

An Examination of the Factors Affecting Students' Decision to Major in Accounting

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Abstract

We conducted a survey of accounting and non-accounting students to determine what influences a student to major in accounting. We validated our constructs using principal components and tested our hypotheses that accounting students would view career objectives as more important, and that non-accounting students would view intrinsic characteristics of their major as being more important. As expected, we found that accounting students place more emphasis on career objectives and less emphasis on the intrinsic characteristics of their major than non-accounting students. The difference in opinion on intrinsic characteristics – accounting students think that accounting is better intrinsically than non-accounting students, and non-accounting students thinking their own major much more intrinsically rewarding than accounting – was a more powerful predictor than differences in opinion on career outcomes. These findings provide guidance to accounting programs that they can communicate the intrinsic rewards of majoring in accounting to attract more students.

Keywords: Accounting Education; Theory of Reasoned Action; Theory of Planned Behavior; Major choice

1. Introduction

In response to a concern in the 1990's and early 2000's that the number of talented students choosing to major in accounting was declining (Albrecht & Sack, 2000; C. Chen, Jones, & McIntyre, 2005; Felton, Dimnick, & Northy, 1995) serious efforts were made to improve retention of recent graduates in the accounting profession and to improve student interest in studying accounting (Bardey & McGoff, 2005).

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Perhaps the most fundamental of these efforts were series of research projects examining the factors that affect students' choice of accounting as a major (Cohen & Hanno, 1993) and as a career (Felton, Buhr, & Northy, 1994). These efforts appear to have been successful. A recent survey by the AICPA notes that accounting enrollments grew by about 39% between 2001 and 2008 (Reigle, 2009). However, the survey respondents expressed concern that this increase is only temporary and that enrollments will soon decline. Accounting programs will be positioned better to recruit quality students if they understand the motivations of students in choosing majors. It may be that students usually select majors most appropriate for their goals, but it is also possible that students are misled by stereotypes (Clement Chen, Jones, Scarlata, & Stone, 2012).

College students effectively choose their careers when they choose their major, especially in an applied discipline such as accounting. Thus, accounting educators play a crucial role in the profession's efforts to recruit talented young accountants. With a new generation of students, our academic recruiting efforts must change, just as our teaching methods have had to change to include more technology, more group work, and more hands-on learning activities (eg., Sargent, Borthick, & Lederberg, 2011). This paper reexamines the factors associated with students' choice to major in accounting, making two contributions to academic recruiting efforts and to the extant literature.

First, based on the Theory of Planned Behavior (Ajzen, 1991), we simultaneously compare factors that students identify as important in choosing a major and their perceptions that an accounting career is rewarding. Prior research tends to focus on either importance or on outcome perceptions alone, rather than both simultaneously. Testing both simultaneously allows for finding out if, for example, students that choose not to major in accounting do so because they think accounting is not intrinsically rewarding or because they think career objectives are less important. Second, we ask students not majoring in accounting to compare accounting to their current major. This improves the power of our statistical tests, since students are more likely to be interested and knowledgeable in discussing their own major than a generic "non-accounting major" as used in prior research. Non-accounting majors are also more likely to have a stronger reaction when comparing their own major to majoring in accounting. Prior research comparing the perceptions of accounting to non-accounting students tends to use only business students, but we also survey non-business students.

Overall, our results suggest that the most important factors in choosing a major for both accounting and non-accounting students are perceptions of the intrinsic rewards associated with that major. Unfortunately, most students believe that other majors provide greater intrinsic rewards than does accounting. The greatest draw to major in accounting is the perception of greater extrinsic rewards, such as pay and career advancement. In addition, we provide a model that allows us to successfully discriminate between accounting and non-accounting majors for ninety-five percent of sampled students.

In the next section of the paper we discuss the hypotheses and the relevant literature. We then discuss the methods used and the results of the statistical analyses. Finally, we offer some concluding interpretation.

