A multi-college study of accounting students' CPA exam intentions

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ABSTRACT

This study examines factors that are associated with an accounting student's intention to take the CPA examination. The sample is comprised of 394 accounting students from 13 colleges and universities in Pennsylvania. Intrinsic motivation, social approval, and sensitivity to continued education were found to be significantly associated with an accounting student's intention to pursue the CPA examination. An accounting student's extrinsic motivation, desire to engage in non-technical activities, and self-efficacy were not associated with intention to pursue the CPA exam. The findings will be of interest to numerous stakeholders including accounting educators, professional accounting associations, and organizations which employ professional accountants.

Keywords: CPA exam, accounting students, CPA exam intentions, accounting education, public accounting

INTRODUCTION

Reports such as the American Institute of Certified Public Accountants' (AICPA) "Trends in the Supply of Accounting Graduates and the Demand for Public Accounting Recruits" (AICPA, 2019) have raised concerns about the declining number of CPA examination candidates. This trend may have important implications on the public and profession considering the high number of CPAs that are expected to retire in the next decade (AICPA, 2016; Boomer, 2018).

This study examines numerous factors which may affect accounting students' intentions related to pursuing the CPA examination. The sample is drawn from accounting students enrolled in colleges and universities throughout Pennsylvania and goes beyond student demographics to examine how students' perceptions, attitudes, and motivations may impact their plans to take the CPA examination. There are numerous articles examining students' perceptions related to accounting as a subject and profession but studies which examine students' intentions in relation to taking professional certification examinations are limited. The literature review is structured to summarize existing articles by the independent variables included in the study. The review is followed by a summary of the methodology, the results of the questionnaire, and a discussion related to the most interesting findings.

LITERATURE REVIEW

Education requirements

While the CPA examination is the same in all jurisdictions, the eligibility requirements for taking the examination are not. Some states allow candidates to sit for the examination after completing their standard 120 credit hour bachelor's program. Others require 150 semester-hours. To obtain 150 hours of education, students may obtain a master's degree but it is not required (AICPA, n.d.-b). Semester hours required in specific accounting courses vary by jurisdiction. Currently, the U.S. Virgin Islands is the only U.S. jurisdiction that does not require at least 150 hours of education for licensure (NASBA, n.d.).

The objective of implementing the 150-hour requirement was to improve the overall quality of work performed by CPAs (AICPA, n.d.-a). Research related to the effect of the 150 credit hour requirement on students' CPA intentions is mixed. Many authors posit that the 150 credit hour requirement is associated with a decrease in CPA candidates (A. Allen & Woodland, 2006; Bierstaker et al., 2004; Carpenter & Hock, 2008; Carpenter & Stephenson, 2006; Jackson, 2006). Carpenter and Stephenson (2006) found that while the number of candidates increased significantly in the year before the 150-hour rules went into effect, the subsequent impact was a 60 percent reduction in CPA examination candidates, using data from 1985-2002. Allen & Woodland (2006) found a 33 percent average decline in candidates when analyzing data from the National Association of State Boards of Accountancy (NASBA) related to the period of 1991-2002. Underlying factors that contribute to the 150-hour's effect on intention to take the CPA examination have not been addressed in literature. Examples include factors such as the opportunity cost associated with meeting the requirements, increased out-of-pocket costs, or academic rigor.

Metinko and Gray (2010) found no relationship between the number of CPA exam candidates and the education requirements in each of the US jurisdictions. Schroeder and Franz

(2004) studied the immediate and short term effects of 150-hour requirement's implementation. The researchers found that first time candidates dropped in the year the new requirement took place, but first time candidates recovered uniformly to approximately 50-60 percent of the baseline period in subsequent years. The authors' conclusion was that the 150-hour rule was not primarily responsible for the decline in first time CPA examination candidates. In terms of students' perceptions, Schroeder and Franz cited a July 2000 study by the Taylor Research and Consulting Group which found that students do not consider the 150-hour rule to be a barrier. 76 percent of high school students and 80 percent of college students who participated in the survey already had plans to pursue a graduate degree. Nelson, Vendrzyk, Quirin, and Kovar's (2008) 15-year longitudinal study of accounting students supports the claim that more students intend to pursue graduate degrees. However, Charron and Lowe's (2009) survey of accounting alumni found that 40 percent of graduates who had achieved the required credits had not taken a single part of the CPA examination. Half of the "exam ready" graduates had achieved the required credits more than one year earlier.

Research question one asks "To what extent do educational requirements influence a student's intention to take the CPA examination?"

