPA exam after earning 120 credits because they took the CPA exam in a different jurisdiction.

A second approach to researching graduate versus undergraduate education is based on candidates' completion of a graduate degree. The results generally confirm that candidates with graduate degrees perform better on the CPA exam than do candidates with undergraduate degrees ([Bline, Perreault, & Zheng, 2016](#); [Dunn & Hooks, 2009](#); [Howell & Heshizer, 2008](#); [Menk, Nagle, & Rau, 2017](#); [Nagle et al., 2018](#)), each concluding that candidates with a graduate degree performed better on the CPA exam than did those who did not have a graduate degree. These studies provide the basis for the *H1* of the current study:

*H1.* CPA exam candidates who have a graduate degree will earn a higher score on each section of the CPA exam than will candidates who have an undergraduate degree.

The above studies each compared CPA exam results of candidates who completed an undergraduate accounting education to candidates who completed a graduate education. One possible concern with comparing bachelor's program graduates to master's program graduates is that there may be a quality difference between those who obtain the additional 30 credits of undergraduate course work versus those who choose to enter a graduate program for the additional credits. One reason that a student may choose to not pursue a graduate education is that his/her undergraduate academic performance is not strong enough to enter a graduate program. As a result, there could be some biasing in the comparison of CPA exam candidates who completed an undergraduate degree to those who completed a graduate degree.

Prior research has also made no distinction among different types of graduate degree programs. The presumption is made that all graduate programs will

equally prepare students for the CPA exam. However, the focus of specialized graduate programs, such as an MSA, would be more focused on topics relevant to the CPA exam than would a general MBA, and possibly more focused than an MBA with a concentration in accounting. As a result, a distinction should be drawn among different types of graduate programs. It is likely that the CPA exam candidates who complete any of the graduate degrees will perform better on the CPA exam than those who complete an undergraduate degree because of the quality difference in the students attending the programs. However, the quality of students entering the different graduate programs would be expected to be more comparable. As stated above, the difference in the level of CPA exam topic relevance across the graduate programs results in the following hypothesis:

*H2.* Candidates with a specialized graduate degree in an area related to a section, or sections, of the CPA exam will perform better on that section, or sections, of the exam than will those who do not have a specialized graduate degree in that area.

## METHODOLOGY

Our sample consists of candidates who took an examination section for the first time during the period 2005–2013. We chose this sample period because the CPA examination switched to a computerized format and significantly adjusted the content areas in April 2004. We obtained data on candidate exam performance from the NASBA. International candidates as well as candidates who reported attending an undergraduate institution that was not included in the Hasselback directory (2013) were excluded from our analysis, resulting in a final sample exceeding 600,000 unique first-time examination sessions.

To test our *H1* (to examine the impact of graduate degree on CPA exam performance), we ran the OLS regression model below for each of the four sections of the examination:

$$\begin{aligned} \text{SCORE} = & \beta_0 + \beta_1 \text{GRADUATE} + \beta_2 \text{SAT} + \beta_3 \text{AACSB} + \beta_4 \text{ACG\_AACSB} \\ & + \beta_5 \text{AGE} + \beta_6 \text{GENDER} + \beta_7 \text{CPA} + \beta_8 \text{RANK\_PROGRAM} \\ & + \beta_9 \text{RANK\_RESEARCH} + \beta_{10} \text{Q2} + \beta_{11} \text{Q3} + \beta_{12} \text{Q4} + \varepsilon. \end{aligned} \quad (1)$$

To test our *H2* (to examine the impact of different types of graduate degrees on CPA exam performance), we ran the OLS regression models below for each of the four sections of the examination:

$$\begin{aligned} \text{SCORE} = & \beta_0 + \beta_1 \text{MSA} + \beta_2 \text{MST} + \beta_3 \text{SAT} + \beta_4 \text{AACSB} + \beta_5 \text{ACG\_AACSB} \\ & + \beta_6 \text{AGE} + \beta_7 \text{GENDER} + \beta_8 \text{CPA} + \beta_9 \text{RANK\_PROGRAM} \\ & + \beta_{10} \text{RANK\_RESEARCH} + \beta_{11} \text{Q2} + \beta_{12} \text{Q3} + \beta_{13} \text{Q4} \\ & + \sum \beta_j \text{STATE\_DUMMY}_j + \varepsilon. \end{aligned} \quad (2a)$$