2. Research Questions

Research regarding students' choice of accounting as a major is based primarily on two theories of the relationship between perceptions and behavior. The original theory, the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), predicts that an individual's behaviors are caused by his or her attitudes about the behavior and his or her perception of social norms. People with favorable attitudes and perceptions of social norms toward a behavior are more likely to engage, or at least have the intention to engage, in the behavior. The theory further explains that a favorable attitude about a particular behavior develops because the individual perceives the outcomes from the behavior are important and likely to occur. People are more likely to behave in an activity in which they perceive likely, positive outcomes. Positive social norms develop as the members of the individual's social group (i.e., parents, spouse, teachers, peers, etc. whose opinion the individual respects) express approval of the behavior. The greater the perceived approval of the social group and the more important their approval is to the individual, the greater the incentive to perform the behavior. TRA has been used to study a broad array of decisions from the amount of milk consumed (Brewer, Blake, Rankin, & Douglass, 1999) to how to dispose of clothing (Joung & Park-Poaps, 2013). In relationship to this study, TRA has been proven useful in understanding career choice in a variety of occupations.

For example, students' attitudes and perceived social norms predict choosing careers in information systems (Joshi & Kuhn, 2011), the military (Gibson, Griepentrog, & Marsh, 2007), and self-employment (Krueger Jr, Reilly, & Carsrud, 2000).

A refinement of the Theory of Reasoned Action, the Theory of Planned Behavior (TPB) (Ajzen, 1991), adds *perceived control* over a behavior as an additional determinate in performing a behavior. Perceived behavioral control refers to the self-perceived ability of an individual to perform the behavior. It has been validated in a wide range of topics from tourism (Hsu, 2013) to eating habits (Blanchard et al., 2009).

TRA would state that students' decision about majoring in accounting would be based on the students' attitudes about the benefits of an accounting career and their perceived social norms in support of an accounting career. According to TRA, attitudes consist of a perception of a behavior's importance and the likelihood if it occurring. Therefore, students who place importance on outcomes of majoring in accounting that they think are likely to occur are more likely to major in accounting. Likewise, according to TRA, students who believe that their parents and peers approve of majoring in accounting are more likely to major in accounting. TPB adds the concept of behavioral control to TRA. It would predict that students that students would believe that they have the means and abilities to successfully engage in an accounting major and career to major in accounting.

2.1 Attitude

Studies on accounting major choice have tested attitude, social norms, and behavioral control based on TRA and TPB. Naturally, all of these studies have found that attitude toward accounting affect choosing to major in accounting, but the studies can be distinguished by their definition of attitude and whose attitude they measured. TRA defines attitude as the interaction of the importance of a behavioral belief the perceived likelihood of the outcome of the behavior. This interaction is commonly used as the measure of attitude (Cohen & Hanno, 1993; Felton et al., 1995; Tan & Laswad, 2006). Other studies tested only the importance of behavioral beliefs (Ahmed, Alam, & Alam, 1997; Felton et al., 1994; Jackling & Keneley, 2009), but not the perceived likelihood. The method of measurement differed between the studies, also.

Cohen and Hanno (1993) and studies using their method (Felton et al., 1995; Tan & Laswad, 2006) measured the sum of the difference of the attitude measures between majoring in accounting or in a generic non-accounting degree. A positive score would indicate a more positive attitude toward majoring in accounting. Some studies used factor analysis to gain additional confidence that the attitude questions measured an underlying construct (Ahmed et al., 1997; Jackling & Keneley, 2009).

None of the studies surveyed in preparing this study, however, tested importance and likelihood separately and simultaneously. One student may think it very important to have a job that is enjoyable and provides a sense of work well done, but believes it unlikely that majoring in accounting will fulfill those desires. On the other hand, another student may feel that majoring in accounting would provide job enjoyment, but that daily job enjoyment is not as important as income. Measuring the interaction of importance and likelihood would yield the same measure for the two students, yet the reason each student chooses not to major in accounting is actually very different. Thus our first research question is whether the importance and likelihood of behavioral beliefs have a different effect on the decision of whether to major in accounting. We also want to know which has a greater effect.

Research Question 1: Do the importance and the perceived likelihood of an outcome of majoring in accounting both have an effect on the choice of whether to major in accounting.

One interesting finding that has been consistently found is that accounting majors are usually more interested in extrinsic factors and less motivated than intrinsic factors than non-accounting majors (Ahmed et al., 1997; Cohen & Hanno, 1993; Felton et al., 1994; Jackling & Keneley, 2009). Beliefs about the intrinsic reward of a job refer to satisfaction gained by performing the functions of the job, such as being challenging, encouraging creativity and allowing autonomy. Extrinsic job rewards are not obtained directly through job activities, but are obtained as an outcome of performing the job process, such as earnings and prestige (Felton et al., 1994). Felton et al. (1994) and Ahmed (1997) found that accounting students place more importance on earnings and the job market than non-accounting students, but found little evidence that intrinsic beliefs about job satisfaction influences a career choice. We test the relative importance of perceptions of intrinsic and extrinsic factors in major choice, and do so while simultaneously testing both importance and likelihood of the factors.