Theory of planned behavior

The next three factors affecting students' intentions to pursue the CPA examination are grounded in beliefs. Many articles have examined how students' beliefs impact their pursuit of various career paths (C. L. Allen, 2004; Cohen & Hanno, 1993; Dalton et al., 2014). Researchers examining accounting students' beliefs in relation to their intentions to pursue the CPA examination point to the theory of planned behavior (Coe, 2016; Sandra Felton et al., 1995; Wen et al., 2015). The theory of planned behavior contends that intention is the best predictor of behavior (Ajzen, 1991).

Social influence. Social influence, or "subjective norm", is one of the three variables underlying the theory of planned behavior. Subjective norm is an individual's perception of whether people who are important in the individual's life (referents) favor a behavior (Sandra Felton et al., 1995). It can also be thought of as the perceived social pressure or approval of certain behaviors. For example, a student who believes a teacher or family member would want him or her to take the CPA exam may be more inclined to pursue this endeavor. Wen, Hao, and Bu (2015) found that the influence of referents positively influence Chinese accounting students' intentions to pursue the CPA examination. Coe's (2016) study of upper level division accounting students found factors such as the perception of social support from friends and family, access to a role model who is a CPA, and support from college faculty to take the CPA examination to be positively associated with the intention to sit for the CPA examination. One party that does not appear to be exerting a high level of influence is employers. While public accountants report significantly higher perceived pressure to pass the CPA from their employers than accountants in non-public jobs, the mean rating reported by a sample of accounting alumni was 4.6 on a 7-point Likert scale (Charron & Lowe, 2009). In 2004, a joint task force of the AICPA, NASBA, and Thomson Prometric Inc. was assembled to research why enrollment declined substantially in the first year of computerized testing. Interestingly, respondents did not report the computerized test as an obstacle. Instead, they reported feeling no pressure from their employers to take the CPA examinations and also cited work and family commitments as hindrances (*Journal of Accountancy: Professional Issues*, 2005).

Research question two asks "To what extent does social influence affect a student's intention to take the CPA examination?"

Self-efficacy. The CPA examination can be a daunting pursuit. The average candidate requires roughly 17-18 months and six total attempts to pass the fourth part of the examination (*2014 Candidate Performance Book: The University Edition*, 2014). Self-efficacy is the confidence in one's own ability to achieve intended results (Ormrod, 2006). Studies have found self-efficacy to be positively related to a student's decision to join the accounting profession (Hayes & Credle, 2008; James & Hill, 2009). Coe (2016) found that self-efficacy was positively associated with the intention to sit for the CPA examination as soon as a candidate is eligible. Wen et al. (2015) found that the perceived incapability to succeed was negatively associated with the intention to pursue the CPA examination. Timing may also affect self-efficacy. CPA exam data consistently show a higher pass rate for candidates who test soon after meeting the educational requirements (NASBA, 2017). As potential candidates delay taking the exam and become further removed from school, they may perceive passing the exam to be more difficult (Arens & Elder, 2006; Buchanan et al., 2004; Weidman, 2006). In general, literature consistently shows that students who believe they will succeed are more likely to engage in a challenging undertaking like the CPA examination.

Research question three asks "To what extent does self-efficacy influence a student's intention to take the CPA examination?"

Intrinsic and extrinsic motivation. Beliefs about the consequence of a behavior and the desirability of the consequence is the third factor in theory of planned behavior. These beliefs center on intrinsic and extrinsic motivators. For example, the belief that taking the CPA examination will contribute to securing a fulfilling (intrinsic) or well paying (extrinsic) job will likely increase the intention to sit for the examination. Students' positive attitudes toward accounting as a profession are commonly grounded in extrinsic factors such as salary prospects, job security, and opportunities for advancement (Ahmed, 1997; S. et al. Felton, 1994; Francisco et al., 2003; Germanou & Hassall, 2009; Mustapha & Abu Hassan, 2012; Nelson et al., 2008; Stivers & Onifade, 2014; Sugahara et al., 2008). Many students feel that a career in accounting will have little personal satisfaction (C. L. Allen, 2004; Marriott & Marriott, 2003; Stivers & Onifade, 2014).

While Wen et al. (2015) found students associate extrinsic factors with the CPA credential, these researchers found intrinsic factors to be significant in relation to students' intentions to pursue the CPA examination. Coe (2016) also found students' genuine interest in accounting to be positively associated with intention to pursue the CPA exam but did not find a significant positive relationship between perceived better financial compensation and the choice to pursue the CPA credential. Intrinsic motivation comes from within an individual. It is not driven by external rewards. Instead, interest in an activity is stimulated from the personal satisfaction or fulfillment derived from the activity. Jackling and Calero (2006) found that personal satisfaction with studies in accounting was the most significant predictor of intention to become an accountant.

