

# **Exploring the Cognitive Effects of Persuasive Messaging on Students' Perceptions about Accounting**

**Joseph C. Ugrin**  
**Kansas State University**

**Darla Honn**  
**University of Central Missouri**

**Heber Garcia**  
**Kansas State University**

**Richard L. Ott**  
**Kansas State University**

*One reason students do not major in accounting is the perception that accounting is dull and boring. Through the lens of media richness theory, this study explores how perceptions can be changed by promotional media. The results show that promotional media aimed at perception change can influence perceptions about accounting if the message is presented with rich media that incorporates auditory and visual stimuli. Positive changes in perception occurred through an affective response which influenced perception directly, and influenced perception indirectly through increased involvement with the details of the message. The results of the study offer theoretical and practical contributions.*

## **INTRODUCTION**

Students' general perceptions about the accounting profession are a significant factor in their decision to select accounting as a major (Simons, Lowe and Stout, 2003). Unfortunately, the majority of prospective students harbor negative perceptions about accounting and these negative perceptions are an impediment to the recruitment of students into the accounting profession (Taylor, 2000). In recent years, the academic and professional communities have become increasingly concerned about the impact of student perceptions on recruitment, particularly in light of expected supply and demand changes in the job market (Pathways, 2012).

The Bureau of Labor Statistics predicts employment growth for accountants and auditors will be higher than average through 2008-2018 (BLS, 2010), while at the same time, over 75% of accounting professionals are expected to reach retirement in the next 15 years (Trabulsi, 2008). Unfortunately, there are indications that fewer new accounting graduates will be available to fill those vacancies. Although current enrollments in collegiate accounting programs are at record high levels, the Department of Education projects that overall high school enrollments will decline in the next decade (Hussar, 2011).

These projections suggest that accounting will be challenged to compete with other professions for the diminishing supply of high school graduates while trying to satisfy an increasing demand for entry level accountants.

It is clear that effective recruitment is critical to the future of the accounting profession and students' perceptions are an important ingredient in recruitment success. However, literature suggests that prospective students' perceptions about accounting are generally negative (e.g. Simons, Lowe, and Stout, 2003), and targeted recruitment efforts have little impact on reversing the makeup of accounting students and their preferences (Kovar et al., 2003). These findings are clearly impediments to successful recruitment, yet there has been little research to determine what can be done to effectively change students' perceptions. Currently, there is no framework in the accounting literature which explains *how* persuasive messaging can be used to induce perception change. This void in the literature provides the motivation for the current study.

The current study applies theories from the literature on persuasive messaging and cognitive processing that have not previously been used in the context of understanding students' perceptions of accounting. These theories suggest that the extent to which a persuasive message changes perception largely depends on the richness of the media (Daft and Lengle, 1986, 1987), the affective response induced by the message (Petty et al., 1981; Forgas, 1995), and the individual's level of cognitive involvement in the message (Petty et al., 1983). The current research extends existing accounting literature by developing a model that explains the cognitive processes that underlie successful persuasive messaging. This model can be used by the profession to design recruitment strategies that are more effective in changing students' negative perceptions of accounting.

The professional accounting community has been keenly aware of the difficulties involved with recruiting top talent into the field. In response, over the last two decades the American Institute of Certified Public Accountants (AICPA) has invested considerable resources into endeavors aimed at attracting students through use of advertising campaigns comprised of brochures, videos, and online media. The AICPA's current recruiting effort is the *Start Here Go Places* initiative, a campaign designed to positively influence prospective students' perceptions of the accounting profession and increase the number of students majoring in accounting and ultimately pursuing CPA certification. The nucleus of *Start Here Go Places* is an interactive website that rebukes the stereotype that accounting profession is dull and repetitive, and highlights the challenging and rewarding opportunities available to accounting professionals.

The AICPA has described the *Start Here Go Places* campaign as highly successful overall (AICPA, 2010), and the website is the most innovative, large scale persuasive messaging tool used to date in the context of student recruitment. Yet, existing literature provides no empirical evidence of the effectiveness of persuasive messaging used in the website. Thus, the website and the content within it provide an ideal platform to test the model presented in this study, and the results provide practical feedback to the developers of the *Start Here Go Places* campaign.

In an experimental analysis, 87 non-accounting college students were randomly exposed to persuasive content from the *Start Here Go Places* website in one-way communication exchanges (e.g., the students received communication, the students did not offer return communication) under four different audio/visual treatment conditions. Pre and post-tests of students' perceptions of accounting were collected and the findings show that the message within the *Start Here Go Places* website can change students' perceptions about accounting, but the effect is highly contingent on the mode in which the message is presented and the affective response the message creates. Perception change occurred when media rich presentations of the web content included *both* auditory and visual components of communication. The presence of richer media induced a stronger affective response which influenced students' perceptions directly and indirectly by increasing the students' involvement with the message.

The current study makes important theoretical and practical contributions. It introduces a theoretical framework that explains the cognitive processes through which perception change occurs, and it tests that framework using content from the accounting professions' most significant investment in student

recruitment, the *Start Here Go Places* website. The outcomes of the current research can be used by the accounting profession to improve the efficacy of persuasive messaging within its recruitment campaigns.

The remainder of the paper begins with a review of the literature and development of the hypotheses. The research design is presented and results from the hypotheses testing are reported. The paper concludes with a discussion of the results and their implications for the accounting profession.

## **BACKGROUND AND HYPOTHESES DEVELOPMENT**

A large body of accounting literature directed toward understanding students' choice of accounting as a major has emerged over the last two decades (see Simons et al., 2003), and a significant factor that has received considerable attention is potential students' (mis)perceptions of the accounting field. The literature suggests that students' (mis)perceptions about accounting, and the nature of accounting work, make it difficult to recruit top talent into the field (Albrecht and Sack, 2000; Kreiser, McKeon, and Post, 1990; Nouri, Parker, and Sumanta, 2005; Simons, Lowe, and Stout, 2003). Prospective students typically perceive accountants' work as boring, tedious and monotonous "number-crunching" and they often believe the profession offers a work environment that is orderly and predictable (Taylor, 2000). Research also shows it is difficult to reverse students' preferences. For example, over an eight-year period, Kovar et al (2003), implemented targeted recruitment efforts designed to change student's personality preferences. They found, however, that the recruitment efforts did not result in attracting a more diverse student population which they attribute, in part, to negative mis-perceptions of the accounting profession.