Research Question 2a: Do accounting students place more importance on extrinsic outcomes than non-accounting students do?

Research Question 2b: Do accounting students believe that better extrinsic outcomes are more likely to be obtained by majoring in accounting than non-accounting students believe?

Research Question 2c: Do non-accounting students place more importance on intrinsic outcomes than accounting students do?

Research Question 2d: Do non-accounting students believe that intrinsic outcomes are less likely to be obtained by majoring in accounting than accounting students believe?

The final distinction among the accounting major choice research is the framing of the question. Some research compared the importance of outcomes of accounting and non-accounting business students (Ahmed et al., 1997; Felton et al., 1994), some compared the perceptions of both accounting and non-accounting business students of majoring in accounting (Felton et al., 1995), and some compared the attitudes of accounting and non-accounting business students toward majoring in both accounting and in non-accounting majors (Cohen & Hanno, 1993; Tan & Laswad, 2006). None of the studies examined whether perceptions of non-accounting students of the likelihood of achieving outcomes in accounting or achieving outcomes their own majors are more important in determining why students chose not to major in accounting. Accounting programs do not have control over students' perceptions of non-accounting majors, but they may be able to influence students' perceptions of majoring in accounting. It would be useful for accounting programs to know whether changing perceptions about accounting would be useful, or if non-accounting students are primarily driven by their positive perceptions of their own major.

Research Question 3: Are students' perceptions of accounting or of their own non-accounting majors more important in determining whether or not they major in accounting.

2.2 Social Norms and Behavioral Control

Both TRA and TPB theorize that behavioral decisions are influenced by the perception of how important social relations (referents) regard the behavior. Research indicates that accounting students perceive greater positive social norms toward majoring in accounting than non-accounting students (Cohen & Hanno, 1993; Tan & Laswad, 2006).

As perceived social norms may correlate with attitude, and to be complete in testing TRA and TPB, we also test the effect of social norms on major choice.

Research Question 4: Do perceived social norms affect major choice?

TPB adds the concept of behavioral control to TRA. In the context of choosing a major, behavioral control refers to students' perceptions that they will be capable and successful in embarking upon a major. Prior research shows that students' belief that they can succeed in accounting is an important predictor in choosing to major in accounting (Ahmed et al., 1997; Cohen & Hanno, 1993; Felton et al., 1994).

Research Question 5: Does perceived behavioral control affect major choice.

By examining the three research questions noted above, we make several substantial additions to the research on choosing to major in accounting. First, we simultaneously test both the importance and the perceived likelihood of the outcome of choosing a major, thereby enabling us to determine whether only one or both are important in predicting major choice. Second, we test whether differences in the perceptions of accounting and non-accounting students about accounting, or differences in perceptions of their own majors (accounting for accounting majors, various different majors for non-accounting students) are important in determining major choice. In addition, we also include non-business students in our study. The prior research on accounting major choice only compared accounting to non-accounting business students.

3. Method

In order to examine these hypotheses, we gathered data from 311 students at a single university. The study was approved by the University's Institutional Review Board. After eliminating unusable surveys, 278 surveys were included in the analysis. Surveys were deemed unusable if students marked the same answer for all of the questions, or if they only completed a small subset of the questions. The instrument was administered in a variety of classes, including an introductory accounting course taken by all business and many non-business majors, an advanced business class taken by non-accounting business students, an audit class taken by all accounting seniors, and an upper division history class.

Using an additional control group of non-business majors should improve the generalizability of our analyses as well as the statistical power of our tests. Although the students included in this survey are from a convenience sample of several classes and, therefore, not randomly selected from the university's population, the results give some indication of the differences between accounting, non-accounting business, and non-business majors' attitudes, social norms, and perceptions of control.

Each participant completed a survey consisting of forty-nine questions, of which four addressed demographic information. The survey instrument consisted of a series of questions with two columns for responses. The first column was for respondents to answer regarding their own major and the second column regarding majoring in accounting. Accounting majors only completed the first column. Of the 213 non-accounting majors that completed the survey, only 118 properly completed the accounting response column, limiting our sample size in tests of attitudes of non-accounting students toward accounting. As with most surveys, some individuals did not complete all of the questions or provided unintelligible answers. When this happened, we threw out only the unusable data, not the entire survey. Thus, while 278 surveys were returned, each individual question received between 260 and 270 usable answers. We tested the demographic data for systematic non-response bias, and found that non-accounting majors who did not give perceptions of accounting were not different than responders for age, gender, and grade point average. There was a small marginally significant difference in year in school, with responders being on average .19 years more advanced than non-responders.