Research question four asks "To what extent does intrinsic motivation influence a student's intention to take the CPA examination?"

Research question five asks "To what extent does extrinsic motivation influence a student's intention to take the CPA examination?"

Desire to engage in non-technical business activities

Stereotypes can impact the selection process of individuals choosing a profession (Arguero & Howard, 2009). Holland (1973) found that individuals base career selections on vocational stereotypes because vocation interest can be a way for individuals to express their personalities. Negative stereotypes may lead students to view a career track as incompatible with their self-image. Many studies find that students perceive the subject of accounting to be dull or boring (Larkin, 1991; Lehman, 2001; Picard et al., 2014; Stivers & Onifade, 2014).

The reality is that an accountant's role has transitioned from "bean counter" to "business partner" (Institute of Management Accountants, n.d.). Rapid advancements in technology and globalization have contributed to this change (Albrecht & Sack, 2001; Mohamed & Lashine, 2003). Traditionally, public accountants were primarily preparing financial information for decision makers, auditing financial statements, or assisting with tax and other regulatory requirements. Today's competitive environment has compressed margins on many services previously offered by public accounting firms. Consequently, firms are channeling their resources into advisory and consulting services and outsourcing lower-value services. The emphasis is no longer value stewardship (e.g. auditing, statutory reporting, compliance); it is value creation (e.g. financial planning and analysis) (Siegal et al., 2010; Thomson, 2017). Accordingly, accounting firms are rebranding themselves as "professional service firms" (Albrecht & Sack, 2001).

The shift away from preparers to advisors means today's accountants, more than ever, need to possess critical thinking skills to anticipate, identify, and solve problems. Mohamed and Lashine (2003) describe this as having the ability to reach conclusions to questions when all of the relevant information is not readily accessible. In addition to the ability to think critically, employers want candidates who are able to communicate their recommendations well and do this successfully in a team environment (Blanthorne et al., 2005; Borzi & Mills, 2001; Hassall et al., 2005). Rebecca Mahler, a Senior Manager of College and University Initiatives at the AICPA says that "Critical thinking and relationship-building, as well as verbal and written communications skills are crucial to being a successful CPA. Technical knowledge is a minimal requirement" (McCabe, 2015).

Unfortunately, reports from employers frequently indicate new accounting graduates have challenges with communication and teamwork (B. Jackling & DeLange, 2009; Ping et al., 2010; Yu et al., 2013; Zaid & Abraham, 1994). ManpowerGroup's annual Talent Shortage Survey consistently marks accounting and finance as one of the hardest jobs to fill (Global Upside, 2014).

Many say universities are not preparing students in the non-technical or professional skills required by the modern accounting profession (Kavanagh & Drennan, 2008; Mohamed & Lashine, 2003). Vein (2016) states that most accountants are trained to be technical experts first, managers second and businesspeople third."

Research shows that accounting students minimize the role that communication and other generic skills play in achieving a successful career in accounting (Ameen et al., 2010; Ping et al., 2010). Accounting majors rank math skills as significantly more important than communication skills (Meixner et al., 2009). Those who choose to major in accounting also have higher than average apprehension about oral communication (Meixner et al., 2009). Ping et al's. (2010) survey found that the primary reason why students select accounting as a major was perceived

competencies in quantitative areas. The second highest rate reason was "I do my best work alone" (p. 63).

After entering the workplace, accounting alumni report that they are inadequate in these non-technical areas (B. Jackling & DeLange, 2009). One study surveyed 262 upper level accounting students and 231 accounting professionals who were alumni of the same university (Ping et al., 2010). When comparing students' and professionals' responses, alumni rated communication skills much higher than students. Researchers are concerned that incorrect impressions are turning off potential candidates who are well suited for public accounting while possibly attracting candidates who are trying to avoid the very skills needed to be successful in this field (Albrecht & Sack, 2001; Ping et al., 2010).

Considering how students' perceptions about accounting as a career may affect their decision to pursue the CPA certification, research question six asks "To what extent do accounting students' desire to engage in non-technical business activities affect their intention to pursue the CPA examination?"