Other studies on student perceptions of accounting show that students are more likely to major in accounting when they perceive the field to be *interesting* (Seamann and Crooker, 1999; Taylor, 2000). This conclusion continues to be supported by more recent literature (e.g. Byrne and Willis, 2005; Sugahara, Boland, and Cilloni, 2008), including a study by Allen (2004) that found that the primary benefit students found in majoring in a field other than accounting was that other fields are not as *boring*. Although prior research has established that students' perceptions of accounting tend to be generally negative, none of these studies have explained *why* even targeted recruitment strategies seem to have little success in changing those perceptions.

Although there has been little research on perception change in the accounting literature, the AICPA been proactive in its efforts to influence perceptions since the early 1990s. Their efforts have evolved through a number of iterations to the current version, the *Start Here Go Places* campaign. The showcase of the current campaign is a website designed to appeal to a web-savvy generation of prospective students. In a one-way exchange of information, the website allows students to point and click through a visually based media presentation which highlights the positive aspects of various accounting careers. Even though the visual information is specifically designed to portray accounting work as interesting, exciting and non-repetitive, preliminary survey results suggest the website's message may have limited persuasive appeal<sup>1</sup>. A possible explanation can be found using theories from the communications and cognitive psychology literature.

### **Using Media to Change Perceptions: A Theoretical Model**

Media Richness Theory (MRT) provides a basis for understanding how various modes of communication influence perceptions differently. MRT is one of the most widely used theories for explaining the effects of communication media (Kinney, Watson, and El-Shinnawy, 1998). The theory was originally used to explain traditional forms of media, but continues to be widely accepted as researchers have found it applicable to newer forms of communication including websites (e.g. Brunelle, 2009). According to the hierarchy of media richness by Daft et al. (1987), general face-to-face verbal communication provides the richest communication, with written documents such as bulletins, fliers, and standard reports providing the lowest. Based on MRT and the hierarchy of media richness within it, computer-based communication mediums like websites should provide minimal communication quality if they are purely visual and lack a more rich combination of auditory and visual stimuli.

MRT suggests that less rich media are relatively less effective than more rich media at conveying a persuasive message because less rich media create ambiguity and confusion about what the message intends to convey (Daft and Lengle, 1986; Daft et al., 1987). Similarly, the research on web-based media shows that websites with richer media are more appealing to users and more effective at persuading individuals to purchase a product (Sewak et al., 2005; Brunelle, 2009). From a practical perspective, making the *Start Here Go Places* message available online may increase students' motivation to view the information, but the richness of media used to convey the online message will determine its degree of persuasiveness. In its current form, the website contains only text and still photos, which ranks the persuasive message near the bottom of the MRT hierarchy. The same message delivered with audio and video components, similar to a face-to-face delivery would rank the message higher on the MRT hierarchy, increasing its persuasiveness.

*H1: The effectiveness of the persuasive message in changing students' perceptions about accounting varies directly with the media richness.*

According to MRT, using more rich media in online persuasive messaging will increase the likelihood that the information presented will induce a positive change in students' perceptions about accounting. However, this knowledge alone does not completely explain why researchers have found it so difficult to influence students' perceptions about accounting. A more comprehensive approach requires also understanding the cognitive processes that underlie students' evaluation of persuasive messages. A clear model of these processes will help developers improve the efficacy of persuasive messaging, regardless of type of media used to deliver the message.

#### *Affective Response*

Individuals' emotions, or affective responses, play an important role in the cognitive processing of a persuasive message, particularly when individuals are not motivated to process the persuasive message (Petty, Desteno, and Rucker, 2001). Since the majority of the potential student population harbor negative perceptions about accounting, they are highly susceptible to implications of affect as they cognitively process messages aimed at inducing perception change. According to Forgas' (1995) Affect Infusion Model, the impact of affect on decision making becomes amplified in complex situations that demand substantial cognitive processing. In cases where information is lacking, the affective response to the available information, rather than details within the information, can strongly influence an individual's attitude and perception. This would suggest that the degree of richness of the media used to deliver a persuasive message has a direct link to the intensity and nature (positive vs. negative) of affect induced.

Recall that under MRT, communication levels and richness vary across different delivery mediums. Face-to-face verbal communication provides the highest communication richness while other mediums, such as text based messages, provide comparatively lower communication richness. As the richness of communication decreases within the hierarchy, informational cues become more ambiguous and confusing. As a result, the recipient is more likely to experience cognitive overload. Cognitive overload can be induced by the structure and design of the informational delivery system (Rose, 2002; Rose and Wolfe, 2000) and although most research shows that too much information induces overload, other literature suggests overload can also be induced by too little information. When presented with low quality information, individuals tend to search for missing informational cues, amplifying the *extraneous* portion of cognitive overload. By contrast, media that include both auditory and visual components can reduce overload (Leahy, Chandler, and Sweller, 2003; Mousavi, Low, and Sweller, 1995). Cognitive overload makes it difficult to focus on the important details of the message and induces a negative affective response (Bohner, Shaiken, and Piroška, 2006; Barta and Stephens, 1994). Thus, it is proposed that the richness of media used to deliver a persuasive message will contribute to the positive or negative nature of an individual's affective response.

*H2: Affective response varies directly with media richness.*

It is clear that a student's affective response to a persuasive message is largely determined by the richness of media used to deliver the message. However, a complete model of perceptual change must also consider the conditions under which affective response actually induces a change in perception. Theories suggest affective response induced by a persuasive message has both a direct and an indirect influence on perceptual change, depending upon the individual's level of involvement with the message.

#### *The Relationship between Affect and Perception Change*

A model of perceptual change must also consider how affective response induces a change in perception. Theories suggest that affective responses induced by persuasive messages have both a direct and indirect influence on perceptual change. The direct influence is a "peripheral route" where external cues surrounding the message, such as music or background, shape attitudes and perceptions (Petty et al., 1983). In the peripheral route, affective response directly influences perception change, at the subconscious level, without requiring the individual to become actively involved with the details of the message.