Most of the questions used in the survey were adapted from those used by Cohen and Hanno (1993) and Felton (1994). However, we added several additional questions in order to break down the different components of students' decision making process under the Theory of Planned Behavior.

Table 1 presents the sample demographics broken down by major (accounting, non-accounting business, and non-business). An examination of the different major groups suggests that gender and GPA might play a role in choosing a major, since the gender mix and GPA were different between the three groups. In addition, there appears to be a slight difference in the mean age between the three groups. In order to eliminate the possibility that these characteristics, rather than student attitudes, explain the choice of major, we include these variables as covariates in testing our hypotheses.

	<u>Accounting</u>	<u>Non-Acct Business</u>	<u>Non-business</u>	<u>Total</u>
N	65	128	85	278
% female	46.2%	34.9%	52.9%	43.1%
Mean Age	21.5	20.7	21.0	21.0
Mean GPA	3.39	3.25	3.24	3.28
Freshmen	13%	9%	14%	11%
Sophomore	31%	62%	41%	48%
Junior	3%	7%	21%	11%
Senior	45%	22%	23%	27%
Graduate	8%		1%	2%

After collecting the data from all respondents, the survey questions were evaluated using principal components analysis, as was also done in several past studies (Ahmed et al., 1997; Jackling & Keneley, 2009). The expected components are shown in Table 2. To improve interpretation of the components, the results were rotated using the Varimax method. We performed the analysis separately for perceptions of students' own major, perceptions of accounting, and for the factors important in making a major choice. Component loading scores were then used to identify which questions to include in creating the final factors. These final factors included all components with an Eigenvalue greater than 1 (Field, 2005).

In addition to the factor analysis, Cronbach Alpha was used to test for the internal validity each component. Overall, the questions loaded into the factors as expected with acceptable Cronbach Alpha scores. The final model was also examined using confirmatory factor analysis with only slightly different results. The principal component results for the questions related to students' own majors, majoring in accounting, and the importance of a component in choosing a major are shown in Tables 3, 4 and 5.

Table 2
Research Model

Factors important in choosing whethe to major in accounting

Students' perceptions toward their own major

- Extrinsic attitude (career and financial rewards)
- Intrinsic attitude (enjoyment)
- Behavioral control (ability to succeed)
- Social norms (approval of social referents)

Students' perceptions toward majoring in accouting

- Extrinsic attitude (career and financial rewards)
- Intrinsic attitude (enjoyment)
- Behavioral control (ability to succeed)
- Social norms (approval of social referents)

Importance in choosing a major

- Extrinsic attitude (career and financial rewards)
 - Intrinsic attitude (enjoyment)
 - Social norms (approval of social referents)
-

As expected, the resulting model identifies four components for the expected constructs under the Theory of Planned Behavior: extrinsic outcomes, intrinsic outcomes, social norms, and behavioral control. The extrinsic outcomes component includes those questions addressing career outcomes and advancement associated with each major group. The intrinsic outcomes component includes those questions regarding the intrinsic satisfaction in doing the work associated with each major group. The social norms component includes those questions addressing students' perceptions of the approval of important people in their lives. Finally, the behavioral control component includes those questions addressing whether students feel they can control their completion of a degree in the major. Except for the control component, higher scores indicate a preference towards the major. The control component questions address the difficulties in obtaining a major; the higher the score, the greater the perception that other factors control success and the less control students feel they have.

<u>Social Norms</u>				
Parents approve	0.876			
People I care about approve	0.919			
Friends approve	0.893			
Professors approve	0.831			
<u>Behavioral Control</u>				
Math requirements		0.658		
Workload		0.781		
Success in introductory course		0.700		
Job opportunities		0.670		
Effect on other classes		0.830		
<u>Extrinsic Attitude</u>				
Earn high initial salary			0.809	
Have high earnings			0.862	
Have advancement potential			0.712	
Enter career with job availability			0.664	
<u>Intrinsic Attitude</u>				
Enjoy course work				0.777
Have exciting career				0.834
Not have a boring major				0.785
EigenValue	4.633	2.878	1.969	1.370
Variance Explained	29%	18%	12%	9%
Chronbach Alpha	0.932	0.795	0.782	0.768

Students attitudes toward their own majors: accounting students toward accounting and non-accounting toward their major.