Sensitivity to cost

Application, registration and examination fees vary by jurisdiction. The total cost generally exceeds $1,000, assuming a candidate passes each section on the first try. Re-examination candidates are generally required to pay both the registration and examination fee for subsequent attempts (NASBA, n.d.). The average candidate requires 6 total attempts to pass the fourth section of the examination (*2014 Candidate Performance Book: The University Edition*, 2014). There are also unquantifiable opportunity costs associated with the time invested in preparing for the examination. Candidates that utilize exam preparation courses incur additional out-of-pocket costs, averaging between $2,500 and $3,500 (Meoli, 2016). After a candidate has achieved licensure, CPAs must meet continuing education requirements defined by their licensing state board of accountancy to maintain their license. Most jurisdictions require 80 hours of continuing education every two years with minimum annual requirements in accounting, auditing, tax and ethics. These continuing education costs can range from hundreds to thousands of dollars.

Employers are offering incentives to new accounting hires in an effort to minimize the cost obstacle. Some employers pay for CPA review courses before new hires even start. Others have offered sabbatical programs, up to one year, where new hires receive a percentage of their salary and time off to study (Meoli, 2016). Charron and Lowe's (2009) survey of 181 accounting alumni found that 75 percent of public accounting firms offer some form of incentives with salary increases and bonuses being the most popular. Forty-one percent offered paid time off to take the exam, 40 percent reimburse examination fees, and 36 percent reimburse review courses. Only 15 percent of new accountants working in public accounting and 36 percent of accountants working in non-public accounting roles reported that their employers did not provide incentives. While the costs are high and financial incentives are common, they do not appear to significantly affect accounting students' intentions to take the CPA examination. Only one student in Trout and Blazer's (2018) survey cited cost as the primary factor for not pursuing the CPA exam. Coe's (2016) survey of 235 upper-division accounting students found that students' perceptions of the high cost associated with taking the CPA examination did not negatively impact their intention. Financial support from family was not positively associated with intention to take the

CPA examination. In addition, Coe found that students are not waiting to take the examination because of perceived financial support from future employers.

Research question one asks "To what extent does cost influence a student's intention to take the CPA examination?"

METHODOLOGY

Instrumentation

The questionnaire used in this study was designed to measure how various factors impact an accounting student's intention to take the CPA examination. It also collected demographic data including gender, GPA, class level, and age. The instrument did not collect participant names or any unique identifier. The questions were designed based on a review of literature and were reviewed by two accounting professors. In addition to asking students if they plan to pursue the CPA designation, the instrument included 28 statements which were initially designed to create seven index variables.

Hard copy and online questionnaires via Qualtrics were administered to participants during the Spring and Fall 2018 semesters. The sample was comprised of 394 accounting students from 13 colleges and universities located in Pennsylvania.

Students were informed about the purpose of the survey and that their participation was voluntary. A five-point Likert type scale with 1 representing strongly disagree and 5 representing strongly agree was used by students to rate their agreement with the 28 statements.

Data Analysis

Data collected from participants were coded and entered into Microsoft Excel for analysis using IBM SPSS-24. Twenty questions were stated in the affirmative, meaning that agreement to a statement indicates a high level of support for the variable being measured. Eight items were constructed as a negatively worded statements with the intention to achieve a more valid measurement. These statements were phrased so that agreement represented a relatively low level of the attribute being measured.

Cronbach alpha statistics were computed to measure how closely related each group of questions were within each of the seven index variables. A Cronbach alpha of .70 or higher is generally considered acceptable (Pearson, 2010). The social influence, self-efficacy, sensitivity to continued education, and extrinsic motivation index variables were found to have acceptable alphas. The intrinsic motivation index variable was found to have an acceptable alpha after removing "I want to know how difficult something is before I commit". The desire to engage in non-technical activities index variable was found to have an acceptable alpha after removing "I prefer straightforward tasks in which I can follow a clear sequence of steps". An unacceptable alpha was found for the sensitivity to cost index variable. Therefore, it is excluded from the logistic regression test.

Responses for the following statements were reverse scored when computing index variables to create consistency among all statements:

- I would be more inclined to pursue a CPA license if it only required 120 semester hours (Educational requirements)

- Having to achieve 150 semester hours discourages me from pursuing the CPA (Educational requirements)
- I want to crunch numbers and not interact with people (Desire to engage in non-technical business activities)

Descriptive statistics regarding frequencies, percentages, and means of responses were computed for each of the individual statements and index variables. Binary logistic regression was used to predict the dichotomous dependent variable, intent to pursue or not to pursue the CPA examination.

Logistic regression permits researchers to analyze the impact of each explanatory variable on the odds ratio of a student's intention to pursue the CPA designation. For every unit increase in an explanatory or predictor variable, the outcome is explained as the odds of the dependent variable (intention to take the CPA examination) increasing or decreasing by a certain degree. The regression results are presented relative to a reference level. The outcomes of the dependent variable are restricted to whether a student answered "yes" or "no" to the question "Do you intend to take the CPA examination". The reference group for this analysis is "yes" or students who do intend to take the CPA examination.