*H3: Participants' perceptions of accounting vary directly with their affective response.*

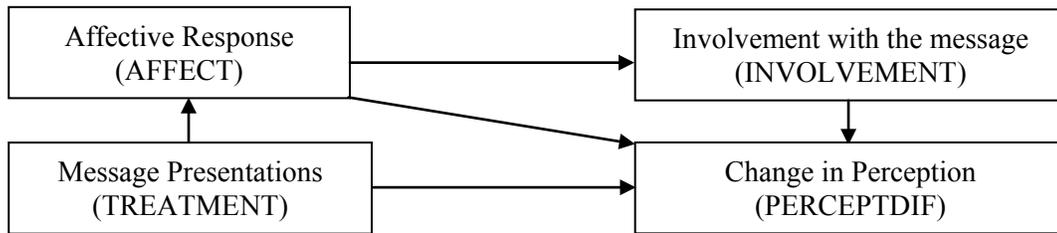
In addition to a direct relationship between affect and perception change, research indicates there is also an indirect path that is a function of how deeply recipients consider the arguments presented to them. According to the *cognitive response approach* to persuasion (e.g., Petty, Ostrom, and Brock, 1981), a persuasive message is one that motivates a receiver to carefully consider the content of an idea or argument and analytically reason through it, and this *involvement* is piqued by the individual's emotional response to the message. Petty, Cacioppo, and Schumann (1983), describe this as the "central route" to attitude change; a state in which attitude change is a reaction to a persuasive message and a function of cognitive responses to external information, justification, comprehension, and preexisting beliefs. Others also note that this type of persuasion occurs through attention, involvement, and assimilation of information (Johnson and Eagly, 1989; Buck et al., 2004). An individual is more likely to become involved with a message when the message has "greater personal relevance and consequences or elicits more personal connections" (Petty et al., 1983, pg. 136)

As individuals become more involved with a persuasive message, they tend to pay more attention to the details within the message. In a high-involvement state, persuasion occurs through a "central route" where the informational cues (e.g. details) within the persuasive message are more salient and influential in shaping attitudes (Petty et al., 1983). In the "central route," emotional response indirectly influences perception change, but only to the extent the individual becomes actively involved in the processing details of the message. Therefore, in persuasive messaging, involvement works as a mediating factor in the relationship between affective response and perceptual change.

*H4: Students' level of involvement with the persuasive message will determine the extent to which affective response influences their perceptions of accounting.*

The hypothesized relationships are presented in Figure 1.

**FIGURE 1  
HYPOTHESIZED MODEL**



## METHODOLOGY

### Participants

The sample was comprised of 87 college students who were *not* intending to major in accounting. Non-accounting college students are appropriate participants for several reasons. First, most students that major in accounting do not decide on the major until they reach the university (Mauldin, Crain, and Mounce, 2000; Geiger and Ogilby, 2000). Second, the objective is to influence the perceptions of and recruit students who are intending to choose majors other than accounting. Finally, the baseline perceptions of these participants are less likely to be biased by an existing interest in the profession and all of students in our sample indicated they did not have a preexisting interest in accounting. The participants' primary academic interests represented a wide range of majors including engineering, pre-medicine, textile design, and education. Demographic information is presented in Table 1.

### Experimental Procedures and Variables

Prior to starting the experimental task, each participant completed a questionnaire designed to capture his or her perceptions about the accounting profession (hereafter PRE\_PERCEPT). Perceptions were measured using a composite of four questions taken from a 36-item seven-point, likert-scaled instrument originally introduced by Seamann and Crooker (1999). The instrument has been widely used in the accounting literature to measure perception (e.g. Byrne and Willis, 2005; Sugahara et al., 2008). The four questions used from the instrument measure the degree to which individuals perceive the accounting profession to be *interesting*; these scales have also been shown to correlate with an individual's tendency to major in accounting (Seamann and Crooker, 1999). The Cronbach alpha values for the four items measuring perception were .766 for PRE\_PERCEPT.

For the experimental task, participants were randomly assigned to one of four treatment groups with low (1) to high (4) richness of media (hereafter TREATMENTS): 1) Self-Directed Group; 2) Website Group; 3) Multi-Media Group; 4) Face-to-Face Group. All four treatments were administered in controlled group settings and required approximately 40 minutes to complete. Participants in the Self-Directed Group used the *Start Here Go Places* website, without guidance. Treatment groups 2, 3 and 4 were exposed only to specific pages of the *Start Here Go Places* website which focused directly on persuasive reasons for choosing a career in accounting<sup>2</sup>. Participants in the Website Group viewed the specific pages, as prompted by written instructions, by clicking through the presentation and reading the on-screen text<sup>3</sup>. The Multi-Media treatment group viewed the specific website pages in an online video format. In the video presentation, visuals of the specific website pages were incorporated into a PowerPoint presentation narrated by an actual accounting professional who could be seen in a box on the screen. The Face-to-Face group viewed/listened to the exact same information as the Multi-Media group, except the PowerPoint was delivered in-person by the accounting professional. To eliminate potential presenter bias, the same presenter was used for the Multi-Media and Face-to-Face groups, and the presenter did not interact with the Face-to-Face participants during the PowerPoint presentation (see Appendix E for an example PowerPoint Slide and Appendix F for an example screenshot of the

multimedia presentation). As a manipulation control, participants in groups two, three and four completed a 23-item quiz (hereafter QUIZ) which asked about the content of the specific website pages.

Immediately following the experimental task, the perception scale was administered as a post-test (hereafter POST\_PERCEPT). The Chronbach alpha for POST\_PERCEPT was .828 indicating reliability. A difference between participants' PRE\_PERCEPT and POST\_PERCEPT was computed (hereafter PERCEPT\_DIF). Participants then completed questions related to their affective response (hereafter AFFECT) and their level of involvement with the details of the presentation (hereafter INVOLVEMENT). AFFECT was measured using composite of three seven-point likert type scale items introduced by Kim, Allen, and Kardes (1996) (Appendix B). INVOLVEMENT was measured using composite of five seven-point likert type scale questions introduced by Laczniak, Muehling, and Grossbart (1989) (Appendix C). The Cronbach alpha was calculated for AFFECT and INVOLVEMENT and the alpha values were .897 and .907 respectively, indicating both are reliable measures of their respective underlying constructs.

Data for a number of other factors was also collected to control for possible bias. Prior research has shown that an individual's relationship with someone in the accounting profession can influence their choice of accounting as a major (Leppel, Williams, and Waldauer, 2001), and by extension influence their perception of accounting. Therefore, participants were also asked, with dichotomous (yes/no) questions, whether they personally know an accountant (hereafter KNOWACCT) and whether they have accountants in their family (hereafter ACCTFAMILY). Finally, additional demographic variables including GENDER, AGE, ETHNICITY and MAJOR were reported by the participants.