<u>Social Norms</u>				
Parents approve	0.872			
People I care about approve	0.929			
Friends approve	0.872			
Professors approve	0.827			
<u>Behavioral Control</u>				
Math requirements		0.678		
Workload		0.844		
Success in introductory course		0.745		
Job opportunities		0.630		
Effect on other classes		0.805		
<u>Extrinsic Attitude</u>				
Earn high initial salary			0.760	
Have high earnings			0.708	
Have advancement potential			0.511	
Enter career with job availability			0.746	
<u>Intrinsic Attitude</u>				
Enjoy course work				0.883
Have exciting career				0.853
Not have a boring major				0.847
EigenValue	4.968	2.492	1.457	2.048
Variance Explained	31%	16%	9%	13%
Chronbach Alpha	0.924	0.817	0.708	0.844

Accounting and non-accounting students' attitudes toward majoring in accounting

Table 5
Principal Components of Importance in Major Choice

<u>Social Norms</u>			
Parents	0.892		
Friends	0.928		
Professors	0.924		
<u>Intrinsic Attitude</u>			
Enjoy course work		0.727	
Have exciting career		0.836	
Not have a boring major		0.800	
<u>Extrinsic Attitude</u>			
Initial salary			0.741
Earnings potential and advancement			0.823
Job security and availability			0.757
<hr/>			
EigenValue	2.794	1.897	1.617
Variance Explained	31%	21%	18%
Chronbach Alpha	0.909	0.669	0.697

Students' perceptions of importance of factors in choosing a major.

4. Results

We performed logistic regression to simultaneously test all the components and evaluate the research questions, as well as to control for other factors that might influence students' decision (e.g. gender, age, and GPA). The logistic regression model is defined as

$$P(Y) = [1 + \exp(-X\beta)]^{-1}$$

$P(Y)$ is the probability of choosing to major in accounting and $-X\beta$ is a linear combination of the natural logarithm of the independent variables (Field, 2005, Ge and Whitmore, 2010). Coefficient results are not easily interpretable, but the natural logarithm of the coefficient (ExpB) is the times the likelihood increases or decreases with every change in value of one of the value of the independent variable. For example, if an independent variable has an ExpB of 5, the likelihood of majoring in accounting increases fivefold for an increase of one in the value a student chooses for the independent variable. If an independent variable has an ExpB of .2, the likelihood of majoring in accounting is only one-fifth as large as a student that enters a value one point greater in the independent variable.

We used logistic regression rather than using structural equation as the independent variable, major choice, was a simple binary value (major in accounting or something else) and the model consisted of only a single level of dependent variables.

We ran our logistic regression in three steps. First, we examined how students' perceptions of their own major (accounting students' perceptions of accounting vs. non-accounting students' perceptions of their own majors) predicted their choice to major in accounting. Second, we examined how students' perceptions of majoring in accounting (accounting students' perceptions of majoring in accounting vs. non-accounting students' perceptions of accounting) predict their choice to major in accounting. Finally, we examined how the significant predictors in our first two analyses together predicted students' choice to major in accounting. This final analysis allowed us to examine which variables have the greatest overall impact on students' decision to major in accounting, whereas doing the first two logistic regressions enabled us to independently test the effect of perceptions of students' own major and of accounting.

The first two regressions were both significant, correctly identifying the choice of major of 81% and 88% of the students, respectively. Simply coding all students as non-accounting majors resulted in correct results only 79% and 68% of the time. The base percentage for the two models differs because not all non-accounting students gave their perceptions of majoring in accounting, lowering the total percentage of non-accounting students considered. The first model, incorporating evaluations of students' own majors (comparing accounting students evaluations of majoring in accounting to non-accounting students' evaluations of their own major), resulted in only a slightly higher correct classification than the base rate. However, the second model, evaluating both accounting and non-accounting student's perceptions of majoring in accounting, was more successful in categorizing students.

In the first model, based on students' perceptions of their own major (comparing accounting students' evaluations of majoring in accounting with non-accounting students' evaluation of their own majors), we see evidence that accounting students believe that accounting is more likely to provide extrinsic outcomes than non-accounting students believe their majors are likely to provide (positive coefficient, $\text{Exp}(B)$ greater than 1 in Table 6).