Limitations

This study focuses on students' intentions related to taking the CPA examination. This assumes that intention is a predictor of actual behavior. While this is a reasonable assumption and its predictive validity has been supported by literature (Armitage & Conner, 1999; Chatzusarantis et al., 2007; Hagger & Chatzusarantis, 2002; Krueger et al., 2000), it is also important to note that behavioral intention may not always predict actual behavior (Armitage & Conner, 2001; Sheeran et al., 2005).

Participants included in this study were not randomly selected. They were invited to participate because of their enrollment in accounting courses which the researcher's colleagues were instructors. While the inclusion of numerous colleges and universities results in a larger and more diverse sample, it is restricted to students attending schools in Pennsylvania. This may limit generalizability of results.

The results rely on self-reporting. Self-reporting is required in this study because only students can provide data regarding their intentions to sit for the CPA examination. While careful measures were taken to design the questionnaire to mitigate response bias and test for validity, self-reporting does have its limitations. Individuals may interpret scales differently and participants' emotions at the time of survey completion can influence results.

RESULTS

Demographic data

The sample was comprised of 394 undergraduate accounting students from 13 colleges and universities in Pennsylvania. The gender distribution was half males and half females. The majority of the students were seniors (39%) and juniors (32%). Table 1 (Appendix A) shows frequencies and percentages for gender and class level.

292 of the 394 students reported that they intend to take the CPA exam. Similar to the total sample, males comprised 51 percent of students who intend to take the CPA exam and 46

percent of students who do not intend to take the CPA examination. The class level composition of each group was also similar with seniors and juniors comprising 71 percent of students who intend to take the CPA exam and 69 percent of student who do not intend to take the CPA exam. Table 2 (Appendix A) shows gender and class level data by group.

Average age and GPA were similar when comparing students who plan to take the CPA exam and students who do not plan to take the CPA exam. Table 3 (Appendix A) shows the means and standard deviations for these data.

Explanatory variables

Descriptives. Students' sensitivity to continued education, perceptions of social referents' affirmation, self-efficacy, intrinsic motivation, extrinsic motivation, desire to engage in non-technical business activities, and sensitivity to cost were measured through a variety of questions. A five-point Likert type scale was used with 1 representing *strongly disagree* to 5 representing *strongly agree*. The classifications of these questions are presented in Appendix B. Table 4 (Appendix A) shows the frequencies and percentages for each question by group.

Index variables were created from individual questions to construct six explanatory variables. Means and standard deviations were calculated for the index variables and are shown in Table 5 (Appendix A).

Logistic regression. A logistic regression was completed to determine the relationship between demographic variables (gender, GPA, class level, and age) as well as explanatory index variables (continued education, social influence, self-efficacy, intrinsic motivation, extrinsic motivation, and desire to engage in non-technical business activities) and an accounting student's intention to pursue the CPA examination. The results are presented Table 6 (Appendix A).

There was no significant association between any demographic variable and intention to pursue the CPA examination. There was no significant association between self-efficacy, extrinsic motivation, and desire to engage in non-technical activities and a student's intention to pursue the CPA exam. However, three explanatory variables showed a significant association with intention to pursue the CPA exam: continued education ($p < .05$), social influence ($p < .05$), and intrinsic motivation ($p < .01$).

Highest among these was intrinsic motivation. For every unit increase in the intrinsic motivation scale (Likert scale of 1 to 5), an accounting student is 2.37 times more likely to plan to pursue the CPA exam when controlling for other variables. For every unit increase in the social influence scale, an accounting student is 1.75 times more likely to plan to pursue the CPA exam when controlling for other variables. For every unit increase in the continued education scale, an accounting student is 1.51 times more likely to plan to pursue the CPA exam when controlling for other variables.

The Omnibus test evaluates how well the independent variables predict the outcome variable (Pearson, 2010). This test results in a Chi-square of 77.05 on 12 degrees of freedom, significant beyond .001. The Cox and Snell R^2 and the Nagelkerke R^2 can be interpreted as the percentage variation in the dependent variable which is explained by the independent variables (Pearson, 2010). Continued education, social influence, self-efficacy, intrinsic motivation, extrinsic motivation, desire to engage in non-technical business activities, age, gender, GPA, and class level account for approximately 17.8 to 26.2 percent of the variation in a student's intention to pursue the CPA designation.