**TABLE 1**  
**DESCRIPTIVE STATISTICS BY TREATMENT CONDITION**

	Self-Directed Website (n = 22)	Directed Website (n = 21)	Multimedia Presentation (Online Video) (n = 23)	Face-to-Face Presentation (PowerPoint) (n = 21)	Overall (n = 87)	Group Diff <sup>(e)</sup>
<b>Panel A: Variables Used in Analyses</b>						
PRE_PERCEPT <sup>(a)</sup>	15.5(2.2)	15.0(4.3)	15.0(2.8)	16.0(3.2)	15.4(3.2)	p > .05
POST_PERCEPT <sup>(a)</sup>	16.6(1.6)	16.5(3.4)	19.8(2.9)	20.8(3.2)	18.4(3.4)	p < .05
PERCEPT_DIF <sup>(a)</sup>	1.1(2.3)	1.5(2.2)	4.8 (2.6)	4.8(3.2)	3.0(3.1)	p < .05
AFFECT <sup>(a)</sup>	12.2(3.4)	14.5(3.6)	14.7 (2.6)	16.8(4.5)	14.6(4.1)	p < .05
INVOLVEMENT <sup>(a)</sup>	18.2(2.8)	21.8(5.2)	26.8 (6.5)	25.2(6.1)	23.0(6.0)	p < .05
QUIZ <sup>(a)</sup>	NA	22.2(1.4)	22.0 (1.6)	22.2(1.2)	22.2(1.4)	p > .05
<b>Panel B: Demographics</b>						
GENDER <sup>(b)</sup>	14(8)	11(10)	12 (11)	11(10)	48(39)	p > .05
AGE <sup>(a)</sup>	21.6(2.9)	21.8(2.0)	24.2 (6.0)	22.8(4.0)	22.6(4.1)	p > .05
ETHNICITY						
Caucasian	16	16	16	12	60	
African American	0	1	1	2	3	p > .05
Other	6	4	6	7	23	
MAJOR <sup>(c)</sup>	1(21)	5(16)	4(19)	4(17)	14(73)	P > .05
KNOWACCT <sup>(d)</sup>	14(8)	14(7)	14(9)	12(9)	54(33)	P > .05
FAMILYACCT <sup>(d)</sup>	1(21)	0(21)	3(20)	2(19)	6(81)	P > .05

<sup>(a)</sup> Mean (Std. Dev)

<sup>(b)</sup> Male (Female)

<sup>(c)</sup> Business School (Non-Business School)

<sup>(d)</sup> Yes (No)

<sup>(e)</sup> Significance of the overall F statistic

## RESULTS

### Preliminary Analyses

A preliminary correlation analysis was performed to examine the relationships among the variables and test for bias in responses to the outcome variables (not tabulated). Specifically, we were concerned if significant correlations existed between the outcome variables, POST\_PERCEPT, PERCEPT\_DIF, AFFECT, and INVOLVEMENT, and preexisting factors such as preexisting perceptions (PRE\_PERCEPT), potential covariates (KNOWACCT and ACCTFAMILY), and preexisting individual characteristics (e.g. AGE, GENDER, ETHNIC and MAJOR). No correlations between the preexisting factors and the outcome variables of interest were found suggesting that responses to POST\_PERCEPT, PERCEPT\_DIF, AFFECT, and INVOLVEMENT are not confounded by preexisting factors. A correlation analysis between the manipulation control variable QUIZ and INVOLVEMENT was also performed (not tabulated). Recall that the webpage content quiz (QUIZ) served as a manipulation control for the Directed Website, Multi-Media, and Face-to-Face groups. The QUIZ required participants to complete the QUIZ while navigating and/or watching the presentation increased the likelihood that sufficient time and attention was devoted to the specific web pages in the experimental task. It was possible that participants' efforts applied to the QUIZ could have influenced their responses on the INVOLVEMENT assessment. This did not appear to be the case, as INVOLVEMENT and QUIZ were not significantly correlated ( $p > .10$ ).

To test for randomization of the participants across treatment conditions, relationships among participant demographics and the treatments were examined. None of the demographic variables differed significantly across TREATMENTS; thus, they should not systematically influence results (all  $p > .05$ ; see Table 1).

As a result of these analyses, none of the preexisting factors or demographics were considered in the subsequent hypotheses testing.

### Hypotheses Tests

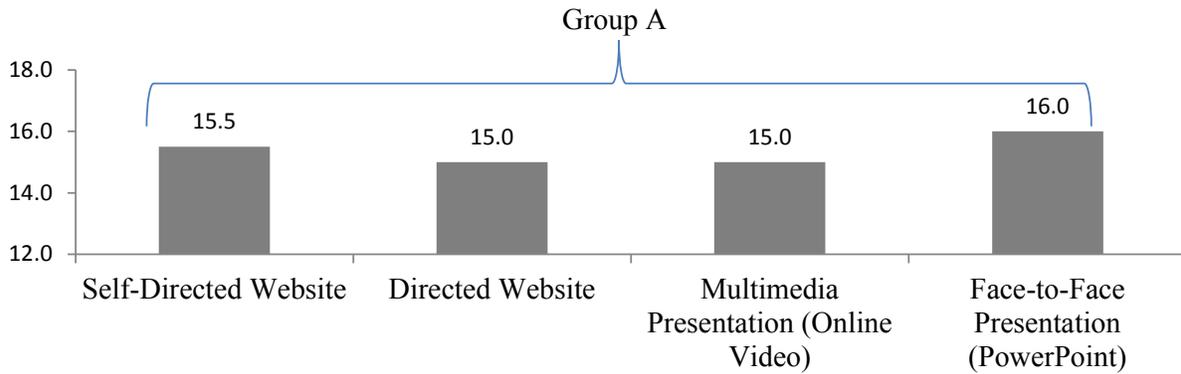
Hypothesis one proposed a persuasive message will be more/less effective at changing students' perceptions about accounting when delivery of the message includes more/less rich forms of media. To test hypothesis one, an analysis was performed to determine whether changes in participants' interest in accounting (differences between PRE\_PERCEPT and POST\_PERCEPT scores) were significant for each treatment group. For the Self-directed Website Group the mean (std. dev.) of participants' PRE\_PERCEPT changed from 15.5 (2.2) to 16.6 (1.6) for the POST\_PERCEPT. The change was not significant ( $p > .05$ ). For the Directed Website Group the mean (std. dev.) changed from 15.0 (4.3) to 16.5 (3.4). The change was not significant ( $p > .05$ ). For the Multimedia Group the mean (std. dev.) changed from 15.0 (2.8) to 19.8 (2.9). The change was significant ( $p < .05$ ). For the Face-to-face Group the mean (std. dev.) changed 16.0 (3.2) to 20.8 (3.2). That change was also significant ( $p < .05$ ).

An ANOVA and post-hoc analysis was performed to test if the changes between the PRE\_PERCEPT and POST\_PERCEPT (PERCEPT\_DIF) differed across treatment conditions. The ANOVA results (not tabulated) show an overall difference between the treatments ( $F(3, 86) = 13.089, p < .05$ ). A post-hoc analysis using Tukey's Honestly Significant Difference (HSD) revealed two homogeneous subsets where the mean PERCEPT\_DIF scores of the Self-directed Website Group and the Directed Website Group were significantly different than the means of the Multimedia and Face-to-face groups ( $p < .05$ ) but not significantly different from one another ( $p > .05$ ) (Group A in Figure 2, Panel C). The mean PERCEPT\_DIF scores of the Multimedia and Face-to-face groups were significantly different than the means of the Self-directed and Directed Website groups ( $p < .05$ ) but not significantly different from one another ( $p > .05$ ) (Group B in Figure 2, Panel C). A summary of the PERCEPT\_DIF means and standard deviations across treatments is presented in Table 1. The findings show that perceptions about accounting changed for all groups but the change was only significantly different for the richer types of communication; the Multimedia Group and the Face-to-face Group. The results support H1.