Alternatively, as students' perception of the likelihood of obtaining intrinsic outcomes in their major (e.g. work-life balance, and other quality of life issues) and the importance of those outcomes increased, the likelihood that they would major in accounting decreased (negative coefficients, Exp(B) of less than one). Social approval is more important to accounting students, but accounting students do not feel more likely to obtain social approval by majoring in accounting.

Table 6
Logistic Regression Results of Equations Predicting Choice of Major
Perceptions of own major

	<u>Coded</u>	<u>N</u>	<u>B</u>	<u>Exp(B)</u>	Correct	
					Classification Rate	
					Base	79%
Non-Accounting	0	190				
Accounting	1	52			Model	81%
Constant			-7.714 *	0.000	Accounting students	39%
Extrinsic Likelihood			1.507 **	4.515		
Intrinsic Likelihood			-1.032 **	0.356	Non-accounting	93%
Social Norms			-0.333	0.717		
Behavioral Control			-0.391	0.676		
Extrinsic Importance			0.580	1.787		
Intrinsic Importance			-0.746 *	0.476		
Social Norms Importance			0.399 *	1.490		
Age			0.164 **	1.178	Nagelkerke Pseudo-R2	0.389
Gender			-1.093 **	0.335		
GPA			1.006 *	2.734		

** $p < .01$

* $p < .05$

Model based on student's perceptions of their own majors in predicting choice of major. Exp (B) greater 1 predict majoring in accounting; Exp (B) smaller than one predict a non-accounting major.

The second model (Table 7) primarily indicates that accounting students believe that positive intrinsic outcomes are much more likely for accountants than non-accounting students believe are obtained in accounting (shown by the positive coefficient and large Exp(B) of Intrinsic Likelihood). As second model is more predictive than the first model, the fact that accounting students have a more favorable perceptions than non-accounting students appears to be a major predictor of major.

	<u>Coded</u>	<u>N</u>	<u>B</u>	<u>Exp(B)</u>		<u>Correct</u> <u>Classification Rate</u>
						Base 68%
Non-Accounting	0	110				
Accounting	1	51				Model 88%
Constant			-9.436 *	0.000	Accounting students	80%
Extrinsic Likelihood			0.461	1.586		
Intrinsic Likelihood			1.972 **	7.188	Non-accounting	92%
Social Norms			-0.477	0.620		
Behavioral Control			-0.075	0.928		
Extrinsic Importance			0.678	1.970		
Intrinsic Importance			-1.368 **	0.255		
Social Norms Importance			0.361	1.435		
Age			0.057	1.058	Nagelkerke Pseudo-R2	0.600
Gender			-0.557	0.573		
GPA			1.124 *	3.076		
						<u>Effect Measures</u>
						-2 LL 111.05

** $p < .01$
* $p < .05$

Model based on student's perceptions of accounting in predicting choice of major. Exp (B) greater 1 predict majoring in accounting; Exp (B) smaller than one predict a non-accounting major. Sample size is smaller than the sample in Table 6 because some non-accounting students did not answer the questions regarding majoring in accounting.

The final model (Table 8) combines the significant factors from the first two models. The model was able to correctly classify students as accounting or non-accounting 95% of the time. In addition to correct classification, the model can be evaluated using the Nagelkerke Pseudo R^2 (Cohen et al., 2003). The Nagelkerke R^2 is not the equivalent of R^2 in OLS regression, but is comparable in representing the effect size of an equation. At .846, the third model exhibits the most significant effect size of the regressions performed. The regression was tested for multi-collinearity using OLS regression. All VIF scores are less than 3, indicating that multi-collinearity is not likely to distort the results (Cohen, Cohen, West, & Aiken, 2003).

Table 8
Logistic Regression Results of Equations Predicting Choice of Major
Combined model based on significant variables from Tables 6 and 7

	<u>Coded</u>	<u>N</u>	<u>B</u>	<u>Exp(B)</u>	Correct	
					Classification Rate	
					Base	68%
					Model	95%
Non-Accounting	0	119				
Accounting	1	55			Accounting students	96%
Constant			-14.079 **	0.000	Non-accounting	93%
Own Major Extrinsic Likelihood			2.084 **	8.038		
Own Major Intrinsic Likelihood			-5.211 **	0.005		
Accounting Intrinsic Likelihood			5.103 **	164.593		
Intrinsic Importance			-0.951	0.386		
Social Norms Importance			1.008 **	2.741		
Age			0.118	1.125	Nagelkerke Pseudo-R2	0.846
Gender			-1.468	0.230		
GPA			2.030 *	7.614		

** $p < .01$

* $p < .05$

Combined model based on both student's perceptions of accounting and students' perceptions of their own majors. Exp (B) greater 1 predict majoring in accounting; Exp (B) smaller than one predict a non-accounting major.