DISCUSSION

Intrinsic and extrinsic motivators

The importance placed on job stability and financial security were high among students who plan to take the CPA exam and those who do not, with both groups exceeding 90 percent agreement to these question types. Literature consistently finds that students associate extrinsic factors with becoming a profession accountant (Mustapha & Abu Hassan, 2012; Stivers & Onifade, 2014; Wen et al., 2015). While the results for this study show that extrinsic factors are important to accounting students, these motivators are not significantly associated with an accounting student's intention to pursue the CPA exam.

Instead, the results indicate that accounting students' intrinsic motivation is significantly associated with intention to pursue the CPA exam. Intrinsic motivation was the highest among all variables included in the model with a 137 percent increase in probability to plan to take the CPA exam for every incremental increase on the Likert scale which measures intrinsic interest. This is consistent with similar studies (Coe, 2016; Beverley Jackling & Calero, 2006; Wen et al., 2015). Those who intend to pursue the CPA exam agree that accounting is genuinely interesting, will be personally fulfilling as a career, and fits their self-image. These results could be encouraging for an industry entering a critical period of transition and succession planning (AICPA, 2016). It is reasonable to believe that those who are entering the profession because of intrinsic motivators are more likely to find satisfaction in the work (Borzaga & Tortia, 2006; Mottaz, 1985) and consequently stay in the profession, advance, and potentially succeed owners.

Social influence

The results pertaining to social influence as a factor in predicting an accounting student's intention to pursue the CPA exam may be especially important for readers who are accounting educators and those with influence over accounting students. Accounting students who believe social referents would approve of or encourage them to take the CPA exam are more likely to pursue this endeavor than those who do not perceive this positive social influence. Overall, students who plan to pursue the CPA exam believe social referents would encourage them to do so ($M = 4.11$) to a higher degree than those who do not plan to pursue the CPA exam ($M = 3.65$). For every incremental increase in agreement on the Likert scale measuring this variable, students were 1.75 times, or 75 percent, more likely to pursuing the exam.

The significant association between how accounting students perceive influential individuals' approval and a student's intention to pursue the CPA examination should remind those in influential roles of the degree to which they affect students. Accounting educators, employers, and professional organizations cannot presume that accounting students understand that pursuing a certification is encouraged and admirable. These social referents must purposefully and explicitly communicate their approval if they desire to see students pursue this endeavor. For an accounting educator, this may mean allocating class time to educate and encourage students to pursue this path. The PICPA (Pennsylvania Institute of Certified Public Accountants) provides ample resources to assist educators including numerous printed resources, PowerPoint presentations, and guest speakers who are CPAs (PICPA, n.d.). When considered in the context of this study, a seemingly non-teaching activity like this could be one of the best

"lessons" an accounting instructor could give. Not only can the CPA credential pave the way for a variety of career paths, but it also can instill a sense of achievement that can be transformative.

Education

Results from existing studies vary when examining the association between the 150 semester hour requirement and an accounting student's intention to pursue the CPA exam. The results from this study indicate that students who intend to pursue the CPA examination are not as sensitive to the prospect of continued education. For every increase in the education Likert scale, an accounting student is 1.51 times, or 51 percent, more likely to plan to pursue the exam.

The debate related to whether states should implement a 150 semester hour requirement is over. The findings from this study should promote discussions about how stakeholders are communicating this educational requirement for licensure and why some accounting students are less sensitive to the prospect of continuing their education..

While the 150 semester hour requirement certainly provides a cognitive and financial hurdle for students, most states' licensure requirements are broad in terms of what courses or degrees qualify. Colleges and universities that provide valuable programs and clearly defined paths for undergraduate students to achieve these credits may be more successful in enhancing students' perceptions about continuing their education.

In addition, it is logical to assume that students' experiences in their undergraduate programs may influence their response to the prospect of achieving 30 more credits after a traditional 120-credit program. Research related to students' experiences in their first accounting courses show that experiences significantly affect their decision to major in accounting (Geiger & Ogilby, 2000; Beverley Jackling & Calero, 2006). It is noteworthy that findings from this study show a student's GPA is not significantly associated with plans to pursue the CPA exam. Future research should explore other underlying factors that may be connected to accounting students' sensitivity to continued education and consequently their decision to pursue the CPA exam. It is possible that a student's attitude toward continued education is informed by the perceptions they form in their undergraduate programs via their perceptions of alignment to intrinsic interests and their instructors' encouragement regarding a CPA exam pursuit.