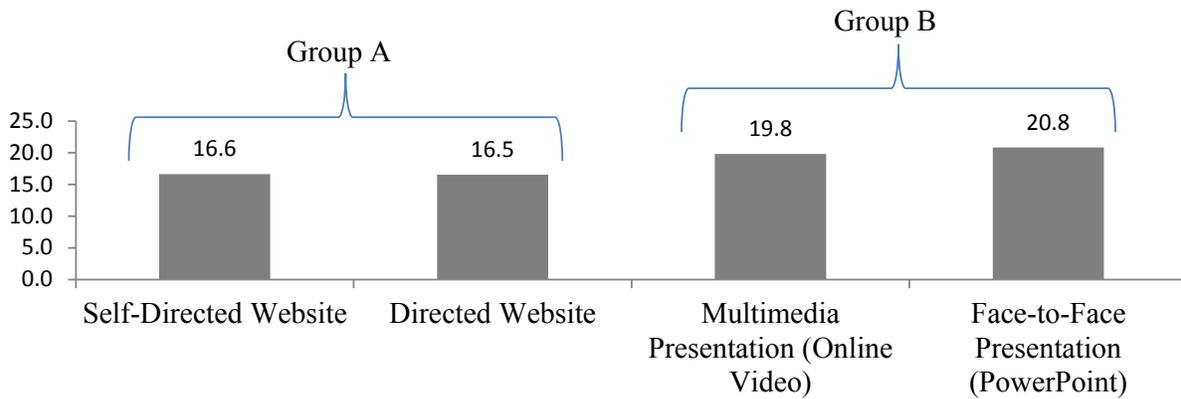
**FIGURE 2**  
**TEST OF HYPOTHESIS ONE**

Mean Pre and Post – Test Scores and PERCEPT\_DIF Scores Across Treatment Conditions (Homogenous Subsets Indicated)

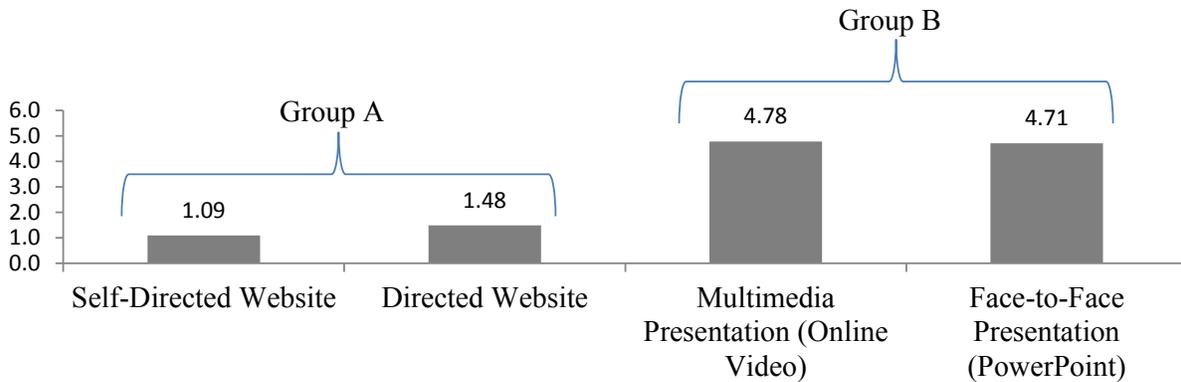
Panel A: Pre - Test Scores



Panel B: Post - Test Scores



Panel C: Pre - Post Difference Scores



\* The mean scores for Group A are significantly different than Group B.

Hypothesis two proposed that richer media used to deliver a persuasive message will result in a more positive affective response. To test hypothesis two, AFFECT was regressed on TREATMENT (Table 2, Panel A). This relationship was significant ( $p < .05$ ), and supports hypothesis two<sup>4</sup>.

Hypothesis three proposed that the affective response induced by a persuasive message will directly influence a participant's perception of accounting. To test hypothesis three, PERCEPT\_DIF was regressed on AFFECT (Table 2, Panel B). The relationship was significant ( $p < .05$ ), supporting hypothesis three.

**TABLE 2**  
**REGRESSION RESULTS FOR TESTS OF HYPOTHESES TWO AND THREE**

**Panel A: Hypothesis Two**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	11.096	1.029		10.782	.000
TREATMENT	1.390	.377	.372	3.691	<.001
Dependent Variable: Affect Adjusted R <sup>2</sup> .138					

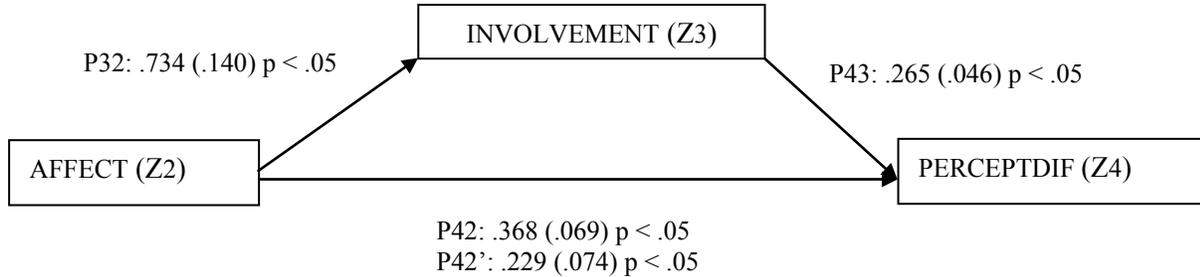
**Panel B: Hypothesis Three**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.321	1.051		-2.208	.030
AFFECT	.368	.069	.498	5.299	<.001
Dependent Variable: PERCEPT_DIF Adjusted R <sup>2</sup> .248					

Hypotheses four proposed that a participant's level of involvement with a persuasive message will determine the extent to which affective response influences his/her perception of accounting. To test hypothesis four, a mediation analysis was performed, pursuant to procedures outlined in Baron and Kenny (1986). First, INVOLVEMENT was regressed on AFFECT (p32 in figure 3). This path was significant ( $p < .05$ ) and the unstandardized regression coefficient (std. error) was .734 (.140). PERCEPT\_DIF was regressed on AFFECT (p42 in figure 3). That path was significant ( $p < .05$ ) and the unstandardized regression coefficient (std. error) was .368 (.069). Then, PERCEPT\_DIF was regressed on INVOLVEMENT (p43 in figure 3). The relationship was significant ( $p < .05$ ) and the unstandardized regression coefficient (std. error) was .265 (.046). Finally, PERCEPT\_DIF was regressed on both INVOLVEMENT and AFFECT. The path between AFFECT and PERCEPT\_DIF remained significant ( $p < .05$ ) but the unstandardized regression coefficient (std. error) for TREATMENT was reduced to .229 (.074) suggesting partial mediation. Partial mediation was confirmed by performing a Sobel test ( $p < .05$ ). This supports hypothesis four.