This final model supports the results from the previous equations. The predictors with the greatest power to predict a student's major is their evaluation of the likelihood of obtaining intrinsic reward from their major. Students that think accounting is likely to result in intrinsic rewards are likely to major in accounting; however, non-accounting students think that their majors will be more intrinsically rewarding than accounting students believe accounting will be (for every increase of one in the intrinsic scale with a maximum of seven, a student is two hundreds time more likely to major in something different than accounting, as shown in the Exp(B) of .005) Although the perceived likelihood of extrinsic rewards is significant, its effect size is small compared to the perceived likelihood of intrinsic rewards.

For comparison purposes, the results of t-tests comparing the importance of an item in choosing a career for accounting and non-accounting students (Table 9), the likelihoods students perceive of obtaining through their own major (Table 10), and the perceived likelihood of outcomes perceived by majoring in accounting (Table 11) are shown. Also for comparison purposes, non-accounting students' evaluation of accounting compared to their own major is shown in Table 12. The effect of the differences shown in Tables 9-11 are included in the logit model shown in Table 8, but the evaluation of non-accounting students' perceptions are not. On-average, non-accounting students believe that accounting offers a slightly higher likelihood of obtaining an extrinsic outcome, but a much lower likelihood of obtained intrinsic outcomes. They also believe that they would have slightly more difficulty majoring in accounting than in their own majors.

	Means		t-score
	Accounting Majors	Non-Accounting Majors	
Extrinsic	4.22 (0.51)	3.99 (0.71)	2.40 *
Intrinsic	3.29 (0.90)	4.25 (0.68)	3.50 **
Social Norms	3.29 (0.90)	3.14 (1.13)	0.91

* $p < .05$
 ** $p < .01$
 Standard deviations in parentheses

Difference in scores between accounting and non-accounting students in students' perceptions of the importance of a factor in choosing a major. Mean score of 7-point scale.

Table 10
Perceived Likelihood of Outcome in Own Major

	<u>Accounting</u> <u>Majors</u>	<u>Non-Accounting</u> <u>Majors</u>	<u>t-score</u>
Extrinsic	4.15 (0.57)	3.71 (0.72)	4.25 **
Intrinsic	3.66 (0.75)	4.11 (0.76)	4.12 **
Social Norms	4.44 (0.77)	4.52 (0.66)	0.87
Behavioral Control	2.44 (0.95)	2.61 (0.89)	1.24

* $p < .05$

** $p < .01$

Standard deviations in parentheses

Higher values in behavioral control indicate greater perceived difficulty

Table 11
Perceived Likelihood of Outcome in Majoring in Accounting

	<u>Accounting</u> <u>Students</u>	<u>Non-Accounting</u> <u>Students</u>	<u>t-score</u>
Extrinsic	4.14 (0.57)	3.89 (0.56)	2.70 **
Intrinsic	3.67 (0.75)	2.41 (0.88)	9.45 **
Social Norms	4.43 (0.78)	4.27 (0.66)	1.14
Behavioral Control	2.44 (0.36)	2.80 (0.36)	2.37 *

* $p < .05$

** $p < .01$

Standard deviations in parentheses

Higher values in behavioral control indicate greater perceived difficulty

Table 12
Non-accounting Students' Perception

	<u>Major in</u> <u>Accounting</u>	<u>Major in</u> <u>Own Major</u>	<u>t-score</u>
Extrinsic Likelihood	3.89 (0.67)	3.71 (0.56)	2.52 *
Intrinsic Likelihood	2.43 (0.88)	4.22 (0.74)	17.28 **
Social Norms	4.27 (0.61)	4.60 (0.88)	4.60 **
Behavioral Control	2.80 (0.89)	2.44 (0.96)	4.69 **

* $p < .05$

** $p < .01$

Standard deviations in parentheses

Higher values in behavioral control indicate greater perceived difficulty

Our first research question asked whether likelihood and importance of outcome both had an effect on choice of major.

Table 8 shows that the perceived likelihood of both intrinsic and extrinsic outcomes have some predictive value, but that the measures of students perceive to be important, although they differ between accounting and non-accounting students, have no predictive value in determining whether a student is likely to major in accounting or not.