Desire to engage in non-technical activities

Factors which are not significantly associated with an accounting student's intention to pursue the CPA exam are also worthy of discussion. Accounting firms continue to transition into advisory and consulting services. Many contend that these services require new skills which accounting students do not possess (B. Jackling & DeLange, 2009; Ping et al., 2010; Yu et al., 2013). This study does not assess these skills nor discuss their inclusion in accounting education. Instead, it concentrates on accounting students' proclivity toward the "non-technical" activities inherent in the modern accounting profession. Professional accountants and educators have concerns that the profession may be attracting the "wrong" students who pursue accounting because of a desire to work alone, and exclusively perform quantitative or math oriented tasks (Albrecht & Sack, 2001; Meixner et al., 2009; Ping et al., 2010).

The author expected to find students who intend to pursue the CPA exam to be less favorable toward the idea of participating in cross functional teams, engaging in unstructured problems, and making strategic recommendations. Interestingly, the results from this study

showed that an accounting student's desire to engage in non-technical activities is not associated with their intention to pursue the CPA examination. The mean for a student's desire to engage in non-technical activities was actually higher for students who plan to sit for the CPA exam (M = 3.69) than students who do not (M = 3.62). While there is a strong desire to perform straight forward tasks, there was no difference between the students groups. Those that plan and do not plan to take the CPA exam have equal interest in participating in cross functional teams (83 percent). Neither those planning to take the exam (39 percent) nor those not planning to take the exam (41 percent) want to "just crunch numbers". The largest difference surfaced in the desire to engage in unstructured problems and make strategic recommendations. Those who plan to pursue the CPA exam have higher interest in this area.

While this study cannot provide general conclusions about a college student's desire to engage in non-technical and the decision to major in accounting, it can offer insight about those students who have decided to major in accounting. Among these students, the results indicate that those who have CPA licensing aspirations may be favorable toward or at least not opposed to the activities that are essential in today's competitive landscape.

Self-efficacy

While students who intend to sit for the exam report a higher average for the self-efficacy variable (M = 4.39) than students who do not intend to take the exam (M = 4.22), the results indicate that that self-efficacy is not significantly associated with a student's intention to pursue the CPA examination. These results are contrary to existing studies (Coe, 2016; Wen et al., 2015). Regardless of their intentions about the CPA exam, accounting students reported high levels of self-efficacy as measured by the Likert scale questions. More than 90 percent of accounting students agree with "I am sure I can accomplish my goals" and "I will overcome challenges". One could infer that it is not a matter of confidence in one's abilities that affects students' intentions to pursue a challenging endeavor such as the CPA exam. It may be more reasonable to assume that an association exists between a student's self-efficacy and the probability of passing the CPA examination. Further research needs to be conducted to explore this assertion.

Concluding remarks

This study adds a unique contribution to existing literature by including new explanatory variables to better understand accounting students' intentions to pursue the CPA examination. The sample contains accounting students from numerous colleges and universities and, to the best of this author's knowledge, is the largest study to examine accounting students' intentions to pursue the CPA exam.

The results indicate that an accounting student's intrinsic motivation, perceptions of approval from social referents, and sensitivity to the prospect of continued education are significantly associated with intention to pursue the CPA examination. The variables not associated with an accounting students' intentions to pursue the CPA exam are no less interesting as they may be contrary to commonly held assumptions. Demographic variables such as age, gender, GPA, and class level are not associated. A student's level of extrinsic motivation was not significantly associated with intention to pursue the CPA exam; nor was a student's level of

self-efficacy. In addition, the results indicate that students' desires to engage in non-technical activities are not associated with their intentions to pursue the CPA exam.

The findings will be of interest to numerous stakeholders including accounting educators, professional accounting associations, and organizations which employ professional accountants.

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APPENDIX A: RESULTS

Table 1: Gender and class level data

	Frequency	Percent
Gender		
Males	197	50%
Females	197	50%
Other	0	0%
Class level		
Seniors	153	39%
Juniors	125	32%
Sophomores	78	20%
Freshmen	38	10%

Table 2: Gender and class level by group

	Pursue CPA		Not pursue CPA	
	Frequency	Percent	Frequency	Percent
Gender				
Males	150	51%	47	46%
Females	142	49%	55	54%
Other	0	0%	0	0%
Class level				
Seniors	114	39%	39	38%
Juniors	93	32%	32	31%
Sophomores	52	18%	26	25%
Freshmen	33	11%	5	5%

Table 3: Age and GPA

	Pursue CPA		Not pursue CPA	
	M	SD	M	SD
Age	23.10	6.02	22.13	4.14
GPA	3.33	0.51	3.32	0.43

Table 4: Rates of agreement for survey questions (agree or strongly agree)