**FIGURE 3**  
**TEST OF HYPOTHESIS FOUR**

Mediating Effect of Attention to the Persuasive Message on Affective Response's Influence on Perceptions about Accounting



\* Unstandardized Regression Coefficient (Std. Error)

**Robustness Testing**

To test the robustness of the findings, we analyzed whether the website groups were influenced by website design. Recall that the website treatments were the least effective, but that does not appear to be due to a poorly designed website. We collected additional data from the self-directed website group and the directed website group to test that. We used Srinivasan, Anderson, and Ponnayolu's (2002) five item scale to measure the ease-of-use of the website. In short, ease-of-use measures how easy the website is to navigate. The participants rated the website with a mean (std. dev.) of 26.5 (4.7) out of a possible score of 35 on the 7 point 5 item scale, which was well into the upper half of the scale's range and suggests the website is indeed easy to use and navigate. In addition, the ease-of-use measure did not correlate significantly with the POST\_PERCEPT or PERCEPT\_DIF scores for either the self-directed website group ( $p > .10$ ) or the directed website group ( $p > .10$ ) (not tabulated). Thus, the design of the website did not impact participants' perceptions about accounting.

**DISCUSSION AND CONCLUSION**

The current study has explored how persuasive messaging can be used to impart a change in students' negative perceptions about accounting. The first hypothesis suggested that the richness of media used to deliver a persuasive message largely determines whether the message will be successful in changing a student's perception. As expected, the multimedia and face-to-face presentations, both of which included audio and visual properties, were more effective in changing perceptions than was the web based message which used only visual (i.e., text-based) media. This result provides immediate, practical feedback to the accounting profession as it seeks to develop more effective recruitment strategies, and it provides empirical support for the recent recommendation of the Pathways Commission to increase the use of technology in recruitment. Although the AICPA has been innovative in designing a recruitment tool that is appealing to a web-savvy population of students, the efficacy of website could be improved by including video or other forms of rich media.

The remaining hypotheses were aimed to explain the cognitive processes through which perception change occurs. The hypotheses suggested that when a persuasive message induces an affective response from the recipient, that affective response influences' perception directly, and indirectly influences perceptions by increasing the recipient's involvement with the message. The results reveal that richer presentation modes (face-to-face and multimedia presentation) induce a more positive affective response from the participants, which resulted in the participants becoming more involved with the message. Prior to the current study, the accounting literature had no model which explained the mechanism by which

persuasive messaging influences students' perceptions about accounting. The results from this study may explain why prior research has found that recruitment campaigns have had little impact on student perceptions. It is possible that the media used in those studies was not sufficiently rich to increase the students' involvement with the messaging.

The current study has presented and tested a model of perception change using persuasive content from the AICPA's *Start Here Go Places* website. An interesting extension would be to examine this framework in the context of other types of recruitment material, and within a high school student population. Unlike engineering and science majors who decide on their major while in high school, most accounting majors do not consider majoring in accounting until they reach the university (Mauldin, Crain, and Mounce, 2000; Geiger and Ogilby, 2000). Given an expected increase in competition for new recruits in the coming decade, the accounting profession has recognized the need to influence students' perceptions even before they begin their college experience and efforts to do just that. An example of one such program is the AICPA's new "Project Innovation" which is a "Competition of creative excellence that encourages (high school) student teams to submit ideas of what new feature they'd like to see on [startheregoplaces.com](http://startheregoplaces.com). Students behind the most original, creative ideas will be awarded scholarships, and their schools will receive funds" (AICPA, 2012). Another example of a program that can target students at an earlier stage is a college level accounting class that is taught in high school with links to college/university accounting programs (Deines, 2012). The Accounting Pilot and Bridge Project has created a program modeled after the College Board's Advanced Placement program. The Project has created a college level accounting course that is taught in high school by specially trained accounting teachers and gives students who take the course and pass a qualifying exam the opportunity to receive college credit. The ultimate goal of the Accounting Pilot and Bridge Project is to have the College Board add accounting to its Advanced Placement (AP) curriculum and in turn provide access to the nearly 2 million high school students who take AP exams each year. Such a course with its high achieving students would be the perfect outlet for a media rich "Start Here Go Places". These examples offer excellent real-life context that could be used to further develop theoretical models of recruitment.

The study has other limitations that should be noted. Namely, the selection of the *persuasive* sections of the website limits the evaluation of the website to those sections only since the website was not examined in its entirety. However, the *Why Accounting* section was selected for use because it targets users' perceptions of accounting which is our variable of interest. There could be a number of reasons for the way in which the self-directed website participants responded to the perception measures considering they surfed the website at random. This group was more-or-less a *non-treatment* group and we elected to incorporate this type of condition to obtain a picture of the effects the website is having on individuals that surf the site in real life.

In conclusion, students' perceptions about accounting can be influenced and a website like the *Start Here Go Places* website can be an effective tool if it is enhanced with multimedia and auditory information and coupled with other programs that can get the potential students engaged in the website. A shortage in accounting personnel is looming and the allocation of recruiting resources should be driven by results. Recruitment programs should be regularly evaluated with empirical and experimental evidence and if they are ineffectual, they should be disbanded or enhanced in a way that will make them a success.

## ENDNOTES

1. As part of this study, a preliminary survey of 194 accounting majors at three large AACSB accredited universities was performed. The results showed that 15% of students were aware of the *Start Here Go Places* website, but virtually none (0%) indicated that the website had influenced their decision to major in accounting.
2. The sections of the website that were used in the experiment were under the main section titled "Why Accounting". Under the main section Why Accounting, the information under subheadings "Career Options", "Salary and Demand", "CPA Skills", and "Real-Life CPAs" were used in treatments two, three, and four.

3. Online navigation for the real-life CPA profiles utilized in the experiment was changed following the experiment and the search feature used in the experiment is no longer functional.
4. Hypothesis two was tested with a regression rather than an ANOVA as a matter of consistency with the tests of hypotheses three and four. The results are not affected.