Our second research question asked whether intrinsic or extrinsic measures were more useful in understanding the choice to major in accounting. Table 8 demonstrates that although the difference between what accounting students think their extrinsic outcomes will be and what non-accounting students think they will obtain is significant, it has a relatively small effect size compared to different perceptions of the likelihood of intrinsic rewards.

Research question 3 addressed whether non-accounting students choose to not major in accounting more because of their perception of accounting or their perception of their own major. Table 8 shows that the intrinsic likelihood effect is large for both students' evaluation of their own major and of accounting. Qualitatively, non-accounting students are equally influenced both by negative perceptions of accounting and positive perceptions of their own major.

5. Conclusion

Attracting quality recruits is essential for the successful development of college programs and professions. This paper uses the Theory of Planned Behavior to examine which factors are useful in predicting whether students choose to major in accounting. Our results have implications both for researchers and for accounting programs seeking to attract students.

For researchers, we find that the importance that students state they place on aspects of a major in choosing a major has little effect on their actual major choice. Given that several studies in accounting major choice rely completely on assessments of importance and the rest rely on measures of the interaction of importance and likelihood, our findings should guide future research to focus more on the perceived likelihood of outcomes obtained from choosing a major rather than the stated importance of an outcome to a student.

For accounting programs, and indeed for the accounting profession, we find evidence that perceptions of intrinsic factors, such as job satisfaction, play the most important role in determining students' choice of major and that, unfortunately, most students do not feel that accounting provides such intrinsic benefits. Instead, accounting is seen as a major that will provide extrinsic benefits, such as financial benefits and stability. Extrinsic factors do not appear to have an overall effect on students' choice of a major. Instead, the intrinsic rewards seem to overwhelm career awards in students' choice.

The results suggest a pair of strategies we can use, as a profession, to attract students into accounting programs. First, we can actively seek out students who are focused on career success. If accounting programs stressed these career benefits, they might become more significant factors in students' choice of a major. Second, accounting programs should educate students about the intrinsic rewards for working in accounting. Given that accounting firms are highly rated as employers, we should be able to communicate to students the intrinsic satisfaction that can be gained in an accounting career.

The results of this study may be limited in two ways. First, the study was conducted on a single college campus. Results on other campuses may be different based on different student and academic department characteristics. Second, the non-accounting major sample was not taken from the complete available population, but was taken as a convenience sample from a subset of campus majors. Despite these weaknesses, these results can still be useful in interpreting what influences a student to major in accounting and what can be done to increase enrollment and attract higher-quality students.

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Appendix

Research on Choice of Accounting Major Based on the Theory of Reasoned Action

Research comparing intrinsic and extrinsic attitude

<u>Paper</u>	<u>Participants</u>	<u>Measurement</u>	<u>Comparison</u>	<u>Other</u>
Felton et. al. (1994)	Business students	Sum of responses of importance only	Accounting students vs. non-accounting business majors	Discriminant model correctly classified 69% of participants; intrinsic relatively unimportant; social norms not tested, behavioral control significant
Ahmed (1997)	Accounting students	Factor averages of importance	Students continuing in accounting career vs. students choosing other career	Factors tested in multivariate discriminant model and with t-tests; intrinsic factors not significant, extrinsic factors significant; behavioral control moderately significant; classification approximately 60% accurate
Jackling & Keneley (2009)	Accounting students	Factor averages of general attitude	Difference between Australian and international students	Logistic regression testing residence, not major choice
<u>Other research based on the Theory of Reasoned Action about choice of Accounting major</u>				
Cohen & Hanno (1993)	Business students	Sum of difference between the product of importance and likelihood of outcome of attitude items toward majoring in accounting and majoring in a non-accounting major	Accounting students vs. non-accounting business majors	Discriminant model correctly classified 92% of participants; social norms for all referents and behavioral control also significant; importance and outcome item differences tested with t-tests but not included in discriminant model
Felton et. al. (1995)	Business students	Sum of the product of importance and likelihood of outcome of attitude items toward majoring in accounting	Accounting students vs. non-accounting business majors	
Tan and Laswad (2006)	Business students	Sum of difference between the product of importance and likelihood of outcome of attitude items toward majoring in accounting and majoring in a non-accounting major	Accounting students vs. non-accounting business majors	Logit: attitude, social norms, and behavioral control all significant