	Pursue CPA		Not pursue CPA	
	Frequency	Percent	Frequency	Percent
Inclined to pursue CPA if 120 credits	185	63%	73	72%
150 credits deters me	97	33%	54	53%
I do not mind taking college courses	229	78%	76	75%
Continuing education is appealing regardless	193	66%	59	58%
Family would encourage me to pursue	235	80%	65	64%
Friends would encourage me to pursue	187	64%	60	59%
Employer would encourage me to pursue	250	86%	60	59%
Society would think highly of me	204	70%	66	65%
I can solve problems through effort	240	82%	81	79%
I want to know difficulty before committing	168	58%	65	64%
I am sure I can accomplish my goals	275	94%	95	93%
I will overcome challenges	279	96%	95	93%
Accounting will provide a job I love	247	85%	62	61%
I am genuinely interesting in accounting	267	91%	68	67%
Believe accounting will be personally fulfilling	246	84%	61	60%
Accounting fits who I am	234	80%	55	54%
Stable job is important	287	98%	92	90%
Making the most money important	197	67%	75	74%
Financial security is important	288	99%	98	96%
A job is about a paycheck	98	34%	46	45%
Like idea of cross-functional teams	241	83%	85	83%
Prefer straightforward tasks	267	91%	93	91%
Desire unstructured problems, making recommendations	211	72%	67	66%
Want to just crunch numbers	114	39%	42	41%
Pursue CPA regardless of financial assistance	244	84%	29	28%
Financial costs of CPA are high	232	79%	67	66%
Would give up a lot of money to pursue	166	57%	31	30%
Make decisions based on costs	229	78%	78	76%

Table 5: Descriptive statistics for index variables

	Pursue CPA		Not pursue CPA	
	M	SD	M	SD
Continued education*	3.32	0.71	3.05	0.71
Social influence	4.11	0.68	3.65	0.68
Self efficacy	4.39	0.56	4.22	0.52
Intrinsic motivation	4.32	0.70	3.58	0.86
Extrinsic motivation	4.09	0.58	4.03	0.49
Desire for non-tech*	3.69	0.67	3.62	0.65

* Select questions were reverse scored to create consistency among statements. See methodology

Table 6: Logistic regression results

	B	SE B	Wald	p	OR
Continued education	0.41	0.20	4.31	0.038	1.51
Social influence	0.56	0.23	5.99	0.014	1.75
Self efficacy	0.01	0.31	0.00	0.969	1.01
Intrinsic motivation	0.86	0.20	19.14	0.000	2.37
Extrinsic motivation	0.08	0.27	0.09	0.760	1.08
Desire for non-tech	-0.11	0.21	0.26	0.613	0.90
Age	0.04	0.03	1.65	0.199	1.04
Gender	0.33	0.27	1.47	0.226	1.39
GPA	-0.25	0.28	0.81	0.369	0.78
Class level			3.70	0.296	

APPENDIX B: SURVEY QUESTIONS BY INDEX VARIABLE

Question	Index variable
I would be more inclined to pursue a CPA license if it only required 120 semester hours	Continued education
Having to achieve 150 semester hours discourages me from pursuing the CPA	Continued education
I don't mind taking college courses	Continued education
Continuing my education after I achieve a bachelor's degree is appealing to me regardless of my career pursuits	Continued education
My family would encourage me to pursue a career in accounting	Social influence
My friends would encourage me to pursue a career in accounting	Social influence
Employers in my chosen field will want me to secure an accounting certification	Social influence
Society in general would think highly of me if I possess an accounting certification	Social influence
I can always solve difficult problems if I try hard enough	Self-efficacy
I want to know how difficult something is before I commit	Self-efficacy
I am sure that I can accomplish my goals	Self-efficacy
I will be able to successfully overcome many challenges	Self-efficacy
Accounting will enable me to pursue a job I'll love	Intrinsic motivation
I am genuinely interested in accounting	Intrinsic motivation
I believe that a career in accounting would be personally fulfilling	Intrinsic motivation
Accounting fits who I am	Intrinsic motivation
Securing a secure and stable job after graduation is important to me	Extrinsic motivation
Making the most money I can immediately upon graduation is important to me	Extrinsic motivation
Being financially secure in the long term is important to me	Extrinsic motivation
A job is about the paycheck	Extrinsic motivation
I like the idea of working in cross-functional teams	Desire for non-tech
I prefer straightforward tasks in which I can follow a clear sequence of steps	Desire for non-tech
I like the idea of developing solutions to unstructured problems and communicating my recommendations to stakeholders	Desire for non-tech
I want to crunch numbers and not interact with people	Desire for non-tech
I would pursue the CPA examination regardless of the financial assistance offered by an employer	Cost
The financial costs associated with achieving a professional certification are high	Cost
I would give up a lot of money to study for an accounting certification	Cost
I make decisions based on financial costs	Cost