## REFERENCES

- AICPA (2010). *Start Here, Go Places – Overview*, found at [https://aicpa-sco.custhelp.com/app/answers/detail/a\\_id/548/~/start-here,-go-places---overview](https://aicpa-sco.custhelp.com/app/answers/detail/a_id/548/~/start-here,-go-places---overview)
- AICPA (2012) *Project Innovation*, found at <http://www.startheregoplaces.com/projectinnovation/>.
- Albrecht, S., & R. Sack (2000). *Accounting education: charting the course through a perilous future* Sarasota, FL: The American Accounting Association.
- Allen, C. (2004). Business students' perception of the image of accounting. *Managerial Auditing Journal*, 19(2), 235 – 258.
- Barta, R., & D. Stephens (1994). Attitude effects of ad-evoked moods and emotions: The moderating role of motivation. *Psychology and Marketing*, 11(3), 199-215.
- Bohner, G., Shaiken, S., & H. Piroška (2006). The role of mood and message ambiguity in the interplay of heuristic and systematic processing. *European Journal of Social Psychology*, 24(1), 207-221.
- Baron, R., & D. Kenny (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Brunelle, E. (2009). Introducing media richness into an integrated model of consumers' intentions to use online stores in their purchase process. *Journal in Internet Commerce*, 8(3-4), 222-245.
- Buck, R., Anderson, E., Chaudhuri, A., & I. Ray (2004). Emotion and reason in persuasion: Applying the ARI model and the CASC scale. *Journal of Business Research*, 57, 647-656.
- Bureau of Labor Statistics (2010). *Occupational Outlook Handbook, 2010-11 Edition* Available at: <http://www.bls.gov/oco/ocos001.htm>.
- Byrne, M., & P. Willis (2005). Irish secondary students' perceptions of the work of an accountant and the accounting profession. *Accounting Education: An International Journal*, 14(4), 367-381.
- Damasio, A. (1994). *Descartes' Error: Emotion, Reason, and the Human Brain* New York, NY: Putnam Publishing.
- Daft, R., & R. Lengel (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571.
- Daft, R., Lengel, R., & L. Trevino (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*, 11(3), 355-366.
- Deines, D. (2012). The accounting pilot and bridge project. *Issues in Accounting Education* forthcoming.

- Forgas, J. (1995). Mood and Judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39-66.
- Geiger, M., & S. Ogilby (2000). The first course in accounting: students' perceptions and their effect on the decision to major in accounting. *Journal of Accounting Education*, 18, 63-78.
- Johnson, B., & A. Eagly (1989). Effect of involvement on persuasion: A meta-analysis. *Psychological Bulletin*, 106(2), 290-314.
- Hussar, W. & T. Bailey (2011). *Projections of Education Statistics to 2019* (NCES 2011-017). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- Kempf, D. (1999). Attitude formation from product trial: Distinct role of cognition and affect for hedonic and functional products. *Psychology and Marketing*, 16(1), 35-50.
- Kim, J., Allen C., & F. Kardes (1996). An investigation of the mediational mechanisms underlying attitudinal conditioning. *Journal of Marketing Research*, 33(August), 318-328.
- Kinney, S., Watson, R., & M. El-Shinnawy, (1998). The effect of media and task on dyadic communication. *IEEE Transactions on Professional Communication*, 41(2), 140-142.
- Kovar, S., Ott, R., & D. Fisher. (2003). Personality preferences of accounting students: a longitudinal case study. *Journal of Accounting Education*, 21(2), 75-94.
- Kreiser, L., McKeon, J., & A. Post (1990). A Personality Profile of CPAs in Public Practice. *The Ohio CPA Journal*, Winter.
- Laczniak, R., Muehling, D., & S. Grossbart (1989). Manipulating message involvement in advertising research. *Journal of Advertising*, 18(2), 28-38.
- Leahy, W., Chandler, P., & J. Sweller (2003). When auditory presentations should and should not be a component of multimedia instruction. *Applied Cognitive Psychology*, 17, 401-418.
- Lerner, J., & D. Keltner (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion*, 14(4), 473-493.
- Leppel, K., Williams, M., & C. Waldauer (2001). The impact of parental occupation and socioeconomic status on choice of college major. *Journal of Family and Economic issues*, 22, 373-394.
- Mauldin, S., Crain, J., & P. Mounce (2000). The Accounting Principles Instructor's influence on Student's Decision to Major In Accounting. *Journal of Education for Business*, 75(3), 142-148.
- Mousavi S, Low, R., & J. Sweller (1995). Reducing cognitive load by mixing auditory and visual presentation modes. *Journal of Educational Psychology*, 87, 319-334.
- Nouri, H., Parker R., & S. Sumanta (2005). Students' Perceptions of Work in Public Accounting and Employment Preferences. *Accounting Education: an International Journal*, 14(3), 293-311.
- Park, W., & M. Young (1986). Consumer response to television commercials: The impact of involvement and background music on brand attitude formation. *Journal of Marketing Research*, 23(February), 11-24.

Pathways (2012). *The Pathways Commission: Charting a National Strategy for the Next Generation of Accountants*. Sponsored by the American Accounting Association and the American Institute of Certified Public Accountants.

Pavio, A. (1986). *Mental Representations: A Dual Coding Approach*. Oxford, England: Oxford University Press.

Petty, R., Cacioppo, J., & D. Schumann (1983). Central and peripheral routes to advertising effectiveness: the moderating role of involvement. *Journal of Consumer Research*, 10, 135-146.

Petty, R., DeSteno, D., & D. Rucker (2001). The role of affect in attitude change. In *The Handbook of Affect and Social Cognition*. Ed.J. Forgas, Hillsdale, NJ, Lawrence Erlbaum, 212-236.

Petty, R., Ostrom, T., & C. Brock (1981). Historical foundations of the cognitive response approach to attitudes and persuasion. In *Cognitive Response in Persuasion*. Eds. Richard E. Petty, Thomas Ostrom and timothy C. Brock, Hillsdale, NJ, Lawrence Earlbaum, 5-29.

Phan, M., Cohen, J., Pracejus, J., & G. Hughes (2001). Affect monitoring and the primacy of feelings in judgment, *Journal of Consumer Research*, 28(September), 167-188.

Rose J. (2002). The effects of cognitive load on decision aid users. *Advances in Accounting Behavioral Research*, 5(1), 15-40.

Rose J, & C. Wolfe (2000). The effects of system design alternatives on the acquisition of tax knowledge from a computerized tax decision aid. *Accounting Organizations and Society*, 25, 285-306.

Rose, S., Futterweit, L., & J. Jankowski (1999). The relation of affect to attention and learning infancy. *Child Development*, 70(3), 549-559.

Saemann, G., & J. Crooker (1999). Student perceptions of the profession and its effect on decisions to major in accounting. *Journal of Accounting Education*, 17(1), 1-22.

Sewak, S., Wilkin, N., Bentley, J., & M. Smith (2005). Direct-to-consumer advertising via the internet: The role of website design. *Research in Social and Administrative Pharmacy*, 1, 289-309.

Simons, K., Lowe, D., & D. Stout (2003). Comprehensive Literature Review: Factors Influencing Choice of Accounting as a Major. *Proceedings of the 2003 Academy of Business Education Conference*, Vol. 4, Available at <http://www.abe.sju.edu/proc2003/simons.pdf>.

Srinivasan, S., Anderson, R., & K. Ponnayolu (2002). Customer Loyalty in E-Commerce: An Exploration of Its Antecedents and Consequences. *Journal of Retailing*, 78 (1), 41-50.

Stiff, J. (1986). Cognitive processing of persuasive message cues: A meta-analytic review of the effects of supporting information on attitudes. *Communications Monographs*, 53, 75-89.

Sugahara, S., Boland, G., & A. Cilloni (2008). Factors influencing student's choice of an accounting major in Australia. *Accounting Education: An International Journal*, 17(September), 37-54.

Sundar, S. (2000). Multimedia effects on processing and perception of online news: A study of picture, audio, and video downloads. *Journalism and Mass Communications Quarterly*, 77(3), 480-499.

Tan, L., & F. Laswad (2006). Student's beliefs, attitudes and intentions to major in accounting, *Accounting Education: An International Journal*, 15(2), 167-187.

Taylor Research and Consulting Group, Inc. (2000). *Student & Academic Research Study*. Available at [http://www.aicpa.org/InterestAreas/AccountingEducation/NewsAndPublications/DownloadableDocuments/Taylor\\_2000\\_FullReport.pdf](http://www.aicpa.org/InterestAreas/AccountingEducation/NewsAndPublications/DownloadableDocuments/Taylor_2000_FullReport.pdf).

Trabulsi, M. (2008). The Pipeline: Encouraging Students to Become CPAs. *Florida CPA Today*, March/Apr, 14.

Wickens, C. (1991). Processing resources in attention. in *Varieties of Attention* Ed. Parasuraman, R., and D. Davies New York, NY: Academic Press, 63-102.

#### **APPENDIX A (Interesting Scale)**

I find accounting to be:

Boring (1) to Interesting (7)

Dull (1) to Exciting (7)

Tedious (1) to Absorbing (7)

Fascinating (1) to Monotonous (7) \*(Reverse Coded)

#### **APPENDIX B (Affective Response Scale)**

I found the presentation (website or video) to be: Unpleasant (1) to Pleasant (7)

In regards to the presentation (website or video), I: Dislike very much (1) to Like very much (7)

The presentation (website or video): Left me with a bad feeling (1) to Left me with a good feeling (7)

#### **APPENDIX C (Involvement Scale)**

How much attention did you pay to the PowerPoint presentation (website or video)? None (1) to Very Much (7)

How much did you concentrate on the presentation (website or video)? Not at all (1) to Very Much (7)

How involved were you with the presentation (website or video)? Not at all (1) to Very Much (7)

How much thought did you put into evaluating the PowerPoint presentation (website or video)? None (1) to Very Much (7)

How much did you notice the presentation (website or video)? Not at all (1) to Very Much (7)

#### **APPENDIX D (Website Ease-of-Use Scale)**

Navigation through the Start Here Go Places website is intuitive. Not at all (1) to Very Much (7)

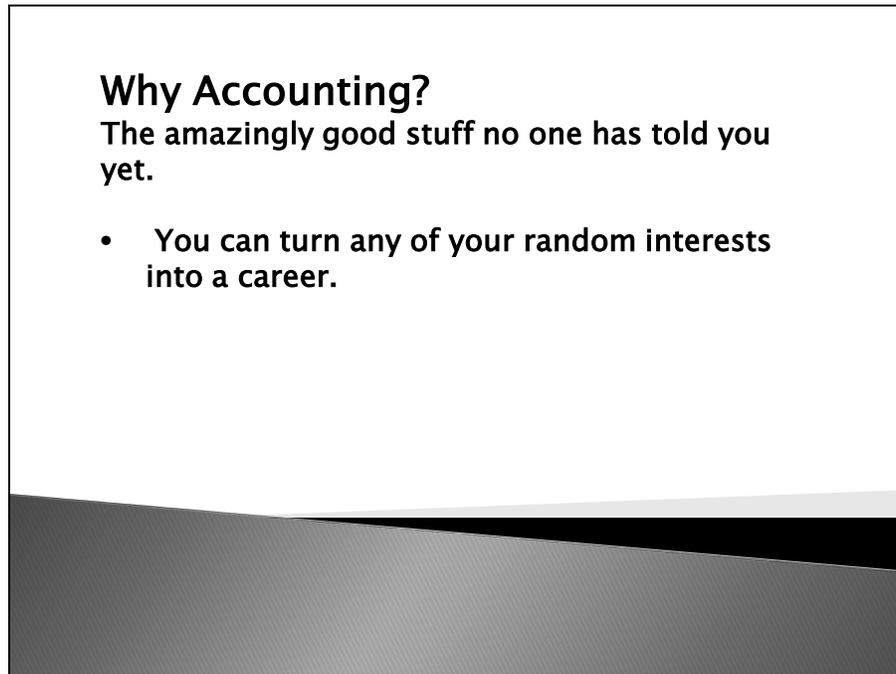
A first-time user can use the Start Here Go Places website without much help. Not at all (1) to Very Much (7)

It takes a long time to use the Start Here Go Places website. Not at all (1) to Very Much (7) \*(Reverse Coded)

The Start Here Go Places website is a user-friendly site. Not at all (1) to Very Much (7)

The Start Here Go Places website is very convenient to use. Not at all (1) to Very Much (7)

**APPENDIX E** (Example PowerPoint Presentation Slide)



**Why Accounting?**  
The amazingly good stuff no one has told you yet.

- You can turn any of your random interests into a career.

The slide features a white background with a dark grey, textured, curved shape at the bottom. The text is in a bold, black, sans-serif font.

**APPENDIX F** (Multimedia Presentation Screenshot)

**Accounting Amazingly Good Stuff Video**

---



**Why Accounting?**  
The amazingly good stuff no one has told you yet.

- You can turn any of your random interests into a career.

The screenshot shows a video player interface. The main content is a PowerPoint slide identical to the one in Appendix E. A small video inset in the bottom right corner shows a man speaking. The video player controls at the bottom include a play button, a progress bar showing 00:08 / 37:49, and icons for volume, full screen, and a star.